Meridian Solar Farm

EN010169

Volume 6

Environmental Statement

6.1 Environmental Statement Non-Technical Summary

APFP Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

March 2026

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1. Introduction

1.1. Overview

1.1.1. This document has been prepared on behalf of Meridian Solar Farm Limited (hereafter referred to as 'the Applicant') and is a Non-Technical Summary of the Environmental Statement (ES) for the proposed Meridian Solar Farm (hereafter referred to as 'the Scheme). The Non-Technical Summary provides an overview of the Scheme, its environmental effects and the proposed measures to avoid, reduce or offset these effects, and should be read alongside the ES.

1.1.2. The Scheme would comprise the construction, operation (including maintenance) and decommissioning of a solar photovoltaic (PV) electricity generating station with associated infrastructure, including co-located Battery Energy Storage System (BESS), Inter-Array Connections to link the land parcels that form the Solar Development Areas. The Scheme also includes up to 13 kilometres (km) of overhead line Grid Connection (with one short undergrounded section) which would run north towards a point of connection at the proposed Weston Marsh B National Grid Electricity Transmission (NGET) substation, to the north of Weston.

1.1.3. The total area of the Scheme (referred to as the 'Site') is approximately 1,616ha and is shown in **Figure 1-1** of this Non-Technical Summary. The Scheme is located within the South Holland District, in east Lincolnshire, north of Crowland and east of Spalding.

1.1.4. The objective of the Scheme is to maximise renewable energy generation and deliver a scheme that is designed sensitively with reference to the environment and the landscape it is situated within. The Scheme includes land for ecological mitigation and enhancement.

1.1.5. The Scheme is a Nationally Significant Infrastructure Project under the Planning Act 2008[1], as it will have the capacity to generate, store, and export more than 100 megawatts (MW) of electricity and it includes the installation of above ground electric lines greater than two kilometres in length and a nominal voltage of 132 kV or greater. In accordance with the Planning Act 2008, a type of planning consent called a Development Consent Order (DCO) is required.

[1] The Planning Act 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/29/contents [Accessed 19 November 2025]

1.1.6. The ES considers comments received during non-statutory, statutory and targeted consultation stages and details the outcome of further environmental assessment work conducted since the publication of the Preliminary Environmental Information Report (PEIR) during statutory consultation. The ES forms part of the Applicant's DCO Application which is submitted to the Planning Inspectorate[2] for examination. Following an examination by the Planning Inspectorate, the DCO Application will be decided by the Secretary of State for Energy Security and Net Zero.

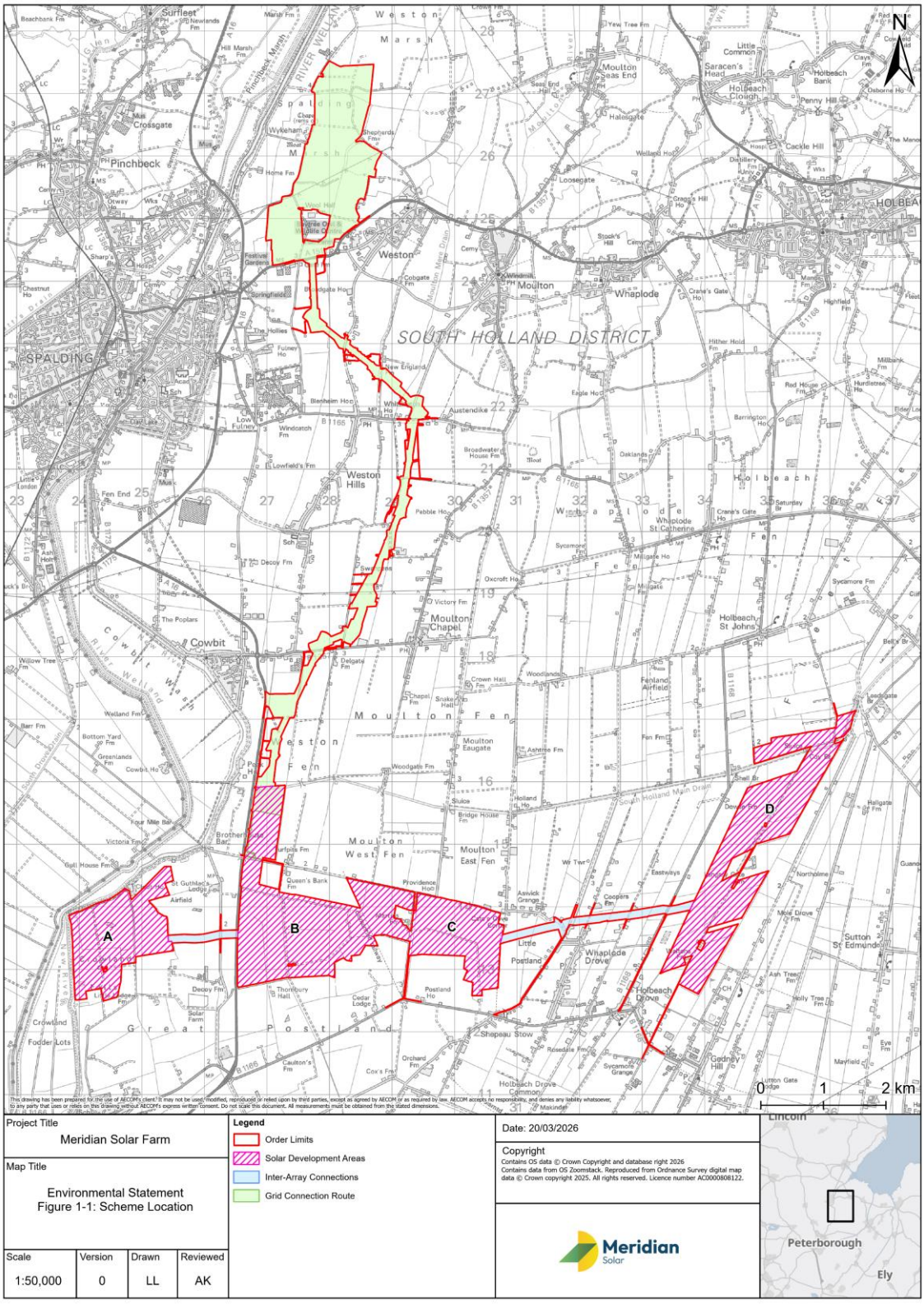
1.2. What is an Environmental Impact Assessment?

1.2.1. Environmental Impact Assessment (EIA) is a process to ensure that planning decisions are made with full knowledge of the likely significant environmental effects of a proposed development. The outcome of the EIA process is reported within an Environmental Statement submitted with a DCO application. The EIA for the Scheme is undertaken pursuant to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[3].

1.2.2. The objective of the EIA is to identify any likely significant effects which may arise from a proposed development and to identify measures to prevent, reduce or offset any adverse effects and to enhance any beneficial effects. During the EIA process for the Scheme to date, opportunities and management measures have been identified and incorporated within the development proposals to prevent or reduce any adverse environmental effects, and to enable sustainable design and construction principles to be embedded within the Scheme.

[2] The Planning Inspectorate (also sometimes referred to as 'PINS') are the government agency responsible for examining DCO applications and making recommendations to the relevant Secretary of State about whether DCO for a Scheme should be granted.
[3] Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/contents [Accessed 9 January 2026]

Figure 1-1: Scheme Location



2. Scheme Description

2.1. Site and Surroundings

2.1.1. The Site is located within south-east Lincolnshire, north of Crowland and east of Spalding. The surrounding area is characterised by arable farmland interspersed with pockets of woodland, towns, villages, and hamlets. The Scheme is located within the administrative boundaries of Lincolnshire County Council (LCC) and South Holland District Council (SHDC). The existing Site context can be viewed in **ES Figure 2-1** (Doc Ref. 6.2). **ES Chapter 2: The Scheme** (Doc Ref. 6.1) provides a description of the existing Site and its surrounding area, a summary of which is provided below.

2.1.2. The nearest towns to the Site are Spalding and Crowland, which are located approximately 1.5km west of the Grid Connection Route and approximately 1.5km south of Land Parcel A of the Solar Development Area respectively (see **Figure 1-1** of this Non-Technical Summary). Other settlements consist of small villages and hamlets, as well as individual properties scattered throughout the surrounding area.

2.1.3. There are no statutory landscape designations within the Site, such as National Landscapes or National Parks. The nearest National Landscape is Norfolk Coast, approximately 24km to the east of the Site, and the nearest National Park is The Broads, located 86km to the south-east. The Site is located within National Character Area 46 The Fens, recognised by its large, low-lying, flat landscape with drainage ditches, dykes and rivers.

2.1.4. Agriculture is the existing primary land use within the Site. The Site comprises large fields typically surrounded by steep man-made drainage ditches, accessed by gates, openings and tracks for use by agricultural machinery. Agricultural Land Classification (ALC) surveys conducted within the Solar Development Area indicate a mix of Grades 1, 2, Subgrade 3a and Subgrade 3b. The National Planning Policy Framework[4] defines Agricultural Land Classification Grades 1, 2

[4] Ministry of Housing, Communities and Local Government (MHCLG) and Department for Levelling Up, Housing and Communities (DLUHC) (2025). National Planning Policy Framework (NPPF). Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf [Accessed 12 January 2026]

and 3a as Best and Most Versatile (BMV) agricultural land. Subgrade 3b is non-BMV land.

2.1.5. There are no World Heritage Sites, Registered Parks or Gardens, Registered Battlefields or Protected Wreck Sites at or within 5km of the Site.

2.1.6. There are two Scheduled Monuments located within Land Parcel C of the Solar Development Area:

- Settlement NE (north-east) of Whitebread Farm; and
- Settlement W (west) of Cate's Cove Corner.

2.1.7. A further Scheduled Monument, 'the medieval boundary earthworks at Queen's Bank, 100m south-east of Providence House' is also located immediately to the north of Land Parcel C of the Solar Development Area. The 'Wykeham Chapel: a moated monastic grange and retreat house' Scheduled Monument is located immediately adjacent to the Site boundary of the Grid Connection Route.

2.1.8. In addition, there are a further 19 Scheduled Monuments, five Conservation Areas and 97 Listed Buildings within 5km of the Site.

2.1.9. There are three sites designated for nature conservation, which are of international importance, within 15km of the Site. The closest, The Wash Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar, is located approximately 8.4km north-east of the Site. Baston Fen SAC and Nene Washes SAC, SPA and Ramsar are located approximately 10km west and 11.8km south of the Site respectively. There are no sites designated for nature conservation of national importance (such as Sites of Special Scientific Interest (SSSIs) or Local Nature Reserves (LNRs)) within 2km of the Site. The closest, Surfleet Lows SSSI and Cowbit Wash SSSI are located approximately 3.5km north-west and 3.6km west of the Site respectively. There are 23 non-statutory ecological sites located within 2km of the Site, all of which are Local Wildlife Sites (LWS). The Slys Connection, South Holland Main Drain, Lambert Drain to Highstock Drain Connection and Wheatmere Drain LWSs cross through the Site.

2.1.10. The Site is located within the Anglian River Basin District, split between the Welland and Nene Management Catchments. The majority of the Site is located within Flood Zone 2 and Flood Zone 3, which are defined as areas of medium and

high risk of fluvial flooding, respectively[5]. The River Welland, located approximately 110m to the west of the Site at its closest point, is the largest watercourse in the surrounding area. The River Nene is located approximately 9.7km to the east of the Site. The South Holland Main Drain is located north of the Solar Development Area and bisects the Site in two locations.

2.1.11. The Site is located in National Character Area 46: The Fens. There are no statutory landscape designations, or Green Belt designations within the Site. The Site is characterised by numerous manmade agricultural ditches and drains, with water levels across the area generally managed via pumping.

2.1.12. A total of 13 Public Rights of Way (PRoWs) are fully or partially within the Site or on its perimeter. There are a further 19 PRoWs within 500m of the Scheme. A strip of registered Common Land runs along the verge of Martins Road and crosses Land Parcel C of the Solar Development Area.

2.2. Description of Scheme

2.2.1. The Scheme is made up of the following areas:

- **Solar Development Area**: The solar PV panels, associated BESS, on-site substations and other associated infrastructure would be located within four land parcels (A, B, C and D) referred to collectively as the 'Solar Development Area', as shown in **Figure 1-1** of this Non-Technical Summary.
- **Inter-Array Connections**: The Inter-Arrays would be the areas within which single circuit 132kV connection cables (the 'Inter-Array Connections') would link the land parcels of the Solar Development Area. The configuration of the Inter-Array Connections would comprise underground cabling between Land Parcels A and B ('the Underground Inter-Array') and an overhead line between Land Parcels C and D ('the Overground Inter-Array').
- **Grid Connection Route**: The Grid Connection Route would be the area between the Solar Development Area and the National Grid Weston Marsh B Substation in which a 400kV overhead line (the 'Grid Connection') would be located. There is a section where the Grid Connection would route underground to avoid conflicts with an existing 132kV overhead line. Two

[5] Flood Zone 2 is defined by the Environment Agency as land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding. Flood Zone 3 is defined by the Environment Agency as land having a 1 in 100 or greater chance of flooding each year from rivers, when the presence of any flood defences are ignored.

Cable Sealing End Compounds would join the proposed underground cable with the proposed overhead line.

2.2.2. The Site constitutes the total land area within the Order Limits of the Scheme, including the Solar Development Area, Inter-Array Connections and Grid Connection Route, as shown on **Figure 1-1** of this Non-Technical Summary. A summary of the areas for each part of the Scheme is provided below:

- Solar Development Area - Land Parcel A: 197 hectares (ha);
- Solar Development Area - Land Parcel B: 335ha;
- Solar Development Area - Land Parcel C: 205ha;
- Solar Development Area - Land Parcel D: 330ha;
- Underground Inter-Array between Land Parcel A & B: 15ha;
- Overhead Inter-Array between Land Parcel C & D: 46ha;
- Grid Connection Route: 510ha; and
- Site (total): 1,616ha [6].

2.2.3. **ES Chapter 2: The Scheme** (Doc Ref. 6.1) provides a full description of the Scheme, a summary of which is provided below.

Solar Development Area

2.2.4. The solar PV panels, as well as associated infrastructure, such as solar stations, and On-Site Substation and BESS Compounds, would be located across the Solar Development Area. In addition, land would be retained within the Solar Development Area for habitat management, landscape planting, biodiversity enhancements and setbacks from areas of existing vegetation, heritage assets and utilities. Solar PV panels will therefore not be installed to cover the full extent of the Solar Development Area.

2.2.5. The exact locations and specifications of solar PV panels and other associated infrastructure have not yet been determined and will only be decided upon when the detailed design of the Scheme is completed, which will occur after determination of the DCO Application. Therefore, for the purposes of the ES, where flexibility needs to be retained until the detailed design work is complete,

[6] Note the sum of parts for the areas of the Scheme exceeds the total area of the Order Limits due to an overlap of the Grid Connection Route with Solar Development Area Land Parcel B.

conservative assumptions have been used that provide for a reasonable 'worst-case' scenario. This approach is referred to as the 'Rochdale Envelope'.

2.2.6. **ES Figure 2-2: Illustrative Solar Development Area and Inter-Array Connections Layout Plan** (Doc Ref. 6.2) provides a visual representation of the distribution of solar PV panels and associated infrastructure across the Solar Development Area that could be constructed within the defined maximum design parameters.

Solar PV panels

2.2.7. Solar PV panels convert sunlight into electrical current. They would be at a maximum height of 4.3m in areas where they need to be protected against flooding, and would have a minimum clearance above ground level of 0.8m. The panels would be south facing at a fixed incline angle of between 10 and 25 degrees. The solar panels would be mounted on steel frame structures, as shown illustratively on Plate 2-1 below.

Plate 2-1: Illustrative Array of Solar PV Panels

Solar Stations

2.2.8. Solar stations are required to process the energy generation, they consist of inverters, transformers and switchgear. The stations would be at a maximum height of 4.3m above ground level, except for the northern fields of Parcel D, where a maximum height parameter of 4.85m above ground would apply in order to provide additional flood protection. The foundations would comprise a

concrete slab, or piles depending on ground conditions. Where required, the solar stations would be protected against flood risk, either by being raised above ground on plinths, with an earth bund or a flood defence wall.

Plate 2-2: Illustrative Solar Station

On-Site Substations and BESS Compound

2.2.9. A 400kV Substation and BESS Compound would be located within the northern part of Land Parcel B in the Solar Development Area, at the start of the Grid Connection Route. There would also be additional three 132kV Substation Compounds located across the Solar Development Area in Land Parcels A, C and D.

2.2.10. Not including lightning arrestors, the tallest part of the On-Site Substations would be up to 16m above ground. The substations would include electrical equipment, along with transformers and switchgear, switch room building, control building, welfare building, office facilities and in the case of the On-Site 400kV Substation a gantry to connect to the 400kV overhead line. An illustrative image of a substation is provided within Plate 2-3. The maximum footprints of four On-Site Substations are below:

- 400kV Substation in Land Parcel B: 230m x 170m;
- 132kV Substation in Land Parcel A: 120m x 80m;
- 132kV Substation in Land Parcel C: 120m x 115m; and
- 132kV Substation in Land Parcel D: 120m x 125m.

Plate 2-3: Illustrative Image of a Substation

2.2.11. The BESS Compound is designed primarily to support the Scheme through the provision of energy storage. The BESS would also provide flexibility by allowing to balance peak generation and fluctuations in the grid. Within the BESS Compound, in addition to the BESS units, there would be transformers, inverters and switchgear, fire safety infrastructure and other electrical equipment. BESS units would be enclosed within containers, with maximum dimensions of 8m in length, 2m in width and 4m in height. The maximum area of the BESS Compound would be 160m x 255m. An illustrative BESS unit is shown below.

Plate 2-4: Illustrative BESS Unit

2.2.12. The foundations for the On-Site Substations and BESS Compound would either be concrete slab, or piles depending on the results of geotechnical surveys. They would also be protected against flooding with an earth bund or a flood defence wall provided around the perimeter of the compound.

Areas of Habitat Management and Permissive Path

2.2.13. **ES Figure 2-2** (Doc Ref. 6.2) indicates the broad location of key components of the Scheme alongside the provision of green infrastructure across the Solar Development Area. This includes proposed areas for landscape planting and areas for ecological enhancement (including habitat connectivity). **ES Figure 2-2** (Doc Ref. 6.2) also shows those areas within the Site where existing vegetation would be retained. Landscape corridors across the Site have been introduced, following existing drains and connecting to existing vegetation, in order to provide connectivity across the Site for wildlife.

2.2.14. Over 170ha of habitat management areas have been identified within the Solar Development Area, to be managed as species rich grassland or for retention as arable land with specific land management practices. Some of these areas are intended to provide mitigation for ground-nesting birds, such as skylark.

2.2.15. In addition, areas under the solar PV panels and areas outside the habitat management areas will be planted with semi improved or species rich grassland, where suitable. Shrubs and scattered trees will be planted in strategic locations

to provide visual screening and to enhance the biodiversity value and connectivity of the Site.

2.2.16. Across the Scheme, the following approximate areas will be planted for habitat creation, landscaping and visual screening:

- 13.8 km of proposed band of shrubs;
- 34.6 km of proposed band of shrubs and scattered trees;
- 1.6 km of strengthened band of scattered trees;
- 129.0 ha of proposed species rich grassland; and
- 650.0 ha of proposed semi-improved grassland.

2.2.17. Where new or upgraded watercourse crossings are proposed, 15m habitat enhancement buffer up and downstream would be provided (subject to agreement with Internal Drainage Boards).

2.2.18. The Scheme would also deliver Biodiversity Net Gain in excess of 10% for area-based habitats and watercourses, and in excess of 400% for hedgerows, as secured within Schedule 2 of the **Draft DCO** (Doc Ref. 3.1). This has been assessed through the **Biodiversity Net Gain Report** (Doc Ref. 7.9) which calculates that the Scheme could deliver a net gain of 14.60% for habitat area units, a net gain of 477.94% for hedgerow units, and a net gain of 11.42% for watercourse units, on the basis of the illustrative design.

2.2.19. A permissive path[7] would be provided by the Scheme, connecting PRoWs between Queens Bank and Shepeau Stow, following the boundary of the Settlement W (west) of Cate's Cove Corner Scheduled Monument. The permissive path would be located within a corridor that measures approximately 20m in width. The permissive path would be suitable for pedestrians, cyclists and horse riders and provide information boards on the historic and natural environment.

Inter-Array Connections

Underground Inter-Array Connection

2.2.20. The Underground Inter-Array Connection between Land Parcels A and B would comprise a 132kV underground cable, to be installed within a trench of up to 2m wide and 2m deep. The cable duct would have a minimum of 0.9m ground

[7]A permissive path is a publicly accessible path provided for the duration of the operation of the Scheme.

cover to allow continued agricultural use of the land post-construction. The total length of the Underground Inter-Array Connection between Land Parcels A and B is approximately 1.1km.

2.2.21. Trenched (open cut) and trenchless (bored) crossings may be required at locations where existing watercourses, roads and utilities are crossed. For trenchless crossings, a maximum depth of 7m has been assumed. A minimum depth of 3m would also apply to any trenchless crossings below watercourses.

Overhead Inter-Array Connection

2.2.22. The Overhead Inter-Array Connection between Land Parcels C and D would comprise a 132kV single circuit overhead line with a wood pole design, as shown illustratively on Plate 2-5, located approximately every 120m along the connection route.

2.2.23. Whilst this is a typical span length for the proposed wood pole type, span distances would vary dependent on the proposed alignment to take account of topography and routeing to avoid constraints in the area. The total length of the Overhead Inter-Array Connection between Land Parcels C and D is approximately 3.1km.

2.2.24. The proposed height of poles would vary between 6.7m and 15m above ground level, dependent on the topography and span length of the proposed alignment.

Plate 2-5: Illustrative 132kV Overhead Line Designs

Grid Connection Route

400 kV Overhead Line

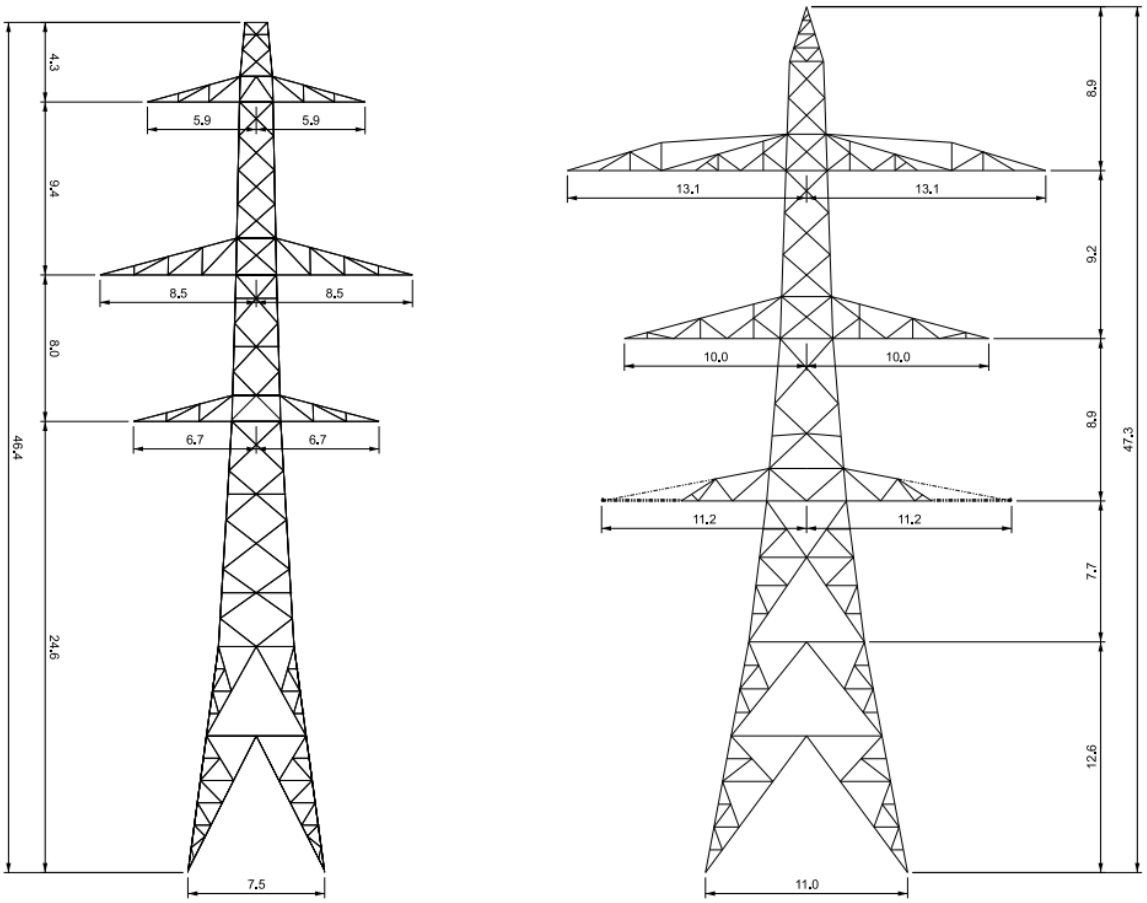
2.2.25. The Grid Connection would comprise a 400kV single circuit overhead line with a steel lattice pylon design, as illustratively shown on Plate 2-6. A short undergrounded section would be provided where an existing 132kV overhead line crosses the Grid Connection Route.

2.2.26. For the proposed overhead line, a pylon would be located approximately every 350m. Span distances would vary dependent on the proposed alignment to take account of topography, crossings and routeing to avoid constraints in the area. The pylons heights vary between 44.5m and 58.6m above ground. In addition to this, a 7.4m vertical limit of deviation has been set.

2.2.27. Each leg of the pylon will be supported by a foundation. Depending on ground conditions, this may comprise either a concrete pad foundation or a piled foundation.

2.2.28. A temporary stoned working area would be provided at each pylon base to accommodate construction activities, such as steel delivery, assembly and installation.

Plate 2-6: Illustrative Steel Lattice Pylons



Cable Sealing End Compounds

2.2.29. Cable Sealing End Compounds are proposed at each end of the undergrounded section of the Grid Connection. The Cable Sealing End Compounds enable the proposed 400kV overhead line to be undergrounded. Subject to the detailed design, these may include the terminal pylon, steel gantries, cable sealing ends, surge arresters, earthing / grounding system and auxiliary equipment. The fenced compound will measure up to 46m in width and 46m in length. The southern Cable Sealing End Compound would require an earth bund or a flood defence wall and gate to protect it from flood risk. The structural components would be sited on a concrete foundation slab or piles. An illustrative image of a Cable Sealing End Compound is provided within Plate 2-7.

Plate 2-7: Illustrative Cable Sealing End Compound

400kV Underground Transmission Electrical Cable between Cable Sealing End Compounds

2.2.30. Approximately 325m of underground cabling would be installed between the proposed Cable Sealing End Compounds. Trenched (open cut) or trenchless (bored) construction methods may be used for the installation of the cable. If open cut trenching is used, the underground cable would be installed within a trench of up to 1.5m wide and 5m deep. A minimum depth of 0.9m would be maintained above the cable duct to allow continued agricultural use of the land post-construction. If trenchless construction methods are used, these may include either Horizontal Directional Drilling, thrust boring or other types of trenchless construction methods. For trenchless construction methods, a maximum depth of 7m has been assumed. A minimum depth of 3m would also apply to any trenchless crossings below watercourses.

National Grid Weston Marsh Substation Tie-In works

2.2.31. The Grid Connection would connect to the proposed 400kV National Grid Weston Marsh B Substation which is being delivered by National Grid Electricity Transmission.

2.2.32. The Order Limits of the Scheme incorporate flexibility with regards to the final location of the Weston Marsh Substation and the connection of the overhead line to it. It is assumed that the connection will be overhead. However, if

undergrounding is required, the same parameters as set out for the Cable Sealing End Compounds and the underground 400kV cable at the 132kV overhead line crossing would be applied.

Associated Works

Highway Works

2.2.33. The following highway works are proposed as part of the Scheme:

- Street works to facilitate any underground cable or overhead line installation;
- Provision of new accesses;
- Improvements to existing accesses, resulting in alterations to road layout to accommodate their connection to the local highway network;
- Construction of a new deceleration lane off the A16 for the provision of an access to the Grid Connection Route;
- Provision of temporary passing bays along Martins Road and Langary Gate Road (if required);
- Alteration of road layouts, including modifications to road markings, temporary removal of signage and temporary protection or removal of overhead power lines, if required, to facilitate abnormal load and HGV manoeuvres on Langary Gate Road, Back Bank and B1168 Holbeach Drove Gate; and
- Temporary traffic management on the B1166 / Martins Road and B1166 / Langary Gate Road junctions.

2.2.34. In order to facilitate highway works listed above and the delivery of abnormal indivisible loads[8], a number of partial and full road closures would be required. Full road closures are likely to be required along minor roads with low traffic volumes that are too narrow to leave a lane open. The maximum estimated duration of such closures would be 12 weeks. Further information on likely road closures is provided within the **Outline Construction Traffic Management Plan** (Doc Ref. 7.13), submitted with the DCO Application.

[8] Abnormal indivisible load is a load which cannot be subdivided into smaller loads and, therefore, requires a vehicle for its transport, which exceeds the standard legal limits for HGVs, due to its size or weight.

Temporary Public Rights of Way Works

2.2.35. There are 13 Public Rights of Way (PRoW) within or on the perimeter of the Site. In addition, a strip of registered Common Land, which has been assumed to facilitate a public accessway, runs along the verge of Martins Road and crosses Land Parcel C of the Solar Development Area. These are shown on **ES Figure 15-2: Existing Walking and Cycling Network** (Doc Ref. 6.2).

2.2.36. There will be temporary impacts on some of these PRoWs during the construction phase of the Scheme. PRoW Crow/12/1 and PRoW Wstn/3/1 will be temporarily closed for between 4-6 weeks as there is no viable diversion possible, and the presumed footpath across the Common Land along Martin's Road will be temporarily diverted to allow works to be undertaken. The others will remain open and will be managed during construction, meaning they can remain in use. No PRoWs will be permanently diverted or closed. Further details of works to PRoWs are provided within the **Outline Public Rights of Way Management Plan** (Doc Ref. 7.15), submitted with the DCO Application.

Other Works

2.2.37. Further description of the following components of the Scheme is presented within **ES Chapter 2: The Scheme** (Doc Ref. 6.1):

- Solar Development Area On-Site Cabling Works;
- Fencing;
- Security Measures;
- Surface Water Drainage;
- Works to Third Party Assets; and
- Access.

2.3. Construction

Indicative Programme

2.3.1. The construction phase is anticipated to take three to four years to complete. For the purposes of the ES, it is assumed that construction would commence in 2029. Peak construction is anticipated to take place in 2031. The final programme is dependent on the detailed design, procurement lead-in times and potential environmental constraints on the timing of the construction activities.

Construction Activities

Solar Development Area

2.3.2. Construction activities for the Solar Development Area are envisaged to include the following activities:

- Site preparation:
  - Establishment of the perimeter fence;
  - Establishment of temporary construction compounds within the Site;
  - Preparation of land for construction, including localised Site levelling;
  - Import of construction materials, plant and equipment to Site to a centralised location within the Site to then be distributed to construction locations;
  - Construction of the internal access roads; and
  - Marking out the location of the Scheme infrastructure.
- Site infrastructure construction:
  - Import of components;
  - Foundation installation and erection of solar PV panel mounting structures;
  - Mounting of solar PV panels;
  - Open cut trenching and installation of electric cabling;
  - Solar station foundation construction;
  - Installation of solar stations;
  - BESS and On-Site Substation Compound foundation construction;
  - Erection of control, spare parts and storage buildings;
  - Installation of BESS components;
  - Installation of On-Site substation components;
  - Installation of control, communication and monitoring equipment;
- Testing and commissioning of equipment; and
- Landscaping and habitat creation.

Inter-Array Connections

2.3.3. Construction activities for the Inter-Array Connections would be completed within a 15m working width either side of the centre line of the alignment for access and material laydown, resulting in a 30m wide working corridor.

2.3.4. The construction of the 132kV underground cable between Land Parcels A and B would be installed within a trench of up to 2m wide and 2m deep. A minimum depth of cover of 0.9m would be maintained to allow continued agricultural use of the land post-construction. Trenched (open cut) and trenchless (bored) crossings may be required at locations where existing watercourses, roads and utilities are crossed, as described in sections above.

2.3.5. For the Overhead Inter-Array between Land Parcels C and D, the works are sequential. Construction plant, including Heavy Goods Vehicles (HGVs) and four-wheel drive vehicles to deliver the material, a tractor, tensioner and mobile elevated working platform to construct the 132kV overhead line, will move together from one location to the next until the installation is completed.

Grid Connection Route

2.3.6. The construction of the 400kV overhead line in the Grid Connection will take place in a number of stages:

- Stage 1: Site set-up and temporary construction compounds installation. This includes construction of the temporary access roads to the pylon sites, fencing off a safe working area, clearing vegetation, and carrying out any drainage works required. A temporary working area will be established at each pylon location.
- Stage 2: Construction of pylon foundations – piling (if required) and excavation of foundations will be undertaken for each pylon leg. The pylon leg is fixed in place, the foundation is concreted and then backfilled with soil to be re-seeded.
- Stage 3: Construction of pylons – pylons are delivered to Site by HGV. The pylon sections are assembled on the ground and then lifted into place using a mobile crane.
- Stage 4: Stringing – once the pylons are assembled, the wires are hung. This process is known as 'stringing'. A section of pylons is strung at a time.

2.3.7. Once the construction works are complete and the overhead line has been tested and commissioned, all temporary working areas, construction accesses and access tracks will be removed.

2.3.8. The construction of the Cable Sealing End Compounds would comprise the installation of Site perimeter fencing, stone surfacing and construction of reinforced concrete foundations or piles. Steel or aluminium equipment supporting structures within the compound would be installed and constructed on the prepared foundations. High voltage cables would be pulled into place and terminated into the new cable sealing end equipment.

2.3.9. Underground cabling between the Cable Sealing End Compounds would typically be installed in open cut trenches, although trenchless construction methods may be required. Parameters for these methodologies are described in sections above.

Site Access

2.3.10. The **Outline Construction Traffic Management Plan** (Doc Ref. 7.13) sets out the Applicant's proposals to manage construction traffic and staff vehicles within the vicinity of the Scheme along the local highway network during the construction period of the works, in order to limit any potential disruptions and implications on the wider transport network.

2.3.11. For the Solar Development Area, construction vehicles would utilise accesses from Barrier Bank/ Spalding Road, Martins Road and Langary Gate Road. Access to the Inter-Array Connections would be provided from Barrier Bank/ Spalding Road, Back Bank/ Eaugate Road / Chapel Hill and B1168 Holbeach Drove Gate. For the Grid Connection Route, construction vehicles would use accesses from the A16, the B1165 Austendike Road and the A151 High Road. The strategy has been designed to utilise existing accesses, where practical.

2.3.12. All four On-Site Substations would require the delivery of abnormal indivisible loads for the transport of transformers. Abnormal indivisible loads would also be required to deliver the Inter-Array overhead line poles and cable drums across the Scheme. Proposed HGV and abnormal indivisible load routes and accesses are shown on **ES Figure 2-5: Construction, Operational and Decommissioning Accesses** (Doc Ref. 6.2).

2.3.13. The estimated peak daily number of non-workforce related construction traffic movements required for the Scheme are summarised below:

- Peak for Solar Development Area and Inter-Array Connections – 64 HGV deliveries (128 movements per day);
- Peak for Grid Connection Route - 75 HGV deliveries (150 movements per day) and 75 Light Goods Vehicles (LGV) deliveries (150 movements per day).

Construction Staff

2.3.14. At peak construction, 855 construction staff per day have been assumed as the maximum peak construction workforce, accounting for concurrent works across the Solar Development Area, Inter-Array Connections, and the Grid Connection Route. On average, there are expected to be 184 Full Time Equivalents (FTEs) over the total construction period.

2.3.15. For the management of construction workforce travel, the **Outline Construction Traffic Management Plan** (Doc Ref. 7.13) outlines measures with regards to:

- Lift-sharing;
- Staff routeing;
- Staff arrival and departure times;
- Car parking strategy and parking permit scheme; and
- The provision of shuttle buses for the peak construction period.

Construction Working Hours

2.3.16. Core working hours during the construction phase are proposed to be as follows:

- Monday to Friday from 07:00 to 19:00; and
- Saturday from 08:00 to 13:30.

2.3.17. It is anticipated there would be no Sunday or Bank Holiday working unless crucial to construction. Operations that may take place outside of the core working hours are described in **ES Chapter 2: The Scheme** (Doc Ref. 6.1).

Construction Management Plans

2.3.18. The construction phase will be managed in accordance with management plans, which will limit and control activities. The outline documentation produced with the DCO Application associated with this phase includes:

- **Outline Construction Environmental Management Plan** (Doc Ref. 7.10);
- **Outline Construction Traffic Management Plan** (Doc Ref. 7.13);
- **Outline Soil Management Plan** (Doc Ref. 7.14);
- **Outline Public Rights of Way Management Plan** (Doc Ref. 7.15);
- **Outline Skills, Supply Chain and Employment Plan** (Doc Ref. 7.17); and
- **Outline Site Waste Management Plan** (Doc Ref. 7.19).

2.3.19. The production of detailed versions of these plans and the completion of works in general accordance with them is secured through the requirements set out within Schedule 2 of the **Draft DCO** (Doc Ref. 3.1).

2.3.20. The **Outline Soil Management Plan** (Doc Ref. 7.14), **Outline Public Rights of Way Management Plan** (Doc Ref. 7.15) and **Outline Skills, Supply Chain and Employment Plan** (Doc Ref. 7.17) include measures relevant to all stages of the Scheme, including operation and decommissioning.

2.4. Operation

2.4.1. The operational phase of the Scheme is expected to run from 2033 through to 2073, lasting a total of 40 years.

2.4.2. Activity during the operational phase would be infrequent and would be restricted principally to vegetation management, equipment maintenance and servicing, replacement of components (where required), inspection and monitoring to ensure the continued effective operation of the Scheme. Maintenance and safety inspections of all Scheme equipment would be carried out by the Undertaker[9] or an appointed contractor.

2.4.3. In addition, it is anticipated that annual inspections of the Inter-Array Connections and Grid Connection Route would be completed from the ground or by air (e.g. by drone or helicopter) to identify any visible faults or signs of wear. Inspections would include the identification of vegetation growth or development that has occurred that may either risk infringing clearances or could compromise the integrity of the assets.

2.4.4. During the operational phase, it is anticipated that the Solar Development Area would be manned by a nominal number of staff (10 FTE staff), predominantly undertaking maintenance tasks. In addition, there is expected to be approximately five visitors per week (equating to one per day) for deliveries. As a worst-case scenario, this would generate up to 11 vehicles (22 two-way movements) per day on a regular basis. These may be four-wheel drive vehicles, HGVs or transit vans for maintenance.

2.4.5. In addition, when required, replacement of infrastructure is expected to generate up to a maximum of 40 HGVs (or 80 two-way HGV movements) per day, and up

[9] In accordance with the **Draft DCO** (Doc Ref. 3.1), the 'undertaker' means the person who benefits from the development consent, such as the Applicant or any other person who has been transferred the benefit of the Order.

to 75 staff car trips (150 two-way movements) per day. This is considerably lower than the level of vehicle trips generated during the peak construction phase.

Operational Management Plans

2.4.6. Similarly to the construction phase, a number of management plans have been prepared as part of the DCO Application to set out measures for the management of activities during the operational phase, including the below:

- **Outline Operational Environmental Management Plan** (Doc Ref. 7.11);
- **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16);
- **Outline Battery Safety Management Plan** (Doc Ref. 7.18); and
- **ES Appendix 11-4: Outline Drainage Strategy** (Doc Ref. 6.3).

2.4.7. The production of detailed versions of these plans and the completion of works in general accordance with them is secured through the requirements set out within Schedule 2 of the **Draft DCO** (Doc Ref. 3.1).

2.5. Decommissioning

2.5.1. At the end of the 40-year design life, the Scheme will be decommissioned over a period of approximately 24 months. All above-ground physical infrastructure would be dismantled and removed from the Site. This would include the removal of all PV panels, mounting poles, solar stations, On-Site Substations, BESS, 400kV overhead line and pylons, Cable Sealing End Compounds, 132kV overhead line and poles. In addition, concrete foundations for these elements would be removed to a depth agreed with the relevant landowner and recycled or disposed of in accordance with good practice and market conditions at that time.

2.5.2. The mode of any underground cable decommissioning will be dependent upon Government policy, best practice and landowner agreement at that time. If required, the cables can be removed by opening 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.

2.5.3. Land within the Site would be returned to the landowners once the decommissioning phase has been completed. This would include the areas of land where the agricultural resource has been maintained during operation, alongside any established habitats. Post-decommissioning, the landowner will decide upon the use of the land.

2.5.4. Areas of habitat and biodiversity mitigation and enhancement, as well as the permissive path delivered as part of the Scheme, would be returned to the

landowners. Following this, the landowners would choose how the land is to be used and managed.

2.5.5. The effects of decommissioning are anticipated to be similar to, or of a lesser magnitude than construction effects. An **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12) has been produced as part of the DCO Application to demonstrate how environmental mitigation and management measures will be implemented during decommissioning. Compliance with the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12) is secured by a requirement of the **Draft DCO** (Doc Ref. 3.1).

3. Alternatives and Design Evolution

3.1. Overview

3.1.1. **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1) presents a summary of the need for the Scheme, reasons for selecting the Site, how the design of the Scheme has evolved and the alternatives considered. An overview of these considerations is also presented below.

3.2. Need for the Scheme

3.2.1. The UK is committed to achieving 'net zero' carbon emissions by 2050[10]. In 2024, the Government outlined a target of achieving a zero-carbon electricity system by 2030, five years before the previous target within its Clean Power 2030 Action Plan[11]. In order to meet this goal, the Plan includes a target to increase the capacity of solar PV in the UK to 45-47 gigawatts by 2030. The Scheme has the potential to make a substantial contribution towards achieving these targets. Further information on the need for the Scheme is provided within the **Planning Statement** (Doc Ref. 7.1) submitted with the DCO Application.

[10] The Climate Change Act 2008 (2050 Target Amendment) Order 2019. Available at: https://www.legislation.gov.uk/uksi/2019/1056/made/data.pdf [Accessed 28 September 2025]
[11] HM Government (2024). Clean Power 2030 Action Plan. Available at https://www.gov.uk/government/publications/clean-power-2030-action-plan [Accessed 28 September 2025]

3.3. Site Selection

3.3.1. The Site was identified through a site selection exercise undertaken by the Applicant. Detailed commentary on the site selection process can be found within **Appendix D: Site Selection Report** of the **Planning Statement** (Doc Ref. 7.1).

3.3.2. In summary, a range of technical, environmental, and economic factors were considered when investigating and assessing a potential site for a Nationally Significant Infrastructure Project scale ground-mounted solar PV development. In accordance with the requirements of National Policy Statements EN-1[12] and EN-3[13], the key factors which were considered by the Applicant when selecting land for the Scheme included:

- Regional factors for Site selection:
  - Irradiance and site topography;
  - Location of available network connection;
  - Availability of land holdings;
  - Agricultural land classification and land type;
  - Flood risk;
  - Planning and environmental designations;
- Localised factors for Site selection and the siting of infrastructure:
  - Proximity of the land to dwellings;
  - Agricultural land classification and land type;
  - Flood risk;
  - Accessibility;
  - Public rights of way; and
  - Security and Lighting.

3.3.3. Following the consideration of the above factors for the siting of the Solar Development Area and infrastructure therein, the routeing of the Inter-Arrays

[12] DESNZ (2025). Overarching NPS for Energy (NPS EN-1). Available at: https://assets.publishing.service.gov.uk/media/695d1015f41883f4e50ed9ab/overarching-national-policy-statement-for-energy-en-1-web-accessible.pdf [Accessed 14 January 2026]
[13] DESNZ (2025). NPS for Renewable Energy Infrastructure (NPS EN-3). Available at: https://assets.publishing.service.gov.uk/media/695d1368b5c46330350ed9a2/national-policy-statement-for-renewable-energy-infrastructure-en-3-web-accessible.pdf [Accessed 14 January 2026]

and the Grid Connection was largely determined by the location of the Solar Development Area and the point of connection at Weston Marsh, albeit options for the exact route alignment were considered.

3.4. Alternatives Considered

3.4.1. Following site selection, various alternative technologies were considered for the Solar Development Area, Inter-Arrays and Grid Connection. For the Solar Development Area, this included a consideration of the types of solar PV panels and battery technology used.

3.4.2. For Inter-Arrays, the alternatives considered included options for underground cabling and overhead lines, and the type of wooden pole to be used for an overhead alignment. Alternative route options between Land Parcels C and D were presented in the statutory consultation in 2025.

3.4.3. Similarly for the Grid Connection, options for undergrounding and an overhead alignment, and the types of pylons were considered. Route options for the Grid Connection were identified and consulted on as part of the Stage One non-statutory consultation in 2024.

3.4.4. Further details on the alternative options considered are provided within **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1).

3.5. Design Evolution

3.5.1. The overarching vision and design principles for the Scheme are described within the **Design Approach Document** (Doc Ref. 7.3) submitted with the DCO Application. The design for the Scheme has been developed on an iterative basis since the inception of the Scheme, whereby the results of environmental surveys, technical analysis and consultation have been interpreted and proposed design solutions, and refinements have been made. The outcome of these activities has culminated in the Scheme, which is being taken forward as described in **ES Chapter 2: The Scheme** (Doc Ref. 6.1).

3.5.2. For example, key considerations and design changes have included (but are not limited to) the below:

- Maintaining buffers from sensitive environmental receptors, such as existing residential properties, trees, drains and watercourses, Crowland Airfield, Scheduled Monuments within the Site, and other areas of high potential for archaeology, where reasonably practicable;

- Undergrounding the Inter-Array Connection between Land Parcels A and B to minimise impacts on Crowland Airfield;
- Moving sensitive infrastructure outside of areas at high risk of flooding;
- Addition of a permissive path to the Scheme to provide a benefit to the local community;
- Provision of large areas of land for habitat management and ecological enhancement and the introduction of landscape corridors through the Solar Development Area to improve connectivity for wildlife; and
- Changes to the access strategy, including the location of accesses, to avoid routing construction traffic through narrow local roads, where reasonably practicable, and to maximise the use of existing accesses, so that the construction of new access crossings over watercourses could be minimised.

4. EIA Methodology

4.1. Topics Assessed

4.1.1. The environmental effects of the Scheme have been assessed for the construction, operation, and decommissioning stages. A detailed description of the EIA methodology is set out within **ES Chapter 4: Overview of the EIA Process** (Doc Ref. 6.1).

4.1.2. The content or 'scope' of the EIA was agreed through the production of an EIA Scoping Report, which was submitted to the Planning Inspectorate (refer to **ES Appendix 1-1** (Doc Ref. 6.3)). Following the preparation of an 'EIA Scoping Opinion' by the Planning Inspectorate (included within **ES Appendix 1-2** (Doc Ref. 6.3)), the following environmental topics were assessed within topic specific chapters of the Environmental Statement:

- Agriculture and Soils;
- Air Quality;
- Climate Change;
- Cultural Heritage;
- Ecology and Biodiversity;
- Human Health;
- Hydrology and Flood Risk;

- Landscape and Visual Amenity;
- Noise and Vibration;
- Socio-Economics and Land Use;
- Traffic and Access; and
- Other Environmental Topics, including:
    - Electric and magnetic fields;
    - Glint and glare;
    - Major accidents and disasters; and
    - Materials and waste.

4.1.3. The Environmental Statement also considers the potential for the Scheme to result in cumulative environmental effects with other current or planned developments in the vicinity of the Site. A list of cumulative schemes considered is provided within **ES Appendix 4-1** (Doc Ref. 6.3). These included (but were not limited to) the Grimsby to Walpole DCO [EN020036], Outer Dowsing Offshore Wind Farm DCO [EN010130], Weston Marsh to East Leicestershire (WMEL) Overhead Line DCO [EN0210007] and Ossian Wind Farm DCO [EN0210006], all of which propose to introduce new electricity infrastructure around Weston Marsh.

4.1.4. Effect interactions, where two or more effects from the Scheme could be experienced by a resource or receptor have also been considered.

4.2. Approach to Assessment and Terminology

4.2.1. A development of this nature is likely to have some effects on the environment, which are both beneficial and adverse. What is important is that 'significant' adverse effects are identified and reduced through the design process, or through other mitigation measures.

4.2.2. The effects of the Scheme are described in terms of changes to the existing situation (the baseline) or anticipated situation in the future in the absence of the Scheme (the future baseline). EIA assesses environmental effects on resources (such as archaeology or ecology) and receptors (such as human beings or animals such as water voles). The significance of the environmental effects is assessed by judging the sensitivity (that is, the importance) of a resource or receptor against the magnitude (that is, the scale or extent) of the predicted impact from the

Scheme. The duration and geographic scale of the effects are also taken into account.

4.2.3. The purpose of the EIA is to identify significant environmental effects that remain following the implementation of all identified mitigation measures to ensure that decision makers are able to make an informed judgement on the environmental impacts of a proposal before granting consent.

4.2.4. To enable comparison between technical topics and to aid understanding of the findings of the Environmental Statement, standard terms are used wherever possible to describe the relative significance of effects (i.e. 'major', 'moderate', minor', and 'negligible'). The effects are also described as being adverse or beneficial. Each of the technical chapters within the Environmental Statement (Doc Ref. 6.1) provides further description of the method that has been used to determine whether an effect is significant or not.

4.2.5. Typically, effects that are considered to be negligible or minor are judged to be 'not significant', whereas those that are moderate or major are 'significant'. As the design of the Scheme has evolved, the Applicant has worked with environmental specialists to ensure the design avoids or reduces environmental effects on receptors wherever reasonably practicable through the use of embedded mitigation measures (meaning measures that form part of the design or methods for construction or operation), such as the use of environmental management plans. Following the incorporation of embedded mitigation, where the EIA predicts a significant adverse effect on one or more receptors, consideration is given to whether there are further additional mitigation measures which could avoid or reduce the effect further, or to reduce the likelihood of it happening. These measures are taken into account in the EIA and assessment of effects of the Scheme. Identified embedded and additional mitigation is secured through the DCO, should it be granted, and this is made clear in the Environmental Statement.

4.2.6. The remainder of this Non-Technical Summary sets out the findings of the Environmental Statement, on a topic by topic basis.

5. Findings of the Environmental Statement

5.1. Introduction

5.1.1. An assessment of the environmental effects of the Scheme during its construction, operation (including maintenance and repairs), and eventual decommissioning has been completed for each of the topics identified in paragraph 4.1.2 above.

5.1.2. The likely significant environmental effects of the Scheme are described within the **Environmental Statement** (Doc Ref. 6.1). This section provides a brief summary of the overall findings of the Environmental Statement.

5.2. Agriculture and Soils

Introduction

5.2.1. **ES Chapter 5: Agriculture and Soils** (Doc Ref. 6.1) presents the findings of an assessment of the likely significant effects on agriculture and soils as a result of the Scheme. Impacts on farming circumstances were considered as part of **ES Chapter 14: Socio-Economics and Land Use** (Doc Ref. 6.1) (refer to Section 5.11 of this Non-Technical Summary).

5.2.2. The majority of the land within the Site is agricultural. The standard method of classifying such land in England and Wales is by utilising technical guidance published for Agricultural Land Classification (ALC)[14, 15, 16]. ALC is based on the type and level of agricultural production the land can potentially support. The best quality agricultural land (Grades 1, 2 and Subgrade 3a) represents Best and Most Versatile (BMV) land and is given a greater level of protection in planning policy than lower quality, non-BMV, land (Subgrade 3b and Grades 4 and 5).

Baseline and Context

5.2.3. Detailed soil surveys of the Solar Development Area were conducted in 2025. These identified deep, stoneless clayey and calcareous coarse silty soils. The

[14] Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land*. Available at: https://publications.naturalengland.org.uk/publication/6257050620264448. [Accessed 7/11/2025]
[15] Ministry of Housing, Communities and Local Government (2025) *Planning Practice Guidance for the Natural Environment*. Available at: https://www.gov.uk/guidance/natural-environment [Accessed 7/11/2025]
[16] Natural England (2012) *Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049)*. Available at: https://publications.naturalengland.org.uk/publication/35012 [Accessed 7/11/2025]

resilience of the soil types to disturbance was assessed as high or medium resilience, indicating that it would be possible to restore them following development.

5.2.4. The detailed soil surveys identified the following ALC grades across the Solar Development Area[17]:

- Grade 1 ALC land – 11.3%;
- Grade 2 ALC land –8.7%;
- Subgrade 3a land – 19.2%;
- Subgrade 3b land –49.1%;
- The remaining areas did not comprise agricultural land or could not be accessed for surveys – 11.7%.

5.2.5. No Grade 4 or Grade 5 ALC land was identified in the Solar Development Area.

5.2.6. Overall, 39.2% of the Solar Development Area was considered to comprise BMV land (i.e. Grades 1, 2 and Subgrade 3a).

5.2.7. For the Inter-Array Connections and the Grid Connection Route, Natural England's Provisional ALC mapping[18] identified that these areas are likely to comprise Grade 1 and Grade 2 ALC land. Natural England's Provisional ALC mapping provides a broad indication of the ALC grades likely to be present and, in practice, not all of the land within the Inter-Arrays and the Grid Connection is likely to be of Grade 1 and Grade 2 quality. Detailed soil surveys of these areas are proposed prior to construction. However, for a worst-case assessment in the ES, the presence of Grade 1 and 2 ALC land was assumed.

Proposed Mitigation

5.2.8. As described within the **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16), over 69 ha of Grade 1 or Grade 2 ALC land has been excluded from physical development and will be kept in arable use, applying methods to provide biodiversity benefits, particularly favouring skylarks. Furthermore, no woodland blocks are proposed as part of the landscape design, in order to minimise permanent loss of BMV land. Tree and shrub planting has only been proposed along field boundaries.

[17] The summary is based on auger-by-auger point assessment of ALC classification, extrapolated across the Solar Development Area.
[18] Multi Agency Geographic Information for Countryside (MAGIC), Available at: https://magic.defra.gov.uk/ [Accessed 7/12/2025]

5.2.9. Good practice environmental management measures have been set out within the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11) and **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12). These include measures to minimise the risk of contamination of soils as a result of the Scheme, and measures for the protection of existing land drainage. Furthermore, the **Outline Soil Management Plan** (Doc Ref. 7.14), submitted with the DCO Application, provides a comprehensive set of measures across the lifetime of the Scheme for the preservation of the soil resource within the Site.

Assessment of Effects

Construction Effects

5.2.10. From the commencement of construction, land will be excluded from agricultural use. The long-term restriction to agricultural use of the ALC Grade 1 and 2 land within the Solar Development Area as a result of the construction of the solar PV panels and associated infrastructure (approximately 142.3ha in total) is considered to represent a significant adverse effect. In addition, part of the Scheme will involve the creation of hardstanding for associated infrastructure. Where this infrastructure is located on ALC Grade 1 or Grade 2 land, there is greater uncertainty about whether the land can be returned to its former ALC grade. Therefore, this is considered to comprise a significant effect.

5.2.11. No significant effects from restriction to agricultural use are expected within the Inter-Array Corridors or the Grid Connection Route, as the area and duration of soil disturbance starting from construction would be much more limited.

5.2.12. Across the Scheme, with the embedded mitigation measures for the sustainable management of soil resources, there would be no discernible loss or reduction of soil function or soil volume for any of the soil types surveyed.

Operational Effects

5.2.13. During the operational lifetime of the Scheme, the requirement for maintenance or remedial works is anticipated to be small-scale and localised. Effects identified during the construction phase on agricultural land use would continue, but no additional effects beyond those already identified would occur.

5.2.14. The change from predominantly arable farming to grassland cover would be beneficial to the structure of soils with the PV array (excluding areas of hardstanding). Trafficking by agricultural machinery would be reduced. Permanent vegetation cover would protect soils from erosive surface water runoff. Soil organic carbon is anticipated to increase over the operational life of

the Scheme (although this would be reversed were cultivation to recommence upon decommissioning). The operational phase of the Scheme is therefore considered to result in a minor beneficial effect (not significant) to the soil resource.

Decommissioning Effects

5.2.15. Decommissioning would include removal of all above ground infrastructure, including the PV panels, On-Site Substation and BESS Compounds, solar stations, pylons, Cable Sealing End Compounds, access tracks etc. Concrete foundations to these elements would be removed to a depth agreed with the landowner, with the intention of restoring land to its original ALC grade. Cables can be removed by opening 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. Following decommissioning, the land would be returned to the landowner for agricultural use. No additional significant effects are considered likely.

Cumulative Effects

5.2.16. The cumulative effects assessment presented within **ES Chapter 5: Agriculture and Soils** (Doc Ref. 6.1) considers the cumulative land use change from proposed large scale ground-mounted solar schemes within Lincolnshire. It is estimated that cumulative solar schemes in Lincolnshire would account for approximately 3% of all agricultural land within Lincolnshire, with above ground infrastructure accounting for approximately 2.3% of all agricultural land. An estimated 1.1% of BMV land would be temporarily used and 0.02% of BMV land permanently used. Whilst there is a measure of uncertainty around this proportion, it is indicative that the solar schemes represent a small proportion of agricultural and BMV land in the County. The regional distribution and relative area of land use change means that the cumulative effects from the use of agricultural land and BMV land are assessed as not significant.

5.3. Air Quality

Introduction

5.3.1. **ES Chapter 6: Air Quality** (Doc Ref. 6.1) presents the findings of an assessment of the likely significant effects on local air quality as a result of the Scheme. The guidance and methods that have been used are widely applied in England to assess the likelihood of emissions to air affecting the health and amenity of the local community or conditions at designated ecological sites.

Baseline and Context

5.3.2. There are no Air Quality Management Areas (AQMAs) within the administrative area of South Holland District Council and air quality is generally considered to be good.

Proposed Mitigation

5.3.3. Standard good practice measures to manage the impacts from dust generation are included in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10) and **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12). These include measures such as avoiding stockpiling soil and materials near the Site boundary, using water to damp down soil if earthworks are undertaken in dry weather, and covering any dusty materials being transported on or off-site. These measures have a strong track record of controlling off-site effects of emissions to air effectively, where they have been applied to other construction sites over the last 20 years. The nature of the activities required to construct, operate and decommission the Scheme have limited potential to generate emissions to air and with the proposed good practice control measures there should be no change to the future standard of air quality experienced by local communities, with or without the Scheme.

5.3.4. In addition, an **Outline Construction Traffic Management Plan** (Doc Ref. 7.13) has been prepared to manage and mitigate traffic related impacts during construction.

Assessment of Effects

Construction Effects

5.3.5. A Construction Dust Risk Assessment was carried out. The Site was identified as having a “high risk” of impacts relating to dust soiling and human health effects due to its scale of works. With the implementation of the standard good practice measures during construction, the impact of the construction phase would be negligible. The standard good practice measures for implementation are included in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10). The effects of dust on health and amenity would be not significant.

5.3.6. An assessment of the likely impacts of emissions from construction traffic on local air quality has identified that construction vehicles would cause a negligible change to existing concentrations of air pollutants. The assessment also identified that local air quality would remain at the same good standard and well within the relevant national air quality objective values. It is predicted that effects from construction related vehicle emissions would be not significant.

Operational Effects

5.3.7. There are no emission sources from the operation of the Scheme. In addition, the operational phase traffic is considered to be limited. As such, an operational phase air quality assessment was scoped out from further consideration.

Decommissioning Effects

5.3.8. The air quality effects during decommissioning will be similar to, if not less than, the construction phase. Decommissioning is expected to be shorter in duration, less intensive and with fewer road trips. Any impacts on health and amenity from air quality would be not significant.

Cumulative Effects

5.3.9. With regards to cumulative effects, it is expected that cumulative schemes would also be required to implement standard good industry practice in terms of mitigation and compliance with environmental legislation. As such, there are not expected to be any significant cumulative effects during the construction, operation, and decommissioning phases.

5.4. Climate Change

Introduction

5.4.1. **ES Chapter 7: Climate Change** (Doc Ref 6.1) presents the following three assessments:

- Lifecycle greenhouse gas (GHG) impact assessment – to consider the impact of GHG emissions arising over the lifetime of the Scheme on the climate;
- Climate Change Risk Assessment – to consider the impact of climate change on the Scheme;
- In-combination Climate Change Impact Assessment – to consider how receptors in the surrounding environment may be affected by the combined impact of future climate conditions as well as the Scheme.

Baseline and Context

Lifecycle GHG impact assessment

5.4.2. The GHG impact assessment covers all direct GHG emissions arising from activities undertaken within the Site boundary during the construction, operation (including maintenance), and decommissioning of the Scheme. It also includes indirect emissions embedded within the components of the Scheme (e.g. solar PV panels and electrical equipment) and construction materials (e.g. the steel

required to construct the PV mounting structures and pylons) arising as a result of the energy used for their production. The GHG assessment also accounts for emissions arising from the transportation of products and materials, waste, and construction workers.

5.4.3. The receptor for the lifecycle GHG impact assessment is the global climate.

5.4.4. The baseline and future baseline for GHG emissions is a 'business as usual' scenario where the Scheme does not go ahead. While the current land use within the Site will have minor levels of associated GHG emissions, it is anticipated that these emissions will not be material in the context of the overall Scheme. Therefore, for the purposes of the lifecycle GHG impact assessment, a GHG emissions baseline of zero was applied.

Climate Change Risk Assessment and In-Combination Climate Change Impact Assessment

5.4.5. The current baseline for the Climate Change Risk Assessment and In Combination Climate Change Assessment is the climate within the Site boundary for the 30-year period of 1981 to 2010 (the standard baseline for climate data). This is based on a review of Met Office observed historic climate data from the meteorological station closest to the Site.

5.4.6. The future baseline is expected to differ from the present-day baseline. United Kingdom Climate Projections 2018[19] provide probability based projections for predefined 30-year periods for climate variables which were used to inform future baseline and predict changes such as higher average temperatures and increased winter precipitation.

Proposed Mitigation

Lifecycle GHG impact assessment

5.4.7. The Scheme has been designed to mitigate the impacts of the Scheme on the climate. These measures are included in the environmental management plans submitted with the DCO Application, such as the **Outline Construction Environmental Management Plan** (Doc Ref 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), **Outline Decommissioning Environmental Management Plan** (Doc Ref 7.12) and **Outline Construction Traffic Management Plan** (Doc Ref. 7.13). Relevant measures relate to (but are

[19] UKCP18 (2018). Met Office Climate Projections. Available at: ukcp18-guidance-ukcp18-for-ukcp09-users.pdf [Accessed 07/10/2025]

not limited to): increasing recyclability, minimising waste and maximising use of low carbon materials, reusing infrastructure and resources, where practicable, reducing the number of construction staff and employee trips, switching vehicles and plant off when not in use, conforming to vehicle emissions standards, and conducting regular maintenance of plant and machinery to enhance efficiency.

Climate Change Risk Assessment and In-Combination Climate Change Impact Assessment

5.4.8. In addition, multiple measures have been embedded into the Scheme design to mitigate the impacts of climate change on the Scheme and the in-combination impacts on nearby receptors, with measures for flood risk summarised in Section 5.8 Hydrology and Flood Risk of this Non-Technical Summary being of particular relevance. Furthermore, measures related to managing adverse weather conditions have been incorporated within the **Outline Construction Environmental Management Plan** (Doc Ref 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), **Outline Decommissioning Environmental Management Plan** (Doc Ref 7.12).

Assessment of Effects

Lifecycle GHG Impact Assessment

5.4.9. GHG emissions sources within the scope of the construction phase include embodied carbon associated with the manufacture of the materials and their components, particularly the manufacturing of the solar PV panels and BESS, which will have the greatest carbon impact during construction. Transportation of these products will be the second greatest contributor, while the remaining emissions would result from worker commuting, waste of materials, and fuel and water use.

5.4.10. Operational GHG impacts include emissions from the maintenance, repair and replacement of infrastructure on site. Other GHG emissions sources within the scope of the operational emissions include operational energy use (i.e. for auxiliary services and standby power), fuel used for the transportation of workers to the Site, and water use. Operational emissions would predominantly result from the embodied carbon within replacements of PV panels and BESS, and the associated transport to Site.

5.4.11. Sources of GHG emissions during decommissioning within the scope of the assessment include worker commuting, water use, fuel use on-site, transportation of materials and waste, and waste disposal.

5.4.12. The benefits of generating renewable energy from the Scheme far outweigh the impact of the emissions generated over the lifecycle of the Scheme. The Scheme's operational phase will indirectly cause a reduction in atmospheric GHG concentration compared to the without-project baseline as it will displace energy that would otherwise have been generated by higher carbon sources. In this way the Scheme aligns with, and assists in the UK's trajectory towards net zero.

5.4.13. The Scheme will deliver an overall lifetime carbon saving of 87% against the UK grid average without decarbonisation. GHG emissions during construction, operation and decommissioning of the Scheme can be considered to be 'offset' by the net positive impact of the Scheme on GHG emissions and the UK's ability to meet its carbon targets. Considering emissions saved against a without-project baseline (2025 UK energy grid carbon factor), any emissions relating to the construction of the Scheme will be offset after four years of operation.

5.4.14. The Scheme demonstrates an indirect reduction in atmospheric GHG concentration and avoidance of emissions; therefore, it is overall beneficial and has a positive, significant effect on climate.

Climate Change Risk Assessment and In-Combination Climate Change Impact Assessment

5.4.15. Future climate projections were reviewed and the sensitivities of assets examined. As a result of the embedded climate change mitigation measures, no significant climate change risks or in-combination climate change impacts during the construction, operation and decommissioning phases were identified.

Cumulative Effects

5.4.16. Since the receptor for GHG emissions is the global climate, it is not possible to define a study area for the assessment of cumulative effects as the effects are not geographically constrained. Consequently, consideration of the effects of the Scheme together with other developments on GHG emissions is not considered to be applicable.

5.4.17. Cumulative effects are also not relevant to the Climate Change Risk Assessment, as it considers the impact of climate change on the Scheme itself.

5.4.18. In-Combination Climate Change impacts identified were not considered to have the potential to combine with effects from other schemes.

5.5. Cultural Heritage

Introduction

5.5.1. **ES Chapter 8: Cultural Heritage** (Doc Ref. 6.1) considers the potential impacts on designated and non-designated heritage assets. Heritage assets identified include archaeological sites, historic buildings, conservation areas, and historic landscapes.

Baseline and Context

5.5.2. The baseline assessment was informed by various data sources including searches of the local Historic Environment Records (HER), the National Heritage List for England (NHLE), historic mapping, documentary sources and site visits. An aerial photograph and LiDAR assessment, geophysical survey and archaeological evaluation trenching were also undertaken.

Historic Landscape

5.5.3. The Site sits within the South Lincolnshire fenland basin, a low-lying landscape of silt and peat fens. Key geological features include marine alluvium and roddons (silted former watercourses), which form raised areas that historically hosted settlement and industrial activity.

Designated Heritage Assets

5.5.4. There are no World Heritage Sites, Registered Parks, Battlefields, or Protected Wrecks within 5km of the Site.

5.5.5. There are two Scheduled Monuments located within Land Parcel C of the Solar Development Area:

- Settlement NE (north-east) of Whitebread Farm; and
- Settlement W (west) of Cate's Cove Corner.

5.5.6. A further Scheduled Monument, 'the medieval boundary earthworks at Queen's Bank, 100m south-east of Providence House' is also located immediately to the north of Land Parcel C of the Solar Development Area. The 'Wykeham Chapel: a moated monastic grange and retreat house' Scheduled Monument is located immediately adjacent to the Site boundary of the Grid Connection Route.

5.5.7. In addition, there are a further 19 Scheduled Monuments, five Conservation Areas and 97 Listed Buildings within 5km of the Site.

Non-Designated Heritage Assets

5.5.8. No direct evidence of Stone Age (Palaeolithic, Mesolithic, and Neolithic) or Bronze Age occupation has been recorded within the study area. Although wider research indicates intermittent human activity across the fenland landscape from the Palaeolithic through to the Bronze Age. Early prehistoric remains are largely confined to higher ground, known as roddons, or fen-edge location.

5.5.9. During the Iron Age, settlement patterns became increasingly structured, with the emergence of field systems, enclosures, and trackways that reflect organised agricultural practices and salt production. People adapted to the marginal environment by creating drainage features and droveways, marking the beginnings of fenland reclamation. Archaeological investigations across the Site have revealed evidence of dispersed farmsteads, industrial activity including salt production, and extensive field systems, demonstrating the increased exploitation of the roddons.

5.5.10. During the early medieval period, the landscape became wetter, but Anglo-Saxon settlement persisted on areas of higher ground. Evidence for early medieval activity is sparse, with finds including pottery (c. 975–1150 AD) recorded at Cowbit and Weston. Weston is documented in the Domesday Book (1086).

5.5.11. The medieval period is represented by the expansion of settlements and fenland reclamation, including sea banks, trackways, and agricultural features such as ridge-and-furrow. Settlements such as Cowbit, Peakhill, and Weston, alongside field boundaries, ponds, stock enclosures, and ditches all date to this period. The establishment of Crowland Abbey reflects the continued use of the roddons for habitation and religious activity.

5.5.12. The post-medieval period witnessed a major phase of fen drainage and landscape reorganisation, beginning in the seventeenth century. Large-scale engineering schemes, often directed by Dutch specialists, converted extensive areas of wetland into arable farmland through the introduction of major drains, pumps and flood defences. Post-medieval evidence reflects extensive agricultural exploitation, including farmsteads, enclosures, drainage features and field boundaries.

5.5.13. In the modern period, progressive improvements to drainage, mechanised farming, and infrastructure have further modified the landscape. Evidence of the impact of World War Two on local communities in Lincolnshire is also recorded within the study area. Specifically, three World War Two aircraft crash sites have been identified within Land Parcels A and D of the Solar Development Area.

Proposed Mitigation

5.5.14. Existing heritage assets were considered in the design of the Scheme including the layout of the Solar Development Area and the routing of the Grid Connection. For example, the layout of the Solar Development Area has been designed to avoid physical infrastructure within the two Scheduled Monuments located within the Site and a 20m buffer around them has been provided. The Solar Development Area layout has also been designed to avoid impacts on dense groupings of buried archaeological and aircraft bomber remains that have been identified within Land Parcel D of the Solar Development Area.

5.5.15. Good practice measures regarding the protection of heritage assets are set out within the **Outline Construction Environmental Management Plan** (Doc Ref 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), and **Outline Decommissioning Environmental Management Plan** (Doc Ref 7.12).

5.5.16. Furthermore, an Archaeological Mitigation and Management Strategy will be prepared to set out a programme of archaeological investigation, recording and reporting in consultation with the Archaeological Advisor of Lincolnshire County Council.

Assessment of Effects

Construction Effects

5.5.17. During the construction phase, permanent impacts from the disturbance of below ground archaeology may occur. Due to the limited potential to mitigate impacts associated with the steel poles used to support the solar PV panels, the effects associated with their installation in areas of high archaeological potential within the Solar Development Area are considered to be significant.

5.5.18. During the construction phase of the Scheme, impacts on the significance of heritage assets may also arise due to a change to their setting, as a result of construction activities, the presence of construction plant and equipment and construction traffic. Short-term, temporary significant effects from the change to the setting have been identified on the following heritage assets:

- The two Scheduled Monuments within Land Parcel C of the Solar Development Area (Settlement W of Cate's Cove Corner and Settlement NE of Whitebread Farm);
- The medieval boundary earthworks at Queen's Bank Scheduled Monument immediately to the north of Land Parcel C of the Solar Development Area;

- St Guthlac's Cross (Scheduled Monument and Grade II Listed Building) adjacent to Land Parcel A of the Solar Development Area and the Underground Inter-Array Connection; and
- Wykeham Chapel Scheduled Monument and Grade I listed chapel adjacent to the Grid Connection Route.

5.5.19. Short-term, temporary significant effects on the historic landscape of the former precinct of Crowland Abbey, the Fens and the Wash historic landscape character areas have also been identified.

Operational Effects

5.5.20. During the operational phase of the Scheme, changes to the setting of heritage assets introduced by the presence of the Scheme infrastructure installed during construction would remain. Long-term, temporary significant effects during the operational phase have been identified on the same heritage assets and historic landscapes, as set out in paragraphs 5.5.18 and 5.5.19 above.

5.5.21. It is not expected that the operation of the Scheme will result in any further intrusive activities and as such no impact to the buried archaeological assets is anticipated during this phase. Any impacts as a result of maintenance activities would be mitigated through measures set out in the **Outline Operational Environmental Management Plan** (Doc Ref. 7.11).

Decommissioning Effects

5.5.22. It is considered that the temporary impacts experienced during decommissioning works are likely to be similar to those during the construction phase. As such, effects as a result of the change to the setting of heritage assets and on historic landscapes are likely to be equivalent to those identified within paragraphs 5.5.18 and 5.5.19 above.

5.5.23. Upon completion of the decommissioning phase, the effects on the setting of heritage assets as a result of the Scheme would cease.

5.5.24. No further significant effects on buried archaeological are considered likely.

Cumulative Effects

5.5.25. Potentially significant cumulative effects with Grimsby to Walpole and Weston Marsh to East Leicestershire schemes have been identified in relation to historic landscapes and Wykeham Chapel Scheduled Monument and Grade I listed chapel adjacent to the Grid Connection Route across all phases of the Scheme. These effects relate to the cumulative change in the historic landscape character and the setting of the heritage asset.

5.6. Ecology and Biodiversity

Introduction

5.6.1. **ES Chapter 9: Ecology and Biodiversity** (Doc Ref. 6.1) presents the findings of an assessment of the potential for significant effects of the Scheme on ecology and biodiversity within the Site and surrounding area. The assessment considers effects on designated sites, habitats, and protected species and is based on information obtained at the time of publication through a desk study and ecological field surveys.

Baseline and Context

5.6.2. Ecological features considered in **ES Chapter 9: Ecology and Biodiversity** (Doc Ref. 6.1) include sites designated for nature conservation, and species and habitats that are important at an international, national, and local level (this considers how rare and important the species and habitats are). The findings of ecological surveys used to establish the existing baseline are presented in **ES Appendices 9-2 to 9-13** (Doc Ref. 6.3).

5.6.3. There are no statutory designated ecological sites within 2km of the Scheme. The closest designated site of international importance is the Wash SAC, SPA and Ramsar, located approximately 8.4km north-east of the Site. The closest designated sites of national importance are the Surfleet Lows SSSI and Cowbit Wash SSSI, located approximately 3.5km north-west and 3.6km west of the Site respectively. There are 23 non-statutory ecological sites located within 2km of the Site, all of which are Local Wildlife Sites. The Slys Connection, South Holland Main Drain, Lambert Drain to Highstock Drain Connection and Wheatmere Drain Local Wildlife Sites cross through the Site.

5.6.4. Ecological surveys identified that the land within the Site is dominated by intensively managed arable farmland, but also includes grassland fields, established trees and hedgerows with small areas of woodland, and aquatic habitats associated with existing watercourses, drains and ponds. Further surveys were undertaken to record birds (breeding and wintering birds, and common crane), otter, water vole, badger, great crested newt, and bats. The results of protected species surveys are presented in **ES Appendices 9-3 to 9-13** (Doc Ref. 6.3).

Proposed Mitigation

5.6.5. As a first principle, the Scheme has sought to avoid important ecological features and where this has not been practical, then mitigation has been specified to form

an integral, committed and deliverable part of the Scheme or otherwise comprise industry good practices.

5.6.6. For example, as part of the landscape design for the Scheme, new habitats would be provided to increase biodiversity compared to the existing baseline. This would include converting areas of agricultural land around and beneath the solar PV panels into species rich grassland, providing new tree and shrub planting along field boundaries, and enhancing habitats next to watercourses. The Solar Development Area incorporates over 170ha of habitat management areas where no physical infrastructure is proposed. Out of this, over 150ha have been specifically set aside for the enhancement of habitats for farmland birds, such as skylark. The creation and subsequent management of habitats is detailed within the **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16), included as part of the DCO Application.

5.6.7. Good practice measures relevant to managing impacts on ecological receptors during construction, operation and decommissioning are set out in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), the **Outline Operational Environmental Management Plan** (Doc Ref 7.11), and the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12). These include (but are not limited to) measures to avoid impacts from dust, pollution, lighting, fencing, biosecurity measures, buffers from sensitive receptors, such as watercourses and protected species, and requirements for pre-construction protected species surveys and licensing. Operational drainage and surface water management measures to minimise runoff and pollution pathways are established within **ES Appendix 11-4: Outline Drainage Strategy** (Doc Ref. 6.3).

5.6.8. On the Grid Connection Route, bird diverters have been specified for spans identified with an elevated bird collision risk, as set out within the **Outline Operational Environmental Management Plan** (Doc Ref 7.11).

Assessment of Effects

Construction Effects

5.6.9. Effects on ecological features from the Scheme can arise from direct and indirect disturbance of designated sites, habitats or species, and be of a temporary or permanent nature. Indirect effects can occur for example through pollution of air and water, and as a result of changes in lighting, noise or hydrology. However, with the proposed mitigation, as described above, no significant effects are considered likely.

Operational Effects

5.6.10. With the implementation of the proposed mitigation, the assessment of effects on important ecological features has concluded that the operation of the Scheme is unlikely to result in significant effects.

5.6.11. The **Biodiversity Net Gain Report** (Doc Ref. 7.9), submitted with the DCO Application, quantifies the overall effect of the Scheme upon the biodiversity value of the area within the Site by comparing the baseline habitat value with that of the Scheme. Calculations consider the level of proposed habitat loss, retention, enhancement and/or creation delivered by the Scheme and are measured using Natural England's statutory biodiversity metric. The Scheme is committed to deliver biodiversity net gain in excess of 10% for area-based habitats and watercourses and 400% for hedgerows, in accordance with the requirements of the **Draft DCO** (Doc Ref. 3.1). The **Biodiversity Net Gain Report** (Doc Ref. 7.9) demonstrates that based on the current plans, the Scheme is predicted to result in a net gain of 14.60% for habitat area-based units, 477.94% for hedgerow units, and 11.42% for watercourse units.

5.6.12. Overall, with the consideration of planting and habitat enhancement measures proposed, the Scheme is considered to result in a significant beneficial effect with regards to the creation of hedgerows and lines of trees on a local scale, and with regards to habitats for protected species (such as badger, barn owl, breeding and wintering birds, bats, reptiles, otter and water vole).

Decommissioning Effects

5.6.13. For the purposes of the assessment, to account for a worst-case scenario, any introduced benefits to habitats and local populations of protected and notable species, are assumed to be removed by the landowner following decommissioning as the Site would be returned to the landowner and out of the Applicant's control. The overall net change for ecological receptors would be negligible following decommissioning, as it is anticipated that the land would return to baseline conditions. Impacts such as disturbance and vibration and increase in traffic movements would have the same impact if not slightly reduced as the construction phase. Following the implementation of the measures set out within the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12), it is anticipated that these impacts would be reduced to a level that is not significant.

Cumulative Effects

5.6.14. With regards to cumulative effects, it is expected that cumulative schemes would also be required to implement standard good industry practice in terms of

mitigation and compliance with environmental legislation, and provide habitat enhancements. As such, there are not expected to be any significant cumulative adverse effects during the construction, operation, and decommissioning phases.

5.7. Human Health

Introduction

5.7.1. **ES Chapter 10: Human Health** (Doc Ref. 6.1) presents the findings of an assessment of the likely significant effects of the Scheme on human health as a result of the Scheme during construction, operation and decommissioning.

Baseline and Context

5.7.2. The 2021 Census[20] identified the population within wards located within 500m of the Site (the study area) as 24,276, comprising of Spalding St Mary's (4,605), Spalding St Paul's (5,597), Moulton, Weston and Cowbit (7,295), Whaplode and Holbeach St John's (4,324) and Fleet (2,455). The study area represents 25.5% of the population of South Holland, 3.2% of Lincolnshire, 0.5% of the East Midlands, and 0.04% of England.

5.7.3. According to the 2021 Census self-assessment questionnaire data, the study area has a slightly lower proportion of residents in 'Very Good' health (39.9%) compared to South Holland (41.4%), Lincolnshire (43.1%), the East Midlands (46.2%) and England (48.5%). The proportion of residents of the study area in 'Very Bad' health (1.3%) is in line with comparator areas (1.2% for South Holland, Lincolnshire, East Midlands and England).

5.7.4. There is one GP surgery located within 2km of the Site, Moulton Medical Centre, located approximately 1.7km to the east of the Site. The nearest hospital (with an accident and emergency department) to the Site is Pilgrim Hospital in Boston, located approximately 14km to the north-east of the Site. In addition, there are 33 community facilities and 17 open spaces within 2 km of the Site.

Proposed Mitigation

5.7.5. Mitigation measures summarised in Section 5.3 Air Quality, Section 5.9 Landscape and Visual, Section 5.10 Noise and Vibration, Section 5.11 Socio-Economics and Land Use, and Section 5.12 Traffic and Access of this Non-

[20] ONS (2021) Census 2021. Available at: https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?theme=93 [Accessed 15/01/2026]

Technical Summary are also relevant for minimising effects on health and wellbeing. These measures are detailed within the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12), **Outline Construction Traffic Management Plan** (Doc Ref. 7.13), **Outline Public Rights of Way Management Plan** (Doc Ref. 7.15), and **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16).

5.7.6. Furthermore, as a benefit to the local community, the Scheme would introduce a permissive path through Land Parcel C of the Solar Development Area, creating a circular route with existing PRoWs between Queens Bank and Shepeau Stow.

5.7.7. The **Outline Skills, Supply Chain and Employment Plan** (Doc Ref. 7.17), submitted with the DCO Application, sets out a variety of interventions which the Applicant would pursue post-consent to maximise the economic benefits of the Scheme.

Assessment of Effects

Construction Effects

5.7.8. With mitigation measures in place, as described above, the likely effect on human health arising from impacts on air quality, landscape and visual, noise and vibration and traffic and access during the construction phase of the Scheme is assessed to be not significant for the general population and vulnerable groups (i.e. elderly residents, families with young children, and those with specific healthcare needs). Where significant effects have been identified in the relevant technical assessments (refer to Section 5.9 Landscape and Visual, Section 5.10 Noise and Vibration, and Section 5.12 Traffic and Access of this Non-Technical Summary), these only relate to a small proportion of the population within the study area and the overall effect on the population in the study area is not considered to be significant.

5.7.9. During the construction phase, the Scheme will also provide access to employment and training opportunities. There is evidence that employment matters to health, not only from an economic perspective, but also in terms of quality of life and mental health. It is estimated that the Scheme will generate a net total of 207 FTE jobs per year on average over the construction period, 83 of which are likely to be within a 60-minute drive time area. This results in a short-term minor beneficial effect, which is not considered to be significant.

5.7.10. Given the estimated construction workforce numbers and the duration of the construction period, no significant effects with regards to demand for social

infrastructure (such as visitor accommodation, GPs, schools, open spaces etc) are likely to occur.

5.7.11. Taking into account that there is potential for the Scheme to have both positive and negative impacts, overall, it is considered that the Scheme will have a negligible, not significant effect on both the general population and on vulnerable groups with regards to mental health.

Operational Effects

5.7.12. During the operational phase, effects associated with changes to air quality, noise and vibration, traffic and access, job creation, and access to social infrastructure would be limited and, therefore, not significant. Where significant effects have been identified in Section 5.9 Landscape and Visual of this Non-Technical Summary, these only relate to a small proportion of the population within the study area and the overall effect on the population in the study area is considered to be not significant.

5.7.13. Potential for health effects from electric and magnetic fields resulting from electrical equipment introduced by the Scheme (including but not limited to the 400kV overhead line in the Grid Connection and On-Site Substations) have been assessed as part of **ES Chapter 16: Other Environmental Topics** (Doc Ref. 6.1) (see Section 5.13 of this Non-Technical Summary) and the **Electric and Magnetic Fields Compliance Assessment** (Doc Ref. 7.8), submitted with the DCO Application. Provided relevant design standards are met, there are no likely significant effects on human health.

5.7.14. A new permissive path will be provided connecting PRoWs between Queens Bank and Shepeau Stow. The permissive path introduced by the Scheme will provide increased public access across the landscape and as such, is assessed to result in a minor beneficial effect (not significant) with regards to access to PRoW and active travel for the general population and vulnerable groups.

5.7.15. It is considered that the Scheme will have a negligible (not significant) effect with regards to mental health on both, the general population and on vulnerable groups.

Decommissioning Effects

5.7.16. The effects on human health during the decommissioning of the Scheme are anticipated to be in line with or no worse than effects during the construction phase of the Scheme.

Cumulative Effects

5.7.17. With regards to cumulative effects, it is expected that cumulative schemes would also be required to implement standard good industry practice in terms of mitigation and compliance with environmental legislation. Where significant cumulative effects have been identified within Section 5.9 Landscape and Visual and Section 5.12 Traffic and Access of this Non-Technical Summary, these only relate to a small proportion of the population within the study area and the overall cumulative effect on the population in the study area is considered to be not significant.

5.8. Hydrology and Flood Risk

Introduction

5.8.1. **ES Chapter 11: Hydrology and Flood Risk** (Doc Ref. 6.1) presents the findings of an assessment of the likely significant effects of the Scheme with regards to the water environment. This includes impacts on surface water features, such as rivers, streams, ditches, canals, and lakes, but not ponds which are considered under 'Ecology and Biodiversity' (see Section 5.6 of this Non-Technical Summary). Impacts on groundwater were scoped out as part of the EIA Scoping process in agreement with the Planning Inspectorate. Potential impacts on water quality and hydromorphology[21] of surface water features were considered, together with assessment of impacts on water resources, flood risk, and drainage during construction, operation, and decommissioning of the Scheme.

Baseline and Context

5.8.2. All surface water features within the Site and a 1km study area were considered in the assessment. The principal watercourses of relevance are the River Welland, to the west of the Site, and the South Holland Main Drain, which crosses the Site in two locations. There are also numerous smaller drains and ditches across the Site and the study area, with most heavily modified or artificial. The Site also extends across areas administered by the South Holland Internal Drainage Board and the North Level District Internal Drainage Board.

[21] Hydromorphology is the study of how water flow (hydrology) and physical form (morphology) interact to shape rivers, streams, lakes, and coastal waters.

5.8.3. The majority of the Solar Development Area and Inter-Array Connections lie in Flood Zone 2 and Flood Zone 3[22]. Although, it is noted that the flood zone mapping does not take into account protection from existing flood defences. In practice, the Site is protected from flooding from the River Welland by existing flood defences, which protect the majority of the Solar Development Area and Inter-Array Connection against a flood event with a 0.1% chance of occurring in any year (1 in 1,000 year event).

5.8.4. The majority of the Grid Connection Route lies within a combination of Flood Zones 2 and 3 with limited and localised areas in the south falling within Flood Zone 1.

5.8.5. Flood risk from all sources is assessed in full in **ES Appendix 11-3: Flood Risk Assessment** (Doc Ref. 6.3).

Proposed Mitigation

5.8.6. The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on the water environment through the process of design development, by embedding measures into the design, and by setting out good practice environmental management measures within the management plans submitted with the DCO Application.

5.8.7. For instance, measures embedded within the Scheme design include:

- Maintaining a 10m buffer from drains and watercourses, where reasonably practicable.
- Incorporating measures within the design of the Scheme for flood protection, including (but not limited to) providing flood protection for the On-Site Substation and BESS Compounds and solar stations, excluding infrastructure from areas at higher risk of flooding, where practicable, and specifying a minimum height above ground for solar PV panels in areas at higher risk of flooding (refer to **ES Appendix 11-3: Flood Risk Assessment** (Doc Ref. 6.3) for details).
- **ES Appendix 11-4: Outline Drainage Strategy** (Doc Ref. 6.3) sets out principles for surface water runoff attenuation to ensure no increase in surface water discharge rates and for water quality treatment of runoff water.

[22] Flood Zone 1 is defined by the Environment Agency as land having less than 1 in 100 annual probability of river flooding. Flood Zone 2 is defined by the Environment Agency as land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding. Flood Zone 3 is defined by the Environment Agency as land having a 1 in 100 or greater chance of flooding each year from rivers, when the presence of any flood defences are ignored.

Attenuation in the form of Sustainable Drainage Systems has been proposed to control any increase in the rate of flow towards the receiving watercourses. The drainage strategy for the BESS Compound also sets out principles for any fire water containment.

5.8.8. Good practice measures relevant to managing impacts on the water environment during construction, operation and decommissioning are set out in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), the **Outline Operational Environmental Management Plan** (Doc Ref 7.11), and the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12).

Assessment of Effects

5.8.9. Several activities during the construction, operation, and decommissioning phases are likely to generate impacts, which, if unmitigated, have the potential to affect the water environment.

Construction Effects

5.8.10. During the construction phase, there is a potential for impacts on surface water receptors, specifically from runoff containing fine sediments, accidental spillages, construction of access track crossings and open-cut cabling. Following the implementation of mitigation measures, including industry good practice measures secured via the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), the effects for surface water, water resources or flood risk during construction are considered not significant.

Operational Effects

5.8.11. During the operational phase, there is the potential for adverse impacts on watercourses from run-off and spillages from new hardstanding and maintenance activities, if not properly mitigated. The operator of the Scheme would apply good industry practice measures, as set out within the **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), and the drainage design principles established in **ES Appendix 11-4: Outline Drainage Strategy** (Doc Ref. 6.3) would be implemented. Measures to avoid significant effects from flood risk on the Scheme and on off-site receptors have been embedded within the design proposals. The effects for surface water, water resources or flood risk during operation are therefore considered not significant.

Decommissioning Effects

5.8.12. Potential impacts from the decommissioning phase of the Scheme are similar in nature to those during construction, as some ground works would be required to remove infrastructure. With mitigation measures in place, as defined through the

Outline Decommissioning Environmental Management Plan (Doc Ref. 7.12), the effects for surface water, water resources or flood risk during decommissioning are also considered not significant.

Cumulative Effects

5.8.13. With regards to cumulative effects, it is expected that cumulative schemes would also be required to implement standard good industry practice in terms of mitigation and compliance with environmental legislation in relation to construction and decommissioning of the Scheme. In relation to their operation and management, it is assumed that the cumulative schemes would develop and adhere to flood risk assessments and appropriate drainage strategies in line with good practice. As such, there are not expected to be any significant cumulative effects during the construction, operation, and decommissioning phases.

5.9. Landscape and Visual

Introduction

5.9.1. **ES Chapter 12: Landscape and Visual** (Doc Ref. 6.1) presents the findings of an assessment of the potential significant effects on landscape character and visual amenity that would result due to the Scheme. Landscape effects relate to changes to the physical characteristics or components of the landscape which inform its character, such as landform, vegetation, watercourses, or perceptual influences. Visual effects relate to changes in the view that may arise from the Scheme as experienced by specific receptors, such as local residents, or users of public footpaths or roads.

Baseline and Context

5.9.2. There are no statutory landscape designations within the Site, such as National Landscapes or National Parks. Impacts on landscape were assessed with reference to published National Character Areas (NCAs), Landscape Character Areas (LCAs), Historic Landscape Character Areas (HLCAs) and Historic Landscape Character Zones (HLCZ). The Site lies within a single NCA, NCA 46 – The Fens[23]. The Site is located within two regional character areas (HLCAs, the Fens and the Wash) and three county character zones (HLCZs the Eastern Fens,

[23] *NCA Profile: 46. The Fens. Natural England.* Available at: https://publications.naturalengland.org.uk/publication/6229624 [Accessed 07/11/2025]

the Townlands and Reclaimed Wash Farmland), as defined by LCC[24]. Overall, the study area forms a distinctive, historic, and human-influenced wetland landscape, notable for its large-scale, flat, open landscape with extensive vistas to level horizons.

5.9.3. Visual receptors with potential to experience change are residents, people engaged in recreational travelling on public rights of way, people travelling on the local road network and outdoor or agricultural workers. A total of 42 viewpoints were identified to represent the views of the visual receptors. The locations of the viewpoints selected are shown on **ES Figure 12-19** and **ES Figure 12-20** (Doc Ref. 6.2). Booklets with existing viewpoint photography are located in **ES Figure 12-21** and **ES Figure 12-22** (Doc Ref. 6.2).

5.9.4. Site surveys and photography were undertaken on several occasions between October 2023 and February 2026, which allowed observations of the areas within the Site and the surroundings through different seasons and conditions.

Proposed Mitigation

5.9.5. Landscape mitigation proposals are presented within the **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16), submitted with the DCO Application. The overall objective of the landscape design has been to sensitively integrate the Scheme into the landscape, avoiding or reducing adverse landscape and visual impacts as far as practicable. As a result, the following mitigation has been embedded within the Scheme design:

- Careful siting of solar PV panels, BESS and On-Site Substation Compounds in the landscape, responding to existing topography and vertical screening and through incorporating buffer areas from existing residential properties;
- Conserving existing vegetation patterns through a minimum offset of 5-10m from existing vegetation (trees and shrubs), where reasonably practicable;
- The Scheme has been designed to integrate with the local green infrastructure network, improving ecological and recreational connectivity;
- Species rich grassland, new trees and shrubs would be provided for landscape and visual mitigation, and managed and maintained throughout the operational phase to provide the intended effect.

[24] LCC (2011) The Historic Character of the County of Lincolnshire 2011. Available at: https://www.n-kesteven.gov.uk/sites/default/files/2023-03/HEV002%20LincsHLC_Report-1.pdf [Accessed 21/11/2025]

5.9.6. Furthermore, good practice measures relevant to managing impacts from lighting during construction, operation and decommissioning are set out in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), the **Outline Operational Environmental Management Plan** (Doc Ref 7.11), and the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12).

Assessment of Effects

5.9.7. Potential landscape and visual impacts, accounting for embedded mitigation, were assessed for the construction phase (winter), operation Year 1 (winter), operation Year 15 (summer), and decommissioning (winter). At Year 1, it is assumed that there will be no or very little growth from the new planting and no leaves on existing deciduous vegetation, so this stage represents the worst case, but not necessarily long term, effects. Year 15 has been chosen to align with industry practice as a year when vegetation planting has matured. However, some planting, for example shrubs, would have matured years earlier.

Construction Effects

Landscape

5.9.8. It is assessed that the Scheme would result in a temporary, short-term significant adverse effect on the two HLCAs (the Fens and the Wash) at a regional level, as well as on two HLCZs (the Eastern Fens and Townlands) at a county level, due to the change in land use.

5.9.9. The construction phase would temporarily alter the landscape by replacing arable land with infrastructure and reducing the sense of openness due to taller structures. Localised works will occur near roads, with minor vegetation removal and the addition of crossings over drainage channels. The topography of the land will remain unchanged except for small, raised areas for flood protection bunds. Indirect impacts include increased traffic, temporary night-time lighting, and the visual presence of construction, reducing tranquillity in the area.

5.9.10. The effect on the Reclaimed Wash Farmland HLCZs is not considered to be significant, as the Scheme only affects a very small portion of this landscape character zone.

Visual

5.9.11. During construction it is anticipated that significant adverse visual effects would arise for visual receptor groups, including residents, recreational users of PRoW and motorists on the local road network, where there are views into the Site during construction. This is a result of the introduction of construction equipment and activity.

Operational Effects (Year 1 – Winter)

Landscape

5.9.12. During operation, it is assessed that the Scheme would result in long-term, reversible significant adverse effects on the two HLCAs (the Fens and the Wash) at a regional level, as well as on the two HLCZs (the Eastern Fens and Townlands) at a county level.

5.9.13. This is due to the degradation of key characteristics through the long-term, temporary loss of arable land and erection of tall structures within the skyline, changing the key characteristic of 'openness'. There would be areas of mitigation planting and habitat management, however, proposed landscape planting would not have established by Year 1. Crossings over existing watercourses / drainage channels would remain. Indirect effects would include how the Scheme changes the look and feel of the landscape's open characteristics. Such changes would largely be restricted to areas adjacent to the Scheme and would decrease with distance. Traffic movement along farm access tracks would change to occasional maintenance vehicles. Lighting would be limited to the On-Site Substation and BESS Compounds and the Cable Sealing End Compounds, and be operated through motion sensors, directed downwards and away from compound boundaries.

5.9.14. The effect on the Reclaimed Wash Farmland HLCZs is not considered to be significant, as the Scheme only affects a very small portion of this landscape character zone.

Visual

5.9.15. During the operational phase of the Scheme, several visual receptors have the potential to experience likely significant effects. Similarly to the construction stage, effects are most likely to arise for receptors adjacent, or in close proximity, to the Scheme. Where receptors may be located further afield, significant effects may also be likely due to the openness of views toward the Scheme, changes to the full extent of the available view, or where the receptor may experience changes in views in multiple directions.

5.9.16. Significant adverse visual effects would arise for visual receptor groups including residents, recreational users of PRoW and motorists on the local road network, where there are views into the Site during operation.

Operational Effects (Year 15 – Summer)

Landscape

5.9.17. By Year 15, mitigation planting around the Solar Development Areas would have established, enhancing and extending existing vegetation patterns along field boundaries and watercourses. This would increase the overall tree and shrub coverage within the two HLCAs (the Fens and the Wash), as well as on the two HLCZs (the Eastern Fens and Townlands), reducing some of the 'openness' but still providing gaps in planting to retain long distance views. There would be a greater degree of enclosure in the vicinity of the Solar Development Areas but no change to the feeling of the general openness of the HLCAs / HLCZs including large skies. Overall, the effect on the HLCAs / HLCZs is considered to remain significant adverse.

Visual

5.9.18. With the maturing of mitigation planting, as described within the **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16), the magnitude of visual effects would reduce at Operation Year 15 relative to Operation Year 1. However, significant adverse effects on visual receptor groups including residents, recreational users of PRoW and motorists on the local road network would remain, where there are views into the Site during operation.

Decommissioning Effects

Landscape

5.9.19. Effects during decommissioning are likely to be similar to construction, however, would be partially screened by the landscape mitigation planting introduced by the Scheme. Overall, the effects on landscape receptors were assessed to be the same as reported during the construction stage, resulting in significant adverse effects on the two HLCAs (the Fens and the Wash) at a regional level, as well as on the two HLCZs (the Eastern Fens and Townlands) at a county level.

Visual

5.9.20. Similarly visual effects were considered to remain significant adverse for visual receptor groups including residents, recreational users of PRoW and motorists on the local road network, where there are views into the Site during the decommissioning phase.

Cumulative Effects

5.9.21. According to the Guidelines for Landscape and Visual Impact Assessment Third Edition, cumulative landscape and visual effects are those that: "*result from*

additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments". It is the additional change in the landscape character and visual amenity introduced by the Scheme, following the construction of cumulative schemes, which is identified.

5.9.22. Following the construction of the cumulative schemes, the additional cumulative effect introduced by the Scheme is not considered to be significant on landscape and visual receptors across all phases of the Scheme. However, the totality of the change in the landscape considering the Scheme and all of the cumulative schemes together is considered to be significant. As a such, a significant cumulative effect has been identified on the Wash HLCA and the Townlands and Reclaimed Wash Farmlands HLCZs, considering the totality of change in the landscape character. In addition, a significant cumulative effect has been identified for residential and recreational receptors within 2km of the Scheme, where there are views into the Site.

5.10. Noise and Vibration

Introduction

5.10.1. **ES Chapter 13: Noise and Vibration** (Doc Ref. 6.1) presents the findings of an assessment of the likely significant effects on noise and vibration as a result of the Scheme.

Baseline and Context

5.10.2. Baseline sound monitoring was carried out to establish the existing noise climate in the area. This monitoring indicated that road traffic noise was the dominant noise source at most locations. Where monitoring locations were not located close to roads, the dominant noise sources were wind, bird song, farming activity or aircraft. Sensitive receptors which have the potential to be affected by the Scheme were identified.

Proposed Mitigation

5.10.3. Proposed mitigation for construction and decommissioning includes the use of Best Practicable Means[25], which are described in industry standards, to minimise noise and vibration from construction activities. For example, the measures

[25] 'Best practicable means' to reduce construction noise and vibration are defined in Section 72 of the Control of Pollution Act 1974.

include sequential start-up of plant and vehicles (rather than all together), regular plant maintenance and the provision of mobile acoustic screening around construction activities, where required. This commitment is set out in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10) and the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12). Noise monitoring, a communication strategy with the local residents and a complaints system would also be established prior to the works. Appropriate routing of construction traffic on public roads and along access tracks will follow the **Outline Construction Traffic Management Plan** (Doc Ref. 7.13).

5.10.4. Proposed mitigation measures that would be applied for the operational phase of the Scheme are set out within the **Outline Operational Environmental Management Plan** (Doc Ref. 7.11). This commits to the operational noise levels from the Scheme (including from the Solar Development Area and the Grid Connection Route) being no greater than those set out in the ES.

Assessment of Effects

Construction Effects

5.10.5. The assessment of construction phase activities accounts for potential direct effects due to construction noise and vibration, and indirect effects due to construction traffic noise. With the implementation of the proposed mitigation, no likely significant effects were identified, with the following two exceptions:

- A potentially significant adverse effect was identified at one receptor at Broad Gate along the Grid Connection Route, which would be affected if Horizontal Directional Drilling activities are required at night-time for the diversion of third-party assets. Subject to detailed design, the Scheme may oversail the assets and, therefore, undergrounding works may not be required. Furthermore, at this stage, the exact plant for the undergrounding of the third-party assets is unknown and, therefore, even if undergrounding is required, the effects are likely to be overestimated.
- Likely significant construction traffic noise effects were identified at properties along Langary Gate Road during peak construction activity.

Operational Effects

5.10.6. For the assessment of operational noise, the typical background noise levels at sensitive receptors were defined from the night-time period, which provide the lowest levels. During operation, plant will operate continuously so there will not be any noticeable impulsive or intermittent characteristics from noise emissions. Operational noise calculations were completed and it was concluded that whilst

noise may be noticeable at some residential properties, based on the worst-case assumptions made in the assessment, operational noise levels would be not significant.

Decommissioning Effects

5.10.7. Noise effects during the decommissioning phase are expected to be similar to, or lower than, those identified for the construction phase. During decommissioning, no Horizontal Directional Drilling activities would be required. As such, with the implementation of proposed mitigation, noise and vibration from decommissioning activities was assessed to be not significant.

5.10.8. Decommissioning traffic is generally expected to be lower than construction on most routes, due to reduced deliveries of plant and materials. However, for a worst-case assessment, a potentially significant adverse effect on properties along Langary Gate Road was identified.

Cumulative Effects

5.10.9. With regards to cumulative effects, it is expected that cumulative schemes would also be required to implement standard good industry practice in terms of mitigation and compliance with environmental legislation. As such, there are not expected to be any significant cumulative effects during the construction, operation, and decommissioning phases. Furthermore, no cumulative construction traffic noise effects were identified.

5.11. Socio-Economics and Land Use

Introduction

5.11.1. **ES Chapter 14: Socio-Economics and Land Use** (Doc Ref. 6.1) presents the findings of an assessment of the likely significant effects on socio-economics and land use as a result of the Scheme. The following aspects of socio-economics and land use were scoped into the assessment:

- Local employment and economy;
- Local land use (residential properties, community land and assets, business premises, development land, and agricultural land holdings); and
- Tourism and visitor accommodation.

Baseline and Context

Local Population and Economy

5.11.2. The 2021 Census[26] indicates that the study area (defined here as the Principal Economic Impact Area or 60-minute drive time) had a population of 2,146,488 in 2021, while South Holland's population was 95,122 and Lincolnshire's was 768,364. In the study area, 20.2% of the population were aged over 65; this is a lower proportion than South Holland (23.9%) and Lincolnshire (23.4%), though slightly higher than the England national average (19.5%). The study area had a higher proportion of working age residents (62.7%) than South Holland (60.3%) and Lincolnshire (60.9%), though England, at 64.2%, has a higher proportion.

5.11.3. In 2021, 61.5% of the population within the study area were economically active; this is a higher proportion than South Holland (59.8%), Lincolnshire (57.2%), the East Midlands (59.9%), and the England national average (60.9%). The most recent available data shows the study area to have slightly higher unemployment than South Holland District, but slightly lower unemployment than Lincolnshire, the East Midlands and England.

5.11.4. The approximate capacity within large hotels (50+ rooms) within 60 minutes' drive of the Site is 6,543 rooms. Occupancy rates vary across the year; room availability after existing demand is estimated to be lowest in July[27].

Local Receptors

5.11.5. There are no residential buildings within the Site boundary. However, there is a small number of residential properties which are surrounded by the Site; these properties are not included within the Order Limits, except where elements of their accessways or gardens may be required for access to utilities for the construction of the Scheme. The area surrounding the Site is largely rural, with a number of small villages.

5.11.6. There are no businesses within the Site, but there are 51 businesses within 500m of the Site boundary. Furthermore, there are no community facilities or open spaces within the Site. However, there are 36 community facilities and 18 open spaces within 2km.

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[26] ONS (2021) Census 2021. Available at: https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?theme=93 [Accessed 15/01/2026]
[27] VisitEngland (2025). Seasonal Occupancy Survey. Available at: https://www.visitbritain.org/research-insights/england-hotel-occupancy-latest Accessed: 15 September 2025]

5.11.7. There are no visitor attractions within the Site. There are two Scheduled Monuments within the Site, however, they are currently being farmed by the existing landowner and do not act as visitor attractions for the public. There are a number of local visitor attractions within 500m of the Site.

Agricultural Land Holdings

5.11.8. There are a total of five landowners within the Solar Development Area. Farming within the Solar Development Area is undertaken by the landowners; there are no tenant farmers.

5.11.9. There are a total of 14 agricultural landowners located within the Inter-Array Connections and two tenants who farm the agricultural land.

5.11.10. There are a total of 42 agricultural landowners located within the Grid Connection Route and three tenants who farm the agricultural land.

Development Land

5.11.11. There are a number of Nationally Significant Infrastructure Project (NSIP) applications within 500m of the Site. Indicative boundaries for three of these NSIPs currently overlap to a small extent with the Site boundary of the Scheme. These include the Grimsby to Walpole, Weston Marsh to East Leicestershire and Ossian Wind Farm, all of which are proposing works at Weston Marsh. There are also three Town and Country Planning Act planning applications within 500m of the Site.

5.11.12. A small section of a mineral safeguarding area for sand and gravel also overlaps with Land Parcel A of the Solar Development Area.

Proposed Mitigation

5.11.13. Good practice measures relevant to managing impacts and disturbance from construction, operation and decommissioning of the Scheme are set out in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), the **Outline Operational Environmental Management Plan** (Doc Ref 7.11), and the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12).

5.11.14. Furthermore, the **Outline Construction Traffic Management Plan** (Doc Ref. 7.13) sets out measures to minimise traffic impacts including severance, and indicates that sustainable travel would be promoted for usage by construction staff travelling to and from the Scheme, with a shuttle bus strategy implemented for non-local workers.

5.11.15. The **Outline Soil Management Plan** (Doc Ref. 7.14) sets out how loss of soil material and loss of soil functional capacity for supporting agricultural production would be avoided during construction, operation, and decommissioning of the Scheme.

Assessment of Effects

Construction Effects

Employment and Local Economy

5.11.16. During construction the Scheme would support, on average, 207 total net jobs per year[28] during the construction phase. Of these, 83 jobs per year would be expected to be taken up by residents within the study area. Overall, this results in a minor beneficial effect, which is not considered to be significant.

5.11.17. It is estimated that construction would contribute approximately £22.3 million per year to the national economy, of which £8.9 million per year would likely be within the study area. This results in a minor beneficial effect on local economy, which is not considered significant.

Local Accommodation Services

5.11.18. The Scheme would have no effect on the tourism sector associated with a shortage of hotel, bed and breakfast, and inn accommodation. Data on room capacity indicates that non-local employees could be accommodated within major hotels in large settlements within the 60 minute drive time area, and would not place pressure on accommodation within the more rural area local to the Scheme.

Private, Community Assets, Visitor Attractions and Tourism

5.11.19. No direct impacts are anticipated on residential properties, local businesses (other than farming businesses), open spaces, community facilities or tourist attractions. Indirect effects on land use via severance would be temporary and reversible, and not significant. Overall, this results in a minor adverse effect on private and community assets, visitor attractions and tourism which is not considered to be significant.

[28] The number of net jobs accounts for direct, indirect and induced employment from the Scheme and any loss of employment as a result of the Scheme.

Agricultural land holdings

5.11.20. Taking into account the nature of the temporary works, the planned reinstatement measures, and the land agreements that the Applicant has already reached or is pursuing with the landowners, no likely significant effects were identified on agricultural land holdings or tenant farmers.

Development Land

5.11.21. Although the boundaries of three NSIP applications overlap with the Site, these would not be adversely affected by the Scheme. The Applicant would engage with the promoters of these projects to share information on the construction process and timing of the Scheme as required, so that any potential for hinderance of or conflict with these other projects is minimised. As such, no significant effects on development land have been identified.

5.11.22. In addition, the Scheme is not considered likely to result in a significant effect on the sand and gravel Mineral Safeguarding Area (refer to **Appendix F: Minerals Safeguarding Assessment** of the **Planning Statement** (Doc Ref. 7.1) for further details).

Operational Effects

Employment and Local Economy

5.11.23. It is estimated the operational Scheme will generate a net gain of 11 jobs[28]. As such, the number of operational jobs provided and any impact on the local economy would not be significant.

Private and Community Assets, Visitor Attractions and Tourism

5.11.24. There are no expected direct land take or severance effects on residential properties, business, community facilities, open space, or visitor attractions. It has therefore been assessed that operational effects on these receptors are not significant.

Agricultural Land Holdings

5.11.25. During operation, hosting of the Scheme will provide a diversified source of income for landowners within the Solar Development Area, resulting in a minor beneficial (not significant) effect.

5.11.26. Given the extent of land taken up by the Scheme in the Grid Connection Route and the Inter-Arrays and the land agreements that the Applicant is pursuing with the landowners, it is not considered that the Scheme would compromise the overall viability of agricultural land holdings within these areas. As such, no significant effects have been identified.

Development Land

5.11.27. The effect from the Scheme during operation on development land and on the Mineral Safeguarding Area intersecting the Site is assessed to be not significant.

Decommissioning Effects

Employment and Local Economy

5.11.28. It is assumed based on the activities taking place that a similar number of jobs required for constructing the Scheme would also be required for decommissioning. Therefore, impacts from the generation of jobs on local economy are assessed as minor beneficial and not significant.

Private and Community Assets

5.11.29. Impacts on residential properties, community land and assets, visitor attractions and tourism, business premises and development land during the decommissioning phase are anticipated to be similar to, if not of a lesser scale than, those assessed during the construction phase and are therefore predicted to be not significant.

Agricultural Land Holdings

5.11.30. The effects on agricultural land holdings in the Solar Development Area during the decommissioning phase are anticipated to be similar to, or of a lesser scale than, the short-term temporary effects identified during the construction phase. Overall, no significant effects are expected on agricultural land holdings for both landowners and tenant farmers.

Cumulative Effects

5.11.31. No likely significant cumulative effects in relation to socio-economics and land-use have been identified.

5.12. Traffic and Access

Introduction

5.12.1. **ES Chapter 15: Traffic and Access** (Doc. Ref. 6.1) assesses the likely significant effects of the Scheme on traffic and access, during the construction and decommissioning phases of the Scheme. Due to the low number of trips likely to be generated during the operation of the Scheme, an assessment of operational traffic was scoped out from the ES.

Baseline and Context

5.12.2. The A16 is the main strategic route in the vicinity of the Scheme and runs in a north/south direction to the east of Land Parcel A and to the west of Land Parcel B of the Solar Development Area. It connects to Peterborough to the south of the Scheme and Boston to the north and also passes the settlements of Spalding and Crowland to the west of the Scheme. Managed by Lincolnshire County Council as the Local Highway Authority, it is generally a single-carriageway and is subject to a varying speed limit of 50mph and 60mph. There are limited crossing points along the route.

5.12.3. The A151 High Road runs in an east/west direction through the Grid Connection Route and connects with the A16 to the west and the settlements of Weston and Holbeach to the east. It has a speed limit of 40mph in the vicinity of the Site.

5.12.4. The A47 is the closest road in the Strategic Road Network[29] to the Scheme and is located approximately 8km south of the Solar Development Areas. It connects with the A16 via the B1040 and B1443 to the south of the Scheme.

5.12.5. The vast majority of other roads in the vicinity of the Scheme are local and rural in nature. Notable other roads in the vicinity of the Scheme include:

- B1165 Austendike Road and B1357 Moulton Chapel Road – which run in an east/west direction through the Grid Connection Route;
- B1166 Hull's Drove - which runs in an east/west direction to the south of the Solar Development Area;
- Barrier Bank - which contains the proposed site accesses to Solar Development Area Land Parcel A and the Underground Inter-Array Connection;
- Martins Road – which bisects Land Parcel C of the Solar Development Area and provides the proposed site access to Solar Development Area Land Parcels B and C; and
- Langary Gate Road – which bisects Land Parcel D of the Solar Development Area and contains the proposed site accesses to this parcel.

5.12.6. The majority of roads in the vicinity of the Scheme have either no or very limited footways present alongside the carriageways. A number of PRoWs pass through

[29] The Strategic Road Network is made up of the motorways and major trunk roads in England that are managed by National Highways.

or are located in the vicinity of the Site, several of which are also designated as bridleways. Descriptions of all PRoWs which intersect with the Site boundary or are located within 500m of the Site are contained within the **Outline Public Rights of Way Management Plan** (Doc Ref. 7.15).

5.12.7. There are very few formal on- or off-road cycling facilities within the immediate vicinity of the Site. The Deepings cycle route is a circular cycle route between Market Deeping and Crowland which passes near to the western side of Solar Development Area Land Parcel A, on the other side of the River Welland.

5.12.8. A strip of registered Common Land[30] runs along the eastern verge of Martins Road and is presumed to provide a public access way between Queen's Bank and B1166 Hull's Drove.

5.12.9. The existing PRoWs, cycling routes and facilities and Common Land in the vicinity of the Scheme are shown in **ES Figure 15-2** (Doc Ref. 6.2).

5.12.10. At present, there are no public transport services or bus stops located on the A16. The nearest served bus stops are located on Barrier Bank, Moulton Chapel Road and Farrow Road in the vicinity of the Site. The closest railway station is Spalding Station, located approximately 3.6km to the west of the Site and is managed by East Midlands Rail and Northern Rail, running services between Peterborough and Doncaster.

Proposed Mitigation

Construction and Decommissioning

5.12.11. The Scheme would minimise construction, and decommissioning impacts through the measures set out within the **Outline Construction Traffic Management Plan** (Doc Ref. 7.13), **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12) and **Outline Public Rights of Way Management Plan** (Doc Ref. 7.15), submitted with the DCO Application. These include but are not limited to:

- Providing suitable points of access for construction vehicles;
- Delivering internal construction routes through the Solar Development Area and a haul road to facilitate the construction of the Grid Connection Route;

[30] Common Land is defined as land owned by one or more persons where others ("commoners") are entitled to use the land or take resources from it.

- Restricting HGV movements and abnormal loads to certain routes (see **ES Figure 15-3: HGV Routing** and **ES Figure 15-4: Abnormal Indivisible Load Routing** (Doc Ref. 6.2));
- Reducing HGV movements during certain times of the day (e.g. between 07:00 and 09:00, as well as between 17:00 and 19:00) to avoid increasing traffic levels during network peak hours;
- Implementing a Delivery Management System to control the bookings of HGV deliveries;
- Implementing a monitoring system to record the route of all HGVs travelling to and from the Scheme, to record any non-compliance with the agreed routing plan and delivery hours;
- Developing a communications strategy including regular meetings with contractors to review and address any issues associated with travel to/ from the Scheme;
- Encouraging local construction staff to car share to reduce single occupancy car trips and providing a shuttle bus service during the peak construction period;
- Providing sufficient (but limited) on-site car parking within the construction compounds and sufficient cycle parking spaces;
- Implementing local off-site highway improvements to accommodate construction vehicles and abnormal loads travelling to the Scheme;
- A specialised haulage service would be employed to allow abnormal loads to transfer components with the necessary escort, permits and traffic management, with the Applicant consulting with the relevant highways authorities to ensure the correct permits are obtained;
- Managing impacts on PRoWs and Common Land, including maintaining access to/ along PRoWs and Common Land or otherwise providing temporary diversion routes to avoid closures or potential conflicts with the Scheme, where reasonably practicable; and
- The opportunity to combine mitigation (including some of the above measures) with any relevant cumulative schemes, such as the Grimsby to Walpole Project and Weston Marsh to East Leicestershire Project, would be explored in order to reduce cumulative impacts during the construction phase.

Operation

5.12.12. Mitigation measures for the operational phase of the Scheme are set out in the **Outline Operational Environmental Management Plan** (Doc. Ref. 7.11), with measures relating to PRoW during the operational phase also set out in the **Outline Public Rights of Way Management Plan** (Doc. Ref. 7.15). Measures which relate to traffic and access include the following:

- Providing suitable points of access for operational vehicles;
- Converting the internal construction routes within the Solar Development Area into maintenance routes;
- Utilising existing field access locations to facilitate access for periodic inspection and maintenance along the Grid Connection Route.
- Maintaining access to all existing PRoWs and Common Land within the Scheme; and
- Controlling areas where the internal maintenance route crosses any existing PRoW or local access roads, permitting only operational traffic to utilise these internal routes within the Scheme. Operational traffic would give-way to other users (including pedestrians and road users) when utilising the crossing points. Visibility would be maximised between operational vehicles and other users, with warning signage provided if required.

Assessment of Effects

Construction Effects

5.12.13. The following potential impacts have been considered as part of the EIA for the Scheme during the construction phase:

- Severance of communities;
- Pedestrian delay (incorporating delay to all non-motorised users);
- Non-motorised user amenity;
- Fear and intimidation on and by road users;
- Road vehicle driver and passenger delay;
- Road user and pedestrian safety; and
- Large loads.

5.12.14. Impacts on PRoW receptors during construction have been determined for the following categories:

- Severance;
- Pedestrian delay;
- Pedestrian and cyclist amenity; and
- Fear and intimidation.

5.12.15. Peak construction trips associated with the Scheme are described within paragraphs 2.3.13 and 2.3.14 of this Non-Technical Summary. The assessment detailed in **ES Chapter 15: Traffic and Access** (Doc. Ref. 6.1) concludes that with the proposed mitigation, the construction period impacts of the Scheme are not significant across all receptors and categories of impact.

Operational Effects

5.12.16. Since the operational phase would result in much fewer movements than the construction period (see Section 2.4 of this Non-Technical Summary), no potential for significant effects has been identified.

Decommissioning Effects

5.12.17. The decommissioning assessment year is assumed to be 2073 which is considered to be too far into the future to accurately predict traffic flows or junction forms. Therefore, the assessment of the construction phase has been used to determine the anticipated impact of the Scheme during its decommissioning phase. This is likely to overestimate decommissioning impacts, which is expected to be shorter in duration and to have fewer road trips than during construction. Overall, no significant effects are considered likely to occur.

Cumulative Effects

5.12.18. During construction, potentially significant cumulative effects on road safety have been identified on A151 Holbeach Road, A16 South of Crowland, A16 North of Peterborough, Hull's Drove (East), predominantly as a result of the cumulative schemes. For these effects to occur, construction peaks of the Scheme and cumulative projects would need to overlap. The **Outline Construction Traffic Management Plan** (Doc Ref. 7.13) and the **Draft DCO** (Doc Ref. 3.1) enable additional management to be applied, if necessary, to mitigate these effects.

5.13. Other Environmental Topics

Introduction

5.13.1. **ES Chapter 16: Other Environmental Topics** (Doc Ref. 6.1) presents the findings of the assessment of the Scheme on the following topics, which are subsequently summarised in the sections below:

- Electric and Magnetic Fields (EMFs);
- Glint and Glare;
- Major Accidents and Disasters; and
- Materials and Waste.

Electric and Magnetic Fields

5.13.2. The movement of an electric charge causes electric and magnetic fields to be produced in the space surrounding the charge. All electrical equipment emits EMFs, including common household items.

5.13.3. An assessment of EMFs that could be produced by the infrastructure of the Scheme is provided within the **EMF Compliance Assessment** (Doc Ref. 7.8), submitted with the DCO Application. The assessment concludes that the levels of EMFs from the Scheme (including overhead lines, underground cables, solar stations, On-Site Substation and BESS Compounds) are predicted to be well below the public exposure reference levels set out in UK policy[31] at all surrounding locations where public exposure levels are relevant. This remains true when considering the cumulative scenario of the Grimsby to Walpole scheme or the Weston Marsh to East Leicestershire scheme being located in close parallel alignment with the Grid Connection Route of the Scheme.

Glint and Glare

5.13.4. A glint and glare assessment was completed to understand the potential for solar PV panels to cause either momentary flashes of bright light (referred to as 'glint') or a continuous source of bright light (referred to as 'glare'). The full assessment is provided within **ES Appendix 16-2: Glint and Glare Assessment** (Doc Ref. 6.3).

[31] ICNIRP (1998) ICNIRP Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz) (amended in 1999). Health Physics 74 (4):494-522; 1998. Available at: https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf [Accessed 15/10/25]

5.13.5. The design of the Scheme includes embedded design mitigation for glint and glare, including buffers around residential properties within the Solar Development Area and proposed anti-reflective coating, an industry standard for solar PV panels, to reduce the reflective properties of the panels.

5.13.6. In summary, the assessment concludes that there are no likely significant glint and glare effects on residential properties, road, bridleway or aviation receptors. Potential yellow glare[32] impacts were predicted at three runway approaches of Crowland Airfield. However, upon reviewing the operating hours of the airfield, the times of day when glint and glare impacts are predicted to occur, the historical weather during the months of predicted impacts, and typical mitigation techniques used by pilots when flying in the direction of the sun, impacts upon these runway approaches were not considered to be significant.

5.13.7. It was also concluded that there are no cumulative developments with the study area of the glint and glare assessment, which could provide cumulative glint and glare effects at the same receptor locations as assessed for the Scheme.

Major Accidents and Disasters

5.13.8. This section provides a description of the potential effects of the Scheme on the environment deriving from the vulnerability of the Scheme to risks of major accidents and/or disasters and the potential of the Scheme to result in major accidents.

5.13.9. "Accidents" are an occurrence resulting from uncontrolled developments in the course of construction, operation and decommissioning (e.g. a major emission, fire or explosion). "Disasters" are naturally occurring extreme weather events or ground related hazard events (e.g. subsidence, landslide, earthquake).

5.13.10. An exercise was undertaken to identify all possible major accidents or disasters that could be relevant to the Scheme, such as floods, fire, road accidents, aircraft accidents, explosions, utilities failure and unexploded ordnance.

5.13.11. Measures for minimising risks from major accidents and disasters during construction, operation, and decommissioning are set out within the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12) and **Outline**

[32] Yellow glare refers to glare with a luminance and angular size sufficient to stimulate the retina strongly enough to create a potential for an after-image.

Construction Traffic Management Plan (Doc Ref. 7.13). Mitigation for fire risk with regards to the design of the BESS is set out within the **Outline Battery Safety Management Plan** (Doc Ref. 7.18). Impacts related to flood risk are mitigated through design principles set out within the **Design Parameters** (Doc Ref. 7.4) and **ES Appendix 11-4: Outline Drainage Strategy** (Doc Ref. 6.3).

5.13.12. Given the nature of major accidents and disasters, there is the potential for significant effects if an event does occur during the construction, operation and decommissioning of the Scheme. However, the assessment concluded that the risk of such events occurring is low for the Scheme and significant effects on the environment are therefore not anticipated. The focus of the assessment is on prevention of major accidents and disasters, and identification of suitable mitigation if an event does occur. Taking into account the proposed mitigation measures discussed above, the risk of major accidents and disasters is considered to be not significant.

5.13.13. It is not considered that cumulative schemes would introduce new sources of hazards that the Scheme might be susceptible to. Any construction and decommissioning works undertaken in close proximity to other schemes, would be coordinated with the relevant party, to ensure that safe working practices are maintained.

Materials and Waste

5.13.14. This section discusses the expected material and waste impacts from the Scheme and how they will be managed. The following definitions have been used throughout the assessment:

- Materials are defined as physical resources that are used across the lifecycle of a development. Examples include key construction materials, such as concrete, aggregate, asphalt and steel.
- Wastes are defined as surplus spoil, scrap, recovered spills, unwanted surplus materials, packaging, office waste, wastewater, broken, worn-out, contaminated or otherwise spoiled plant, equipment, and materials.

5.13.15. To inform the assessment, the national and regional availability (consumption/sales) of key construction materials, landfill void capacity and recovery rates for construction wastes relevant to the Scheme were reviewed.

5.13.16. All waste management would be undertaken in accordance with the relevant regulations (as outlined in **ES Appendix 16-1: Other Environmental Topics Legislation, Policy and Guidance** (Doc Ref 6.3)) and waste would be transported by licensed waste hauliers to waste management sites which hold the necessary

regulatory authorisation and/or permits for those wastes consigned to them. Good practice measures for the management of materials and waste are set out within the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10), **Outline Operational Environmental Management Plan** (Doc Ref. 7.11), **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12) and **Outline Site Waste Management Plan** (Doc Ref. 7.19), submitted with the DCO Application.

5.13.17. Materials required to construct, operate, and decommission the Scheme are unlikely to be required in large quantities and are anticipated to be small in the context of regional and national construction material availability. Therefore, no significant effects are anticipated.

5.13.18. During construction, the solar PV panels, BESS and supporting infrastructure, would be manufactured off-site to specified sizes and, therefore, wastage during installation is expected to be minimal.

5.13.19. Waste arising from the day-to-day operation of the Scheme would include welfare facility waste and general waste (e.g. paper, cardboard, wood). It is expected that throughout operation there would be ad hoc replacement of any components that fail or reach the end of their lifespan. It is likely that the solar PV panel waste generated by the Scheme during operation would be managed by specialist regional or national recycling facilities, and that such facilities would be developed over the operational phase in response to demand generated by the UK-wide solar panel industry.

5.13.20. During decommissioning, recycling routes are generally available for wastes at present, and it is likely that there would be even greater opportunities for recycling in the future, not least because the market would have expanded to meet demand as solar PV installations increase.

5.13.21. As a result of the above, it is concluded that the quantity of waste disposed of to landfill is unlikely to be significant in the context of regional landfill capacity over the construction, operational and decommissioning phases of the Scheme.

5.13.22. Since waste solar PV panels are unlikely to be disposed of to landfill, and the majority of solar panel waste is not anticipated to be hazardous, no cumulative materials and waste impacts are considered likely for the Scheme.

5.14. Effect Interactions

5.14.1. Effect interactions occur where a single receptor is affected by more than one impact from different aspects of the Scheme. An example of an effect interaction

could be where a local resident is affected by dust, noise and visual impacts during the construction of the Scheme, with the overall result being a greater adverse effect on amenity than when each individual effect is considered in isolation.

5.14.2. **ES Chapter 17: Effect Interactions** (Doc Ref. 6.1) summarises the potential effect interactions as a result of the Scheme. The assessment concludes that during the construction phase, there is the potential for significant effect interactions to occur where residential properties or sensitive community receptors in close proximity to the Site are affected by visual, noise and vibration, air quality, and traffic and access effects. These may lead to an increased sense of disturbance, however, these effects would be short-term temporary, transient, and unlikely to be continuous throughout the construction period. The effects would be managed and reduced in accordance with the measures outlined in the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10). It is considered that the effects during the decommissioning phase would be no worse than those identified for the construction phase with management measures for decommissioning effects set out within the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12).

5.14.3. During the operational phase, there is the potential for significant effect interactions to occur where residential properties within close proximity of the Site are affected by visual, noise, and glint and glare effects. However, in some instances, these effect interactions are expected to reduce once landscaping matures to screen views of the Scheme. The effects would also be managed in accordance with the measures identified within the **Outline Operational Environmental Management Plan** (Doc Ref. 7.11) and the **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16).

6. Summary and Conclusions

6.1.1. The Environmental Statement explains the findings of the EIA process that has been undertaken for the Scheme. Feedback from the formal consultation process has been taken into account when preparing the DCO Application and in undertaking the EIA process.

6.1.2. A number of environmental impact avoidance, design and mitigation measures have been identified to mitigate and control environmental effects during construction, operation (including maintenance) and decommissioning of the Scheme. These are secured through appropriate requirements and controls within the DCO Application.

6.1.3. During the construction of the Scheme, significant adverse effects from the following impacts have been identified:

- Temporary use of Grade 1 and Grade 2 agricultural land in the Solar Development Area;
- Construction of solar PV panels in areas of high archaeological potential;
- Change to the setting of adjacent heritage assets and historic landscape from the Scheme and cumulatively with other developments;
- Impacts on the landscape character and visual amenity within the vicinity of the Site as a result of the Scheme and cumulatively with other developments;
- Temporary construction noise impact on properties at Broad Gate and temporary construction traffic noise impacts on properties at Langary Gate Road;
- Cumulative construction traffic on A151 Holbeach Road, A16 South of Crowland, A16 North of Peterborough, Hull's Drove (East) (albeit this is largely attributed to the traffic generated by the cumulative schemes);
- Effect interactions would occur where residential properties or sensitive community receptors in close proximity to the Site are affected by visual, noise and vibration, air quality, and traffic and access effects.

6.1.4. All other environmental effects of the construction of the Scheme were assessed as not significant.

6.1.5. During the operation of the Scheme, significant adverse effects from the following impacts have been identified:

- Long-term, reversible use of use of Grade 1 and Grade 2 agricultural land in the Solar Development Area;
- Change to the setting of adjacent heritage assets and historic landscape from the Scheme and cumulatively with other developments;
- Impacts on the landscape character and visual amenity within the vicinity of the Site as a result of the Scheme and cumulatively with other developments;
- Effect interactions would occur where residential properties or sensitive community receptors in close proximity to the Site are affected by visual, noise, and glint and glare impacts.

6.1.6. The operation of the Scheme is also assessed to have the following significant beneficial effects:

- A significant beneficial effect on climate by generating renewable energy and reducing the need for conventional power sources that produce greenhouse gas emissions;
- A significant beneficial effect with regards to the creation of hedgerows and lines of trees on a local scale, and with regards to habitats for protected species (such as badger, barn owl, breeding and wintering birds, bats, reptiles, otter and water vole).

6.1.7. All other environmental effects of the operation of the Scheme were assessed as not significant.

6.1.8. Decommissioning effects would be no greater than those set out for construction. This is likely to overestimate the actual effects, which are expected to be shorter in duration and lower in magnitude.

Glossary

Term	Definition
Abnormal Indivisible Load	Loads which cannot be divided into two or more loads to be transported by road.
Agricultural Land Classification (ALC)	The standard method for classifying agricultural land according to its versatility, productivity and workability, based upon inter-related parameters including climate, relief, soil characteristics and drainage. 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). ALC is determined using the Ministry of Agriculture, Fisheries and Food (MAFF) Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land, 1988
Air Quality Management Area	A defined area by virtue of Section 82(3) of the Environment Act 1995, where it appears that the air quality objectives prescribed under the UK Air Quality Strategy will not be achieved. In these areas, a Local Authority must designate Air Quality Management Areas, within which an Action Plan can be proposed to secure improvements in air quality so that prescribed air quality objectives can be achieved.
Applicant	Meridian Solar Farm Limited.
Baseline	Environmental conditions at specific periods of time present on, or near, the Site, against which future changes as a result of the Scheme are measured or predicted.
Battery Energy Storage System (BESS)	Batteries with associated infrastructure that would allow for the storage, import and export of electricity by the Scheme.
BESS and On-Site Substation Compounds	The compounds housing the BESS and On-Site Substations across the Solar Development Area.
Best and Most Versatile (BMV) Land	Agricultural land that is defined as within ALC Grade 1, 2, or 3a.
Biodiversity Net Gain	A measurable improvement in biodiversity after development compared to the baseline.
Buffer	The specified distance or area surrounding a feature of interest or the Site.
Cable Sealing End Compound	Substation-type compound at transition points between underground cables and overhead lines.

Term	Definition
Construction Environmental Management Plan	A plan that sets out construction-phase environmental controls and procedures.
Climate Change	A change in weather patterns (namely temperature and precipitation) measured over a minimum of 30 years that occurs locally, regionally and globally.
Climate Change Risk Assessment	An assessment of hazards arising from climate change on the Scheme.
Climate Projection	The simulated response of the climate system to a scenario of future emission or concentration of greenhouse gases (GHGs) and aerosols, generally derived using climate models. Climate projections are distinguished from climate predictions by their dependence on the emission/concentration/radiative forcing scenario used, which is in turn based on assumptions concerning, for example, future socio-economic and technological developments.
CO_2 equivalent	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.
Construction Traffic Management Plan	A plan specific to the Scheme which ensures appropriate controls are in place for the movement of vehicles and safe management of pedestrian access during works.
Cumulative effects	The summation of effects that result from changes resulting from the Scheme in conjunction with other reasonably foreseeable human induced effects. Effects can be direct and indirect and are within a specified geography across a certain time frame.
Decommissioning phase	The phase of the Scheme where it will be taken out of use. By dismantling and removing above ground components the Site will be reinstated to previous condition.
Design Parameters	Certified document defining key environmental/technical parameters that constrain detailed design.
Development Consent Order	A legislative instrument which provides permission for the construction, operation and decommissioning of a nationally significant infrastructure project as granted under the Planning Act 2008.
Direct effect	An effect directly attributable to the Scheme.
Ecological Feature (Important)	A feature (habitat species or site) considered important enough to be included in the assessment.

Term	Definition
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.
Embedded Measures	In-built design measures embedded in the Scheme description and standard industry practice.
Embodied Carbon	Greenhouse gas emissions arising from the manufacturing, transportation, installation, maintenance, and disposal of building materials.
Enhancement	Improvements created by the Scheme.
Environment Agency	A public body responsible for protecting and improving the environment in England. Roles include flood risk management, industrial pollution regulation, protecting rivers, seas and drinking water.
Environmental effect	The consequence of an impact on the environment.
Environmental impact	A physical or measurable change to the environment attributable to the Scheme.
Environmental Impact Assessment	A systematic process of assessing a scheme's likely significant environmental effects undertaken in accordance with the EIA Regulations.
EIA Regulations	The EIA Regulations relevant to the Scheme are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. These transpose the requirement of an EIA for nationally significant infrastructure projects (NSIPs). The EIA Regulations specify which developments are required to undergo EIA and schemes relevant to the NSIP planning process are listed under either 'Schedule 1' or 'Schedule 2'.
Environmental Management Plans	Certified plans (e.g. CEMP, LEMP, OEMP) that secure environmental controls and long-term management measures.
Environmental Statement	A formalised statement that includes the information that is reasonably required to assess the environmental effects of the Scheme and which the Applicant can, having regard to current knowledge and methods of assessment, reasonably be required to compile, but that includes at least the information referred to in the EIA Regulations
Flood Zone 1	Land assessed as having less than 1 in 1000 annual probability of river or sea flooding in any year.
Flood Zone 2	Land assessed as having between 1 in 100 and 1 in 1000 annual probability of river flooding or between 1 in 200 and 1 in 1000 annual probability of sea flooding in any year.

Term	Definition
Flood Zone 3a	Land assessed as having a 1 in 100 or greater annual probability of river flooding in any year or 1 in 200 or greater annual probability of sea flooding in any year.
Flood Zone 3b	Land where water from rivers or the sea has to flow or be stored in times of flood. Often referred to as Functional Floodplains. This zone covers: • Land that has a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure working effectively • Land that is designed to flood, such as flood mitigation schemes, even if the area would only flood in extreme events, such as 0.1% annual probability.
Fluvial	Relating to a river.
Geographical 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, to identify underground features of archaeological interest. Common techniques include magnetometer survey, magnetic susceptibility survey, and resistivity survey.
Grid Connection Route	Route of the 400kV overhead line (via steel lattice style pylons with a standard height of approximately 50m) to the National Grid planned Weston Marsh Substation, east of Spalding.
Gross Value Added	The value created by businesses, industries, or sectors through the production of goods and services.
Groundwater	Water held underground in soil or rock crevices.
Heavy Goods Vehicle	Vehicles that align with one or more of the following: • Has 3 axles (articulated) or • Has 4 or more axles (rigid and articulated). • Has a gross weight exceeding 3.5 tonnes
Horizontal Directional Drilling	Trenchless technique for installing underground cables beneath obstacles (e.g. certain roads or watercourses).
Impact	A physical or measurable change to the environment attributable to the Scheme.
In-combination Climate Change Impact	Combined effect of the impacts of the Scheme and potential climate change impacts on the surrounding environment.
Indirect effects	Effects that result indirectly from the Scheme as a consequence of the direct effects, often occurring away from the Site, or as a result of a sequence of

Term	Definition
	interrelationships or a complex pathway. They may be separated by distance or time from the source of the effects.
Inter-Array Connection	The land required to connect Solar Development Areas, comprising a 132kV underground cable between Land Parcel A and B and an 132kV overhead line (with wooden poles with a maximum height of 15 metres) between Land Parcel C and D.
Invasive Non-Native Species	Plant/animal species introduced outside native range that can cause ecological harm; subject to biosecurity controls.
Inverters	Devices used to convert power between direct current (DC) electricity to alternating current (AC).
Land use	What land is used for, based on broad categories of functional land cover such as urban and industrial use and the different types of agricultural and forestry.
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.
Light Goods Vehicle	A commercial motor vehicle with a total gross weight of 3,500kg or less.
Listed building	A building considered to be of special architectural or historic interest which is listed in accordance with the Planning (Listed Buildings and Conservation Areas) Act 1990.
Local Planning Authority	The public authority whose duty it is to carry out specific planning functions for a particular area. For this Scheme the Local Planning Authorities are the South Holland District Council (SHDC) and Lincolnshire County Council (LCC).
Local Wildlife Site	Non-statutory site designated locally for nature conservation importance.
Magnitude	A combination of the scale, extent and duration of an effect.
Mitigation Measures	Actions proposed to avoid, prevent, reduce and where possible offset adverse environmental effects arising from the whole or specific elements of the Scheme.
National Electricity Transmission System	High voltage electricity transmission network across England and Wales comprising pylons, overhead lines, cables and substations that supply low voltage local distribution networks.
National Grid Electricity Transmission	The transmission owner for the high-voltage electricity transmission network in England and Wales, owning and maintaining the core infrastructure (e.g. 400 kV and 275 kV

Term	Definition
	lines) that moves electricity from generators to distribution networks across Great Britain.
National Planning Policy Framework	The framework for the Government's planning policies for England and how they are expected to be applied.
Nationally Significant Infrastructure Project	Schemes of a certain classification and scale that are considered of national importance that apply to the Planning Inspectorate for development consent by virtue of the Planning Act 2008.
Non-Technical Summary	A clear and concise document summarising the Environmental Statement. It simplifies technical information, making the Environmental Statement easily understandable and accessible to a wider audience, including the general public.
Order Limits	The boundary within which the development may be constructed and operated under the Development Consent Order.
Permissive Pathway	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.
Preliminary Environmental Information Report	A report prepared for Stage 2 consultation which contains information to assist the community, stakeholders and consultees to develop an informed view of the likely environmental impacts of a scheme.
Principal Contractor	Contractor appointed to coordinate the construction phase of a project where it involves more than one contractor. The Applicant may take on the role of the Principal Contractor.
Public Rights of Way	Rights across land exercisable by the public at all times.
Receptor	A component of the natural, created or built environment such as humans, water, air, a building, or a plant that has the potential to be affected by the Scheme.
Rochdale Envelope	EIA approach assessing a defined range of design parameters to capture a realistic worst case.
Scheduled Monument	A nationally important archaeological site or historic structure that is designated by the Secretary of State and legally protected under the Ancient Monuments and Archaeological Areas Act 1979.
Scheme	All components within the Site, including the Solar Development Area, the Inter-Array Connection, and the Grid Connection.
Scoping	An exercise undertaken to determine the topics to be addressed within the Environmental Statement.

Term	Definition
Significance (effect)	A measure of the importance or gravity of the environmental effect defined by significance criteria specific to the environmental topic.
Site	The total land area required for the Scheme.
Soil association	Groupings of related soil series
Soil Management Plan	A site-specific plan developed to ensure appropriate management practices are followed during excavation, storage, and restoration of soils.
Solar Development Area	The land required for the Scheme comprising land parcels (A, B, C and D) which would host the energy generation facilities (and associated supporting infrastructure), Battery Energy Storage System (BESS) and On-Site Substation Compounds, excluding the Inter-Array Connections and Grid Connection Route.
Solar PV modules	A connected collection of multiple solar PV cells within a protective laminate. Modules are also referred to as 'panels'.
Solar stations	Containerised units containing the equipment that converts the direct current (DC) electricity generated by the solar PV modules into alternating current (AC) and provide control and onward distribution of electricity across the Solar Development Area.
Study area	The spatial area from within which the likely environmental effects resulting from the Scheme are assessed. This may differ depending on the assessment or survey being carried out.
Sustainable Drainage Systems	Sustainable management practices designed to control the rate and quality of surface water runoff into receiving waters, for example the use of swales and wetlands as buffers, as opposed to conventional drainage practices.
Switchgear	A collection of electrical disconnect fuses, switches or circuit breakers that can be used to protect, control and isolate electrical equipment and circuits.
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.
Transformers	The electrical component that changes the voltage of electricity, increasing (stepping up) or decreasing (stepping down) the voltage, making it safe to be used in context (e.g. in homes, businesses or long-distance transmission).
Zone of Influence	The limit determined for each specialist study in which the construction or operation of the Scheme component has the

Term	Definition
	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.

Abbreviations

Term	Definition
ALC	Agricultural Land Classification
ATCT	Air Traffic Control Tower
BESS	Battery Energy Storage System
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
CCRA	Climate Change Risk Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
CSEC	Cable Sealing End Compound
DCO	Development Consent Order
DEMP	Decommissioning Environmental Management Plan
DNO	Distribution Network Operator
EIA	Environmental Impact Assessment
EMF	Electric and Magnetic Fields
ES	Environmental Statement
FTE	Full Time Equivalent
GHG	Greenhouse Gas
HGV	Heavy Goods Vehicle
HLCA	Historic Landscape Character Area
HLCZ	Historic Landscape Character Zone
ICCI	In-Combination Climate Change Impact
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IDB	Internal Drainage Board
ILP	Institution of Lighting Professionals
kV	Kilovolt
LCC	Lincolnshire County Council
LCA	Landscape Character Areas
LCT	Landscape Character Types
LEMP	Landscape and Ecological Management Plan
LGV	Light Goods Vehicle
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MW	Megawatt
NCA	National Character Area

Term	Definition
NGET	National Grid Electricity Transmission
NHLE	National Heritage List for England
NSIP	Nationally Significant Infrastructure Project
OCTMP	Outline Construction Traffic Management Plan
OCEMP	Outline Construction Environmental Management Plan
ODEMP	Outline Decommissioning Environmental Plan
OOEMP	Outline Operational Environmental Management Plan
OLEMP	Outline Landscape and Ecological Management Plan
OSMP	Outline Soil Management Plan
PEA	Preliminary Ecological Appraisal
PEIR	Preliminary Environmental Information Report
PRoW	Public Right of Way
PV	Photovoltaic
RPA	Root Protection Area
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
UKCP	United Kingdom Climate Projections