



OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement

Chapter 2 – The Environmental Impact Assessment Methodology

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Oaklands Farm Solar Park - Environmental Statement Volume 1

Chapter 2: The Environmental Impact Assessment and Methodology

Final report

Prepared by LUC

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Chapter 2

The Environmental Impact Assessment

Introduction

2.1 This chapter sets out the general approach undertaken for the assessments as part of the Environmental Impact Assessment (EIA). This chapter is supported by the following figure and appendices provided in **Volume 2** and **3** respectively:

- **Figure 2.1: Cumulative Schemes.**
- **Appendix 2.1: Scoping Report.**
- **Appendix 2.2: Scoping Opinion.**
- **Appendix 2.3: Summary of Consultation Responses¹.**
- **Appendix 17.1: Schedule of Mitigation.**

The EIA Process

2.2 EIA is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the significance of the predicted effects, and the scope for reducing any adverse effects, is properly understood by the public and the decision maker before a decision on a project is made. Early identification of potentially adverse environmental effects also leads to the identification and incorporation of appropriate mitigation measures into the Proposed Development design.

2.3 The Proposed Development falls within paragraph 3(a) of Schedule 2 to the EIA Regulations² as an industrial installation for the production of electricity and falling outside the

¹ This includes responses to the consultation on the Scoping Report, Preliminary Environmental Information Report and targeted consultation.

² Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

scope of projects included in Schedule 1 to the EIA Regulations. As is it considered that the Proposed Development could potentially result in significant effects, an EIA is required.

2.4 This chapter sets out the broad methodology that has been used in the EIA for the Proposed Development. It provides an overview of the key stages that have been followed, in line with the statutory EIA requirements and good practice guidance.

2.5 This ES has been prepared in accordance with the latest regulations and advice on good practice, comprising:

- Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations).
- National Infrastructure Planning Advice Notes:
 - Advice Note 3: EIA Notification and Consultation August 2017, (version 7)³.
 - Advice Note 7: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements June 2020⁴.
 - Advice Note 9: Rochdale Envelope Re-published July 2018 (version 3)⁵.
 - Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects. Published August 2019 (version 2)⁶.
- Institute of Environmental Management (IEMA) (2017) Delivering Proportionate EIA.

³ Planning Inspectorate (2017) Advice Note 3: EIA Notification and Consultation. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-three-eia-notification-and-consultation-2/> [Accessed 29/09/23]

⁴ Planning Inspectorate (2020) Advice Note 7: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/> [Accessed 29/09/23]

⁵ Planning Inspectorate (2018) Advice Note 9: Rochdale Envelope. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/> [Accessed 29/09/23]

⁶ Planning Inspectorate (2019) Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects. Available at <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/> [Accessed 29/09/23]

2.6 This ES has also been prepared in the context of the following national and local policies, a summary of which is provided below. Further details are provided in the Planning Statement (Document 7.1) submitted in support of the application.

National Climate and Energy Policy

2.7 Since the Kyoto Protocol came into effect in 2005, it is widely accepted that greenhouse gas emissions need to be significantly reduced and that there is a need for international action. The United Kingdom, together with 37 other industrialised countries (called 'Annex I Countries'), committed themselves to reducing greenhouse gas emissions by 5.2% from 1990 levels by the year 2012. The current policy stance on climate change has all stemmed from the context set by the Kyoto Protocol, and the intervening legislation which followed it up to the latest position is discussed below.

2.8 In June 2019, the UK government declared a climate emergency following the publication of a report by the Committee on Climate Change⁷. As a result, the Climate Change Act 2008 (c.27) was amended⁸ to include a legally binding target to achieve 'net zero' by 2050. Paragraph 1 of the Climate Change Act 2008 (as amended) sets out the target to 2050 and states that *"it is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline (which means the aggregate amount of net UK emissions of carbon dioxide for that year and net UK emissions of each of the other targeted greenhouse gases for the year that is the base year for that gas)"*.

2.9 To help meet this target, the government has set the aim of *"a fully decarbonised, reliable and low-cost power system by 2035"*⁹.

2.10 The government has said a fully decarbonised power system would be *"composed predominantly of wind and solar"*⁹. The government intends to achieve a fivefold increase in solar power by 2035 (from a capacity of 14GW to 70GW). A Solar Taskforce¹⁰ has been set up by the Government to help achieve this.

⁷ 'Net Zero – The UK's contribution to stopping global warming' (May 2019)

⁸ The Climate Change Act 2008 (2050 Target Amendment) Order 2019

⁹ House of Commons Library (2023) Planning and Solar Farms. Debate Pack CDP 2023/0168. Available at: <https://researchbriefings.files.parliament.uk/documents/CDP-2023-0168/CDP-2023-0168.pdf> [Accessed 08/11/23]

¹⁰ <https://www.gov.uk/government/groups/solar-taskforce>

National Policy Statements

2.11 Section 104 of the Planning Act 2008 states that the Secretary of State (SoS) must have regard to any National Policy Statement (NPS) which has effect in relation to development of the description to which the application relates (a 'relevant national policy statement') and the application must be determined in accordance with the relevant NPS. The relevant NPSs for the Proposed Development are:

- Overarching NPS for Energy (EN-1) (July 2011) and draft to be designated (November 2023).
- NPS for Renewable Energy (EN-3) (July 2011) and draft to be designated (November 2023).
- NPS for Electricity Networks Infrastructure (EN-5) (July 2011) and draft to be designated (November 2023).

2.12 Paragraph 2.2.6 of EN-1 (2011) states that *"the UK needs to wean itself off such a high carbon energy mix: to reduce greenhouse gas emissions, and to improve the security, availability and affordability of energy through diversification"*. Paragraph 2.3.3 of the draft NPS to be designated (2023) states that *"Our objectives for the energy system are to ensure our supply of energy always remains secure, reliable, affordable, and consistent with meeting our target to cut GHG emissions to net zero by 2050, including through delivery of our carbon budgets and Nationally Determined Contribution. This will require a step change in the decarbonisation of our energy system"*.

2.13 Paragraph 3.3.20 of the draft NPS to be designated (2023) states that *"Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar"*.

2.14 NPS EN-3 applies to a number of different types of renewable energy technologies, however the 2011 NPS does not currently refer to solar development however the draft NPS EN-3 to be designated does include a section specific to solar photovoltaic generation. The new section is supportive of large-scale solar development, stating at paragraph 2.10.9 that *"the government has committed to sustained growth in solar capacity to ensure that we are on a*

pathway that allows us to meet net zero emissions by 2050. As such solar is a key part of the government's strategy for low cost decarbonisation of the energy sector". The section also sets out factors influencing site selection and design by applicants, technical considerations, and impacts which must be assessed in relation to:

- Biodiversity and ecological conservation.
- Landscape, visual and residential amenity.
- Glint and glare.
- Cultural heritage.
- Construction (including traffic and transport noise and vibration).

2.15 Mitigation measures are outlined in the new emerging draft of the NPS EN-3 from section 2.10.127 – 2.10.144, covering agriculture land classification and land type, biodiversity and ecological conservation, landscape, visual and residential amenity, glint and glare, cultural heritage and construction including traffic and transport noise and vibration. The factors related to these topics in relation to the SoS's decision making process are outlined from paragraph 2.10.145 - 2.10.162.

2.16 The UK Government undertook consultation on a revised suite of NPSs between September and November 2021. The outcome of this consultation has fed into updated Draft NPSs (new emerging drafts) which were issued for consultation on 30th March 2023.

2.17 Final drafts for designation in early 2024 are dated November 2023. At the time of submission of the application these had not been designated. The ES and supporting documentation therefore refer to both the existing NPSs and draft NPSs to be designated (dated November 2023). Paragraph 1.6.3 of the draft NPS to be designated EN-1 states that *"any emerging draft NPS (or those designated but not having effect) are potentially capable of being important and relevant considerations in the decision-making process"*.

National Planning Policy

2.18 Section 104 of the Planning Act 2008 also states that the SoS must have regard to other matters which are both important and relevant to the decision. The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are

expected to be applied. The NPPF does not include specific policies in relation to DCO applications, but as noted in paragraph 5, the NPPF may be relevant to the decision maker.

2.19 In addition to the NPPF, there is a suite of National Planning Practice Guidance (NPPG) that may also be relevant to the decision maker. The NPPG covers a number of topic areas, including climate change (which advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change), and renewable and low carbon energy (which provides guidance to help local councils in developing policies for renewable and low carbon energy and identifies the planning considerations).

Local Planning Policy

2.20 The Local Plan for South Derbyshire has been prepared in two parts. Part 1 was adopted by Full Council on the 13th of June 2016 and covers the period 2011 to 2028 and is the strategic element of the Local Plan. It sets the long-term vision, objectives, and strategy for the spatial development of South Derbyshire. The plan contains policies used in the determination of planning applications.

2.21 Part 2 of South Derbyshire District Council (SDDC)'s Local Plan was adopted by Full Council on the 2nd of November 2017 and proposes non-strategic allocations and detailed development management policies.

2.22 The Local Plan is generally supportive of renewable energy developments, with the most relevant policy in the Local Plan being Policy SD 6 (Sustainable Energy and Power Generation), which states that:

“the Council will support renewable and other energy developments and ancillary buildings or infrastructure subject to the following considerations:

- i) that the environmental effects of the proposal have been appropriately considered and schemes will not give rise to unacceptable impacts on landscape or townscape character, ecology, the historic environment or cultural heritage assets.*
- ii) that proposals will not give rise to unacceptable impacts on local amenity, or give rise to safety concerns, as a result of noise, shadow flicker, electromagnetic interference, emissions to the air or ground, odour or traffic generation and congestion”.*

The Environmental Statement (ES)

2.23 The information contained in this ES fulfils the requirements of the EIA Regulations, and will enable the SoS, to a make a decision on the application for development consent.

2.24 Regulation 14(2) of the EIA Regulations states that the following information is required to be reported within the ES:

- A description of the Proposed Development comprising information on the Site, design, size and other relevant features of the Proposed Development (**Chapter 4: Project Description**).
- A description of the likely significant effects of the Proposed Development on the environment (**Chapters 5 to 16** and **Chapter 17: Summary of Effects**).
- A description of the features of the Proposed Development and any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment (**Chapters 3 to 16**).
- A description of the reasonable alternatives studied by the Applicant, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the Proposed Development on the environment (**Chapter 3: Site Selection and Design**).
- A non-technical summary of the information.
- Any other information specified in Schedule 4 to the EIA Regulations relevant to the specific characteristics of the Proposed Development and to the environmental features likely to be affected.

EIA Methodology

2.25 The ES preparation process adopted for the Proposed Development can be summarised as follows, and is described further below:

- Scoping and consultation with statutory consultees, non-statutory consultees and the local community to identify the key issues on which the EIA should focus.
- Establishing baseline environmental conditions through desktop research and Site surveys.

- Determining how effects could be avoided or reduced through design evolution.
- Identifying the potential effects of the Proposed Development and any proposed mitigation.
- Assessing the significance of residual environmental effects on the identified receptors against recognised or defined criteria following mitigation.
- Describing how likely significant effects would be monitored (e.g. through conditions attached to a consent).
- Reporting the results and conclusions.

Consultation

2.26 Consultation is an integral part of the EIA process, and the EIA team and the Applicant have contacted a number of interested parties over the course of the project to determine their views on the Proposed Development and to collect baseline information. Details of these consultations are provided in **Chapters 5 to 16**.

Scope of the ES

2.27 To determine which aspects of the Proposed Development are likely to give rise to environmental effects and to inform the requirements for the EIA, a request for an EIA Scoping Opinion, accompanied by a Scoping Report, was submitted under Regulation 10(1) of the EIA Regulations to the SoS in August 2021 (see **Appendix 2.1: Scoping Report**).

2.28 The purpose of scoping is to ensure that the EIA process focuses on the key environmental issues. Therefore, the Scoping Report sought to focus the EIA on the main effects, with each of the topic-based chapters within the Scoping Report setting out a provisional list of likely significant effects prior to mitigation and a second provisional list of non-significant effects to be 'scoped out' of full assessment. These were drafted on the basis of the findings of the preliminary survey work undertaken, the professional judgement of the EIA team, experience from other projects of a similar nature, and guidance and standards of relevance to the topic area in question.

2.29 The Planning Inspectorate (PINS) provided a Scoping Opinion on behalf of the SoS in September 2021 (See **Appendix 2.2: Scoping Opinion**). The Scoping Opinion included comments received from a number of consultees. A summary of the issues raised in response

to the Scoping Report is provided in **Appendix 2.3: Summary of Consultation Responses**. It has been assumed that consultees who did not respond to the SoS's consultation request had no comments to make. **Appendix 2.3: Summary of Consultation Responses** also includes a brief response to each of the issues raised and indicates where these have been taken into consideration in the ES. More detailed responses are included in the relevant ES chapters. In addition, specific questions were also embedded within the Scoping Report with the aim of informing consultee responses and making the process more specific to the EIA for the Proposed Development.

2.30 In addition to the consultees contacted during the formal scoping process, a number of other stakeholders were contacted by the EIA team to obtain background information to further inform the EIA and allow them the opportunity to raise any concerns that they might have in relation to the Proposed Development and/or agree assessment scope and methodology. Details of these consultations are provided in the relevant topic-specific **Chapters 5 to 16**.

2.31 Following receipt of the Scoping Opinion, the following topics were agreed with PINS to be scoped into the EIA since it is considered that the Proposed Development has the potential to give rise to significant effects to receptors within these topic areas:

- Landscape and Visual.
- Ecology.
- Historic Environment.
- Water Resources and Flood Risk.
- Ground Conditions.
- Transport and Access.
- Noise.
- Socio-Economics.
- Climate Change.
- Glint and Glare.
- Agriculture and Land Use.

2.32 Chapter 16: Other Issues covers the following topics which have been identified as having a low potential for significant effects as a result of the Proposed Development, and have therefore been subject to a proportionate level of assessment¹¹:

- Major Accidents and Disasters.
- Air Quality (Construction).
- Waste.
- Human Health.
- Telecommunications and Utilities.

2.33 PINS agreed that Electric, Magnetic and Electromagnetic Fields, and Air Quality (Operation) could be scoped out of the EIA. Where specific elements of individual topic assessments are scoped out this is discussed in **Chapters 5 to 16**.

Preliminary Environmental Information

2.34 In April 2022, the PEIR¹² was published as required under Section 42 and Section 47 of the Planning Act 2008, before a period of statutory consultation running from 21st April to 6th June 2022. The PEIR was produced in the form of a draft ES, to allow consultees to comment on the design development of the Proposed Development to that point.

2.35 Comments or advice regarding the EIA are summarised within each of the technical chapters (**Chapters 5 to 16**) and in **Appendix 2.3: Summary of Consultation Responses**.

Public Consultation and Public Exhibitions

2.36 Public consultation is a key component of the EIA process. The Applicant consulted the public by holding two in-person public exhibitions, held at the following venues on the following dates:

- Friday 6th May 2022 from 1pm-7pm at Walton-on-Trent Village Hall.
- Saturday 7th May 2022 from 12pm-4pm at Rosliston & Cauldwell Village Hall.

¹¹ This approach was undertaken in the PEIR

¹² Oaklands Solar Farm Limited (2022) Oaklands Solar Farm Preliminary Environmental Information Report. Available [online] at: <https://www.baywa-re.co.uk/en/solar/oaklands-solar-farm>.

2.37 Materials were available on-line for the public to view. Prior to the public consultation event going live, the following methods were used to inform local communities of the consultation on the Proposed Development:

- Newspaper adverts and notices in - the London Gazette, The Times, The Derby Telegraph, The Burton Mail).
- Press releases to local media (including The Derby Telegraph, The Burton Mail, BBC Radio Derbyshire).
- Newsletters sent to all residents living within the vicinity of the proposals, as well as identified stakeholders and consultees.
- Local posters within the vicinity of the Site.
- Letters to elected representatives, parish council and local and regional groups within the vicinity of the Site.
- E-newsletters to those who have registered their interest in the Proposed Development.
- Updates to the project website.

2.38 The online virtual exhibition was offered to members of the public as an alternative to face-to-face consultation given the COVID-19 pandemic. Both the online and in-person events included a series of information boards which outlines details of the Applicant and the Proposed Development, design work undertaken to date, information on the EIA and community investment proposals and visualisations from key local viewpoints.

2.39 Visitors to the online virtual exhibition had the opportunity to provide feedback by completing an online feedback form, whilst visitors to the in-person events were also able to speak directly to members of the project team and provide feedback on hard copy forms.

2.40 Following the closure of the statutory consultation a further period of additional non-statutory targeted consultation was undertaken between 9th March and 21st April 2023. This presented an updated red line boundary reflecting changes to the proposals that occurred following the statutory consultation period in 2022.

2.41 A community newsletter was prepared and issued to the same mailing radius as the statutory consultation. The newsletter contained a brief overview of the changes made to the proposals and an explanation of where to find further information, which was made available

online. A new Consultation Summary Document was prepared, setting out updated elements of the scheme in further detail. Some additional plans and information were also made available and presented on the updated consultation website. Throughout this period, a revised feedback form was available, seeking comments on specific elements related to the additional consultation.

2.42 In addition to the formal consultation periods outlined above, ongoing engagement has been undertaken with local stakeholders, including the host parish councils, and local elected representatives. Meetings have taken place with the parish councils at regular intervals through the pre-application period.

2.43 Further information on the consultation is provided in the Consultation Report, which accompanies the DCO application (Doc Ref. 5.1).

Consultation with Statutory and Non-Statutory Consultees

2.44 Throughout preparation of the ES, consultation has been undertaken with a range of consultees to inform assessments and the development of the design. This liaison has been documented within each of the technical chapters (**Chapters 5 to 16**) and in **Appendix 2.3: Summary of Consultation Responses**.

Baseline Characterisation

2.45 The purpose of an EIA is to predict how environmental conditions may change as a result of a development and assess the impact of the change. This requires identification of the current (baseline) environmental conditions and the future conditions assuming no development takes place on the Site. These conditions are usually established through a combination of desk-based research, site survey, and empirical studies and projections. Together, these describe the baseline and future character of the Site and surroundings, and the value and vulnerability of key environmental resources and receptors.

2.46 Making predictions about how parameters such as land use, landscape, views and other environmental characteristics may change in the future relies on assumptions about future development and environmental trends. For this reason, where development is not proposed in the vicinity of the Site, the baseline adopted for the EIA is taken as the current character and condition of the Site and surrounds, and the likely significant environmental effects of the development are then assessed in the context of the current conditions alone. The appropriate

study area for identifying the baseline and undertaking the assessment varies by topic and is identified in each topic chapter.

2.47 Baseline conditions, and the means by which these have been established, as well as consideration of the future baseline scenario which acknowledges the absence of the Proposed Development (see below), are described in the relevant topic-specific **Chapters 5 to 16** of the ES.

Future Baseline in the Absence of the Proposed Development

2.48 As natural processes and/or human activities can affect the baseline, it is important to establish the future baseline scenario in the absence of the Proposed Development, i.e. the likely environmental conditions that would exist should the Proposed Development not be constructed. Establishing the future baseline scenario requires transparent decision making as to what natural process changes and/or changes as a result of human activity should be included or excluded from the future baseline scenario.

2.49 It is accepted that the baseline conditions will gradually alter through time as a result of climate change which has the potential to alter the landscape and species of flora and fauna which are currently present within and around the Site.

2.50 If the Proposed Development does not proceed it is reasonable to assume that the management of the Site will continue as at present, largely as arable farmland.

Consideration of Reasonable Alternatives

2.51 The ES is required to consider reasonable alternatives for the Proposed Development, as specified in paragraph 2 of Schedule 4 to the EIA Regulations “*A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects*”.

2.52 The ES provides a description of the site selection and design evolution of the Proposed Development and the alternative designs that this process suggested, along with consideration of these alternatives, in **Chapter 3: Site Selection and Design**.

Avoidance of Effects through Design

2.53 EIA is an iterative process which aims to ensure early consideration of environmental issues at all stages of project development. In this way, the findings from the EIA can be fed into the design process, to avoid, reduce and if possible, remedy environmental effects. This approach has been followed in the design of the Proposed Development. Where potentially adverse significant environmental effects were identified through environmental baseline surveys, or early assessment (set out within the PEIR), consideration was given as to how the design should be modified to 'design out' adverse significant environmental effects, or where this was not possible, to determine appropriate mitigation. This process has continued as the EIA has progressed ahead of submission. This process is explained further in **Chapter 3: Site Selection and Design** and in the subsequent topic-specific assessment chapters (**Chapters 5 to 16**).

Identification of Likely Significant Effects

2.54 Part 5 of Schedule 4 to the EIA Regulations states "*The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development*".

2.55 Each technical chapter contains a section that identifies the likely significant effects on the environment that may arise as a result of the construction, operation or decommissioning of the Proposed Development¹³. The significance of environmental effects is typically assessed by considering both the character of the change (i.e. the size and duration of the effect) and the value/sensitivity of the environmental resource that experiences this effect (i.e. the receptor).

2.56 In accordance with the EIA Regulations, effects may be direct, indirect, secondary or cumulative. Within these categories, they may also be short, medium or long-term, permanent or temporary, beneficial or adverse. Direct (or primary) effects are changes to the baseline arising directly from activities that form part of the Proposed Development, for example, a localised increase in noise during construction. Indirect (or secondary) effects are those that

¹³ Decommissioning has not been assessed for some topics (as agreed with PINS) as it is considered that effects would be no greater than for the construction phase.

arise as a result of a direct effect, for example deterioration of water quality in a watercourse due to a discharge could have secondary effects on aquatic biodiversity.

2.57 Effects and receptors have been described using quantitative criteria wherever possible using the terms listed below. Where different terminology has been used, this is stated clearly in the relevant chapter:

- The nature of the effect, described as adverse, neutral or beneficial.
- The magnitude of the effect, based on a scale of major, moderate, slight, negligible and unknown.
- Likelihood of the effect occurring, based on a scale of certain, likely or unlikely.
- The duration of the effect, based on a scale of long, medium and short term.
- The reversibility of the effect, being either reversible or irreversible.
- The value of the receptor, based on a scale of international, national, regional, local and negligible.
- The sensitivity of the receptor to the effect, based on a scale of high, medium and low and in some instances negligible.
- The occurrence of the effect during the phased implementation of the project.

2.58 Receptor sensitivity and magnitude of change away from the baseline conditions is used to determine the resultant effect. **Table 2.1** provides the general matrix used to determine resultant effects.

Table 2.1: General matrix to determine effects

Receptor Sensitivity	Magnitude of change			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible

Receptor Sensitivity	Magnitude of change			
	High	Medium	Low	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

2.59 Each of the topic-specific technical chapters provides specific criteria, including sources and justifications, for quantifying the different levels of effect, based on good practice guidance. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgements and expert interpretations to establish to what extent an effect is environmentally significant. The threshold at which effects are likely to be ‘significant’ is defined in each of the technical chapters. Where relevant, maximum case parameters have been assumed to inform a robust assessment of effects in each chapter, and this is considered to represent a worst-case approach.

2.60 Unless stated otherwise in methodologies set out in the individual assessment chapters, ‘**major**’ or ‘**moderate**’ effects are considered to be ‘significant’ in the context of the EIA Regulations.

Interrelationship between Effects

2.61 Regulation 5(2) of the EIA Regulations states that the EIA must: “*identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors—*

- (a) *population and human health;*
- (b) *biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC (1) and Directive 2009/147/EC;*
- (c) *land, soil, water, air and climate;*
- (d) *material assets, cultural heritage and the landscape;*
- (e) *the interaction between the factors referred to in sub-paragraphs (a) to (d).”*

2.62 Interrelationships may occur where two or more effects arise that have the potential to affect the same receptor during construction, operation or decommissioning. An effect taken in

isolation may not significantly affect a receptor, but where several effects are considered in an interrelated manner, the resultant affect could then be considered significant.

2.63 An assessment of the possible impact interrelationships and their potential to create significant effects upon receptors under the EIA Regulations has been undertaken and is included within the technical chapters (**Chapters 5 to 16**) of the ES. This chapter sets out the proposed approach to this assessment.

2.64 There is no single agreed standard on how the assessment of impact interrelationships should be undertaken, and so the assessment will be undertaken on a qualitative basis using the results of the individual assessments, informed by professional judgement.

2.65 In general terms, impacts assessed individually as being of negligible magnitude are not considered to make a meaningful contribution to combined effects from impact interrelationships. For the avoidance of doubt, all impacts not explicitly assessed in the ES will be considered to be of negligible magnitude and will therefore not be assessed. Impacts will be considered where they have been identified and assessed in other chapters of the ES.

2.66 Receptors that are predicted to be the subject of more than one potential effect will be included in the combined effects assessments presented in each topic chapter. Receptors predicted to be the subject of only a single effect are excluded because there is considered to be no potential for an accumulation of effects to take place.

Transboundary Effects

2.67 As the Proposed Development is a Nationally Significant Infrastructure Project that falls within the remit of EIA development, it will be necessary for the SoS to determine whether or not the Proposed Development is likely to have significant effects on the environment in another European Economic Area (EEA) State. These are termed 'transboundary effects'.

2.68 Whether or not a development is likely to result in transboundary effects is determined by a screening process undertaken by the Planning Inspectorate. The Planning Inspectorate issued a transboundary screening notice on behalf of the SoS on 2 December 2021, which concluded that the Proposed Development is unlikely to have a significant effect either alone or cumulatively on the environment in an EEA State.

2.69 As a result of the scale and nature of the Proposed Development, and its location, the Proposed Development is not considered to have the potential for any significant transboundary effects and therefore this is scoped out of the ES.

Cumulative Effects

2.70 As required by the EIA Regulations, the ES considers the possible effects that a proposal may have in combination with existing or consented developments. It also considers other proposed developments or activities. Likely cumulative effects have been defined as the likely effects that the Proposed Development may have in combination with other relevant developments in the vicinity of the Site.

2.71 The process for the cumulative assessment follows the advice in PINS Advice Note 17⁶ in relation to the identification of schemes considered for the cumulative assessment, review of information relating to those schemes and assessment of the likely effects. Schemes considered for the cumulative assessment have been identified within 5km¹⁴ of the Proposed Development, in consultation with SDDC and Derbyshire County Council (DCC). This has included schemes which are at application stage, consented, under construction or operational. Each topic has selected which schemes on the list presented in **Table 2.2** that are of most relevance, depending on the specific study area or zone of influence for that particular topic.

2.72 The spatial extent of potential cumulative impacts is set out in the assessment chapters of this ES, and generally covers an area within which receptors could potentially be subject to significant cumulative effects.

2.73 The cut-off date for cumulative data collection was 18th August 2023. Changes to the cumulative baseline have not been included after this cut-off date to allow time for the assessment to be prepared. Therefore, the cumulative assessments undertaken are considered to reflect the latest cumulative situation as far as possible.

2.74 The list of all potential cumulative developments is presented in **Table 2.2**, and their respective locations are shown in **Figure 2.1: Cumulative Schemes**. **Table 2.2** was considered in each technical assessment of cumulative effects, presented in the relevant topic-specific

¹⁴ 5km is the distance beyond which significant landscape and visual effects are considered unlikely to occur and as such has informed the selection of cumulative schemes. Some cumulative schemes however fall just outside the 5km buffer to account for other effects such as transport.

Chapters 5 to 16. Within each technical chapter detail is provided as to which cumulative developments have been assessed.

Table 2.2: Cumulative Developments

No	Cumulative Development Location	Planning Reference	Status	Description
1	Land to the North West of Barn Farm and to the South of Walton Road and the Former Drakelow Power Station	DMPA/2023/0170 Screening Opinion: 2022/0629	Consented	The installation of battery energy storage, substation, transformer stations, site access, internal access track, security measures, access gates, and biodiversity enhancements on Land to the North West of Barn Farm and to the South of Walton Road and the Former Drakelow Power Station. [Note: Screening Request site address was Land at Barn Farm, Cauldwell Road, Drakelow, Burton on Trent, DE15 9TX.]
2	Land at Barr Hall Farm, Drakelow, South Derbyshire	DMOT/2023/0621	Screening Opinion Issued – not EIA	Screening Opinion request under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 in relation to proposed development of an Energy Storage System (ESS) and substation development.
3	Breach Farm, Cadley Lane, Caldwell, Swadlincote, DE12 6RJ	DMPA/2020/0542	Consented	The variation of condition 5 of permission ref. 9/2018/0223 (relating to the construction of a 40MW energy storage scheme with 1 no. building (sui-generis use) to provide back up electricity services to the grid for a period of 25 years from the date of commission of the

No	Cumulative Development Location	Planning Reference	Status	Description
				battery storage scheme) at Breach Farm, Cadley Lane, Caldwell, Swadlincote, DE12 6RJ.
4	Land South Of Main Road, Haunton, Tamworth, Staffordshire	20/01245/FU LM	Under construction	Installation of a solar farm comprising ground mounted solar PV panels (143,000) with a generating capacity of up to 49.9MW, including mounting system, battery storage units, inverters, underground cabling, stock proof fence, CCTV, internal tracks and associated infrastructure, landscaping and environmental enhancements for a temporary period of 40 years and a permanent grid connection hub. Land South of Main Road, Haunton, Tamworth, Staffordshire.
5	Land to the north of the Royle Farm Business Park, Caldwell Road, Burton-on-Trent	DMPA/2021/1221	Consented	The installation of a Battery Storage Facility with associated infrastructure and access, grid connection consisting of the erection of a substations, control buildings, communications cabinets, battery transformers, proposed boundary treatment and installation of CCTV with associated works.

No	Cumulative Development Location	Planning Reference	Status	Description
6	Drakelow C Power Station, Walton Road, Drakelow	CW9/0420/7	Under Construction	Permission for the construction and operation of an 18MW Renewable Energy Centre and associated infrastructure on land at the former Drakelow C Power Station, Walton Road, Drakelow.
7	Banks House/Bretby View, Sabines Yard and Market Hall, Midland Road, Swadlincote, DE11 0AG	DMPA/2022/0844	Permitted	Demolition of buildings, and redevelopment of site to provide additional car parking spaces and urban park. Alterations to Market Hall, including removal of existing roof; erection of painted metal canopy, brickwork, fencing and solar panels; installation of lighting; and associated landscaping; to create a multi-functional space for 42 car parking spaces and events space for specialist markets and cultural events.
8	23 York Road, Church Gresley, DE11 9QG	DMPA/2021/0715	Pending	Approval of reserved matters (layout, scale, appearance and landscaping) pursuant to outline permission ref.9/2017/0244 for the erection of 10 dwellings with access, parking and associated works.
9	Land at SK1930 5342, Hawthorn Farm, Scropton	DMOT/2022/1030	Permitted	The approval of detail reserved by condition nos. 8 (HGV route survey), 10 (temporary access track details), 11 (root protection area no-dig methodology), and 12 (public rights of way management during construction), 14 (solar panels, module frames, fencing; gates,

No	Cumulative Development Location	Planning Reference	Status	Description
	Road, Scropton, DE65 5PR			CCTV poles, CCTV equipment, customer cabin, transformers, inverters and substation DNO details), 15 (equipment details), 17 (levels), 19 (lighting), 20 (CCTV active monitoring), 21 (archaeology), 22 (archaeology compliance), 23 (archaeology results analysis, publication and dissemination), 24 (tree protection), 26 (landscaping plan), 27 (Landscaping Management Plan), 28 (surface water drainage), 29 (surface water hierarchy), and 30 (construction surface water management) of permission ref. DMPA/2021/0315 (for the installation of up to 10MWp of solar photovoltaic panels and associated works, including substations, inverters, access tracks, security fencing and cameras).
10	Land off Church Street, Church Gresley, Swadlincote	9/2013/0946	Outline Permission Granted	Outline application (all matters except for principle means of vehicular access to be reserved) for the residential development up to 306 dwellings, access, parking, public open space, landscaping and associated infrastructure.

No	Cumulative Development Location	Planning Reference	Status	Description
11	Land Off Horner Avenue, Fradley, Lichfield, Staffordshire	22/00106/FU LM	Pending	Full planning application for a residential development (109 units) with associated works and public open space, and access from Horner Avenue and Ward Close.
12	Model Farm, Peggs Lane, Elford, Tamworth, Staffordshire, B79 9DR	22/01016/CO UM	Pending	Change of use from agriculture to holiday lodge including no25 holiday lodges and glamping pods and erection of reception / cafe / shop and storage with parking, EV charging/ cycle, equine provision, external play areas and associated landscaping, drainage and ecological enhancements Model Farm Peggs Lane Elford Tamworth Staffordshire B79 9DR.
13	Land adjacent to Willshee's Waste And Recycling Limited, Keith Willshee Way, Swadlincote, DE11 9EN	CW9/1022/22	Application	The proposed construction and operation of the Swadlincote Resource Recovery Park (SRRP) comprising an Energy Recovery Facility (ERF) and Aggregate Recovery Facility (ARF) together with ancillary infrastructure including grid connection cable and works, private electrical wire provision, substation, CHP off-take provision, internal vehicular circulation and yard areas, weighbridges, car parking, new access road, temporary construction compound and

No	Cumulative Development Location	Planning Reference	Status	Description
				laydown area, security fencing and gates, drainage, landscaping and off-site habitat compensation.
14	Land off Mount Road, Castle Gresley, South Derbyshire	DMPA/2021/1698 DMOT/2022/1593 DMOT/2022/1356	Permitted	An energy storage facility, together with associated equipment, infrastructure and ancillary works. Approval of details required by condition 10 attached to ref. DMPA/2021/1698 (An energy storage facility, together with associated equipment, infrastructure and ancillary works). Approval of details required by condition 3 attached to ref. DMPA/2021/1698 (An energy storage facility, together with associated equipment, infrastructure and ancillary works).
15	Curborough North Site, Watery Lane Curborough Lichfield Staffordshire	23/00763/SC OPE	Pending Consideration	Proposed development to create up to 2,350 residential units, either an all through school or a separate 2 form-entry primary school and an 8 form-entry secondary school, green infrastructure, sustainable urban drainage, a spine road and associated access.

No	Cumulative Development Location	Planning Reference	Status	Description
16	Curborough South Site Watery Lane, Curborough, Lichfield, Staffordshire	23/00764/SC OPE	Pending Consideration	Proposed development to create up to 1,150 residential units, a 3 form-entry primary school, a local centre, a care village and healthcare hub, green infrastructure, sustainable urban drainage, spine roads and associated access.
17	Land North Of Hay End Lane, Fradley, Burton Upon Trent, Staffordshire	22/01518/OU FMEI	Pending Consideration	Hybrid Planning Application comprising full application for the development of 500 dwellings, new accesses onto Hay End Lane and internal access, new sports provision consisting of playing fields, sports pavilion and associated parking, new open space, sustainable drainage, new ecology areas and woodland, landscaping and associated works; and an outline application for the development of a new primary school and associated works.
18	Land At Harrier Centre And North Off Wood End Lane, Fradley, Lichfield, Staffordshire, WS13 8NG	23/00684/FU LM	Pending Consideration	Erection of an industrial building, split into two units with employment uses E(g), B2 & B8, together with ancillary offices, associated car parking, service areas and soft landscaping, the building having the provision to be built for single occupation without the ancillary offices to the second unit.

No	Cumulative Development Location	Planning Reference	Status	Description
19	The National Memorial Arboretum, Croxall Road, Alrewas, Burton Upon Trent, Staffordshire, DE13 7AR	22/01612/FU LM	Pending Consideration	Creation of Memorial Woodland to include reworking ground levels, reshaping of the existing pond, food/drinks outlet, a multi use building, multi-user pathways, water features with associated landscaping and utilities.
20	Land Lying South Of Hay End Lane, Fradley, Lichfield, Staffordshire	23/00154/OU TM	Pending Consideration	Outline application with all matters reserved, except for access, for residential development of up to 43 dwellings.
21	Land Off Wellington Crescent, Fradley Park, Lichfield, Staffordshire	22/00532/OU TM	Pending Consideration	Outline application with all matters reserved for industrial units with B2, B8 and ancillary offices.
22	Midland Pig Producers Ltd, Hay End Lane, Fradley, Lichfield, Staffordshire, WS13 8NW	20/01031/OU TM	Appeal Lodged	Outline application with all matters reserved except for access for a Residential-led Mixed Use Development comprising, C2 Care and Assisted Living, C3 residential including self-build and bespoke. Neighbourhood Centre including Community Facilities, Open Space and Landscaping (Resubmission of application 18/00078/OUTMEI).

Mitigation, Enhancement and Monitoring

2.75 Part 7 of Schedule 4 to the EIA Regulations states that an ES should include: “A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases”.

2.76 The EIA has identified where there are likely to be any significant effects, and where necessary identified opportunities to mitigate these effects. Making a judgement on the likely effectiveness of the mitigation measures proposed and the residual effects following the implementation of these mitigation measures is then documented within this ES.

2.77 It is important to note that some measures are an integral part of the design and construction process (and include industry good practice) and have been taken into account prior to assessing the likely effects of the Proposed Development. These measures are called embedded mitigation and are set out under the Design Considerations and Embedded Mitigation section of each topic chapter. **Chapter 3: Site Selection and Design** also provides further information on design considerations. Where relevant, these embedded mitigation and good practice measures are described in the topic specific technical chapters.

2.78 Management plans have been prepared to facilitate the implementation of best practice mitigation measures. A Construction Environmental Management Plan (CEMP) is appended to the ES (see **Appendix 4.3: Outline Construction Environmental Management Plan**), and measures to be included in the CEMP have been outlined in the topic assessments and considered as embedded mitigation. A Framework Construction Transport Management Plan has been included at **Appendix 10.1: Framework Construction Traffic Management Plan**.

2.79 Any mitigation measures identified over and above the embedded mitigation are also identified in the topic chapters as additional mitigation. A draft Landscape and Ecological Management Plan has been prepared (see **Appendix 5.6: Outline Landscape and Ecological Management Plan**) which sets out additional mitigation and enhancement measures. These are of particular relevance to the Landscape and Visual; Ecology; Socio-Economics, Recreation and Tourism; and Glint and Glare assessments. The Landscape and Visual assessment has

considered the LEMP as embedded mitigation in the assessment of operational effects to reduce unnecessary repetition in the assessment.

2.80 The main focus of monitoring is in relation to the management plans accompanying the application, particularly the Landscape and Ecological Management Plan (**Appendix 5.6**) to ensure it delivers the desired level of mitigation and the measures address the significant effects as predicted. This will include ensuring that vegetation is planted and managed appropriately, and that vegetation establishes properly and is replaced if required. Vegetation management will also include ensuring visibility splays are kept clear and that screening for glint and glare is effective. Ecological monitoring will evaluate the effectiveness of habitat creation proposals (including bat boxes).

2.81 Monitoring of the CEMP, Operational Environmental Management Plan and Decommissioning Environmental Management Plan will be required to ensure an appropriate feedback loop is in place, allowing remedial measures and operational refinements to be identified and implemented if required.

2.82 All mitigation is set out in **Appendix 17.1: Schedule of Mitigation**.

Data gaps, Assumptions and Uncertainty in Assessment

2.83 The EIA process is designed to enable good decision-making based on the best possible information about the environmental effects of a Proposed Development. There will, however, always be an element of uncertainty as to the exact scale and nature of the effects. These may arise through shortcomings in available information or due to the limitations of the professional judgement process. As required in paragraph 6 of Schedule 4 to the EIA Regulations, it is important that such uncertainty is explicitly recognised, and that the ES includes “*A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved*”.

2.84 The assessments within this ES are based on the development description and parameters described in **Chapter 4: Project Description** unless otherwise stated.

2.85 It has been necessary in some instances to make some assumptions in assessing the environmental impact of the Proposed Development. In accordance with best practice, the key assumptions are set out below, together with any limitations identified in undertaking this EIA:

- A variety of sources, including historical data, have been used to establish baseline conditions for the purposes of producing technical reports and chapters. These represent a snapshot in time, but aspects of the environment are dynamic and may change before, during and after the construction and occupation of the Proposed Development. Potential changes have been identified within specific chapters where relevant and possible.
- The design and construction of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge.
- Requirement will be attached to the DCO which will secure mitigation measures set out in the ES.
- At this stage the detailed design of the Proposed Development is not finalised and therefore the EIA assessments have been undertaken on a worst-case basis using maximum parameters. It is assumed that the Proposed Development will come forward within the parameters set out.

2.86 Any assumptions relating to specific topic assessments are set out in the technical chapters (**Chapters 5 to 16**).

2.87 Whilst this chapter has set out the general process followed when undertaking an EIA, where specific chapters have made any departures from this process, this is set out in the relevant technical chapter.