Botley West Solar Farm

Environmental Statement

Volume 1

Chapter 4: Approach to Environmental Assessment

November 2024

PINS Ref: EN010147
Document Ref: EN010147/APP/6.3
Revision P0
APFP Regulation 5(2)(a); Planning Act 2008; and Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations

Approval for issue

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Glossary

Term	Meaning
The Applicant	SolarFive Ltd
The Project	The Botley West Solar Farm
The Site or Order Limits	The area of land encompassing the Project development and shown on the Site Location and Order Limits Overview (Volume 2, Figure 1.1 of the ES).

Abbreviations

Abbreviation	Meaning
DAS	Design and Access Statement
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
HRA	Habitats Regulations Assessment
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate

4 Approach to Environmental Assessment

4.1 Introduction

The EIA Process

4.1.1 Environmental Impact Assessment (EIA) is the process undertaken to identify and evaluate the likely significant effects of a proposed development on the environment and to identify measures to avoid, reduce, mitigate or manage any likely significant effects. The EIA should be informed by consultation with statutory consultees, other interested bodies and members of the public. As explained in Chapter 3: Consenting and Consultation Process of the ES **[EN010147/APP/6.3]**, the EIA process allows applicants to improve projects iteratively, through feedback loops of impact assessment and appropriate design responses, informed by consultation feedback, and to identify likely significant effects. The purpose of identifying significant effects is to ensure decision makers are able to make an informed judgement on the environmental impacts of a project.

4.1.2 The key elements in EIA for a Nationally Significant Infrastructure Project (NSIP) are:

a. Iterative project design, taking feedback from consultation and applying it to the development design process on an ongoing basis throughout the EIA process;

b. Scoping and ongoing consultation, including consideration of responses and how these should be addressed as part of the EIA process;

c. Technical environmental impact assessments, including baseline studies, input to the design process, and identification and reporting of likely adverse or beneficial significant environmental effects;

d. Proposed measures to avoid, reduce or mitigate likely significant adverse effects;

e. Consultation on a Preliminary Environmental Information Report (PEIR); and

f. Preparation and submission of the Environmental Statement (ES).

4.1.3 Using a single agreed description of the project parameters, as set out in ES Chapter 6: Project Description **[EN010147/APP/6.3]** and within the Outline Layout and Design Principles **[EN010147/APP/7.7]**, each of the technical assessments follows a systematic approach, with the principal steps being:

a. description of baseline conditions collected by desk study and/or survey;

b. assessment of likely significant effects incorporating embedded mitigation;

c. identification of appropriate additional mitigation measures, including design changes;

d. assessment of residual (likely) environmental effects that remain following the additional mitigation; and

e. assessment of cumulative effects when considering the Project along with other planned developments in the area and an assessment of inter-related effects (i.e. the cumulative environmental impacts assessment of various specialisms taken together e.g. noise and traffic or noise and health).

4.1.4 Consideration is also made to the future baseline conditions without development. This include natural changes as are anticipated to occur and planned development. A description of future baseline is provided within the 'Baseline Conditions' section of each topic chapter. Further detail on the approach made to future baseline assessment is set out later in this chapter.

EIA Scoping

4.1.5 Scoping is the formal process of identifying the environmental issues to consider within the EIA process (establishing the scope of the assessment). It is an important stage early in the EIA process and allows identification of key environmental issues and therefore enables subsequent work to concentrate on those environmental topics for which significant effects may arise as a result of a proposed development.

4.1.6 The EIA has been conducted in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as amended, (hereafter referred to as 'the EIA Regulations') and the agreed scope that was set out in the Botley West Solar Farm Scoping Report (Volume 3, Appendix 4.1) **[EN010147/APP/6.5]** and the Secretary of State's Scoping Opinion (Volume 3, Appendix 4.2) **[EN010147/APP/6.5]** that includes the formal responses received by the Planning Inspectorate from consultees.

4.1.7 For each technical topic scoped into the EIA, the scope and method of assessment must follow that set out in the Scoping Opinion. Key issues are summarised at the start of each technical chapter of this ES.

4.1.8 Paragraph 4 within Schedule 4 of the EIA Regulations sets out that the ES should include '*a description of the factors […] likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape*'.

4.1.9 In light of the above and as per the Scoping Report, the agreed breadth of technical assessments under the EIA, as presented in this ES, is as follows;

- Chapter 7: Historic Environment **[EN010147/APP/6.3]**;
- Chapter 8: Landscape and Visual Impacts Assessment **[EN010147/APP/6.3]**;
- Chapter 9: Ecology and Nature Conservation **[EN010147/APP/6.3]**;
- Chapter 10: Hydrology and Flood Risk **[EN010147/APP/6.3]**;
- Chapter 11: Ground Conditions **[EN010147/APP/6.3]**;
- Chapter 12: Traffic and Transport **[EN010147/APP/6.3]**;

- Chapter 13: Noise and Vibration **[EN010147/APP/6.3]**;
- Chapter 14: Climate Change **[EN010147/APP/6.3]**;
- Chapter 15: Socio-economics **[EN010147/APP/6.3]**;
- Chapter 16: Human Health **[EN010147/APP/6.3]**;
- Chapter 17: Agricultural Land Use and Public Rights of Way **[EN010147/APP/6.3]**;
- Chapter 18: Waste and Resources **[EN010147/APP/6.3]**;
- Chapter 19: Air Quality **[EN010147/APP/6.3]**;
- Chapter 20: Cumulative Effects and Inter-relationships **[EN010147/APP/6.3]**; and
- Chapter 21: Summary of Likely Significant Effects **[EN010147/APP/6.3]**.

4.1.10

4.1.11 Paragraph 5 within Schedule 4 of the EIA Regulations continues to set out that "*The description of the likely significant effects […] 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*". Transboundary effects have been scoped out of the ES as per Scoping.

4.1.12 For the purposes of this ES, the assessment of cumulative effects in each chapter has considered the Project alongside the effect of other developments on a single relevant receptor. A three-tiered approach has been applied to cumulative assessment, as follows:

- Tier 1 – those projects either:
  - Under construction
  - Permitted application
  - Submitted application
  - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
- Tier 2 – those projects where:
  - EIA Scoping report has been submitted
- Tier 3 – earmarked projects where:
  - EIA Scoping report has not been submitted
  - Identified in the relevant Development Plan
  - Identified in other plans and programmes.

4.1.13 Inter-related effects have also been assessed and consider the spatial and temporal effect on a single receptor/receptor group. The approach to this has followed PINS Advice Note 9 'Rochdale Envelope' that states such effects as the *'interactions between aspect assessments…where a number of separate*

impacts, e.g. noise and air quality, affect a single receptor such as fauna'. Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.

4.1.14 Cumulative effects including inter-related effects are tabulated and summarise in Chapter 20: Cumulative Effects and Inter-relationships **[EN010147/APP/6.3]** .

4.2 Approach to the EIA Process

4.2.1 Assessing a Project by reference to maximum and minimum design parameters, where flexibility needs to be retained, is commonly referred to as the 'Rochdale Envelope'. This approach is to ensure a robust assessment of the likely significant effects of the Project, in accordance with the Planning Inspectorate's Advice Note Nine: The Rochdale Envelope (Planning Inspectorate, 2018 version 3).

4.2.2 This EIA has assessed maximum (and, where relevant, minimum) design parameters. In this way, the Applicant preserves the flexibility, where necessary, to decide on detailed design post consent, but without undermining the robustness of the environmental assessment of the Project and the ability to mitigate effects and provide enhancements to the area.

4.2.3 Where technical assessments have needed to make assumptions about the Project, each technical author has applied professional judgement to ensure that a reasonable worst-case assessment is undertaken in order to identify any likely significant effects. This could mean, for example, making conservative assumptions about energy generation and carbon payback, or overestimating construction traffic. In each case, the technical authors set out what assumptions have been used to inform the assessment.

4.2.4 An illustrative masterplan of the Project is provided at Figure 2.1A, 2.1B, 2.2A, 2.2B, 2.2C 2.2D and 2.3 in Volume 2 **[EN010147/APP/6.4]**. These show the development within the Order Limits and includes the proposed solar array layout, associated electrical infrastructure, existing landscape and watercourse features, new landscaping proposals, existing and proposed infrastructure, including public rights of way and permissive paths. In addition, the Applicant has produced a series of other plans to show the following aspects of the Project:

- Operational Development Plan **[EN010147/APP/7.3.2]** – showing the infrastructure that will be built and used during the operational phase of the Project;
- Landscape, Ecology and Amenities Plan **[EN010147/APP/7.3.3]** – a plan showing what the detail of what sits beneath and around the proposed solar arrays and other infrastructure during the operational phase, and which also gives an indication of what the site will look like after decommissioning; and
- Temporary Facilities Plan **[EN010147/APP/7.3.4]** – showing those parts of the project that will be required during the construction phase.

4.2.5 Other plans produced include:

- Site Construction Compound Accesses Plans **[EN010147/APP/7.3.1]** – showing the detail design of the vehicular access points serving the four main site compounds; and
- Site compound plans and elevations **[EN010147/APP/7.3.6]**.

4.2.6 To date, for assessment purposes, in addition to the plans described above, three groups of factors have formed the basis for environmental assessment:

- Operational Development Parameters (see Table 6.3 in Chapter 6: Project Description) **[EN010147/APP/6.3]**,
- Outline Layout and Design Principles **[EN010147/APP/7.7]**; and
- Project Mitigation Measures and Commitments Schedule **[EN010147/APP/6.5]**.

4.2.7 The Operational Development Parameters have been set for the physical components of the Project. This approach aligns with the 'Rochdale Envelope' principles identified in Section 4.2 above. These parameters are described for relevant operational development in Chapter 6: Project Description **[EN010147/APP/6.3]**. This allows the Applicant some design flexibility post consent, but at the same time ensures the Project is robustly assessed.

4.2.8 The Outline Layout and Design Principles **[EN010147/APP/7.7]** adopted by the Project have also been used for assessment purposes. These should be read alongside the Operational Development Parameters. The Layout Design Principles describes the spatial aspect of the design and layout of the Project i.e. the non-operational development, aspects such as buffer distances.

Finally, the environmental assessment process also assumes that certain mitigation measures are embedded within the Project, and these are set out in the Project Mitigation Measures and Commitments Schedule **[EN010147/APP/6.5]**.

Relevant EIA Guidance

4.2.9 The EIA process and preparation of this ES has taken into account relevant government or institute guidance, including:

- National Policy Statements;
- Department for Communities and Local Government (2021) Planning Practice Guidance;
- Department of the Environment, Transport and the Regions (DETR) (1997) Mitigation Measures in Environmental Statements. HMSO;
- National Highways et al. (2020) Design Manual for Roads and Bridges, LA 104: Environmental assessment and monitoring;
- Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Impact Assessment;
- Institute of Environmental Management and Assessment (2015a) Environmental Impact Assessment: Guide to Shaping Quality Development;

- Institute of Environmental Management and Assessment (2016) Environmental Impact Assessment: Guide to Delivering Quality Development;
- Institute of Environmental Management and Assessment (2017) Health in Environmental Impact Assessment: A Primer for a Proportional Approach;
- Institute of Environmental Management and Assessment (2020) IEMA EIA Guide to: Climate Change Resilience and Adaptation;
- Institute of Environmental Management and Assessment (2022) IEMA Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance;
- Department for Levelling Up, Housing and Communities (2024) Planning Act 2008: Pre-application stage for Nationally Significant Infrastructure Projects;
- Department for Levelling Up, Housing and Communities (2024) Planning Act 2008: Acceptance stage for Nationally Significant Infrastructure Projects
- The Planning Inspectorate (2024)
  - Advice on EIA Notification and Consultation
  - Advice on the Preparation and Submission of Application Document
  - Advice on Transboundary Impacts and Process
  - Advice on Cumulative Effects Assessment
  - Advice on Habitats Regulations Assessments
  - Commitments Register
  - Advice on the Water Framework Directive
- Department for Levelling Up, Housing and Communities (Dec 2023) National Planning Policy Framework.

4.2.10 Other topic-specific specialist methodologies and good practice guidelines are reported on, as necessary, in the relevant chapters.

Methodology and Assessment Criteria

4.2.11 Each topic chapter of this ES provides details of the methodology for baseline data collection and the approach to the assessment of likely significant effects. Details of the proposed approach for each topic are provided in Chapters 7-20 of this ES **[EN010147/APP/6.3]**. Each identified environmental topic is considered by a specialist in that area. The identification and evaluation of effects will take into account relevant topic-specific guidance where available.

Spatial and Temporal Scope

4.2.12 The geographical context within which the Project is located (the Order limits) is shown in Figure 1.1 of Volume 2 the ES **[EN010147/APP/6.4]**. The spatial

scope for each aspect assessment is dependent on the nature of the potential effects and the location of Receptors that could be affected. Relevant Study Areas for specific topics are described within each of the topic ES chapters. The spatial scope of the technical assessments takes account of the:

- Physical area of the Project;
- Nature of the existing baseline conditions; and
- Manner and extent to which environmental effects may occur.

4.2.13 The Study Areas adopted for each environmental topic have also taken account of comments received from key stakeholders.

4.2.14 The temporal scope refers to the time periods over which impacts and effects may be experienced by identified receptors. These may be permanent, temporary, long term or short term.

4.2.15 The consent being sought for the Project is a temporary one. It is anticipated that the Project will be constructed, operated and maintained, and decommissioned within a 42-year period. The EIA has assessed effects during the assumed construction periods (March 2026 - October 2028), operational and maintenance period(October 2028 - April 2066) and decommissioning period (April 2066 – March 2068).

Construction Phase Effects

4.2.16 Construction effects refer to the impacts from preparation, construction, and commissioning activities. This includes issues such as construction traffic, noise and vibration, dust generation, ecological protection, and visual impact from plant, machinery and construction compounds. Some construction-related effects are more temporary than others, such as enabling access and construction compound set up compared against the more drawn out installation of solar panels, substation construction and associated landscaping impacts which will occur throughout the entire construction period.

Operational Phase Effects

4.2.17 Operational effects are those associated with operational and maintenance activities during the lifetime of the Project. This includes the effects of the physical presence of the solar PV infrastructure, and its operation, use and maintenance.

Decommissioning Phase Effects

4.2.18 Decommissioning effects related to site traffic, noise and vibration, dust generation, landscape/ecological protection, and the visual intrusion of plant and machinery on site. It is assumed that the levels of effect during decommissioning would be similar but of a lesser level than those during construction. Decommissioning would be undertaken in line with best practice processes and methods at that time.

Baseline Conditions

Existing Baseline Conditions

4.2.19 The existing and likely future environmental conditions, in the absence of the Project, are known as 'baseline conditions'. Each topic-based chapter includes a description of the current (baseline) environmental conditions. The baseline conditions at the Site and within the study area form the basis of the assessment, enabling the likely significant effects to be identified through a comparison with the baseline conditions. It is important to identify the baseline conditions to understand the current site. The baseline information for this ES has been gathered from multiple sources including online resources, data registers, council maps and site surveys. A summary of the existing baseline is set out in Chapter 2: Existing Baseline **[EN010147/APP/6.3]** .

Future Baseline Conditions

4.2.20 The ES also includes a description of the future baseline, i.e. the baseline conditions without the implementation of the Project. In doing so, consideration has been given to any likely changes between the time of survey i.e. existing baseline environment and the likely future baseline conditions.

4.2.21 Environmental topics have considered the future baseline scenarios with respect to their subject and applied professional judgement based on reasonable assumptions and limitations. A description of future baseline conditions is provided within the 'Baseline Conditions' section of each topic chapter (Volume 1, Chapters 7 to 20) **[EN010147/APP/6.3]**.

Assessment Years

4.2.22 The assessment has considered the environmental impacts of the Project at key stages in its construction, operation and, as far as practicable, its decommissioning. The scenarios for assessment have developed during the EIA process and include assessment years to allow for identification of the likely significant effects during the construction process and during operation of the Project. The following assumed assessment duration and years have been used:

- **Existing Baseline**: this is the principal baseline against which environmental effects have been assessed;
- **Future Baseline (No Development):** 2026, 2043 for landscape and visual, 2068 to assess decommissioning impacts.
- **Construction phase (2026-2028)**: The peak construction year for the purpose of the EIA is anticipated to be 2027; this assumes commencement of construction in 2026 and that the Project is built out rapidly over a 24-month period, with all sites constructed concurrently. This is a reasonable worst case from a traffic generation point of view because it compresses the trip numbers into a shorter duration and represents the greatest impact on the highway network. A lengthened construction phase would likely result in lower traffic, air quality and noise impacts. It is also applicable for other topics including landscape impact,

public accessibility and ecology where construction impacts can reasonably be considered more pronounced during a rapid construction period as opposed to prolonging impacts, albeit to a lesser extent, over a longer period; therefore, the likely worst-case scenario has been assessed within the ES;

- **Operation (2028)**: It is assumed that the Project will be operational in 2028 although the first full year of operation is assumed to be 2029
- **Decommissioning (2068)**: The Project is anticipated to be constructed, operated and decommissioned during a 42-year period. Decommissioning is anticipated to take 24 months.

4.2.23 Each topic-based chapter may also identify additional years to be included in the assessment work, in accordance with topic-specific good practice guidance. For landscape, a future year of 2043 representing 15 years post operation of the Project) is considered.

Changes to Baseline Conditions as a Result of Climate Change

4.2.24 The consideration of future baseline conditions in each chapter of this ES takes into account the likely effects of climate change, as far as these are known at the time of writing. This will be based on information available from the UK Climate Projections project, developed by the Environment Agency and Met Office, which provides information on plausible changes in climate for the UK and on published documents such as the UK Climate Change Risk Assessment 2017 (HM Government, 2017b) and subsequent updates, the most recent in 2022.

Assessment of Effects

4.2.25 The EIA Regulations require the identification of the likely significant environmental effects of the Project. The evaluation of the significance of an effect is important; it is the significance that determines the resources that should be deployed in avoiding or mitigating a significant adverse effect, or conversely, the value of a beneficial effect. The Applicant appreciates that the Secretary of State will take into account, amongst other things, the environmental information that is set out in the ES, in determining the application. Each topic chapter will take into account both the sensitivity of receptors affected and the magnitude of the likely impact in determining the likely significance of the effect.

Sensitivity or Importance of Receptors

4.2.26 Receptors are defined as the physical resource or user group that would be affected by a proposed development. The baseline studies will identify potential environmental receptors for each topic and will evaluate their sensitivity to the Project. The sensitivity or importance of a receptor may depend, for example, on its frequency or extent of occurrence at an international, national, regional or local level. As a general rule, the receptor sensitivity levels have been defined as set out in Table 4.1 below.

Table 4.1: Definitions of Receptor Sensitivity (based on Highways England et al.,2020)

Sensitivity	Typical Descriptors
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale, limited potential for substitution .
Negligible	Very low importance and rarity, local scale, limited potential for substitution.

Magnitude of Impact

4.2.27 Impacts are defined as the physical changes to the environment attributable to the Project. For each topic, the likely environmental impacts will be identified. The magnitude of the impact will be described using defined criteria within each topic chapter.

4.2.28 The categorisation of the impact magnitude may take into account the following four factors:

- Extent;
- Duration;
- Frequency; and
- Reversibility.

4.2.29 Impacts are defined as either adverse or beneficial. Depending on discipline, they may also be described as:

- **Direct**: Arise from activities associated with the Project. These tend to be either spatially or temporally concurrent; or
- **Indirect**: Impacts on the environment which are not a direct result of the Project, often produced away from the Site or as a result of a complex pathway.

4.2.30 Impacts are divided into those occurring during the construction phase and those occurring during operation. Where appropriate, some chapters may refer to these as temporary and permanent impacts.

4.2.31 Magnitude has generally been described using the following scale:

- high;
- medium;
- low; and
- negligible.

4.2.32 In some cases, a further category of ‘no change’ has been used.

4.2.33 As a general rule, magnitude levels have been defined as set out in Table 4.2 below.

Table 4.2: Definitions of Impact Magnitude (based on Highways England et al., 2020)

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

Significance of Effects

4.2.34 Effect is the term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact to the sensitivity of the receptor or resource.

4.2.35 The magnitude of an impact does not directly translate into significance of effect. For example, a significant effect may arise as a result of a relatively modest impact on a resource of national value, or a large impact on a resource of local value. In broad terms, therefore, the significance of the effect can depend on both the impact magnitude and the sensitivity or importance of the receptor.

4.2.36 Levels of significance that have been used in the assessment include, in descending order:

- Substantial;
- Major;
- Moderate;
- Negligible/Minor; and
- No Change/Neutral.

Table 4.3: Assessment matrix

Magnitude of Impact

Sensitivity/value of Receptor	No Change	Negligible	Low	Medium	High
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Minor or Moderate	Moderate or Major	Major
Very High	No change	Minor	Moderate or Major	Major	Substantial

4.2.37 Where an effect is described as 'neutral' this means that there is either no effect or that the significance of any effect is considered to be negligible. All other levels of significance will apply to both adverse and beneficial effects. These significance levels will be defined separately for each topic within the methodology sections. In all cases, the professional judgement made as to significance will be that of the author of the relevant chapter with reference to appropriate standards/guidelines where relevant.

Grid Connection

4.2.38 The Project will connect to the National Grid transmission system via a new National Grid 400kV substation to be located close to the existing National Grid 400kV line that runs between Cowley and Walham. Discussions have been ongoing with NGET regarding the location for their substation, based upon their own assessment and evaluation work. Whilst, at the time of writing this ES, a final decision has yet to be taken by NGET, it is likely that the NGET substation will be located in one of two possible locations:

- On land within the Applicant's control, at its Southern Site, at the western most extremity, south of the Farmoor Reservoir.
- On land near the Applicant's Southern Site, to the west of and adjoining that Site, south of the Farmoor Reservoir.

4.2.39 For assessment purposes, the Applicant assumes that the NGET substation will be within the Applicant's Site, as described in Option 1 above, and powers will be taken to consent that substation as part of the Applicant's DCO. To cater for the eventuality that NGET decides not to locate their substation within the Applicant's Site, then the Applicant has additionally assessed:

- an alternative location, assumed to be close to the Southern Site at its western end, on a cumulative basis, with NGET seeking any necessary consents and permissions; and

- the substitution of solar panels for the substation on the land referred to in Option 1 above.

4.2.40 The 400kv cables between the Project main substation and the new National Grid substation have not been assessed in detail for each topic chapter, due to detailed design of the substation being outside the operational control of the Applicant. However, in any event, the Applicant does not consider the cabling required for any connection into the new National Grid substation (if delivered within the Order limits) to result in any new or different likely significant effects to those already concluded.

Mitigation and Monitoring

4.2.41 Regulation 14 of the EIA Regulations requires that where likely significant effects are identified *'a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce or, if possible, offset likely significant adverse effects on the environment'* should be included in the ES. Schedule 4 of the EIA Regulations require that this is to cover both construction and operational phases.

4.2.42 The development of mitigation measures has been part of an iterative EIA and Project development processes. With the focus being to avoid and minimising impacts, mitigation measures have been developed throughout the EIA process in response to the findings of initial assessments and consultation and engagement feedback.

4.2.43 The Project includes a range of measures where practicable designed to reduce or prevent environmental impacts occurring thereby avoiding significant adverse effects. In some cases, these measures may result in enhancement of environmental conditions. For example, additional planting has been incorporated into the design to reduce likely significant landscape effects and additional areas are excluded from the masterplan for archaeological reasons.

4.2.44 The design process for the Project has been heavily influenced by the findings of early environmental appraisals and the EIA process. The Project has had several measures incorporated into the design to avoid or minimise environmental impacts.

4.2.45 The key aspects where the design has evolved are described in ES Volume 1, Chapter 5: Alternatives Considered **[EN010147/APP/6.3]**. These include measures required for legal compliance, as well as measures that implement the requirements of good practice guidance documents. The assessment has been undertaken on the basis that these measures are incorporated in the design and construction practices (i.e. they are 'embedded mitigation').

4.2.46 Embedded mitigation measures for the construction phase are set out in the ES Volume 1, Chapter 6: Project Description **[EN010147/APP/6.3]**, Appendix 6.1: Project Mitigation Measures and Commitments Schedule **[EN010147/APP/6.5]** and the various management plans outlined in this chapter **[EN010147/APP/7.6]**.

4.2.47 Implementation of embedded mitigation relied upon in the assessment will be secured in the DCO, including by ensuring the works described in Schedule 1

of the DCO are restricted to their corresponding works areas shown on the Works Plans **[EN010147/APP/2.3]**, a DCO requirement requiring compliance of detailed design of the Project to accord with the Outline Layout and Design Principles **[EN010147/APP/7.7]**, or through specific DCO requirements requiring compliance with a management strategy, plan, or other requirement document.

4.2.48 Consideration has been given to any 'additional mitigation' over and above the embedded mitigation that may be required and has the potential to mitigate any significant adverse effects identified following the assessment of the Project inclusive of its embedded mitigation. Where significant effects remain, following the implementation of embedded mitigation and where achievable further measures could lower the identified effect, the topic chapter identifies additional mitigation and explains how the additional mitigation is secured, for example via a specific DCO requirement, via a management plan, or document secured by a DCO requirement like the Project Mitigation Measures and Commitments Schedule **[EN010147/APP/6.5]**.

4.2.49 To the extent any likely significant effects are anticipated following the assessment of the Project after the implementation of embedded and additional mitigation, each topic chapter will report these as residual effects. Residual effects for all topics are summarised in Chapter 21: Summary of Significant Environmental Effects of the ES **[EN010147/APP/6.3]**.

4.2.50 Where relevant, measures have also been identified that may result in enhancement of environmental conditions. Enhancement measures are not required to mitigate significant effects of the Project and are not factored into the determination of residual effects. They are further measures which would have additional beneficial outcomes should they be implemented.

4.2.51 In some cases, monitoring measures may be appropriate, for example, to ensure that proposed planting becomes established. Where appropriate, monitoring measures have been set out in the relevant chapter of the ES.

4.2.52 It is important to recognise that the Project will deliver enhancement to the present baseline position. Whilst some enhancement measures respond to legislative and policy requirements, they go beyond the mitigation required to offset the effects of the Project and thereby provide betterment on the baseline position. For example, the Illustrative Masterplan (doc. ref) for the Project has been developed such that the extent of biodiversity delivery has been maximised and designed to target an overall habitat gain of at least 70% when compared with existing baseline position. To be installed during the construction phase, key enhancement features include:

- A habitat enhancement corridor along the River Evenlode;
- Wildflower meadows, as appropriate;
- Buffers around all hedgerows, woodlands and watercourses;
- New woodland planting in strategic locations (circa 15 ha); and
- New hedgerow planting in strategic locations linking existing woodland (circa 26.5km of new hedgerow) and the reinforcing of existing hedgerows (circa 22 km).

4.2.53 In addition to biodiversity enhancement, enhancement is provided elsewhere through the maintenance and upgrade of existing green infrastructure including PRoWs and the provision of new permissive paths. Space and funding will also be provided for a community growing scheme allowing training and education opportunities to support growers and advise on food production.

4.2.54 The Applicant will also work with local education and training providers to support opportunities to provide local adult employment. Further information also be found in Volume 3, Appendix 15.2: Outline Skills, Supply Chain & Employment Plan **[EN010147/APP/6.5]**.

4.3 Structure of the Environmental Statement

4.3.1 An ES must contain the information specified in Regulation 14(2) of the EIA Regulations, including any information specified in Schedule 4 of the EIA Regulations.

The information presented in this ES seeks to provide a clear understanding of the likely significant effects of the Project upon the environment and is structured logically, to enable readers to access all relevant environmental information easily.

4.3.2 Table 4.4 below summarises the scope of the EIA process for the Project in the context of Regulation14(2) and Schedule 4 of the EIA Regulations. For each of the requirements, the location within the ES has been provided.

Table 4.4: Regulation 14(2) and Schedule 4 of the 2017 EIA Regulation Requirements

Required Information	Location within ES
Project Description	
A description of the proposed development comprising information on the site, design, size and other relevant features of the development (Regulation 14(2)).	Volume 1, Chapter 6: Project Description **[EN010147/APP/6.3]** provides a description of the Project and the parameters used for assessment within this ES. This includes details of the construction, operation and maintenance and decommissioning phases.
A description of the development (Schedule 4, paragraph 1).	
Consideration of alternatives	
A description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment (Regulation 14(2)).	Volume 1, Chapter 5: Alternatives Considered **[EN010147/APP/6.3]** sets out details of the site selection undertaken to date. This includes a description of the alternatives considered by the Applicant, and the environmental aspects taken into account.
A description of the reasonable alternatives studied by the developer (Schedule 4, paragraph 2).	
Baseline conditions and assessment of effects	

A description of the likely significant effects of the proposed development on the environment (Regulation 14(2)).	Details of the baseline environmental conditions, methodologies used, mitigation measures and likely effects are provided in each of the topic chapters set out within Volume 1, supplemented by figures in Volume 2 and Appendices in Volume 3. **Volume 1: Chapters [EN010147/APP/6.3]** • Chapter 1: Introduction • Chapter 2: Existing Baseline • Chapter 3: Consenting Process • Chapter 4: Approach to Environmental Assessment • Chapter 5: Need for the Project, National Planning Policy, and Alternatives Considered • Chapter 6: Project Description • Chapter 7: Historic Environment • Chapter 8: Landscape and Visual Resources • Chapter 9: Ecology and Nature Conservation • Chapter 10: Hydrology and Flood Risk • Chapter 11: Ground Conditions • Chapter 12: Traffic and Transport • Chapter 13: Noise and Vibration • Chapter 14: Climate Change • Chapter 15: Socio Economics • Chapter 16: Human Health • Chapter 17: Agricultural Land Use and Public Rights of Way • Chapter 18: Waste and Resources • Chapter 19: Air Quality • Chapter 20: Cumulative Effects and Inter-relationships • Chapter 21: Summary of Significant Effects **Volume 2: Figures [EN010147/APP/6.4]** **Volume 3: Appendices [EN010147/APP/6.5]**
A description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment (Regulation 14(2)).	
A description of the relevant aspects of the current state of the environment (baseline scenario) (Schedule 4, paragraph 3).	
A description of the factors likely to be significantly affected by the development (Schedule 4, paragraph 4).	
A description of the likely significant effects of the development on the environment (Schedule 4, paragraph 5).	
A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment (Schedule 4, paragraph 6).	
A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment (Schedule 4, paragraph 7).	
A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters (Schedule 4, paragraph 8).	

Non-Technical Summary

A non-technical summary of the information referred to in sub-paragraphs (a) to (d) (Regulation 14(2)).	A non-technical Summary is provided as a standalone document **[EN010147/APP/6.2],** summarising the findings of the EIA process in non-technical language.
A non-technical summary of the information provided under requirements 1-8 (Schedule 4, paragraph 9).	

Additional Information

Any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected (Regulation 14(2)).	See above for Schedule 4 requirements which are covered in Volume 1, 2 and 3.

A reference list detailing the sources used for the descriptions and assessments included in the Environmental Statement (Schedule 4, paragraph 10).	References are provided at the end of each chapter in this ES.

4.4 Habitats Regulations Assessment

4.4.1 Alongside the EIA process, a Habitats Regulations Assessment Report (HRAR) has been undertaken in line with PINS Advice Note 10 (*Habitats Regulations Assessment relevant to nationally significant infrastructure projects*) and to meet the requirements of the Conservation of Habitats and Species Regulations 2017. The HRAR is provided as Appendix 9.14 **[EN010147/APP/6.4]**.

4.4.2 It is expected that PINS will use the HRAR to inform its Report on the Implications for European Sites (RIES) which will then be used by the Secretary of State, as the Competent Authority, to write the HRA.

4.4.3 Although the ES and the HRAR report forms two separate reports corresponding to separate legislative requirements, the authors of the HRAR report have worked alongside the authors of relevant assessments forming part of the EIA process (ecology and air quality) to ensure consistency of data use and to allow the findings of each assessment to inform the other, as appropriate.

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