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# Environmental Statement

## Interim Environmental Report (IER), Volume 1, Chapter 20: Cumulative Effects

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# 20 Cumulative effects

## 20.1 Introduction

20.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) of effects on the environment with respect to cumulative effects as a result of the Scheme.

20.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects on the environment with respect to cumulative and in-combination effects during the construction, operation and maintenance, and decommissioning phases.

20.1.3 The information presented within this chapter has been informed by the Scheme information and description provided in Volume 1, Chapter 2 Scheme description.

## 20.2 Scope of assessment

20.2.1 Chapter 16 of the Environmental Impact Assessment Scoping Report[1] addressed the potential for the Scheme to result in significant cumulative effects and in-combination effects on the environment for the construction, operation and decommissioning phases and consequently whether a standalone topic chapter was required in the ES.

20.2.2 Through the adoption of the Scoping Opinion[2] factoring in comments from both the Planning Inspectorate (PINS) and consultees that responded to the Scoping Report, the Secretary of State has confirmed that a cumulative and in-combination effects assessment should be included in the ES and must assess the scope set out in Table 20-1.

**Table 20-1 Cumulative and in-combination aspects scoped in/ out of assessment within the ES**

| Cumulative and In-combination effect aspect | Potential effects and justification for scoping |
|---|---|
| Cumulative effects assessment | Per the requirements of the Infrastructure Planning (EIA) Regulations 2017 a full cumulative effects assessment will be undertaken for the Scheme for the construction and operation. Decommissioning is scoped out of the cumulative effects assessment based on the position that the future baseline for the Scheme at the end of the lifespan of the project (60 years) will be impossible to determine.<br>Following receipt of the Scoping Opinion, the proposed scope outlined above remains unchanged.<br>The updated long-list of developments as of September 2026 is included at Volume 3, Appendix 20.1 RFFP Long List, and will be formally agreed with relevant consultation bodies before finalisation of the short-list, and the final short-list will include justification as to why projects were excluded from the original long-list and final short-list. |
| In-combination assessment | Per the requirements of the Infrastructure Planning (EIA) Regulations 2017[3] a full in-combination effects assessment will be undertaken for the Scheme for the construction and operation. Decommissioning is scoped out of the in-combination effects assessment based on the position that the future baseline for the Scheme at the end of the lifespan of the project (60 years) will be impossible to determine.<br>Following receipt of the Scoping Opinion, the proposed scope outlined above remains unchanged. |

[1] Arrow Valley Solar Limited (2026) Arrow Valley Solar. Environmental Impact Assessment Scoping Report. Volume I: Main Report (Document Reference AVS-ATR-GEN-AA-DOC-ENV-000001, Rev. A). Planning Inspectorate Reference EN0110033.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000002-20260327%20Arrow%20Valley%20EIA%20Scoping%20Report%20Volume%201%20Main%20Report%20Rev.%20A.pdf

[2] Planning Inspectorate (2026) Scoping Opinion: Proposed Arrow Valley Solar (Case Reference EN0110033). Adopted on behalf of the Secretary of State pursuant to Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 7 May 2026.
Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110033-000010-Arrow%20Valley%20Solar%20Scoping%20Opinion.pdf

[3] Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/contents

## 20.3 Consultation

### Consultation to date

20.3.1 No bespoke consultation has been undertaken to date in relation to cumulative and in-combination effects. The updated long-list of developments for consideration as part of the cumulative effects assessment is intended to be formally submitted to the relevant Local Planning Authorities (LPAs) in later 2026 to seek agreement on the final long-list.

### Legislation and policy

#### Legislation

20.3.2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572) ("the EIA Regulations") are of relevance in that paragraph 5 of Schedule 4 of the Regulations requires an ES to include "a description of the likely significant effects of the development on the environment resulting from… the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.".

#### Policy

20.3.3 The following national policy is relevant to the cumulative effects assessment:

- Overarching National Policy Statement (NPS) for Energy (EN-1)[4];
- National Policy Statement for Renewable Energy Infrastructure (EN-3)[5];
- National Policy Statement for Electricity Networks Infrastructure (EN-5)[6]; and
- National Planning Policy Framework (NPPF) 2026[7].

20.3.4 Local policy relevant to the cumulative effects assessment is detailed below:

- Stratford-on-Avon District Council (SoADC) Core Strategy 2011–2031 (2016)[8];
- Emerging South Warwickshire Local Plan (Regulation 19) (SWLP)[9]
- South Warwickshire Local Plan (SWLP)[10];
- South Worcestershire Development Plan (SWDP) 2026[11] (2016); and
- Redditch Borough Council (ReBC) Local Plan No4 (Jan 2017)[12].

#### Guidance documents

20.3.5 The proposed approach to assessing cumulative effects has been developed with reference to the relevant parts of the PINS guidance titled Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment[13] (the PINS Guidance). It also incorporates principles from the Design Manual for Roads and Bridges (DMRB) LA 104[14], which are considered to provide transferable best practice guidance for specific types of cumulative effects.

## 20.4 Method of assessment

20.4.1 In accordance with the Schedule 4, Paragraph 5 of the EIA Regulations and the Scoping Opinion, an assessment of cumulative effects has been considered in the ES. For the cumulative effects assessment presented in the ES, two types of effect are considered:

- In-Combination effects: the combined effect of individual impacts from the Scheme, for example, where a single receptor is affected by noise and traffic disruption during the construction of the Scheme; and
- Cumulative Effects: the combined effects of other existing and/or approved development scheme(s) (including existing plans and projects that are 'reasonably foreseeable') which may interact cumulatively with the Scheme. The effects of these schemes may be insignificant on an individual basis, but cumulatively with the Scheme have a new or different likely significant effect (these are referred to as 'cumulative effects').

[4] Department for Energy Security and Net Zero (2026) Overarching National Policy Statement for Energy (EN-1). Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025
[5] Department for Energy Security and Net Zero (2026) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025
[6] Department for Energy Security and Net Zero (2026), National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5-2025
[7] Ministry of Housing, Communities and Local Government (2026) National Planning Policy Framework, Ministry of Housing, Communities & Local Government. Available at https://www.gov.uk/government/publications/national-planning-policy-framework--2
[8] Stratford-on-Avon District Council (2016) Core Strategy 2011-2031. Available at: https://www.stratford.gov.uk/planning-building/core-strategy.cfm
[9] Warwick District Council & Stratford-on-Avon District Council (2026) The South Warwickshire Local Plan (Regulation 19). Available at: https://www.southwarwickshire.org.uk/swlp/publication-regulation-19-consultation.cfm
[10] Warwick District Council & Stratford-on-Avon District Council. The South Warwickshire Local Plan. Available at: https://www.southwarwickshire.org.uk/swlp/
[11] Worcester City Council (2016) South Worcestershire Development Plan. Available at: https://www.worcester.gov.uk/planning/planning-policy/south-worcestershire-development-plan
[12] Redditch Borough Council (2017) Adopted Borough of Redditch Local Plan No.4. Available at: https://www.redditchbc.gov.uk/council/policy/strategic-planning/adopted-borough-of-redditch-local-plan/borough-of-redditch-local-plan-no-4/adopted-borough-of-redditch-local-plan-no-4/
[13] The Planning Inspectorate (2026) Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment
[14] Standards for Highways (2020) LA104. Available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a

20.4.2 The assessment is based on the data available from other existing and/or approved developments and associated information which is currently in the public domain. In-combination effects

20.4.3 The EIA assesses beneficial and adverse effects on the environment during the construction, operation and maintenance, and decommissioning phases of the Scheme which are classified as being negligible / no effect, minor, moderate or major. Several effects on one receptor, receptor group or resource could theoretically interact or combine to produce a combined significant overall effect.

20.4.4 There are no specific guidelines on how the assessment of in-combination effects should be undertaken, and so the assessment will be undertaken on a qualitative basis using the results of the individual assessments, relying on professional judgement. The approach described below is considered standard in the industry and has been used to assess in-combination effects for other projects. Additionally, some chapter topics inherently include consideration of in-combination effects as part of their assessments, and this chapter will draw on this where required.

20.4.5 The secured embedded and additional mitigation is assumed to be implemented before consideration of the effects in this chapter. Only adverse or beneficial residual effects classified as minor, moderate or major in the individual technical topic assessments are considered in relation to potential in-combination effects. Residual effects classified as negligible are excluded given they are imperceptible and not significant.

20.4.6 Potential sources of environmental effects are not identified specifically in this chapter; this chapter instead provides a summary of effects by drawing on the technical assessments presented in Volume 1, Chapters 6 to 19 for the identification of receptors, likely effects, and their assessment. Similarly, this chapter draws from the other technical chapters for descriptions of aspects of the baseline environment, where required.

20.4.7 Only receptors/resources that are expected to be subject to more than one residual effect of minor significance or above have been included in the assessment. Receptors/resources predicted to be affected by only a single effect (e.g. only noise) are excluded because there is considered to be no potential for in-combination effects to take place.

20.4.8 Where more than one effect (of minor significance or above) on a particular receptor/resource has been identified, the potential for in-combination effects will be identified in the assessment and a level of significance will be assigned.

## Cumulative effects

20.4.9 The PINS Guidance sets out a four-stage approach to the cumulative effects assessment, summarised in the following sections.

### Stage 1: Establishing the long list of other existing and, or approved development

20.4.10 The Applicant has generated a long list of existing and/or approved development (including reasonably foreseeable future projects (RFFPs)).

20.4.11 RFFPs are projects that are known to the planning system, already in the consenting process or under construction at the same time as the Scheme.

20.4.12 The definition of RFFPs proposed to be applied to the Scheme draws on the standard within DMRB LA 104 and encapsulates additional project types, which is based on consideration of potential 'zones of influence' (ZoI) for different environmental aspects, reflecting the approach proposed in the PINS Guidance. The relevant study areas which have defined the ZoI for the assessment are defined in Volume 3, Appendix 20.2 Zones of Influence (ZoI) extents for cumulative effects assessment and includes descriptions of how these have been applied, where relevant.

20.4.13 The RFFP long-list aims to capture all existing and/or approved development that fall into one of the following categories:

- Major planning applications for developments located within the relevant ZoI of the Order Limits up to a maximum of 10 km. Professional judgement has been applied in reviewing developments that sit outside the 10 km limit of the ZoI that may result in cumulative effects with the Scheme. This includes Development Consent Orders (DCOs) that are granted, not yet determined, or refused subject appeal. Planning applications with anticipated principal access routes from the strategic highway network similar to the Scheme have also been considered. Reasonable assumptions have been made to identify the likely routes for each Site to ensure that multiple options from the A46 are considered. This encompasses planning applications for 10 or more dwellings, planning applications incorporating commercial or recreational floor space over 1,000 sqm, or a site exceeding 1 ha;
- Planning applications for developments located within 10 km of the Order limits that have been granted planning permission or are pending determination;
- Relevant proposals registered with PINS as forthcoming applications for Development Consent Orders. Professional judgement will be used to determine which are of relevance to the cumulative effects assessment for

the Scheme in the context of possible cumulative impacts, using proximity to the Scheme as a key consideration;
- Relevant registered Transport and Works Act Order applications. Professional judgement will be used to determine which are of relevance to the cumulative effects assessment for the Scheme in the context of possible cumulative impacts, using proximity to the Scheme as a key consideration;
- Relevant Development Plan projects such as site allocations and transport initiatives scheduled for development prior to the future operational timeframe for the Scheme (2031 – 2091). Proximity is a key factor in determining relevant Development Plan projects for the cumulative effects assessment, focussing on Development Plan projects located within 500 m of the Order limits. In addition, given the rural context of the surrounding environment, sites proximate to the anticipated principal access routes to the A46 will also be considered. A Development Plan project will only be included on the RFFP long list if sufficient evidence (subject to desk-based validation) is available about that project to allow a meaningful cumulative effects assessment; and
- Approved projects that are under construction or recently constructed and operating that were not present during site surveys that will have a direct impact on the Scheme's design or operation (i.e. within the Order limits).

20.4.14 The PINS Guidance provides three tiers of projects that should be considered in the long list, based on the certainty of their occurrence, which is reflected in the RFFP long list prepared for the cumulative effects assessment. Volume 3, Appendix 20.1 RFFP long list provides the updated RFFP long list of projects as of September 2026.

20.4.15 The RFFP long-list will be updated for application submission to account for additional projects raised by relevant consultees that may merit consideration.

### Stage 2: Establishing a shortlist of other existing and, or approved development

20.4.16 The RFFP long list is narrowed down to a shortlist based on threshold criteria and professional judgement. The PINS Guidance recommends the consideration of the following factors when determining the threshold criteria:

- Temporal scope – assessing whether there is overlap of the construction, operation, and decommissioning phases of the relevant RFFPs and the Scheme.
- Scale and nature of development – assessing whether the nature of the effects created by the Scheme are likely to impact the same or similar receptors as the relevant RFFP.
- Other factors – the assessor will use professional judgement to identify other relevant criteria such as the nature and sensitivity of the receiving environment to the Scheme and the relevant RFFP.

### Stage 3: Information gathering

20.4.17 Detailed information on each of the shortlisted RFFPs needs to be gathered including:

- The proposed design and location information of the RFFP;
- The proposed programme of construction, operation and decommissioning of the RFFP; and
- Any available environmental assessments that set out baseline data and effects arising from the other existing and, or approved development.

20.4.18 The availability of information will depend on the design stage of the RFFP. There will be more information available for RFFPs that have already been consented, than those still in the planning stage.

### Stage 4: Assessment

20.4.19 An assessment of the cumulative effects will be undertaken proportionate with the level of detail of the information available. In most instances the assessment will be qualitative due to the potential lack of availability of quantitative information for certain shortlisted projects and be based on professional judgement.

20.4.20 Where significant cumulative effects are identified, additional mitigation will be proposed or a justification for why none is required will be provided.

### Impact assessment

#### *Determining effect significance*

20.4.21 The significance of in-combination effects and cumulative effects has been determined in accordance with the criteria set out in Table 20-2. The terminology for significance of effect differs from the general assessment methodology, presented in Volume 1, Chapter 5 Approach to the assessments so that the significance of cumulative effects can be differentiated.

**Table 20-2 In-combination effects and Cumulative Effects Significance Criteria**

| Significance Category | Typical Descriptors of Effect |
|---|---|
| Very Large | Where the combined impacts of the Scheme or cumulative impacts of the Scheme in associated with other development upon an individual or collection of environmental receptors would be very highly material (positive or negative).<br>Effects would be permanent for receptors of very high value. |
| Large | Where the combined impacts of the Scheme or cumulative impacts of the Scheme in association with other development upon an individual or collection of environmental receptors would be highly material (positive or negative).<br>Effects would be:<br>▪ Widespread/large-scale for receptors of high value;<br>▪ Permanent for a receptor or receptors of high value;<br>▪ Localised for a receptor or receptors of very high value; or<br>▪ Temporary for a receptor or receptors of very high value. |
| Moderate | Where the combined impacts of the Scheme or cumulative impacts of the Scheme in association with other development upon an individual or collection of environmental receptors would be material (positive or negative).<br>Effects would be:<br>▪ Permanent for a receptor or receptors of medium value;<br>▪ Localise for a receptor or receptors of high value; or<br>▪ Temporary for a receptor or receptors of high value. |
| Slight | Where the combined impacts of the Scheme or cumulative impacts of the Scheme in association with other development upon an individual or collection of environmental receptors would be noteworthy but not material (positive or negative).<br>Effects would be:<br>▪ Permanent for a receptor or receptors or low value;<br>▪ Localised for a receptor or receptors of medium value; or<br>▪ Temporary for a receptor or receptors of medium value. |
| Neutral | Where the combined impacts of the Scheme or cumulative impacts of the Scheme in association with other development upon an individual or collection of environmental receptors would be negligible and not material (positive or negative). |
| No significant in-combination or no significant cumulative effect | Where the combined impacts of the Scheme or cumulative impacts of the Scheme along with other developments are not likely to lead to a change in the materiality or effects at a receptor, when compared with considering these impacts in isolation. |

20.4.22 In-combination and cumulative effects that are of moderate, large, or very large significance are considered significant effects in relation to the EIA Regulations. Slight and neutral effects are considered not significant.

20.4.23 The cumulative operational assessment considers the total effects of the Scheme and the other identified developments operating concurrently.

20.4.24 As the Scheme has an estimated operational period of 60 years, it is not possible to predict what other developments would be constructed or decommissioned at the same time as the Scheme is being decommissioned. As noted in Table 20-1, engagement with the LPAs is ongoing to agree this position with the LPAs.

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