EAST PARK ENERGY

East Park Energy

EN010141

Environmental Statement

Volume 1 – Main Report

Chapter 17: Cumulative and In-Combination Effects

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Chapter 17: Cumulative and In-Combination Effects

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17.0 CUMULATIVE AND IN-COMBINATION EFFECTS

17.1 Introduction

17.1.1 This chapter of the Environmental Statement (ES) provides an assessment of the likely cumulative and in-combination significant effects which could result from the East Park Energy project (the 'Scheme'). For a detailed description of the Scheme, refer to **ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]**.

17.1.2 Cumulative effects typically fall to be considered within two distinct categories, comprising:

- **Cumulative inter project effects** – effects arising to a receptor or group of receptors from the residual (post-mitigation) environmental effects of the Scheme combining and interacting with the residual environmental effects of one or more other committed developments within the zone of influence for the various technical topics assessed in the ES.
- **In combination intra project effects** – arising from the interaction and combination of different residual environmental effects of the Scheme affecting a receptor or group of receptors. Individually the effects may not be significant, but the accumulation of effects may, collectively, give rise to a significant overall effect. The assessment of intra-project effects is undertaken within this chapter with reference to the findings from **Chapters 5 to 16** of this ES.

17.1.3 The assessment of inter project effects has been carried out in accordance with the four stages of Cumulative Effects Assessment (CEA), set out within the Planning Inspectorate's 'Advice on Cumulative Effects Assessment'. **ES Vol 1 Chapter 4: EIA Methodology [EN010141/DR/6.1]** sets out the approach taken to identifying the 'other development' or 'cumulative schemes' for the purpose of assessment.

17.1.4 For the assessment of in-combination intra project effects the 'Advice on Cumulative Effects Assessment' sets out that the ES should set out a table

demonstrating where multiple impacts from the Scheme would combine to affect sensitive receptors. This chapter identifies the different broad receptor groups that have been identified in the ES chapters and provides a brief assessment to determine whether significant in-combination intra project effects would occur.

17.1.5 This chapter is supported by the following appendices in **ES Volume 2 [EN010141/DR/6.2]**:

- **ES Vol 2 Appendix 4-4: Long List of Other Development [EN010141/DR/6.2]**; and
- **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]**.

17.1.6 This chapter is supported by the following figures in **ES Volume 3 [EN010141/DR/6.3]**:

- **ES Vol 3 Figure 4-2: Short List of Other Development [EN010141/DR/6.3]**.

17.2 Legislation, Policy and Guidance

Legislation

17.2.1 The requirement to consider in-combination and cumulative effects is set out in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations)[1]. Regulation 5(2)(e) requires the consideration of 'interactions', it 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- …(e) the interaction between the factors referred to in sub-paragraphs (a) to (d).*

17.2.2 Factors (a) to (d) relate to population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and the landscape.

17.2.3 In terms of cumulative effects Paragraph 5(e) of Schedule 4 of the EIA Regulations describes cumulative effects as:

> *"A description of the likely significant effects of the development on the environment resulting from, inter alia: ...(e) 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…*
>
> *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"*

Policy

National Policy

17.2.4 National-level planning policy for NSIPs is set out in a series of National Policy Statements (NPSs). The 2023 revised NPSs (EN-1 to EN-5) came into force on 17 January 2024. Those of relevance to the Scheme are:

- Overarching NPS for Energy EN-1 (NPS EN-1[2]);
- NPS for Renewable Energy Infrastructure (NPS EN-3[3]); and
- NPS for Electricity Networks Infrastructure (NPS EN-5[4]).

17.2.5 The National Planning Policy Framework (NPPF[5]), and the accompanying online Planning Practice Guidance (PPG[6]) are also important and relevant considerations.

17.2.6 Relevant policies from the above documents are summarised in Table 17.1.

Table 17.1: Summary of National Planning Policy

Document	Policy	Summary of Policy
NPS EN-1	Para 4.1.5	*In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account….* *• ….Its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy*
	Para 4.2.12	*Applicants should set out how residual impacts will be compensated for as far as possible. Applicants should also set out how any mitigation or compensation measures will be monitored and reporting agreed to ensure success and that action is taken. Changes to measures may be needed e.g. adaptive management. The cumulative impacts of multiple developments with residual impacts should also be considered.*
NPS EN-3	Para 2.8.72	*Assessment of environmental effects of transmission infrastructure and any proposed offshore or onshore substations should assess effects both alone and cumulatively with other existing and proposed infrastructure."*
	Paras 2.10.25 - 2.10.26	*"….applicants may choose a site based on nearby available grid export capacity.*

Document	Policy	Summary of Policy
		Where this is the case, applicants should consider the cumulative impacts of situating a solar farm in proximity to other energy generating stations and infrastructure."
	2.10.94	*The approach to assessing cumulative landscape and visual impact of large-scale solar farms is likely to be the same as assessing other onshore energy infrastructure. Solar farms are likely to be in low lying areas of good exposure and as such may have a wider zone of visual influence than other types of onshore energy infrastructure.*
	2.10.126	*Where a cumulative impact is likely because multiple energy infrastructure developments are proposing to use a common port and/or access route and pass through the same towns and villages, applicants should include a cumulative transport assessment as part of the ES. This should consider the impacts of abnormal traffic movements relating to the project in question in combination with those from any other relevant development. Consultation with the relevant local highways authorities is likely to be necessary.*
	2.10.157	*The Secretary of State will consider the landscape and visual impact of any proposed solar PV farm, taking account of any sensitive visual receptors, and the effect of the development on landscape character, together with the possible cumulative effect with any existing or proposed development. Nationally designated landscapes (National Parks, The Broads and Areas of Outstanding Beauty) are afforded extra protection due their statutory purpose. Development in these areas needs to satisfy policy as set out in EN-1 Section 5.10.*
NPPF	Para 116.	*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.*
	Para 198.	*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.*
	Para 199.	*Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas.*

Guidance

17.2.7 In the absence of an agreed standard method for cumulative effects assessment, the Planning Inspectorate has issued their 'Advice on Cumulative Effects Assessment'. This advocates a staged approach for documenting the cumulative effects assessment within an ES for an NSIP. It highlights the need to consider the potential for cumulative effects arising due to the interactions between different components of the development, as well as with other existing development and / or approved development.

17.3 Consultation and Engagement

Scoping

17.3.1 Scoping of this assessment was undertaken as part of a wider EIA scoping exercise, the findings of which were recorded in **ES Vol 2 Appendix 4-1: EIA Scoping Report [EN010141/DR/6.2]** that was submitted in October 2023.

17.3.2 A Scoping Opinion was received in December 2023 as presented in **ES Vol 2 Appendix 4-2: EIA Scoping Opinion [EN010141/DR/6.2]**. The feedback received from PINS and stakeholders within the Scoping Opinion has been reviewed and the points relating to this chapter are summarised in Table 17.3 below.

17.3.3 Table 17.2 sets out a record of relevant scoping responses.

Table 17.2: Scoping responses with respect to cumulative effects assessment

Consultee	Summary of Comments	Response to Consultation
PINS – EIA Scoping Opinion (December 2023 -Reference 2.2.4)	The Zone of Influence (ZoI) used to identify 'other development' to be included in the assessment of cumulative effects should be determined based on the potential for significant effects on receptors to occur and may differ across the environmental aspects. The ES should provide a clear justification for the extent of each ZoI and how it captures the effects from the Proposed Development. It is recommended that the cumulative assessment follows the methodology set out in the Inspectorate's Advice Note Seventeen. Wherever possible it should be agreed with the relevant statutory consultation bodies as part of discussions on the assessment methodologies. Evidence of agreement on these points should be provided in the ES.	The Applicant consulted with the host authorities on the approach to assessing cumulative effects and agreed the cumulative schemes to be considered as part of this assessment prior to the statutory consultation. Comments received on the scope of cumulative development are set out in host authority responses within the **Consultation Report [EN010141/DR/5.1]**. The cumulative schemes for assessment have been updated and are set out in **ES Vol 2 Appendix 4-5: Short List of 'Other Development' [EN010141/DR/6.2]**.

Consultee	Summary of Comments	Response to Consultation
PINS – EIA Scoping Opinion (December 2023 – Reference 3.9.12)	The ES should consider how other developments cumulatively may affect the vulnerability of the Proposed Development to climate change e.g. any changes in flood flows, and cumulative GHG emissions/ savings. The Applicant should seek to agree the approach to the climate change cumulative effects assessment with relevant consultation bodies.	An assessment of cumulative effects is included within this chapter. An In-Combination Climate Change Impact Assessment is also provided at **ES Vol 2 Appendix 15-4 [EN010141/DR/6.2]**.
PINS – EIA Scoping Opinion (December 2023 – Reference 3.10.5)	…additional information is required from the Applicant to confirm that there will not be significant effects in the operational and decommissioning phases. The ES should provide information on the cumulative nature of traffic movements with other developments during the operational and decommissioning phases and confirm these projections fall below the relevant thresholds set out in guidance. In the absence of this information, the Inspectorate is not a position to scope these matters out at this stage. Accordingly, the ES should include an assessment of these matters or provide information demonstrating agreement with the relevant consultation bodies and the absence of LSE.	An assessment of cumulative effects with other projects has been provided as part of this chapter.
Bedford Borough Council	Zone of Influence: BBC would like to see the Applicant state what the minimum ZoI would be (miles) to assess cumulative effect. Currently individual effect is referenced, but cumulative ZoI is not defined.	The individual ZoI's are set out in **ES Vol 1 Chapter 4: EIA Methodology [EN010141/DR/6.1]**. They have been discussed and agreed with the relevant bodies as part of discussions on the assessment methodologies. The extent of the ZoI has also been discussed with the host planning authorities along with the long list and short list of sites for assessment.

Consultee	Summary of Comments	Response to Consultation
Bedford Borough Council	[BBC note: we raise significant concern regarding the extent of land (c. 768ha) been taken out of food production in this Application. This concern needs to be read further against the cumulative effect of consented applications and pending applications within the sub-region that have similarly taken / propose to take productive soils out of agricultural use. The Applicant will need to assess and evidence this matter specifically in relation to the ongoing tensions between the Government's energy strategy and the Government's food strategy].	**ES Vol 1 Chapter 13: Land and Soils [EN010141/DR/6.1]** provides an assessment of land and soils receptors at the construction, operational and decommissioning phases of the Scheme.

Statutory Consultation

17.3.4 Statutory consultation for the Scheme took place between September 2024 and October 2024. This included consultation on the Preliminary Environmental Information Report (PEIR). The feedback received from statutory consultees is summarised within Table 17.3.

Table 17.3 – PEIR consultation responses with respect to cumulative effects assessment

Consultee	Summary of Comments	Response
BBC	The Host Authority supports the long and short list of 'Other Development', and Figure 17.1 Long List of Cumulative Schemes. BBC are broadly supportive of this list but suggest that this should include Major Development sites in current discussion that may come forward during the DCO process. Of immediate address is: EN010170 Green Hill Solar Farm: consists of an electricity generating station with a capacity of up to 500 megawatts (MW) comprising of ground mounted solar arrays and associated development including	The Applicant has reviewed and updated the list of cumulative schemes that are assessed as part of this chapter. The Applicant has not assessed cumulative effects with Green Hill Solar Farm as it is approximately 16km west of the Site and therefore beyond the zone of influence for any assessment. The Applicant has considered the two schemes and due to the distance between them, and that they are using different sections of the highway network,

Consultee	Summary of Comments	Response
	energy storage, grid connection infrastructure and other infrastructure integral to the construction, operation and maintenance of the scheme. The sites and cable route search area are situated in an area of countryside within the administrative boundaries of North Northamptonshire, West Northamptonshire and Milton Keynes Councils, located between the towns of Northampton, Wellingborough and Bedford. The sites cover an area of approximately 1,194.8 hectares (ha) excluding the cable route search area and cable corridor(s). Tier 3 sites with specific regard to BBC's emerging Local Plan. It is noted that there are a number of consented and proposed solar developments in the area, as well as a battery energy storage system with permission next to the Eaton Socon Substation. Therefore the impacts associated with such infrastructure need to considered in terms of cumulative effect.	there is no potential for likely significant cumulative effects. The Applicant notes that the emerging Bedford Borough Plan 2040 has subsequently ended examination and is to be withdrawn. Regardless, emerging allocations within the plan were considered where relevant in **ES Vol 2 Appendix 4-4: Long List of Other Development [EN010141/DR/6.2].** The Applicant has identified the other consented and proposed solar and BESS developments around the Site that are in the public domain and these were included in **ES Vol 2 Appendix 4-4: Long List of Other Development [EN010141/DR/6.2]**.
BBC	In light of comments made by BBC in the Scoping Report regarding cumulative Zone of Influence (ZoI), BBC are supportive of this statement '*The largest ZoI is 10km and that has been used in the establishment of a Long List of 'other developments'*.	The Applicant notes this comment.
HDC	The 10km area from the scheme boundary as shown in Figure 17-1 [of the PEIR] and reflects the shape of the site is supported.	The Applicant notes this comment.
CCC	Cambridgeshire County Council welcomes the 10km area from the scheme boundary as shown in Figure 17-1 [of the PEIR].	The Applicant notes this comment
CCC	There are a number of existing and proposed solar developments in the area, as well as a battery energy storage system with permission next to the Eaton Socon Substation.	As set out in Section 4.5 of **ES Vol 1 Chapter 4: EIA Methodology [EN010141/DR/6.1]**, the Applicant has identified the other consented and proposed solar and BESS

Consultee	Summary of Comments	Response
	Therefore, the impacts associated with such infrastructure need to considered in the collective.	developments around the Site that are in the public domain and these were included in **ES Vol 2 Appendix 4-4: Long List of Other Development [EN010141/DR/6.2]**.

17.4 Cumulative (Inter Project) Effects Assessment

Introduction

17.4.1 There is the potential for the effects of the Scheme to interact with the effects of other development in the surrounding area. These are 'inter-project' cumulative effects.

17.4.2 A short list of other development which the Scheme could have likely significant cumulative environmental effects with has been prepared, see **ES Vol 2 Appendix 4-5 Short List of Other Developments [EN010141/DR/6.2].**

17.4.3 The location of the other developments is shown on **ES Vol 3 Figure 4-2: Short List of Other Development [EN010141/DR/6.3]**.

17.4.4 An assessment of likely significant inter-project cumulative effects has been undertaken for each topic chapter of this ES:

- Landscape and Visual;
- Cultural Heritage and Archaeology;
- Ecology and Nature Conservation;
- Hydrology and Flood Risk;
- Traffic and Transport;
- Noise and Vibration;
- Air Quality;
- Ground Conditions;
- Land and Soils;
- Socio Economics, Land Use and Tourism;
- Climate Change.

17.4.5 In most instances the distance of the other schemes from the Scheme coupled in many cases with the mitigation secured by virtue of environmental management plans (either conditioned or Requirements) on the various projects, avoids the likelihood of significant cumulative effects occurring.

Landscape and Visual

17.4.6 The cumulative landscape and visual assessment is concerned with the effects of the Scheme introduced into a cumulative baseline scenario where the other developments are present, (in addition to existing development and any development under construction which form part of the LVIA baseline), rather than the effects of those developments.

17.4.7 **ES Vol 2 Appendix 5-1: LVIA Methodology [EN010141/DR/6.2]** provides an overview of the approach followed when undertaking an assessment of cumulative landscape and visual effects.

17.4.8 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 28: Cobholden Farm BESS.

17.4.9 The following cumulative schemes from Appendix 4-5 have been scoped out of this assessment due to the distance between them and the Site, the differing landscape contexts, and the lack of intervisibility:

- Scheme 24: A428 Black Cat to Caxton Gibbet; and
- Scheme 26: East-West Rail.

17.4.10 Table 17.4 sets out the landscape and visual receptors identified in the LVIA where cumulative effects are likely to occur as a result of the Scheme being constructed, operated and decommissioned alongside other developments. For Scheme 23 (Cobholden Solar Farm) and Scheme 28 (Cobholden Farm BESS), no receptors (i.e. representative viewpoints or landscape character areas) have been identified that would experience greater than a negligible effect from the Scheme in addition to these projects. This is primarily because of the proximity of Schemes 23 and 28 to the proposed cable route rather than the main solar array. Nonetheless, as both schemes fall within the study area

and were scoped into the assessment, they are considered further in the narrative that follows Table 17.4.

17.4.11 A summary of identified cumulative effects and an overall conclusion follows Table 17.4 below.

Assumptions

17.4.12 Access to private properties within the study area has not been requested and therefore it has not been possible to exactly define the nature of views from all private locations. The Site surveys were carried out from publicly accessible locations near to private properties, such as roads and rights of way, and the assessment of visual effects therefore reflects the best estimate of those effects.

17.4.13 With regards references to Year 10 assessments, mitigation planting growth and height assumptions considered in this assessment are defined in Section 5.4 of **ES Vol 1 Chapter 5: Landscape and Visual Impact Assessment [EN010141/DR/6.1]**.

17.4.14 Where the Scheme is assessed as resulting in a negligible effect on landscape character or visual amenity, the associated receptor is not considered further in the cumulative assessment. For the cumulative visual assessment, this applies to representative viewpoints identified as being subject to, at most, negligible visual effects. For the cumulative landscape assessment, this applies to landscape character areas such as Bedford LCA 1D and Bedford LCA 4A (within which Cobholden Farm BESS would be located). These areas were assessed as being subject only to negligible construction, operational, and decommissioning effects, and have therefore been scoped out of further consideration.

Table 17.4: Inter-Project Cumulative Effects – Landscape and Visual

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
Construction Phase						
Landscape Character Areas						
Southern Wolds LCA	**Low-Medium** (Low-Medium susceptibility and Low value)	**Moderate-Major Adverse** (Significant)	4: High Wood Solar Farm	It is assumed that there could be some cross-over in the construction of the Scheme with High Wood Solar Farm, albeit the construction of the Scheme would not occur until 2027 at the earliest and High Wood Farm must have commenced by 2027 at the latest. A significant effect has been identified due to the Scheme on Southern Wolds LCA, however, there would be no significant additional cumulative visual effects over and above those identified for the Scheme in isolation. Whilst the construction of the two schemes at the same time would extend the influence of construction activity within the LCA, this is a large-scale landscape, which would minimise the change and the presence of the operational solar farm within High Wood Solar and some large blocks of woodland between the two developments would minimise additional change.	No additional mitigation required.	**Moderate-Major Adverse** (Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
Representative Viewpoints						
Viewpoint 58: View from Footpath 213/1 (Parish of Great Staughton), adjacent to a Scheduled Monument	**Medium-High** (Medium-High susceptibility and Medium value)	**Moderate Adverse** (Not Significant)	4: High Wood Solar Farm	Intervening screening by gentle landform undulation and field boundary tree cover would likely screen the construction of High Wood Solar Farm from view. There would therefore be no significant additional cumulative visual effects over and above those identified for the construction of the Scheme in isolation.	No additional mitigation required.	**Moderate Adverse** (Not Significant)
Viewpoint 59: View from Footpath 213/23 (Parish of Great Staughton)	**Medium-High** (Medium-High susceptibility and Medium value)	**Minor Adverse** (Not Significant)	4: High Wood Solar Farm	Intervening screening by gentle landform undulation and field boundary tree cover would likely screen construction of High Wood Solar Farm from view. There would therefore be no significant additional cumulative visual effects over and above those identified for the Scheme in isolation.	No additional mitigation required.	**Minor Adverse** (Not Significant)
Viewpoint 69: View from Footpath 213/12 (Parish of Great Staughton)	**Medium** (Medium-High susceptibility and Low value)	**Minor Adverse** (Not Significant)	4: High Wood Solar Farm	Construction operations would be visible within Site D, located in the long-distance and at a slightly lower position within the landscape. The edge of the hill in the foreground would restrict views of the wider landscape, limiting the visibility of construction operations, particularly of Site C which is the closest Site. In addition, a low rise in the landform behind	No additional mitigation required.	**Moderate Adverse** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				Site D would create a backcloth effect which would limit the visual influence of construction operations. The construction of High Wood Solar would be evident at close-range and would likely form the focus of the view, limiting how visibility of the construction of the Scheme. However, the worst-case is that this would extend the visibility of construction to the north-east of VP69 and there would be additional cumulative effects, however these would not be significant.		
Viewpoint 71: View from Footpath 112/5 (Parish of Hail Weston)	**Medium** (Medium-High susceptibility and Low value)	**Moderate-Major Adverse** (Significant)	4: High Wood Solar Farm	The construction of the solar array within Site D would be evident at close distance from this Viewpoint. Construction within Sites A, B and C would be screened by landform undulations. The construction would form a reasonably conspicuous element within the view and result in some noticeable change to the quality and character of the available view. This viewpoint is located directly between Site D and the High Wood Solar Farm site and the construction of both would be highly evident at close range in the event construction overlaps. Cumulative effects	No additional mitigation required.	Years 0 and 10: **Major Adverse** (Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				would therefore be due to both the Scheme and High Wood Solar Farm and there would be additional cumulative visual effects during construction, over and above those identified for the Scheme in isolation due to the surrounding of the receptor by solar development.		
Viewpoint 78: View from Footpath 112/5 (Parish of Hail Weston)	**Medium** (Medium susceptibility and Low value)	**Moderate-Major Adverse** (Significant)	4: High Wood Solar Farm	Construction operations would be visible within Site D located at short distance. Construction operations within Sites A, B and C would not be visible due to the screening effect of landform undulations and intervening tree and hedgerow cover. This viewpoint is located directly between Site D and the High Wood Solar Farm site and the construction of both would be evident at close range. Cumulative effects would therefore be due to both the construction of the Scheme and High Wood Solar Farm and there would be additional cumulative visual effects over and above those identified for the Scheme in isolation due to the surrounding of the receptor by solar development. Whilst there would be additional cumulative effects, these would not be notably higher as the construction would	No additional mitigation required.	**Moderate-Major Adverse** (Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				not surround the viewpoints, in contrast to Viewpoint 71.		
Operational Phase						
Landscape Character Areas						
Southern Wolds LCA	**Low** (Low to Medium susceptibility and Low value)	Year 0: **Moderate Adverse** (Not Significant) Year 10: **Minor-Moderate Adverse** (Not Significant)	4: High Wood Solar Farm	The Scheme, specifically Sites C and D, and most of the proposed High Wood Solar Farm would be introduced into the Southern Wolds LCA, in close proximity to each other. Part of the southern boundary of Site D would be adjacent to part of the northern boundary of the proposed High Wood Solar Farm and Site C would be 0.7km north-west of the boundary of the High Wood Solar Farm at its closest point. The Scheme would result in an increased concentration of solar development in this part of the Southern Wolds LCA, which comprises an existing solar farm to the immediate south of Site D. The Southern Wold LCA also includes Staughton Airfield Solar Farm, 1.4km south-west of the Scheme at its closest point. A significant cumulative effect on the Southern Wolds LCA has not been identified, and there would be no significant additional cumulative visual	No additional mitigation required.	Year 0: **Moderate Adverse** (Not Significant) Year 10: **Minor-Moderate Adverse** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				effects over and above those identified for the Scheme in isolation. Whilst the presence of the two schemes would extend the influence of solar development further within the LCA, this is a large-scale landscape, which would minimise the change and the presence of two large blocks of woodland between the two developments would minimise additional change. At Year 0, the cumulative level of effect would be **Moderate Adverse**, which is judged to be **Not Significant**. At Year 10, mitigation planting as part of the Scheme and as part of the High Wood Solar Farm would have established to an extent that these developments would assimilate further within Southern Wolds LCA. Linear belts of planting beside the Scheme, specifically on field boundaries, would limit its visibility within the wider landscape and enhance an existing characteristic of the Southern Wolds LCA. There would however continue to be an adverse cumulative effect on the Southern Wolds LCA judged to be **Minor-Moderate Adverse** which is considered to be **Not Significant**.		
Viewpoints						

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
Viewpoint 58: View from Footpath 213/1 (Parish of Great Staughton), adjacent to a Scheduled Monument	**Medium-High** (Medium-High susceptibility and Medium value)	Year 0: **Minor-Moderate Adverse** (Not Significant) Year 10: **Minor Adverse** (Not Significant)	4: High Wood Solar Farm	Intervening screening by gentle landform undulation and field boundary tree cover would likely screen High Wood Solar Farm from view. There would therefore be no significant additional cumulative visual effects over and above those identified for the Scheme in isolation.	No additional mitigation required.	**Minor Adverse** (Not Significant)
Viewpoint 59: View from Footpath 213/23 (Parish of Great Staughton)	**Medium-High** (Medium-High susceptibility and Medium value)	Years 0 and 10: **Minor Adverse** (Not Significant)	4: High Wood Solar Farm	Intervening screening by gentle landform undulation and field boundary tree cover would likely screen High Wood Solar Farm from view. There would therefore be no significant additional cumulative visual effects over and above those identified for the Scheme in isolation.	No additional mitigation required.	**Minor Adverse** (Not Significant)
Viewpoint 69: View from Footpath 213/12 (Parish of Great Staughton)	**Medium** (Medium-High susceptibility and Low value)	Years 0 and 10: **Minor Adverse** (Not Significant)	4: High Wood Solar Farm	The solar array within Site D would be evident at long-distance from this Viewpoint. Sites A and B would be screened by a combination of landform undulations and intervening tree and hedgerow cover, while Site C would be screened by a low hill to the north. The addition of the Scheme to the existing view would form a visible but only very minor element within the view, without	No additional mitigation required.	**Minor Adverse** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				materially affecting the overall quality and character of the available view. Following the establishment of tree and hedgerow planting on field boundaries within Site D, the Scheme would be further integrated into the view, particularly during summer months. This viewpoint is located on the western edge of High Wood Solar Farm site and this would be highly evident at close range, likely screening the Scheme from view. Cumulative effects would therefore be entirely due to High Wood Solar Farm and there would therefore be no significant additional cumulative visual effects over and above those identified for the Scheme in isolation.		
Viewpoint 71: View from Footpath 112/5 (Parish of Hail Weston)	**Medium** (Medium-High susceptibility and Low value)	Year 0: **Moderate Adverse** (Not Significant) Year 10: **Minor-Moderate Adverse** (Not Significant)	4: High Wood Solar Farm	The solar array within Site D would be evident at close distance from this Viewpoint. Sites A, B and C would be screened by landform undulations. The addition of the Scheme to the existing view would form a reasonably conspicuous element within the view and result in some noticeable change to the quality and character of the available view.	No additional mitigation required.	Years 0 and 10: **Moderate-Major Adverse** (Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				Following the establishment of tree and hedgerow planting on field boundaries within Site D, the Scheme would be better integrated into the view, particularly during summer months. This viewpoint is located directly between Site D and the High Wood Solar Farm site and both would be highly evident at close range. Cumulative effects would therefore be due to both the Scheme and High Wood Solar Farm and there would be significant additional cumulative visual effects over and above those identified for the Scheme in isolation due to the surrounding of the receptor by solar development. Proposed hedgerow planting proposed along the southern extent of Site D would not screen the Scheme, however it would enhance the boundary treatment of the Site. Extensive tree planting has not been proposed in this location as it could create a sense of further enclosure and the view of open skylines would be restricted.		
Viewpoint 78: View from Footpath 112/5 (Parish	**Medium**	Year 0: **Moderate Adverse** (Not Significant)	4: High Wood Solar Farm	The solar array within Site D would be evident at close distance from this Viewpoint. Sites A, B and C would be screened by landform undulations.	No additional mitigation required.	Years 0 and 10: **Moderate Adverse** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
of Hail Weston)	(Medium susceptibility and Low value)	Year 10: **Minor-Moderate Adverse** (Not Significant)		The addition of the Scheme to the existing view would form a reasonably conspicuous element within the view and result in some noticeable change to the quality and character of the available view. Following the establishment of tree and hedgerow planting on field boundaries within Site D, the Scheme would be better integrated into the view, particularly during summer months. This viewpoint is located directly between Site D and the High Wood Solar Farm site and both would be evident at close range. Cumulative effects would therefore be due to both the Scheme and High Wood Solar Farm and there would be additional cumulative visual effects over and above those identified for the Scheme in isolation due to the surrounding of the receptor by solar development. Proposed hedgerow and tree planting proposed along the south-eastern extent of Site D screen part of the Scheme, whilst also retaining views to the east. Whilst there would be additional cumulative effects, these would not be significant as the developments would not		

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect and Significance
				surround the viewpoints, in contrast to Viewpoint 71.		

Summary of Cumulative Landscape and Visual Effects

Construction Phase

17.4.15 The proposed construction period for the Scheme overlaps with the anticipated construction period for the proposed High Wood Solar Farm and the proposed Cobholden Solar Farm. However, the separation between the main construction activity of the Scheme, i.e. within Sites A, B, C and D, and Cobholden Solar Farm is sufficient that there would be no additional notable cumulative landscape and visual effects in relation to that cumulative development. Whilst Cobholden Solar Farm would be located in close proximity to the installation of the underground cable connection running into Eaton Socon Substation, very limited landscape and visual effects during construction in that part of the Site have been identified with very limited potential for additional cumulative effects. In addition, it is reasonable to assume that Cobholden Farm BESS would be constructed prior to the construction phase of the Scheme and so there would be no overlap in construction effects. Therefore, notable additional cumulative effects relate only to High Wood Solar Farm only.

17.4.16 In relation to landscape character, the additional construction activity due to the Scheme and High Wood Solar Farm would extend the influence of construction activity within the Southern Wolds, this is a large-scale landscape, which would minimise the change and the presence of the operational solar farm within High Wood Solar and some large blocks of woodland between the two developments would limit additional change. There would therefore remain a Moderate-Major Adverse (Significant) effect due to construction of the Scheme and High Wood Solar Farm. In a broader sense, there would be no notable effects on other LCAs within the study area.

17.4.17 In relation to visual effects, the potential for additional cumulative effects due to the construction of the Scheme and High Wood Solar Farm would be on receptors near Site D, particularly users of public rights of way in and around Site D. No notable cumulative effects on residential receptors have been

identified. Viewpoint 69, which is located on Footpath 213/12, and Viewpoint 78, which is located on Footpath 112/5, represent a small number of footpaths located between the construction activity within the Scheme and High Wood Solar Farm and would be subject to additional cumulative visual effects on users of these footpaths. Effects on footpaths beside Site D represent sequential visual effects and, given the openness in this location, there would be reasonably large extents of each of Footpaths 213/12 and 112/5 for example, which would be subject to cumulative visual change during construction.

17.4.18 For the most part, this is a large-scale landscape and, whilst there would be some additional cumulative landscape and visual effects due to the construction of the Scheme and High Wood Solar Farm, this would be relatively localised. Effects during the construction phase of the Scheme and High Wood Solar Farm would be temporary, experienced in the short-term, and would be reversible on completion of proposed construction activity.

Operational Phase

17.4.19 The proposed High Wood Solar Farm has the most potential for cumulative landscape and visual effects with the Scheme, given its immediate proximity to Site D. However, the operational assessment also takes account of other relevant solar development within the cumulative baseline, including the existing solar farm immediately south of Site D and Staughton Airfield Solar Farm located approximately 1.4 km to the south-west. Reference is also made to Cobholden Solar Farm to place the operational and proposed solar development in wider context. Cumulative effects in relation to Cobholden Farm BESS are anticipated to be limited, given its location close to the urban edge of Eaton Socon and within the footprint of Cobholden Solar Farm, and it is therefore not considered further within this operational assessment.

Landscape Effects

17.4.20 The Scheme would be introduced into the same LCA as the majority of the High Wood Solar Farm and would result in cumulative change in landscape

character in this part of the Southern Wolds LCA, which is already influenced by a solar farm south of the Scheme, and would largely be surrounded by the proposed High Wood Solar Farm and Staughton Airfield Solar Farm, which is located 1.4km south-west of the Scheme at its closest point.

17.4.21 The Scheme would result in an increased concentration of solar development in this part of the Southern Wolds LCA. A significant effect has been identified due to the Scheme on Southern Wolds LCA, however, there would be no significant additional cumulative visual effects over and above those identified for the Scheme in isolation. Whilst the presence of the two schemes would extend the influence of solar development within the LCA, when considered within the operational developments at Staughton Airfield and directly to the south of Site D, this large-scale landscape would minimise the change, and the presence of two large blocks of woodland and a low ridge between the two developments would minimise additional landscape change. At Year 0, the cumulative level of effect would be Moderate Adverse, which is judged to be Not Significant.

17.4.22 At Year 10, mitigation planting as part of the Scheme and as part of the High Wood Solar Farm would have established sufficiently for these developments to assimilate further within Southern Wolds LCA. Linear belts of planting beside the Scheme, specifically on field boundaries, would limit its visibility within the wider landscape and enhance an existing characteristic of the Southern Wolds LCA. There would however continue to be an adverse cumulative effect on the Southern Wolds LCA judged to be Moderate to Minor Adverse, which is considered to be Not Significant.

Visual Effects

17.4.23 In relation to visual effects, the greatest potential for additional cumulative change during operation would arise where views include both the Scheme and the proposed High Wood Solar Farm, especially near Site D. These effects would predominantly be experienced by users of public rights of way to the south of Site D, notably Footpaths 213/12 and 112/5, where the

openness of the landscape affords relatively long durations of view towards both developments. In these locations, the developments would be experienced either in combination within the same view or sequentially when moving along the route.

17.4.24 For most other visual receptors, including residential properties, intervening landform, field boundary vegetation, and woodland blocks would limit intervisibility such that the cumulative contribution of the High Wood Solar Farm and other operational solar farms (including the existing scheme immediately south of Site D and Staughton Airfield Solar Farm) would not materially increase the level of effect beyond that identified for the Scheme in isolation.

17.4.25 At Year 0, cumulative operational visual effects at the most affected viewpoints (notably Viewpoint 71) would reach Moderate-Major Adverse (Significant) due to the surrounding of the receptor by solar development. At other viewpoints, including Viewpoints 69 and 78, effects would be Moderate Adverse or lower (Not Significant) as the arrangement of development and intervening screening prevents views from becoming fully enclosed. By Year 10, the establishment of mitigation planting at both the Scheme and High Wood Solar Farm would soften the visual influence of the developments and assist their integration into the surrounding landscape. However, some adverse cumulative effects would remain where views towards the developments are open and direct.

17.4.26 No notable cumulative operational visual effects are anticipated in relation to Cobholden Solar Farm or Cobholden Farm BESS, given their separation from the main East Park array areas and the limited intervisibility with the same visual receptors.

Decommissioning Phase

17.4.27 In the event that other cumulative schemes, such as the proposed High Wood Solar Farm or Cobholden Solar Farm, are decommissioned at the same time as the Scheme, temporary cumulative effects on landscape character and

visual amenity would be of a similar nature and magnitude to those reported for the construction phase. These would arise from the presence of site compounds, plant, and vehicle movements, with effects most notable in locations where the Scheme and other schemes are in close proximity or visible together.

Cultural Heritage and Archaeology

17.4.28 The assessment of cumulative effects relating to cultural heritage is for the most part limited to effects upon the settings of heritage assets.

17.4.29 The cumulative assessment has regard to the guidance on cumulative impacts upon heritage assets as set out in Environmental Impact Assessment Handbook V5[7], and utilises the criteria for assessing setting effects as set out in Section 6.4 of **ES Vol 1 Chapter 6: Cultural Heritage and Archaeology [EN010141/DR/6.1]**.

17.4.30 The assessment of cumulative effects considers whether there would be an increased impact, either additive or synergistic, upon the setting of heritage assets as a result of adding the Scheme to the cumulative developments. In line with HE setting guidance consideration has been given to whether the additional change, which would result from the Scheme will further harm the significance of the asset[8].

17.4.31 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm.

17.4.32 The following cumulative schemes from **Appendix 4-5** have been scoped out of this assessment due to the distance between the operational above-ground infrastructure of the Scheme and the cumulative developments, and the lack of intervisibility:

- Scheme 23: Cobholden Solar Farm;
- Scheme 24: A428 Black Cat to Caxton Gibbet;
- Scheme 26: East-West Rail; and
- Scheme 28: Cobholden Farm BESS.

17.4.33 Table 17.5 below identifies where a cumulative effect would likely arise. A summary of identified cumulative effects and an overall conclusion follows Table 17.5 below.

Assumptions

17.4.34 It should be recognised that the cumulative assessment is concerned with the effects of the Scheme in a scenario where the other cumulative schemes are present, rather than the effects of those schemes.

17.4.35 As none of the identified cumulative scheme boundaries extend to within the boundary of the Scheme no direct or indirect cumulative effects upon buried archaeological remains are anticipated during the construction and decommissioning phases.

17.4.36 There would be no residual effects upon the settings of any heritage assets during the construction and decommissioning phases (as any such setting effects would be temporary and would not continue beyond the completion of the construction and decommissioning phases). There is, therefore, no potential for significant cumulative effects upon the settings of any heritage assets during the construction and decommissioning phases.

17.4.37 The potential for cumulative effects in relation to cultural heritage is, therefore, considered to be limited to the potential for cumulative effects upon the settings of heritage assets during the operational phase of the Scheme.

Table 17.5: Inter-Project Cumulative Effects – Cultural Heritage and Archaeology

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Construction Phase						
There are no identified cumulative effects that would arise alongside the construction phase of the Scheme.						
Operational Phase						
Roman site, Rushey Farm (Asset 2) Scheduled Monument	Medium	**Minor adverse** (Not Significant)	4: High Wood Solar Farm	High Wood Solar would introduce further areas of solar infrastructure to the immediate south of Site D which could increase the visual impact upon the setting of the Roman site, Rushey Farm (Asset 2) Scheduled Monument. This area already contains solar development which was not noted to be visible from the Roman Site at Rushey Farm and does not appear in a visualisation taken from near the scheduled monument (SM) looking south-eastwards across the southern part of Site D (**ES Vol 3 Figure 5-72 Viewpoint 68ii [EN010141/DR/6.3]**) because of an intervening rise in the topography. It is noted in the Officer Report for High Wood Solar Farm that *'the fundamental change to the wider setting of the SMs'*, including the Roman site at Rushey Farm, *'would result in a degree of less than substantial harm'*[9].	No additional mitigation required.	**Minor adverse** (Not Significant)

				The Roman site at Rushey Farm does not survive as above ground remains and, as such, derives most of its importance from the archaeological value of its buried remains. As a settlement site, however, its location (particularly its relationship to the River Kym as a water source and the higher ridgeline) would have been a factor in its development and it is assessed that it derives some of its significance from its inter-relationships with the nearby Roman town (Asset 991) and the bowl barrows Scheduled Monument (Asset 13) – neither of which would be effected by the High Wood Solar Farm. Given the lack of apparent visibility from Roman site, Rushey Farm Scheduled Monument with the proposed High Wood Solar Farm it is assessed that the majority of any potential visual setting impact would be provided by the East Park Scheme (predominantly the elements within Site C and Site D, including the substation).		
Two bowl barrows 900m and 1000m east of Old Manor Farm (Asset 13) Scheduled Monument	Medium	**Minor adverse** (Not Significant)	4: High Wood Solar Farm	High Wood Solar would introduce further areas of solar infrastructure to the immediate south of Site D. This area already contains solar development which was noted to be visible (as distant glimpses of the uppermost parts of the panels in an area backdropped by High Wood) from the Two bowl barrows 900m and 1000m east of Old Manor Farm Scheduled Monument as illustrated in a visualisation taken from near the SM looking eastwards across the southern part of Site C	No additional mitigation required.	**Minor adverse** (Not Significant)

				(**ES Vol 3 Figure 5-61 Viewpoint 57ii [EN010141/DR/6.3]**). It is noted in the Officer Report for High Wood Solar Farm that *'the fundamental change to the wider setting of the SMs'*, including the Two bowl barrows 900m and 1000m east of Old Manor Farm, *'would result in a degree of less than substantial harm'*[10]. Although at the time of their construction their siting along the high ridge and the visibility of the monuments would have been of great importance, the importance of these barrows wider setting and inter-relationships has been reduced by their relatively poor survival, which means that they are not currently experienced in the landscape. As a Scheduled Monument they are still considered to have sensitivity to changes within their immediate setting, in this case this is considered to be the area between the River Kym to the north and the ridge of higher ground on which they are set which contain the Roman town (Asset 707) and the Roman site at Rushey Farm Scheduled Monument (Asset 2). The northward views from the barrows would not contain any glimpses of the High Wood Solar Farm but it is assessed that glimpses of the development would be possible in the periphery of any west to east views along the ridgeline towards the Roman site at Rushey Farm Scheduled Monument (Asset 2). It is assessed, however, that the majority of any potential visual setting impact would be		

				provided by the Scheme (predominantly the elements within Site C to the north).		
The Roman small town to the south of Great Staughton (Asset 991) Scheduled Monument	Medium	**Minor adverse** (Not Significant)	4: High Wood Solar Farm	High Wood Solar would introduce further areas of solar infrastructure to the immediate south of Site D. This area already contains solar development which was not noted to be visible from the Roman small town to the south of Great Staughton and does not appear in a visualisation taken from near the SM looking south-eastwards across the southern part of Site D (***ES Vol 3 Figure 5-72 Viewpoint 68ii [EN010141/DR/6.1]***) because of an intervening rise in the topography. It is noted in the Officer Report for High Wood Solar Farm that *'the fundamental change to the wider setting of the SMs'*, including the The Roman small town to the south of Great Staughton, *'would result in a degree of less than substantial harm'*[11]. This Roman town is of High (national) importance, but it is assessed that it derives most of the importance from the potential archaeological value of its buried remains. As a town, however, its location (particularly its relationship to the River Kym as a water source and the higher ridgeline to the south) would have been a factor in its siting and development and it is assessed that it derives some of its significance from its inter-relationships with the nearby Rushey Farm Roman Site Scheduled Monument (Asset 2) and the bowl barrows Scheduled Monument	No additional mitigation required.	**Minor adverse** (Not Significant)

				(Asset 13), to the south (neither of which are likely to contain any glimpses of the High Wood Solar Farm when viewed from within the town due to intervening topography, as is illustrated in **ES Vol 3 Figure 5-87 Viewpoint 83 [EN010141/DR/6.3]**). It is assessed, therefore, that the majority of any potential visual setting impact would be provided by the East Park Scheme (predominantly the elements within Site C).		
Possible moated site, Hail Weston (Asset 407) Non-designated Heritage Asset	Medium	**Moderate adverse** (Significant)	4: High Wood Solar Farm	High Wood Solar would introduce further areas of solar infrastructure to the immediate south of Site D. The proposed BESS and the substation within Site D would be located to the immediate east and north of this moated site removing parts of its immediate rural setting with further southward views also blocked by rising topography and further solar development. It is not anticipated that there would be any visibility of this cumulative scheme.	No additional mitigation required.	**Moderate adverse** (Significant)
Basmead Manor, Easton (Asset 633) Non-designated Heritage Asset	Low	**Neutral**	4: High Wood Solar Farm	Effects upon the settings of non-designated heritage assets were not considered as part of the Heritage Assessment for the High Wood Solar Farm, nevertheless it appears likely that it would affect the setting of this non-designated moated site due to development immediately to its east. It is likely that the High Wood Solar Farm would screen any of the visible parts of the East Park Scheme in views from this moated Site (largely thought to be limited to southern	No additional mitigation required.	**Neutral**

				part of Site D), so the entirety of any potential cumulative visual impact would be provided by the High Wood Solar Farm.		
Moat at Cherry Orchard Farm, Great Staughton (Asset 640) Non-designated Heritage Asset	Low	**Neutral**	4: High Wood Solar Farm	Effects upon the settings of non-designated heritage assets were not considered as part of the Heritage Assessment for the High Wood Solar Farm, nevertheless it appears likely that it would affect the setting of this non-designated moated site due to development immediately to its east. It is likely that the High Wood Solar Farm would screen any of the visible parts of the East Park Scheme in views from this moated Site (largely thought to be limited to southern part of Site D), so the entirety of any potential cumulative visual impact would be provided by the High Wood Solar Farm.	No additional mitigation required.	**Neutral**
Rookery Farmhouse (Asset 110) Grade II Listed Building	Low	**Neutral**	4: High Wood Solar Farm	It is noted in the Officer Report for High Wood Solar Farm that '*HDC's Conservation Officer is satisfied that the proposal will not result in harm to the significance of Rookery Farmhouse or any other listed buildings'*[12]. It is thought likely that the High Wood Solar Farm would provide screening of any of the visible parts of the East Park Scheme in views from this building (largely thought to be limited to southern part of Site D), so the majority of any potential cumulative visual impact would be provided by the High Wood Solar Farm.	No additional mitigation required.	**Neutral**

Bassmead Manor Farm moated enclosure (Asset 6) Scheduled Monument	Medium	**Neutral**	4: High Wood Solar Farm	High Wood Solar would introduce further areas of solar infrastructure to the immediate south of Site D. It is noted in the Officer Report for High Wood Solar Farm that *'the fundamental change to the wider setting of the SMs'*, including the Bassmead Manor Farm moated enclosure, *'would result in a degree of less than substantial harm'*[13]. It is likely that the High Wood Solar Farm would screen any of the visible parts of the East Park Scheme in views from this moated Site (largely thought to be limited to southern part of Site D), so the entirety of any potential cumulative visual impact would be provided by the High Wood Solar Farm.	No additional mitigation required.	**Neutral**
Basmead Manor Farmhouse (Asset 159) Grade II* Listed Building	Medium	**Neutral**	4: High Wood Solar Farm	Same as the above.	No additional mitigation required.	**Neutral**
Decommissioning Phase						
There are no identified cumulative effects that would arise alongside the decommissioning phase of the Scheme.						

Summary of Cumulative Effects

17.4.38 No significant adverse cumulative direct or indirect effects upon buried heritage assets have been identified, therefore no additional mitigation measures aimed at offsetting impacts or enhancing heritage assets (beyond those already outlined for the construction and decommissioning phase effects in **ES Vol 1 Chapter 6: Cultural Heritage and Archaeology [EN010141/DR/6.1]**) are deemed necessary.

17.4.39 No significant adverse cumulative effects upon the setting of heritage assets have been identified, no additional mitigation measures aimed at offsetting impacts or enhancing heritage assets (beyond those already outlined for the operational phase effects) are deemed necessary.

Ecology and Nature Conservation

17.4.40 The assessment of cumulative effects relating to ecology and nature conservation has had regard to the CIEEM guidelines for Ecological Impact Assessment[14].

17.4.41 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 24: A428 Black Cat to Caxton Gibbet;
- Scheme 26: East-West Rail; and
- Scheme 28: Cobholden Farm BESS.

17.4.42 Table 17.6 below identifies where a cumulative effect would likely arise. A summary of identified cumulative effects and an overall conclusion follows Table 17.6 below.

Assumptions

17.4.43 An assessment of impacts upon static ecological features (e.g., habitats) is made only for schemes which are located within or immediately adjacent to the Site. These comprise:

- Bassmead Manor and High Wood Solar;
- Cobholden Farm BESS; and,
- Land North and South of Bushmead Road.

17.4.44 Both A428 Black Cat to Caxton Gibbet and East West Rail are physically separated from the Scheme, and as such, only mobile terrestrial features have been considered with regards to cumulative effects.

17.4.45 Similarly, where a receptor has been assessed within **ES Vol 1 Chapter 7: Ecology and Nature Conservation [EN010141/DR/6.1]** following implementation of mitigation as having either a negligible or neutral residual

effect (i.e., no discernible effect) it has been determined that there is no possibility of inter-project cumulative effects with the identified schemes and as such, these receptors are not included within this chapter.

17.4.46 In assessing cumulative effects it has been assumed that all development will be required to adhere to legislative requirements currently in effect.

17.4.47 Insufficient information is available with regards to Scheme 26: East-West Rail to allow a comprehensive assessment of cumulative effects, however a high-level assessment has been undertaking using professional judgement based on impacts typical of large-scale linear transport infrastructure schemes.

Table 17.6: Inter-Project Cumulative Effects – Ecology and Nature Conservation

Receptor	Receptor Sensitivity (Geographical Importance)	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Construction Phase						
Other on-Site habitats	County	**Minor adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	The three schemes identified are located immediately adjacent to the Scheme boundary. For all schemes, overlaps in boundaries relate only to use of existing access routes and as such direct impacts to on-Site habitats are considered negligible. No impacts are identified within application documents for any scheme suggesting impacts to off-site habitats (i.e., habitats within the Site).	No additional mitigation required.	**Minor adverse** (Not Significant)
Ground Nesting Birds	County	**Minor adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	Should construction be concurrent, disturbance resulting from noise, lighting and general construction activities may be magnified, or construction of the Scheme may result in disturbance to species nesting within	No additional mitigation required.	**Minor adverse** (Not Significant)

				operational areas of cumulative schemes.		
Breeding Bird Assemblage	County	**Minor adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	Should construction be concurrent, disturbance resulting from noise, lighting and general construction activities may be magnified, or construction of the Scheme may result in disturbance to species nesting within operational areas of cumulative schemes.	No additional mitigation required.	**Minor adverse** (Not Significant)
Otter	County	**Minor adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	Should construction be concurrent, disturbance resulting from noise, lighting and general construction activities may be magnified, or construction of the Scheme may result in disturbance to otter foraging within operational areas of cumulative schemes.	No additional mitigation required.	**Minor adverse** (Not Significant)
Operational Phase						
Priority and irreplaceable habitats	County	**Moderate beneficial** (Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats and habitat	No additional mitigation required.	**Moderate beneficial** (Significant)

			Scheme 26: East-West Rail 28: Cobholden Farm BESS	connectivity within the landscape.		
Other on-Site habitats	Site	**Minor beneficial** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail 28: Cobholden Farm BESS	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats and habitat connectivity within the landscape.	No additional mitigation required.	**Minor beneficial** (Not Significant)
Ground Nesting Birds	County	**Minor adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail 28: Cobholden Farm BESS	High Wood Solar Farm identified 12 Skylark territories and Cobholden Solar Farm identified four. No skylark territories were identified at Cobholden BESS. Each scheme has implemented mitigation proportionate to impacts, however territories may be displaced by the solar developments and make this adjacent land unsuitable for use by ground nesting birds displaced by the Scheme.	No additional mitigation required.	**Minor adverse** (Not Significant)

Breeding Bird Assemblage	County	**Moderate beneficial** (Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail 28: Cobholden Farm BESS	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats supporting the breeding bird assemblage.	No additional mitigation required.	**Moderate beneficial** (Significant)
Foraging and Commuting Bats	County	**Moderate beneficial** (Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail 28: Cobholden Farm BESS	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats supporting foraging and commuting bats.	No additional mitigation required.	**Moderate beneficial** (Significant)
Amphibians	County	**Minor beneficial** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats supporting amphibians.	No additional mitigation required.	**Minor beneficial** (Not Significant)

			28: Cobholden Farm BESS			
Reptiles	Local	**Minor beneficial** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail 28: Cobholden Farm BESS	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats supporting reptiles.	No additional mitigation required.	**Minor beneficial** (Not Significant)
Other notable species	Local	**Minor beneficial** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm Scheme 25: A428 Black Cat to Caxton Gibbet Scheme 26: East-West Rail 28: Cobholden Farm BESS	Forthcoming cumulative schemes will be expected to deliver biodiversity net gains in line with legislation and policy and as such will result in overall benefits to habitats supporting notable species.	No additional mitigation required.	**Minor beneficial** (Not Significant)
Decommissioning Phase						
The effects at decommissioning would be similar to or less than during the construction phase, therefore refer to the above construction phase assessment for details of decommissioning phase cumulative effects.						

Summary of Cumulative Effects

17.4.48 There would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

Hydrology and Flood Risk

17.4.49 The cumulative assessment has considered the potential for cumulative effects on hydrological resources as a result of the Scheme in combination with other developments.

17.4.50 A cumulative effect is considered as an additional effect on hydrological resources within the same hydrological catchment, arising from the Scheme, taking appropriate consideration of other likely developments within the area which may affect the hydrological environment.

17.4.51 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 24: A428 Black Cat to Caxton Gibbet;
- Scheme 26: East-West Rail; and
- Scheme 28: Cobholden Farm BESS.

17.4.52 Table 17.7 below identifies where a cumulative effect would likely arise. A summary of identified cumulative effects and an overall conclusion follows Table 17.7 below.

Assumptions

17.4.53 In the absence of details pertaining to some of the cumulative schemes under consideration, the same criteria are assumed to have been applied due to policy and legislation requirements, as the Scheme itself. In the absence of such criteria, it is assumed that that this will be because the same concerns do not apply in the first place.

Table 17.7: Inter-Project Cumulative Effects – Hydrology and Flood Risk

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Construction Phase						
River Kym Colmworth Brook Duloe Brook Pertenhall Brook	Moderate	**Minor Adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	It is assumed that all schemes have embedded SuDS which are used to manage and treat any potential pollutants within the Site. Also, that the schemes include appropriate pollution prevention measures and procedures in the event of an accidental spillage. The principal cumulative risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely unlikely. No increased impacts are anticipated.	No additional mitigation required.	**Minor Adverse** (Not Significant)
Streams and drainage ditches	Moderate	**Minor Adverse** (Not Significant)t	4: High Wood Solar Farm	Small overlap with catchment for drainage ditches running through East Park Site D and grid route. Similar to above, it is assumed that all schemes will be using embedded runoff controls to manage and treat any potential pollutants within the Site. Also, that appropriate pollution prevention measures and procedures in the event of an accidental spillage. As above, the principal cumulative risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely	No additional mitigation required.	**Minor Adverse** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
				unlikely. No increased impacts are anticipated.		
Grafham Water SSSI Little Paxton Wood SSSI Perry Woods SSSI Swineshead Wood SSSI	High	None	None	Not hydraulically connected to the East Park Site, therefore no impact nor contribution to cumulative impacts from the scheme.	No additional mitigation required.	None
Little Paxton Pits LNR	Moderate	None	None	Not hydraulically connected to the East Park Site, therefore no impact nor contribution to cumulative impacts from the scheme.	No additional mitigation required.	None
Kellaways and Oxford Clay (rocks with essentially no groundwater)	Low	None	None	No groundwater bodies underlying the East Park Site, therefore no impact nor contribution to cumulative impacts from the scheme.	No additional mitigation required.	None
Superficial Drift Deposits (various)	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm	Cumulative schemes are located within the same superficial deposits as the East Park Site. It is assumed the schemes include appropriate pollution	No additional mitigation required.	**Negligible** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
			23: Cobholden Solar Farm 28: Cobholden Farm BESS	prevention measures and procedures in the event of an accidental spillage. Moreover, the principal risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely unlikely. No increased impacts are anticipated.		
NVZ (Great Ouse and Huntingdon River Gravels)	High	None	None	Nitrates are not used in solar farm construction activities therefore no impact nor contribution to cumulative impacts from the scheme.	No additional mitigation required.	None
Private water supplies (unlicenced)	Moderate	None	None	None hydraulically connected to the East Park Site.	No additional mitigation required.	None
Private water supplies (licenced)	Moderate	**Minor Adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail	Applicable to water supplies, particularly on or near to the Great Ouse and downstream from schemes. It is assumed all schemes will include appropriate pollution prevention measures and procedures in the event of an accidental spillage. Moreover, the principal risks to water quality are through accidental spillage events, the coincidence of which at multiple	No additional mitigation required.	**Minor Adverse** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
			28: Cobholden Farm BESS	schemes, would be extremely unlikely. No increased impacts are anticipated.		
Public Water Supplies	Very High	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	Public supply is located in Offord, downstream of all schemes. As above, the principal risk is from accidental release of pollutants from spills, the coincidence of multiple spills at separate sites is extremely unlikely. No increased impacts anticipated.	No additional mitigation required.	**Negligible** (Not Significant)
Residential properties (flood risk)	Moderate	**Minor Adverse** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	It is assumed that all schemes will abide by relevant permit requirements and guidelines to control runoff and provide appropriate attenuation during the construction phase. Also, that schemes similarly incorporate standoffs from watercourses where no stockpiling of material takes place (thereby no removal of floodplain storage which may cause increased third party flooding).	No additional mitigation required.	**Minor Adverse** (Not Significant)
Operational Phase						

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
River Kym Colmworth Brook Duloe Brook Pertenhall Brook	Moderate	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	As for construction phase, it is assumed that appropriate drainage is in place in-line with permit and relevant guidelines to provide appropriate levels of treatment according to assessed pollution risks within each scheme. Also, that appropriate incident response plans, particularly for schemes including BESS are put in place. The principal risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely unlikely. No increased impacts anticipated.	No additional mitigation required.	**Negligible** (Not Significant)
Streams and drainage ditches	Moderate	**Negligible** (Not Significant)	4: High Wood Solar Farm	As for above line item, no increased impacts anticipated.	No additional mitigation required.	**Negligible** (Not Significant)
Grafham Water SSSI Little Paxton Wood SSSI Perry Woods SSSI Swineshead Wood SSSI	High	None	None	Not hydraulically connected to the East Park Site, therefore no impact nor contribution to cumulative impacts from the scheme.	No additional mitigation required.	None

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Little Paxton Pits LNR	Moderate	None	None	Not hydraulically connected to the East Park Site, therefore no impact nor contribution to cumulative impacts from the scheme.	No additional mitigation required.	None
Kellaways and Oxford Clay (rocks with essentially no groundwater)	Low	None	None	No groundwater bodies underlying the East Park Site, therefore no impact.	No additional mitigation required.	None
Superficial Drift Deposits (various)	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	Schemes are located within the same superficial deposits as the East Park Site. It is assumed that appropriate incident response plans, particularly for schemes including BESS are in place. The principal risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely unlikely. No increased impacts anticipated.	No additional mitigation required.	**Negligible** (Not Significant)
NVZ (Great Ouse and Huntingdon River Gravels)	High	None	4: High Wood Solar Farm 23: Cobholden Solar Farm	The cumulative impact of converting large areas of land, from arable farming (and the associate use of nitrogen compounds), will likely be	No additional mitigation required.	**Negligible Beneficial** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
			28: Cobholden Farm BESS	beneficial to future nitrate levels in local watercourses.		
Private water supplies (unlicenced)	Moderate	None	None	None hydraulically connected to the East Park Site.	No additional mitigation required.	None
Private water supplies (licenced)	Moderate	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	Supplies, on or near to the Great Ouse are downstream from all schemes. It is assumed all schemes will include appropriate pollution prevention measures and procedures in the event of an accidental spillage. Moreover, the principal risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely unlikely. No increased impacts are anticipated.	No additional mitigation required.	**Negligible** (Not Significant)
Public water supplies	Very High	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail	Public supply is located in Offord, downstream of all schemes. The principal risks to water quality are through accidental spillage events, the coincidence of which at multiple schemes, would be extremely unlikely. No increased impacts anticipated.	No additional mitigation required.	**Negligible** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
			28: Cobholden Farm BESS			
Residential properties (flood risk)	Moderate	None	4: High Wood Solar Farm 23: Cobholden Solar Farm 28: Cobholden Farm BESS	It is assumed that all schemes will abide by relevant permit requirements and guidelines to control runoff to natural, greenfield rates. Therefore there will be no increased risk due to runoff entering downstream watercourses. No overlap of fluvial or pluvial flood extents or pathways between the schemes. No in-combination impacts of above ground infrastructure on either floodplain storage or conveyance pathways. No increased impacts anticipated.	No additional mitigation required.	None
Decommissioning Phase						
The effects at decommissioning would be similar to or less than during the construction phase, therefore refer to the above construction phase assessment for details of decommissioning phase cumulative effects.						

Summary of Cumulative Effects

17.4.54 There would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

Traffic and Transport

17.4.55 The cumulative assessment has considered the potential for cumulative effects on traffic and transport as a result of the Scheme in combination with other developments.

17.4.56 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 24: A428 Black Cat to Caxton Gibbet;
- Scheme 26: East-West Rail; and
- Scheme 28: Cobholden Farm BESS.

17.4.57 The following sections describe the approach to how the cumulative impacts associated with each of the above cumulative schemes has been accounted for within this assessment.

High Wood Solar Farm

17.4.58 Planning consent for the proposed development of a 50MW solar farm on land to the east and west of Little Staughton (land south of High Wood) was granted on 4th December 2024 (HDC application ref: 22/01813/FUL; BBC application ref. 22/01998/MAF).

17.4.59 Based on this, it is anticipated that the construction of this development will need to commence by December 2027 at the latest (i.e. three years from the date of the planning consent).

17.4.60 An Indicative Traffic Management Plan was submitted as part of the planning application for this development. This identified an anticipated construction programme of 40 weeks. As such, it could be expected that construction would be completed by September 2028. As such, there could be some overlap with the construction phase of the Scheme.

17.4.61 The High Wood solar farm would be accessed from the A1 at the St Neots junction via the B645. The site access for the High Wood site would be at Sharp's Barn, approximately 700m west of the A1. Any overlap between the construction phases of the two developments would therefore be limited to link 1 of the study area.

17.4.62 The Indicative Traffic Management Plan prepared for the High Wood development identified a maximum of approximately 240 two-way delivery movements per week, inclusive of construction staff trips and deliveries by HGV. Based on a 6-day working week this equates to approximately 40 two-way movements per day, on average (inclusive of approximately 8 daily two-way HGV movements). This peak was forecast to occur within week 9 and week 33 of the indicative construction programme.

Cobholden Solar Farm and BESS

17.4.63 Planning consent for the proposed construction of a 100MW BESS facility, comprising 2 no. 50MW battery storage compounds on land to the south of Bushmead road, west of Cobholden Farm, was granted on 4th May 2023 (BBC application ref. 22/01828/MAF).

17.4.64 Subsequently, a separate planning application for the proposed development of a 50MW solar farm on land to the north and south of Bushmead Road, adjacent to Cobholden Farm, was granted on 31st January 2025 (BBC application ref. 24/00858/MAF).

17.4.65 It is understood that construction of these developments will take place concurrently, with a construction period of 50-60 weeks commencing in late-2025. Both developments are therefore likely to be operational by late-2026 / early-2027.

17.4.66 Based on the supporting documents submitted with the respective planning applications, there would be a forecast trip generation of 18 two-way HGV movements per day, on average, associated with the Cobholden Solar Farm and BESS sites. There would also be approximately 70 construction staff on

site per day, on average, with a maximum of approximately 120 staff during peak construction activities.

17.4.67 The proposed construction traffic access route for these developments would be from the A1 / A521 Black Cat Roundabout junction to the south, via Roxton Road, Staploe Road and Bushmead Road. There would be two site access junctions, one utilising the existing Cobholden Farm access track, and one new access off Bushmead Road. Both of these accesses would be located at least 300m west of Scheme accesses SA19 and SA20.

17.4.68 As such, since there would be little to no overlap between the proposed construction access route or the proposed construction period of the Cobholden Solar Farm and BESS sites relative to the Scheme, it is considered that no further detailed consideration of the cumulative traffic and transport impacts of these developments is necessary.

A428 Black Cat to Caxton Gibbet

17.4.69 The A428 Black Cat to Caxton Gibbet project is a highway improvement scheme by National Highways, which will entail the construction of a new 10-mile section of dual-carriageway road between St Neots and Caxton Gibbet. This will include the construction of a new three-level grade-separated junction at the A1 / A421 Black Cat Roundabout.

17.4.70 Construction of this improvement scheme commenced in December 2023 and is scheduled to be completed and open to traffic in spring 2027. It is therefore assumed for the purpose of this assessment that the construction phase of the Scheme would not commence until after the Black Cat to Caxton Gibbet project is completed. Since the highway improvement scheme is intended to provide additional highway capacity and improve journey times along the A1, A421 and A428 in the vicinity of St Neots, it would therefore represent a beneficial change to the assessed baseline position. As such, it is considered that no further detailed consideration of the cumulative impacts of the Black Cat to Caxton Gibbet improvement scheme is required with regard to traffic and transport.

East West Rail

17.4.71 East West Rail is a long-term strategic project to construct a new railway line connecting Oxford and Cambridge. Construction of the eastern section of the line between Bedford and Cambridge comprises Stage 3 of the project. This is still in the planning phase and is dependent on final government funding and approval. There are currently no projected timescales for the anticipated construction of this section of the route. Furthermore, Stage 2 of the project, between Bletchley and Bedford, is not currently forecast to be operational until 2030.

17.4.72 As such, it is unlikely that any construction activity associated with East West Rail within the study area will occur until after the construction phase of the Scheme has been completed. It is therefore considered that no further detailed consideration of the cumulative impacts of the East West Rail scheme is required with regard to traffic and transport.

Percentage Impact Assessment of Cumulative Schemes

17.4.73 As described above, only the proposed High Wood Solar Farm has the potential to result in any significant cumulative impacts with regard to environmental effects resulting from traffic and transport.

17.4.74 Based on the information provided within the Indicative Traffic Management Plan prepared for the High Wood Solar development, during the peak of construction there would be a maximum of approximately 40 two-way vehicle movements per day, on average (inclusive of approximately 8 daily two-way HGV movements).

17.4.75 Table 17.8 summarises the anticipated cumulative percentage impact of the construction traffic associated with the High Wood Solar development.

Table 17.8: Inter-Project Cumulative Effects – Traffic and Transport (Cumulative Development Percentage Impact Assessment Summary)

Link	Base Vehicles	Base HGVs	Dev Vehs	Dev HGVs	Cumulative Dev Vehicles	Cumulative Dev HGVs	% Impact Vehicles	% Impact HGVs
2028 – Max HGVs (Month 2)								
2028 12hr AAWT Scenario								
1	6,746	106	112	60	40	8	2.25%	64.71%
2028 24hr AADT Scenario								
1	8,228	113	112	60	40	8	1.85%	60.43%
2028 – Max Staff (Month 12)								
2028 12hr AAWT Scenario								
1	6,746	106	884	24	40	8	13.69%	30.29%
2028 24hr AADT Scenario								
1	8,228	113	112	60	40	8	11.23%	28.29%
2028 – Average Construction Trips								
2028 12hr AAWT Scenario								
1	6,746	106	522	16	40	8	8.33%	22.69%
2028 24hr AADT Scenario								
1	8,228	113	522	16	40	8	6.83%	21.19%

17.4.76 Table 17.8 shows that regardless of whether any potential overlap between construction programmes between the two schemes happens to occur during the Max HGVs (Month 2), Max Staff (Month 12), or the Average Construction

Trips scenarios, the overall cumulative impact in terms of total vehicles would not exceed the IEMA 30% threshold on link 1.

17.4.77 The assessment also indicates that the cumulative impact with regard to the increase in HGVs would only exceed the IEMA 30% threshold during the Max HGVs (Month 2) scenario and would reach the 30% threshold in the Max Staff (Month 12) scenario in the 12hr AAWT time period.

17.4.78 As described in **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]**, these percentage increases are predominantly a reflection of low baseline HGV flows along these links. In absolute terms, the total cumulative increase in HGVs along link 1 is low. The forecast cumulative development traffic would result an increase in HGVs on links 1 of approximately 1 additional two-way HGV movement per hour, on average.

17.4.79 It should also be noted that the assumption that the High Wood Solar scheme would be constructed between December 2027 and September 2028 represents a robust appraisal of the potential impacts, since this is the absolute latest that the High Wood Solar scheme could commence construction based on the date of the planning consent. It is likely, therefore that construction of the High Wood Solar site would commence earlier than December 2027, and consequently it is unlikely that the peak construction period would overlap with that of the Scheme.

Summary of Cumulative Effects

17.4.80 In light of the above factors, the cumulative level of vehicle movements set out above are considered very unlikely to have an adverse impact on the local highway network within the study area, particularly given the conservative nature of the assumptions, i.e. that construction of the High Wood Solar development would coincide with the construction phase of the Scheme. As such, it is considered that there would be no significant cumulative effects in EIA terms. Consideration of the co-ordination of scheme delivery in order to mitigate and minimise any cumulative impacts of construction traffic is set out in the **oCTMP [EN010141/DR/7.4]**.

Noise and Vibration

17.4.81 The cumulative assessment has considered the potential for cumulative noise and vibration effects as a result of the Scheme in combination with other developments.

17.4.82 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 24: A428 Black Cat to Caxton Gibbet;
- Scheme 26: East-West Rail; and
- Scheme 28: Cobholden Farm BESS.

17.4.83 The assumptions section below describes the approach to how the cumulative impacts associated with each of the above cumulative schemes has been accounted for within this assessment.

17.4.84 Table 17.9 below identifies where a cumulative effect would likely arise on a landscape and visual receptor identified in the LVIA as a result of the Scheme being constructed, operational and decommissioned at the same time as the other development.

17.4.85 A summary of identified cumulative effects and an overall conclusion follows Table 17.9.

Assumptions

17.4.86 The key temporal assumptions for each scheme are as follows.

Scheme 4: High Wood Solar Farm

17.4.87 This project is approved and consists of a proposed 50MW solar farm which includes photovoltaic panels, centralised inverters, switchgear and transformer stations. This site is located close to the boundary of the East

Park Energy Site towards the eastern end of the solar farm and south of the BESS compound.

17.4.88 The application was not submitted with any noise impact assessment and the only noise condition for the permitted development relates to construction noise operating hours.

17.4.89 The provisional layout of the High Wood Solar Farm indicates that the closest solar inverter/transformer station is located circa 400m from Wood Farm (Receptor R38A in **ES Vol 1 Chapter 10: Noise and Vibration [EN010141/DR/6.1]**) and The Cottage (R38). The predicted noise level at these noise sensitive receptors (NSR) from the East Park Energy Site is circa 36dB at R38 and 26dB at R38A during sunrise or daytime periods. The contribution from the solar inverter/transformer station at 400m is likely to be <30dB L_{Aeq} and therefore the impact would potentially raise the level to 37dB (R38) and 31dB (R38A) under the highest impact conditions. This would not alter the impact conclusions at these receptors when considering Tables 10.26 and 10.27 of **ES Vol 1 Chapter 10: Noise and Vibration [EN010141/DR/6.1]**.

17.4.90 The distance to Moor Farm Cottages (R36) from the nearest identified solar inverter/solar from High Wood Solar is circa 320m compared with circa 830m. The predicted daytime noise prediction from the East Park Energy Site is shown to be 28dB L_{Aeq} during daytime and sunrise at this receptor and the predicted noise contribution from High Wood Solar inverter/transformer operation is predicted to be circa 32-33dB L_{Aeq}. The cumulative effect is likely to be no higher than +1dB on the High Wood Solar contribution under the highest impact conditions. This would not alter the impact conclusions at these receptors when considering Tables 10.26 and 10.27 of **ES Vol 1 Chapter 10: Noise and Vibration [EN010141/DR/6.1]**. No significant cumulative effect on the NSR is therefore likely to occur.

17.4.91 In terms of construction phase works the permitted development must commence before 4 December 2027[1]. There is a potential for some minor cumulative effects in working areas west of High Wood Solar if both sites are working in similar areas, although this depends on timescales for approval for the Site application and the phasing of the construction works. The phasing could be planned to avoid any temporary cumulative effects occurring in similar areas of both Sites, if required. Best practical means (BPM) would be applied and noise limited by the introduction of the **outline Construction Environmental Management Plan [EN010141/DR/7.3]**.

Scheme 23: Cobholden Solar Farm

17.4.92 The Cobholden Solar Farm is located on land to the south and north of Bushmead Road, Staploe for a proposed Solar Farm, which is approved and consists of a solar array provided up to 49.9MW of power. This site is located circa 2.1km southeast of the nearest East Park solar array and east of the proposed grid connection route to the Eaton Socon substation at the far southeastern corner of the Site.

17.4.93 Cobholden Solar Farm has included a previous application for an adjoining BESS facility which was approved by the planning authority in May 2023 (i.e. Cobholden BESS).

17.4.94 The solar farm submission includes a noise report which includes cumulative effects from the combined operation of the solar and BESS plant. The planning consent includes conditions 10, 21, 25 & 26 which relate to the construction of an acoustic fence, provision of a Construction and Environmental Management Plant (CEMP), construction hours and electrical noise. There are no conditions relating to the operational or construction limits applied to this scheme.

17.4.95 The noise report by Professional Consult (ref. 24.042.1.R2 dated 25th March 2024) provides predicted operational noise levels at receptors R43 (Duloe

[1] *Three years from the date of decision – 4 December 2024*

Road) and R44 (Manor Farm) which show a daytime and night-time noise level of 38dB L_{Aeq} and 34dB L_{Aeq} respectively. This compares with the East Park Energy Site noise level contribution of 14dB and 1dB L_{Aeq} respectively which will have no cumulative effect on Cobholden Solar Farm.

17.4.96 In terms of construction works, Cobholden Solar Farm must commence before 31 January 2028[2]. There is therefore potential for some of the grid connection works to coincide with the construction or operational phase of the East Park Energy Site. There are no construction noise predictions provided in the Professional Consult noise report but condition 21 of the planning permission (ref. 24/00858/MAF) requires noise mitigation and control to be detailed in an approved CEMP.

17.4.97 The Scheme's grid connection works would mainly involve trenching of cables and some localised drilling where the trenches need to cross beneath water courses and constraints. Any works would be subject to the application of BPM and the **outline Construction Environmental Management Plan [EN010141/DR/7.3]**. The cable connection works are short-term and transient as the trenches move along on a daily basis and therefore any cumulative effect would be unlikely, minimal and not significant.

Scheme 25: A428 Black Cat to Caxton Gibbet

17.4.98 This application relates to a road improvement scheme which is for the A428 Black Cat to Caxton Gibbet Road improvement scheme. This is over 3km distance from the nearest NSR to the grid connection point and therefore due to distance attenuation would have no effect in terms of cumulative effects during its construction. This is currently under construction and likely to be complete by the time the Scheme's grid connection works are being undertaken.

17.4.99 No cumulative effects are expected.

[2] *Three years from the date of decision – 31 January 2025*

Scheme 26: East-West Rail

17.4.100 This application relates to the East West Rail (EWR) Bedford to Cambridge and Western Improvement scheme and a major railway project.

17.4.101 No information is available in respect of construction noise or operational noise effects. The separation distance is over 2.5km and therefore there would be no construction or operational cumulative effects relative to NSR.

Scheme 28: Cobholden Farm BESS

17.4.102 The Cobholden Farm BESS is located on land to the south of Bushmead Road, Staploe, which is approved (planning ref. 22/01828/MAF), under construction and consists of a battery storage facility.

17.4.103 This site is located circa 3.3km southeast of the nearest East Park solar array and east of the proposed grid connection route to the Eaton Socon substation at the far southeastern corner of the Site.

17.4.104 The noise report by Professional Consult (ref. 21.113.1.R2 dated 30th June 2022) provides predicted operational noise levels at receptor R44 (Manor Farm) which show a daytime and night-time noise level of 38dB L_{Aeq} and 41dB L_{Aeq} respectively. This compares with the Scheme's contribution 1dB L_{Aeq} which will have no cumulative effect on Cobholden Farm BESS.

17.4.105 In terms of construction works, scheme 28 must commence before Spring/Summer 2024[3] and operation by Summer/Autumn 2025[4]. There is therefore in view of the timescales there is no likely potential for the Scheme's grid connection works to coincide with the construction phase of Cobholden Farm BESS. There are no noise conditions on the planning consent.

[3] https://cobholdensolar.co.uk/the-project/ - *Battery Energy Storage System Facility*
[4] https://cobholdensolar.co.uk/the-project/ - *Battery Energy Storage System Facility*

17.4.106 The decommissioning phase would occur in 2065[5] and coinciding with the East Park Energy Site decommissioning phase is highly unlikely and no cumulative effects would occur.

[5] https://cobholdensolar.co.uk/the-project/ - *Battery Energy Storage System Facility*

Table 17.9: Inter-Project Cumulative Effects – Noise and Vibration

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Construction Phase						
R36, R38 & R38A	High	**Negligible to Minor** (Not Significant)	4: High Wood Solar Farm	If construction works on the solar array occur in a similar working area to the west of Scheme 4.	Phasing of construction works to avoid working in similar areas of both sites. Liaison of parties would resolve this effect.	**Negligible to Minor** (Not Significant)
R43 & R44	High	**Negligible to Minor** (Not Significant)	23: Cobholden Solar Farm	If grid connection works for the East Park Energy Site occurs at same time as the construction of Scheme 23.	Phasing of construction works to avoid working in similar areas of both sites. Liaison of parties would resolve this effect.	**Negligible to Minor** (Not Significant)
None	Not applicable	None	24: A428 Black Cat to Caxton Gibbet	No impact	No additional mitigation required.	None
None	Not applicable	None	26: East-West Rail	No impact	No additional mitigation required.	None
R44	High	**Negligible to Minor** (Not Significant)	28: Cobholden Farm BESS	Grid connection works for the East Park Energy Site occurs at same time as the operation of Scheme 28.	No additional mitigation required.	**Negligible to Minor** (Not Significant)
Operational Phase						

R36, R38 & R38A	High	**Negligible** (Not Significant)	4: High Wood Solar Farm	The combined operation of solar plant with both schemes at isolated NSR but very low absolute level and the cumulative increase would not alter the operational impact and effect conclusions.	No additional mitigation required.	**Negligible** (Not Significant)
R43 & R44	High	**Negligible** (Not Significant)	23: Cobholden Solar Farm	No change in noise levels.	No additional mitigation required.	**Negligible** (Not Significant)
None	Not applicable	None	24: A428 Black Cat to Caxton Gibbet	No impact.	No additional mitigation required.	None
None	Not applicable	None	26: East-West Rail	No impact.	No additional mitigation required.	None
R44	High	**Negligible** (Not Significant)	28: Cobholden Farm BESS	No change in noise levels.	No additional mitigation required.	**Negligible** (Not Significant)
Decommissioning Phase						
R36, R38 & R38A	High	**Negligible** (Not Significant)	4: High Wood Solar Farm	Decommissioning unlikely to occur at same time due to offset of timescales.	No additional mitigation required.	**Negligible** (Not Significant)
R43 & R44	High	**Negligible** (Not Significant)	23: Cobholden Solar Farm	Decommissioning unlikely to occur at same time due to offset of timescales.	No additional mitigation required.	**Negligible** (Not Significant)
None	Not applicable	None	24: A428 Black Cat to Caxton Gibbet	No impact.	No additional mitigation required.	None

None	Not applicable	None	26: East-West Rail	No impact.	No additional mitigation required.	None
R44	High	**Negligible** (Not Significant)	28: Cobholden Farm BESS	Decommissioning unlikely to occur at same time due to offset of timescales.	No additional mitigation required.	**Negligible** (Not Significant)

Summary of Cumulative Effects

17.4.107 There would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

Air Quality

17.4.108 The air quality cumulative assessment has considered the potential for cumulative effects to arise due to dust, on-road vehicle emissions and Non-Road Mobile Machinery (NRMM) emissions on human and ecological receptors.

17.4.109 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 28: Cobholden Farm BESS.

17.4.110 The following cumulative schemes from Appendix 4-5 have been scoped out of this assessment due to the distance between them and the Site, the differing landscape contexts, and the lack of intervisibility:

- Scheme 24: A428 Black Cat to Caxton Gibbet; and
- Scheme 26: East-West Rail.

17.4.111 An initial screening exercise has been undertaken to identify any relevant receptors within the following distances:

- Dust:
    - Human receptors – within 250m of the boundary of both the Scheme and a cumulative scheme; and
    - Ecological receptors – within 50m of the boundary of both the Scheme and a cumulative scheme.
- On-road vehicle emissions: human and ecological receptors - within 200m of roads potentially affects by both the Scheme and cumulative schemes; and
- NRMM emissions: human and ecological receptors - within 200m of the boundary of both the Scheme and a cumulative scheme.

17.4.112 For dust and NRMM further assessment has then been undertaken considering the scale of the operations and the locations and orientation to receptors. For vehicle emissions further assessment has then been undertaken considering the future background local air quality near receptors and the combined predicted movements on the affected road network.

17.4.113 Table 17.10 below identifies where a cumulative effect would likely arise. A summary of identified cumulative effects and an overall conclusion follows Table 17.10 below.

Table 17.10: Inter-Project Cumulative Effects – Air Quality

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Construction Phase						
Construction Dust						
Dust Soiling	Low (area sensitivity)	**Negligible** (Not Significant)	23: Cobholden Solar Farm	1-10 residential properties within 250m of both the Scheme and Scheme 23: Cobholden Solar Farm; however these are located at the southern edge of the Site, to the south of the East Park Substation, where earthworks and construction works are limited.	No additional mitigation required.	**Negligible** (Not Significant)
Human Health Receptors	Low (area sensitivity)	**Negligible** (Not Significant)	23: Cobholden Solar Farm	1-10 residential properties within 250m of both the Scheme and Scheme 23: Cobholden Solar Farm; however these are located at the southern edge of the Site, to the south of the East Park Substation, where earthworks and construction works are limited.	No additional mitigation required.	**Negligible** (Not Significant)
On-Road Vehicle Emissions						

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Human Receptors	High	**Negligible** (Not Significant)	4: High Wood Solar	Vehicular access to Scheme 4: High Wood Solar during the construction phase to be provided via the A1 / B645; potential cumulative impact of vehicular emissions on receptors near to the A1 slip roads, Great North Road and short stretch of B645 if construction phases coincide; construction phase for High Wood Solar less than 12 months with daily 2-way vehicle movements of 21-34; combined Scheme and High Wood Solar movements below screening thresholds.	No additional mitigation required.	**Negligible** (Not Significant)
Human Receptors	High	**Negligible** (Not Significant)	24: A428 Black Cat to Caxton Gibbet	Vehicle flows expected to decrease on the A1 and B645 during the construction works for Scheme 24: A428 Black Cat to Caxton Gibbet; hence there would not be any adverse cumulative impacts if the construction phases of the Scheme and the A428 coincide.	No additional mitigation required.	**Negligible** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Human Receptors	High	**Negligible** (Not Significant)	24: A428 Black Cat to Caxton Gibbet	Vehicle flows expected to increase on the A1 and B645 on completion of Scheme 24: A428 Black Cat to Caxton Gibbet which is projected for end of 2027; however combined scheme movements below screening thresholds.	No additional mitigation required.	**Negligible** (Not Significant)
NRMM Emissions						
Human Health Receptors	Low (area sensitivity)	**Negligible** (Not Significant)	23: Cobholden Solar Farm	1-10 residential properties within 250m of both the Scheme and Scheme 23: Cobholden Solar Farm; however these are located at the southern edge of the Site, to the south of the East Park Substation, where earthworks and construction works are limited.	No additional mitigation required.	**Negligible** (Not Significant)
Ecological Receptors	Low (area sensitivity)	**Negligible** (Not Significant)	4: High Wood	Parts of Huntingdon Wood CWS and High Wood CWS each lie within 200m of both the Scheme and Scheme 4; there could be cumulative impacts at the areas if construction within these parts of the schemes	No additional mitigation required.	**Negligible** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
				coincide and NRMM is operating close to both the scheme boundaries; this is considered to be a low likelihood as construction phase for High Wood Solar is less than 12 months; and any NRMM use near to boundaries would be limited duration.		
Operational Phase						
n/a – Scoped out of AQ assessment						
Decommissioning Phase						
Construction Dust						
Dust Soiling	Low (area sensitivity)	**Negligible** (Not Significant)	23: Cobholden Solar Farm	1-10 residential properties within 250m of both the Scheme and Scheme 23: Cobholden Solar Farm; however these are located at the southern edge of the Site, to the south of the East Park Substation, where any decommissioning works would be limited.	No additional mitigation required.	**Negligible** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Human Health Receptors	Low (area sensitivity)	**Negligible** (Not Significant)	23: Cobholden Solar Farm	1-10 residential properties within 250m of both the Scheme and Scheme 23: Cobholden Solar Farm; however these are located at the southern edge of the Site, to the south of the East Park Substation, where earthworks and construction works are limited.	No additional mitigation required.	**Negligible** (Not Significant)
On-Road Vehicle Emissions						
Human Receptors	High	**Negligible** (Not Significant)	4: High Wood	Vehicular access to High Wood Solar during the construction phase to be provided via the A1 / B645; potential cumulative impact of vehicular emissions on receptors near to the A1 slip roads, Great North Road and short stretch of B645 if construction phases coincide; construction phase for High Wood Solar less than 24 months with daily 2-way vehicle movements of 21-34; combined Scheme and High Wood Solar	No additional mitigation required.	**Negligible** (Not Significant)

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
				movements below screening thresholds.		
NRMM						
Human Health Receptors	Low (area sensitivity)	**Negligible** (Not Significant)	23: Cobholden Solar Farm	1-10 residential properties within 250m of both the Scheme and Scheme 23: Cobholden Solar Farm; however these are located at the southern edge of the Site, to the south of the East Park Substation, where earthworks and construction works are limited	No additional mitigation required.	**Negligible** (Not Significant)

Summary of Cumulative Effects

17.4.114 There would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

Ground Conditions

17.4.115 The cumulative assessment has considered the potential for cumulative effects as a result of the Scheme in combination with other developments.

17.4.116 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 28: Cobholden Farm BESS.

17.4.117 The following cumulative schemes from **Appendix 4-5** have been scoped out of this assessment due to the distance between them and the Site:

- Scheme 24: A428 Black Cat to Caxton Gibbet; and
- Scheme 26: East-West Rail.

17.4.118 The assumptions section below describes the approach to how the cumulative impacts associated with each of the above cumulative schemes has been accounted for within this assessment.

17.4.119 Table 17.11 below identifies where a cumulative effect would likely arise as a result of the Scheme being constructed, operational and decommissioned at the same time as the other development.

17.4.120 A summary of identified cumulative effects and an overall conclusion follows Table 17.11.

Scheme 4: High Wood Solar Farm

17.4.121 The decision notice (22/01998/MAF) states that an approved CEMP will be required prior to the construction of the development. This will reduce impacts from the construction phase. Construction of the development may occur during the same time as construction of the Scheme but it is presumed construction will be isolated from the Scheme.

17.4.122 During the operational and decommissioning phases, there are unlikely to be any significant effects to ground conditions.

17.4.123 Overall, no significant effects have been identified with respect to ground conditions and it is considered there is unlikely to be significant cumulative effects.

Scheme 23: Cobholden Solar Farm

17.4.124 The decision notice (24/00858/MAF) states that an approved CEMP will be required prior to the construction of the development. This will reduce impacts from the construction phase. Construction of the development may occur during the same time as construction of the scheme but it is presumed construction will be isolated from the Scheme.

17.4.125 During the operational and decommissioning phases, there are unlikely to be any significant effects to ground conditions.

17.4.126 Overall, no significant effects have been identified with respect to ground conditions and it is considered there is unlikely to be significant cumulative effects.

Scheme 28: Cobholden Farm BESS

17.4.127 The decision notice (22/01828/MAF) states that an approved CEMP will be required prior to the construction of the development. This will reduce impacts from the construction phase. Construction of this scheme is likely to be completed prior to the construction of the Scheme. However, if the construction phases do overlap, it is presumed construction will be isolated from the Scheme.

17.4.128 During the operational and decommissioning phases, there are unlikely to be any significant effects to ground conditions.

17.4.129 Overall, no significant effects have been identified with respect to ground conditions and it is considered there is unlikely to be significant cumulative effects.

Assumptions

17.4.130 The assessment below assumes that the proposed mitigation measures will be incorporated and implemented during the construction phase (e.g. dust suppression, suitable drainage, and standard occupational hygiene measures). This will protect the construction workers, the development, end users, and local environment from risks associated with land contamination.

Table 17.11: Inter-Project Cumulative Effects – Ground Conditions

Receptor	Receptor Sensitivity	Residual Effect	Cumulative Schemes that could impact Receptor	Description of Cumulative Impact	Additional Mitigation Requirements	Residual Cumulative Effect
Construction Phase						
Ground Workers during the preparatory and construction phases	Low to Medium	**Minor** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor** (Not Significant)
Existing Site Users of Adjacent Land	Low to High	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)
Groundwater (superficial)	Low to Medium	**Minor** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm	No cumulative impact provided the embedded mitigation measures as described in Section 12.7 of **ES Vol 1 Chapter 12**	No additional mitigation required.	**Minor** (Not Significant)

			24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	**[EN010141/DR/6.1]** are employed.		
Groundwater (bedrock)	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Negligible** (Not Significant)
Surface waters	Low to Medium	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)
Property/ building/ services	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Negligible** (Not Significant)

			26: East-West Rail 28: Cobholden Farm BESS			
Ecology / Ecosystems	Low to Medium	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)
Operational Phase						
Future Site Users	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Negligible** (Not Significant)
Existing Site Users of Adjacent Land	Low to High	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)

			28: Cobholden Farm BESS			
Property/ building/ services	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Negligible** (Not Significant)
Ecology / Ecosystems	Medium	**Minor** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor** (Not Significant)
Decommissioning Phase						
Workers during the decommissioning works	Low to Medium	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)

			28: Cobholden Farm BESS			
Existing Site Users of Adjacent Land	Low to High	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)
Groundwater (superficial)	Low to Medium	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)
Groundwater (bedrock)	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Negligible** (Not Significant)

Surface waters	Low to Medium	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)
Property/ building/ services	Low	**Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Negligible** (Not Significant)
Ecology / Ecosystems	Medium	**Minor to Negligible** (Not Significant)	4: High Wood Solar Farm 23: Cobholden Solar Farm 24: A428 Black Cat to Caxton Gibbet 26: East-West Rail 28: Cobholden Farm BESS	No cumulative impact provided the embedded mitigation measures as described in in Section 12.7 of **ES Vol 1 Chapter 12 [EN010141/DR/6.1]** are employed.	No additional mitigation required.	**Minor to Negligible** (Not Significant)

Summary of Cumulative Effects

17.4.131 There would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

Land and Soils

17.4.132 This section considers whether the Scheme's residual effects on agricultural land, soil resources and mineral safeguarding would combine with those from other committed developments to give rise to significant inter-project cumulative effects. The assessment follows the methodology and significance criteria set out in **ES Chapter 13: Land and Soils [EN010141/DR/6.1]**.

17.4.133 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 28: Cobholden Farm BESS.

17.4.134 The following cumulative schemes from **Appendix 4-5** have been scoped out of this assessment due to the distance between them and the Site:

- Scheme 24: A428 Black Cat to Caxton Gibbet; and
- Scheme 26: East-West Rail.

17.4.135 The assumptions section below describes the approach to how the cumulative impacts associated with each of the above cumulative schemes has been accounted for within this assessment.

Assumptions

17.4.136 The following assumptions on agricultural land classification have been extracted from the planning applications for the relevant cumulative schemes:

- Scheme 4: High Wood Solar Farm – approx. 7 ha Grade 2, 19 ha Grade 3a, 72 ha Grade 3b.
- Scheme 23: Cobholden Solar Farm – approx. 39.4 ha Grade 3a, 68.5 ha Grade 3b, 2.4 ha non-agricultural.
- Scheme 28: Cobholden Farm BESS – approx. 5 ha Grade 3b.

17.4.137 Solar developments typically avoid permanent sealing of most agricultural land; effects on BMV land are predominantly temporary and reversible with restoration secured at decommissioning.

17.4.138 The cumulative schemes are assumed to implement standard soil protection and restoration measures via conditions on their planning consents.

Construction

17.4.139 The Scheme will temporarily remove agricultural land from arable production across Sites A to D while works proceed, with soils protected and restored under the **outline Soil Management Plan [EN010141/DR/7.9]**. Permanent effects are confined to impacts at access tracks, transformers, the BESS and on-site substation area. Other solar/BESS schemes would similarly manage soils and are on separate holdings, so there is no receptor overlap that would intensify the Scheme's construction phase effects. In cumulative terms, the additional change is a temporary increase in the area of BMV land managed as non-arable in the wider area; this does not increase permanent loss at the Site nor alter the Scheme's effects.

Operation

17.4.140 As set out in **ES Vol 1 Chapter 13: Land and Soils [EN010141/DR/6.1]**, within the two host authority areas there is approximately 58,325 hectares of Grade 2 and 52,354 hectares of Grade 3 (undifferentiated) land. The Site accounts for approximately 0.35% of the Councils' Grade 2 land and approximately 1.02% of Grade 3 land; while a large proportion of the Site is BMV, the permanent BMV land take within the Scheme is small (c. 5.86 ha) and the wider agricultural land is reversible at decommissioning. On this basis, even when considered alongside the cumulative schemes, the additional cumulative pressure on BMV availability within Bedford Borough/Huntingdonshire is limited and not significant in EIA terms.

17.4.141 Across the Scheme, there would be a moderate beneficial effect for soil resources through long-term grassland management which would be reinforced in-combination with cumulative schemes pursuing similar management.

Decommissioning

17.4.142 With removal of infrastructure in accordance with the **outline Soil Management Plan [EN010141/DR/7.9]** and **outline Decommissioning Environmental Management Plan [EN010141/DR/7.6]**, soils are to be restored and in a condition where arable use can be resumed. The cumulative schemes are also time-limited and would decommission in a similar way.

Summary of Cumulative Effects

17.4.143 There would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

Socio Economics, Land Use and Tourism

17.4.144 The cumulative assessment has considered the potential for cumulative effects as a result of the Scheme in combination with other developments.

17.4.145 The assessment follows the same study areas, significance criteria and mitigation commitments set out **ES Vol 1 Chapter 14: Socio-Economics, Land Use, and Tourism [EN010141/DR/6.1]** so that like-for-like comparisons can be drawn.

17.4.146 The cumulative schemes from **ES Vol 2 Appendix 4-5: Short List of Other Development [EN010141/DR/6.2]** that have been assessed are:

- Scheme 4: High Wood Solar Farm;
- Scheme 23: Cobholden Solar Farm;
- Scheme 24: A428 Black Cat to Caxton Gibbet;
- Scheme 26: East-West Rail; and
- Scheme 28: Cobholden Farm BESS.

Assumptions

17.4.147 This assessment is qualitative and assumes each scheme will proceed broadly in line with its submitted or consented programme. No additional modelling or consultation with third-parties has been undertaken. Baseline data and mitigation assumptions are consistent with **ES Vol 1 Chapter 14: Socio-Economics, Land Use, and Tourism [EN010141/DR/6.1]** and reflect the best available public information at the time of writing.

Predicted Cumulative Effects during Construction

Economic

There may be minor beneficial effects due to increased activity across the regional construction sector. However, no significant competition or

displacement is expected, and cumulative demands are unlikely to materially affect the labour market.

PRoW

Temporary construction works may affect PRoW through short-term diversions, visual disturbance, or limited access disruption. However, all schemes are expected to implement standard management measures, and the majority of routes will remain intact or have suitable alternatives. The cumulative impact is therefore negligible and not significant.

Private and Community Assets

There is no evidence available of direct land-take or displacement affecting community or private assets. Any cumulative effects are expected to be minor, localised, and addressed through standard mitigation such as construction management plans.

Land Use

17.4.148 During the construction phase, land allocated for development may experience temporary restrictions due to construction activities associated with the Scheme and the identified cumulative schemes. These impacts may include reduced accessibility and temporary loss of usable land. However, given the short-term nature of construction works and phasing of developments, the likelihood of extensive overlap affecting development land is low. Overall, the cumulative effects on development land are assessed to be minor and temporary, with no long-term loss of development potential. These effects are therefore considered negligible and not significant.

Residual Cumulative Effects during Construction

17.4.149 With the embedded mitigation measures for the Scheme and mitigation measures for other developments, residual cumulative effects during construction remain as minor beneficial to negligible and not significant.

Predicted Cumulative Effects during Operation

Economic

17.4.150 Operational phase employment across the cumulative schemes is expected to be relatively limited, given the low staffing requirements typically associated with solar energy and battery storage facilities, and operation of road and rail infrastructure. However, the combined schemes will generate sustained demand for periodic maintenance, land management, and system monitoring, which may support a small number of technical and contractor roles within the local area. Collectively, this contributes to a minor uplift in employment opportunities and associated economic value. In terms of Gross Value Added (GVA), modest regional gains are expected through ongoing operational spending and procurement. While individually limited, these benefits could be more noticeable when aggregated across multiple operational sites. Once operational, each scheme is expected to generate business rates payable to the relevant local authority. When considered cumulatively, this could provide a modest, long-term, boost to local public finances. While precise figures vary by site and valuation method, the overall effect is positive and sustained over the operational period. Cumulative fiscal effects may be considered minor beneficial and not significant at a regional level. On balance, cumulative socio-economic effects during the operational phase are assessed to be minor beneficial and not significant.

PRoW

17.4.151 During operation, access can be expected to be largely preserved and no long-term closures are expected. While visual changes may alter the rural character in some areas, the effect on user experience is low and does not prevent access. The cumulative effects on PRoW are negligible and not significant.

Private and Community Assets

17.4.152 Operational activity across schemes is low and unlikely to affect homes, community facilities, or accommodation providers. Minimal traffic, noise, and staffing needs reduce potential impacts. Any visual changes are limited and long-term effects on local amenity are negligible. Cumulative impacts on private and community assets, including local accommodation, are considered negligible and not significant.

Land Use

17.4.153 Land occupied by operational infrastructure may reduce short-term development potential. However, these areas are typically outside key growth zones or allocated development land and are compatible with low-impact land use (e.g. grazing or habitat) in relation to solar farms and using existing routes in relation to road and rail. Cumulative operational impacts on development land are negligible and not significant.

Residual Cumulative Effects during Operation

17.4.154 Residual effects during operation are expected to remain negligible to minor beneficial and not significant. No additional mitigation is proposed beyond that already embedded in the Scheme and for other schemes.

Predicted Cumulative Effects during Decommissioning

17.4.155 Decommissioning effects will relate to solar schemes. It is expected that road and rail projects will continue to operate on a long-term basis.

Economic

17.4.156 Decommissioning is expected to support temporary employment and modest economic output through dismantling and site clearance in relation to solar schemes. While operational roles will cease, a return to agricultural or new land uses may follow. Following decommissioning, business rate contributions from all schemes will cease. This may result in a minor reduction in revenue for local authorities. However, land may be repurposed or returned

to prior use, potentially restoring alternative revenue streams over time. Across all schemes, the cumulative socio-economic impact is minor beneficial and not significant.

PRoW

Short-term diversions or access restrictions may be needed during works to solar schemes, but these are localised and manageable. Routes are expected to be reinstated following completion, with no long-term closures. The cumulative effects are negligible and not significant.

Private and Community Assets

17.4.157 Temporary disturbances to local amenity may occur due to site activity or traffic to solar schemes, but these are brief and reversible. Decommissioning presents opportunities to improve local settings and restore views, especially where infrastructure is removed. The cumulative effects are negligible and not significant.

Land Use

17.4.158 Decommissioning of infrastructure across solar schemes allows for the release of land, potentially supporting future development or environmental enhancement. Temporary constraints during removal are low in impact and duration. Overall, the cumulative effects on development land are minor beneficial to negligible and not significant.

Residual Cumulative Effects During Decommissioning

17.4.159 Residual effects for solar schemes are expected to remain minor beneficial to minor adverse and not significant, based on the application of the Scheme's management plans and assumed good practice from other developers. However, this is subject to confirmation once detailed decommissioning strategies for other schemes become available.

Summary of Cumulative Effects

17.4.160 The following summary outlines the predicted cumulative effects of the Scheme and identified cumulative schemes across three key project phases: construction, operation, and decommissioning. It considers potential impacts on socio-economic factors (employment and Gross Value Added, and fiscal contributions), PRoW, private and community assets, and land use, providing an overview of the significance and nature of these effects at each stage.

Construction

17.4.161 The cumulative construction activity from the Scheme and the identified nearby cumulative schemes is likely to result in a short-term regional uplift in construction employment and supply chain activity. Although competition for local labour or accommodation may arise, these effects are considered complementary and temporary, with no significant displacement of existing workers, services, or visitor accommodation. Overall effects are considered **minor beneficial** or **negligible** (not significant) depending on receptor sensitivity.

Operation

17.4.162 The cumulative operation of the Scheme and nearby schemes is expected to result in a modest, sustained, contribution to local employment through maintenance, land management, and monitoring roles, but the long-term operational demands of the identified schemes are minimal and do not compete for significant workforce, land, or community resources. Land use remains compatible with low-impact activities, and there is no anticipated constraint on tourism or visitor access. Overall effects are considered **minor beneficial** or **negligible** (not significant), with outcomes influenced by site-specific conditions.

Decommissioning

17.4.163 The cumulative decommissioning of the Scheme and identified solar schemes is likely to support short-term employment and economic activity

related to dismantling and land restoration. These activities are expected to be transitional and not cause displacement of local labour or services. The release of land may enable future development or alternative uses, supporting long-term land use flexibility without impacting tourism. Overall effects are considered **minor beneficial** or **negligible** (not significant) depending on receptor sensitivity, balanced by positive reinstatement.

Summary of Cumulative Effects

17.4.164 The cumulative socio-economic, land use, and tourism effects of the Scheme in combination with other identified schemes are assessed as negligible to minor across all phases. Temporary benefits during construction (e.g. employment and GVA) and continued fiscal uplift during operation are complementary in nature, rather than competitive. No displacement, disruption to tourism, or lasting harm to private or community receptors is identified. Long-term reversibility and land restoration further mitigate residual concerns.

17.4.165 As such, no additional mitigation is required beyond standard embedded and inter-project coordination practices already proposed.

Climate Change

17.4.166 This section presents the findings of the cumulative assessment for climate change.

17.4.167 **ES Vol 1 Chapter 15: Climate Change [EN010141/DR/6.1]** presents the findings of the assessment of the resilience of the Scheme to the effects of climate change (**ES Vol 2 Appendix 15-3: Climate Resilience Assessment [EN010141/DR/6.2]**), and the likely significant effects of the Scheme on climate change, specifically the impact of greenhouse gas (GHG) emissions (**ES Vol 2 Appendix 15-1: Greenhouse Gas Emissions Assessment [EN010141/DR/6.2]**).

17.4.168 The Scheme's resilience to climate change will not be impacted by other projects, on the basis that climate change adaptation effects and impacts are specific to the Scheme and will not result in impacts to neighbouring development. This position is supported by the Institute of Sustainability and Environmental Professionals (ISEP) (formally known as Institute of Environmental Management and Assessment (IEMA)) Climate Change Resilience Guidance. Therefore, there are no cumulative impacts with respect to climate change resilience.

17.4.169 As the Scheme's impact of GHG emissions is on a global scale rather than affecting one localised area, the approach to cumulative assessment differs from that for many other environmental topics. Therefore, rather than assessing impacts in combination with other local developments, the Scheme's contribution to carbon budgets has been determined within **ES Vol 1 Chapter 15: Climate Change [EN010141/DR/6.1**]. This position is supported by the ISEP GHG Guidance and case law as an appropriate approach. This demonstrates that the Scheme will make a very minor contribution to the local and UK's carbon budgets and would provide low carbon electricity which would displace more carbon intensive forms of electricity generation.

Summary of Cumulative Effects

17.4.170 The assessment of cumulative inter-project effects for each topic has concluded that there would be no significant adverse cumulative effects as a result of the Scheme in combination with any cumulative scheme. The residual effects of the Scheme would not be changed as a result of any of the cumulative schemes.

17.5 Cumulative In Combination Effects Assessment

17.5.1 As set out in previous sections, the combination of two or more environmental effects resulting from the Scheme may collectively cause a greater (or lesser) effect than each effect in isolation. The potential for effect interactions is presented within this section.

17.5.2 Having reviewed the technical assessments presented in Chapter 5 to 16, the following receptor groups have been identified as having the potential to experience more than one residual environmental effect:

- Residential properties, business premises, community facilities
- Users of PRoW;
- Construction operatives or maintenance workers;
- Ecological receptors; and
- Heritage Assets.

17.5.3 **ES Vol 1 Chapter 6: Cultural Heritage and Archaeology [EN010141/DR/6.1]** considers the potential for visual and landscape effects, surface water run-off and noise to affect historic assets.

17.5.4 **ES Vol 1 Chapter 7: Ecology and Nature Conservation [EN010141/DR/6.1]** takes into consideration the potential for air quality, dust, noise and water quality to affect ecological receptors.

17.5.5 **ES Vol 1 Chapter 15: Climate Change [EN010141/DR/6.1]** includes an In-Combination Climate Change Impact (ICCI) Assessment at **ES Vol 2 Appendix 15-4 [EN010141/DR/6.1]**. This considers the extent to which climate change exacerbates or ameliorates the potential effects identified within each of the technical assessments.

17.5.6 **ES Vol 1 Chapter 16: Other Environmental Topics [EN010141/DR/6.1]** includes an assessment of impacts on human health at Section 16.2. This considers the in-combination impacts of other topics such as traffic and

transport, air quality, and noise to appraise potential significant effects on human health.

17.5.7 As such, the above chapters present an inherent in-combination assessment of these factors.

17.5.8 Table 17.12 summarises the potential effect interactions during the construction and decommissioning phases on the remaining receptor groups. The construction and decommissioning phases have been considered together, as similar effects would occur in both phases. However, it is likely that the effects during the decommissioning phase would be of a lower magnitude than those in the construction phase, thereby providing a conservative assessment of that phase.

17.5.9 Table 17.13 summarises the potential effect interactions during the operational phase. This table considers effects related to general maintenance and operational activities. Effects that could arise during a replacement campaign would be similar in nature to those that arise during construction, although effects during replacement campaigns would be of a lower magnitude, and certain activities, such as earthworks, would not be required. On this basis, the findings presented in Table 17.13 are considered to provide a representative and conservative assessment of potential in-combination effects that could arise during a replacement campaign.

Table 17.12: Construction and Decommissioning Phase Intra Project Effects

Receptor	Summary of effects from topics with the potential to interact	Potential Effect Interaction	Mitigation Measures	Potential for Significant In-Combination Effect
Residential properties, business premises, community facilities	Construction and decommissioning activities will generate noise/vibration (from machinery and HGV traffic), dust/airborne emissions, increased construction traffic on local roads, and temporary visual intrusion from plant and works areas. These receptors could experience slight community severance or access issues if construction traffic disrupts local road networks (e.g. minor delays or pedestrian/cyclist intimidation).	The combination of effects related to noise and dust nuisance alongside heavy vehicle movement – can exacerbate overall disruption to residents' and businesses' amenity beyond each impact in isolation. Multiple modest effects occurring together may cumulatively lead to a greater perceived loss of comfort and enjoyment for local people during the works. An assessment on local residents and human health is undertaken within Section 16.2 of **ES Vol 1 Chapter 16: Other Environmental Topics [EN010141/DR/6.1]**. **ES Vol 1 Chapter 9: Traffic and Transport [EN010141/DR/6.1]** identifies only negligible to minor effects during the construction phase. **ES Vol 1 Chapter 10: Noise and Vibration [EN010141/DR/6.1]** only identifies negligible to slight levels of impact on residential	The **outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3]** and **outline Decommissioning Environmental Management Plan (oDEMP) [EN010141/DR/7.6]** define best-practice controls (dust suppression, noise barriers, restricted working hours, etc.) to minimise nuisance at source. The oCTMP will be followed to route HGVs away from sensitive areas to prevent noise, congestion and disturbance. Ongoing community liaison (e.g. the Community Liaison Group) will keep local occupants informed of works timing and provide a channel for concerns.	There is limited potential for in-combination effects to occur that would elevate the level of environmental effects experienced by this receptor group to a likely significant effect. As such, it is concluded that there would be no likely significant in-combination effects on this receptor group.

Receptor	Summary of effects from topics with the potential to interact	Potential Effect Interaction	Mitigation Measures	Potential for Significant In-Combination Effect
		receptors and **ES Vol 1 Chapter 11: Air Quality [EN010141/DR/6.1]** only identified a very limited number of receptors within a distance where construction dust effects would occur. The assessments identified mitigation measures that have been carried forward to the **outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3], outline Construction Traffic Management Plan (oCTMP) [EN010141/DR/7.4]**, and **outline Decommissioning Environmental Management Plan (oDEMP) [EN010141/DR/7.6]**.		
Users of Public Rights of Way (PRoW)	This group will be exposed to temporary PRoW closures or diversions. They will also experience elevated noise levels and construction activity along PRoW, as well as visual impacts where views of construction works or equipment are in line of sight. Construction dust could impact the enjoyment of recreational	In-combination impacts could diminish recreational experience – for example, a walker or cyclist might experience visual impacts of construction and loud equipment noise, compounded by PRoW management / diversion. Such combined impacts heighten the sense of disturbance beyond each issue	The **outline Public Rights of Way Management Plan [EN010141/DR/7.8]** will ensure that any footpath or restricted byway closures are well-signposted, of minimal duration, and with safe diversions provided. Outside of construction working hours,	The in-combination effects would only occur over a brief segment of the overall route a user experiences and effects are likely to be transient in nature as users move along linear routes through the Site. The Scheme would not prevent recreational activity within the Site. As such, it is concluded that there would be no likely

Receptor	Summary of effects from topics with the potential to interact	Potential Effect Interaction	Mitigation Measures	Potential for Significant In-Combination Effect
	users within or close to the construction / decommissioning activities. Overall, the key effects which could impact this receptor group are reduced recreational access, noise, construction dust, and visual amenity.	on its own, potentially leading to greater annoyance or inconvenience for users. Effects from recreational users remote to the Site, are likely to be only affected by landscape and visual effects and no in-combination effects are considered likely to occur.	routes will be re-opened for public use to reduce disruption. The **oCEMP [EN010141/DR/7.3]** includes measures to control noise and dust which would reduce the potential effects on recreational user amenity as far as practicable. By maintaining partial access, communicating closures in advance, and limiting intrusive works, the in-combination effects would be limited.	significant in-combination effects on this receptor group.
Construction operatives or maintenance workers	Site workers would be subject to combined occupational effects during construction and decommissioning. These include exposure to weather extremes (heat, cold, storms) noise levels and vibration from heavy machinery, and potential contact with ground contaminants.	Multiple environmental and occupational risk factors can interact to increase risks for workers for construction operatives.	As set out in the **oCEMP [EN010141/DR/7.3]** and **oDEMP [EN010141/DR/7.6]**, comprehensive health and safety assessments are an essential part of the construction process, with a range of regulations identifying requirements and responsibilities to maintain the safety of staff. The assessment conducted also identifies potential specific health and safety requirements, such as the use of PPE when working in locations where operatives	The adoption of legislative health and safety requirements would avoid likely significant in-combination effects on this receptor group.

Receptor	Summary of effects from topics with the potential to interact	Potential Effect Interaction	Mitigation Measures	Potential for Significant In-Combination Effect
			could be exposed to contaminated soils, ground water, or ground gas.	
Ecological receptors	As set out at Paragraph 17.5.4, the in-combination effects on ecological receptors are considered as an inherent part of the assessment in **ES Vol 1 Chapter 7: Ecology and Nature Conservation [EN010141/DR/6.1]** and are therefore not assessed further here. There is also further consideration in relation to European sites within the **Information to Inform Habitats Regulations Assessment [EN010141/DR/5.7].**			
Heritage Assets	As set out at Paragraph 17.5.3, the in-combination effects on heritage assets are considered as an inherent part of the assessment in **ES Vol 1 Chapter 6: Cultural Heritage and Archaeology [EN010141/DR/6.1]** and are therefore not assessed further here.			

Table 17.13: Operational Phase Intra Project Effects

Receptor	Summary of effects from topics with the potential to interact	Potential Effect Interaction	Mitigation Measures	Potential for Significant In-Combination Effect
Residential properties, business premises, community facilities	During operation, the solar arrays and associated infrastructure introduce a change to the visual character of the Site and introduce other impacts such as noise, traffic movements and glint and glare.	The combination of longer-term visual change, along with other operational impacts such as noise, traffic and intermittent equipment noise or vehicle movements can heighten residents' perception of amenity loss compared to either effect alone.	The **outline Landscape and Ecological Management Plan (oLEMP) [EN010141/DR/7.7]** sets out the proposed planting that will be introduced to mitigate for visual effects. The **outline Operational Environmental Management Plan (oOEMP) [EN010141/DR/7.5]** defines best-practice controls (dust suppression, noise barriers, restricted working hours, etc.) to minimise nuisance at source.	It is concluded that there would be no likely significant in-combination effects on this receptor group.
Users of Public Rights of Way (PRoW)	The Scheme would alter the nature of the landscape within the Site through which existing Public Rights of Way pass. Whilst minimal, the inverters / transformers, and the BESS have the potential to give rise to noise impacts. There would be extensive landscaping provided as part of the Scheme that would enhance the landscape features such as hedgerows	Recreational users within the Site may experience in-combination effects from landscape/visual change and noise. However, the majority of inverters/transformers would be located in positions away from PRoW and any noise impacts would be minimal and transitory. Effects from recreational users outside the Site are likely to be only affected by landscape and	10m buffers have been applied to PRoW and where appropriate, these have been landscaped to provide screening between the paths and the solar PV areas, as set out in the **oLEMP [EN010141/DR/7.7]**.	It is concluded that there would be no likely significant in-combination effects on this receptor group.

	and field margins. The Scheme will improve the condition of existing PRoW and introduce additional permissive paths.	visual effects and no in-combination effects are considered likely to occur.		
Site operatives or maintenance workers	Operational-phase personnel are limited to intermittent maintenance teams who would be involved in the repair and maintenance of the various components of the development. There would be a variety of operational risks, such as the use of industrial equipment for vegetation maintenance, working with electricity, and working outdoors and thereby subject to seasonal weather extremes.	Multiple environmental and occupational risk factors can interact to increase risks for workers for operational maintenance operatives.	As set out in the **oOEMP [EN010141/DR/7.5]** the requirement for comprehensive health and safety assessments is an essential part of any operational business activity Appropriately licensed operatives will be appointed to undertake work, a safe system of working will be established prior to the commencement of any maintenance or replacement works, and PPE / Respiratory Protective Equipment (RPE) suitable for the tasks would be worn by operatives.	The adoption of legislative health and safety requirements would avoid likely significant in-combination effects on this receptor group.
Ecological receptors	As set out at Paragraph 17.5.4, the in-combination effects on ecological receptors are considered as an inherent part of the assessment in **ES Vol 1 Chapter 7: Ecology and Nature Conservation [EN010141/DR/6.1]** and are therefore not assessed further here. There is also further consideration in relation to European sites within the **Information to Inform Habitats Regulations Assessment [EN010141/DR/5.7].**			
Heritage Assets	As set out at Paragraph 17.5.3, the in-combination effects on heritage assets are considered as an inherent part of the assessment in **ES Vol 1 Chapter 6: Cultural Heritage and Archaeology [EN010141/DR/6.1]** and are therefore not assessed further here.			

17.6 References

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