Chapter 8: Summary and Conclusions

INTRODUCTION

8.1 This chapter of the Environmental Statement (ES) presents a summary of the likely significant environmental effects arising because of the Proposed Development, during the enabling and construction works, and once the Proposed Development is completed and operational, and following the decommissioning of the Proposed Development. It also includes an overview of the key conclusions that can be drawn from the assessment.

8.2 The purpose of this ES chapter is not to re-present all the residual effects associated with each of the technical topic assessments. All residual effects, including their associated nature and scale, are presented and summarised as relevant within each technical chapter of the ES, and reference should be made to **ES Volume 1, Chapters 3** to **5**, and **ES Volume 2**. Instead, this ES chapter focuses on summarising the *likely significant effects* that are expected to arise because of the Proposed Development, in line with the EIA Regulations.

8.3 Each of the technical assessments that comprise this ES have considered and assessed where relevant, as discussed in **ES Volume 1, Chapter 1: Introduction and EIA Methodology**:

- the enabling and construction works associated with the Proposed Development;
- the completed and operational Proposed Development;
- following the decommissioning of the Proposed Development; and
- a cumulative assessment - adopting a two-tiered approach to consider the potential for cumulative effects to arise as a result of the Proposed Development in-combination with defined 'Tier 1' cumulative schemes (i.e. schemes which meet the defined criteria with regards to scale and distance from the site and have full planning consent, a resolution to grant consent, or have been submitted but not yet consented where considered appropriate) and 'Tier 2' cumulative schemes (i.e. strategic allocations as per the Local Plan, whereby a formal planning application (or applications) for development in relation to these strategic allocations has not yet been submitted), as discussed in **ES Volume 1, Chapter 1: Introduction and EIA Methodology**.

8.4 As discussed in **ES Volume 1, Chapter 1: Introduction and EIA Methodology**, residual effects that are identified as 'moderate' or 'major' in scale are generally considered to be 'significant', with effects that are 'negligible' or 'minor' in scale being 'not significant'. With regards to the Landscape and Visual Impact Assessment (**ES Volume 2**) a moderate scale effect may be significant or not significant depending upon professional judgement. With regards to the cultural heritage assessment (**ES Volume 1, Chapter 3: Cultural Heritage**), in some instances mitigation may reduce the scale of an effect, but the effect significance may remain the same. For example, an archaeological asset may potentially be lost as a result of construction works, therefore representing a significant adverse effect, however a programme of archaeological evaluation and mitigation to manage impacts on below ground archaeological remains and deposits through preservation in record may reduce the scale of effect to a Minor Adverse effect, although it may still be considered as 'Significant'.

8.5 The climate change assessment (see **ES Volume 1, Chapter 5: Climate Change**) does not assign a scale of effect to beneficial effects, in line with the IEMA guidance[1].

8.6 Table 8.1 of this ES chapter outlines the likely significant residual effects resulting from the enabling and construction works, the completed and operational Proposed Development and the decommissioned Proposed Development. Significant adverse effects are shaded in **orange**, significant beneficial effects are shaded in **green** and significant neutral effects are shaded in **blue**[2] for ease of identification. Following which, the likely significant cumulative effects are summarised.

SUMMARY OF THE LIKELY SIGNIFICANT EFFECTS

8.7 Significant effects have been identified as being likely because of the Proposed Development in respect of the following topic areas, and are therefore discussed further in this ES chapter:

- Enabling and Construction:
  - Land Take and Soils;
  - Landscape and Visual;
  - Archaeology; and
  - Built Heritage.
- Completed and Operational:
  - Climate Change;
  - Landscape and Visual;
  - Archaeology; and
  - Built Heritage.
- Decommissioning:
  - Built Heritage.

Table 8.1 Summary of the Likely Significant Effects

EIA Topic Area	Receptor (s)	Description of Residual Effect	Classification of Residual Effect			
			Scale and Nature (Geographic Extent)	D I	P T	St Mt Lt
Enabling and Construction						
Land Take and Soils (Agriculture)	Soil resources	The soil is unable to fulfil all of its primary functions due to loss of agricultural land	**Moderate Adverse** (Local)	D	T	Lt
	BMV agricultural land	Loss of 21.4ha of land in Grades 2 and Subgrade 3a	**Moderate Adverse** (Local)	D	T	Lt
Landscape and Visual Impact Assessment	The landscape character of the site and the area of the Wooded Estatelands extending west across Warren Farm and 450m northeast within the Nuneham Courtenay Registered Park and Garden	Effect of construction related activities on landscape character and setting	**Moderate to Major Adverse** (Local)	D	T	St
	The landscape character and setting of the western edge of the Nuneham Courtenay Registered Park and Garden					
	• View: 4: View from the Oxford Green Belt Way which runs along the west side of the railway; • View 6: The Oxford Green Belt Way as it passes west of the Site; • View 7: The Oxford Green Belt Way as it passes south of the Site after crossing the railway; • View 8: from the Oxford Green Belt Way as it skirts the Culham Science Centre, south of the Site; • View 9: from the Oxford Green Belt Way as it skirts the Culham Science Centre approaching the site of the proposed substation; • View 10: from the Oxford Green Belt Way as it skirts the Culham Science Centre;	Effect of construction related activities on views	**Moderate to Major Adverse** (Local)	D	T	St

[1] *IEMA. 2022. Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition*

[2] *As noted within **ES Volume 1, Chapter 1: Introduction and EIA Methodology**, neutral effects are relevant for the Landscape and Visual Impact Assessment.*

EIA Topic Area	Receptor (s)	Description of Residual Effect	Classification of Residual Effect			
			Scale and Nature (Geographic Extent)	D I	P T	St Mt Lt
	• View 11: from the Oxford Green Belt Way as it approaches the site of the proposed substation from the south; • View 14: from within the Registered Park and Garden looking south; • View 15: From within the Registered Park and Garden looking southwest; and • View 16: From deeper within the Registered Park and Garden.					
Archaeology	• Early Prehistoric Flintwork; and • Neolithic artefact finds and features	Effect of ground establishment works and construction activities on known and potential below ground archaeological remains and deposits	**Moderate Adverse** (Regional)	D	P	Lt
	• Later Prehistoric (Bronze Age) activity within the site; • Identified Later Prehistoric (Iron Age) activity within the site; and • Identified Roman activity within the site.		**Minor Adverse**[3] (Regional)	D	P	Lt
Built Heritage	Nuneham Courtenay Registered Park and Garden	Alteration to setting through construction works, including noise, dust, vehicle and construction plant movements and visual changes.	**Moderate Adverse** (National)	D	T	St
	Nuneham Courtenay Conservation Area			I	T	St
Completed and Operational						
Climate Change	Global atmospheric mass of the relevant GHGs and consequent warming potential	Avoided GHG emissions due to the nature of the project	Negligible – **Significant Beneficial** (National)	I	T	Lt
Landscape and Visual Impact Assessment	Trees, hedgerows and other landscape features	Changes to the landscape and net gain in tree cover	**Major Beneficial** (Local)	D	P	Lt
	On-site landscape character	Replacing the urban fringe character with one of an engineered landscape containing largely low-level electrical infrastructure (Year 1, Year 10 and Year 20).	**Moderate to Major Adverse** (Local)	D	T	Lt
	Landscape character of the site within the Nuneham Courtenay Registered Park and Garden	Effect of visibility of low-level electrical infrastructure upon the Registered Park and Garden setting (Year 1).	**Moderate to Major Adverse** (Local)	D	T	Lt
	• View 3: Thame Lane just before it crosses the railway when approaching from the west (also where it meets the Oxford Green Belt Way);	Effect of the completed Proposed Development on views (Year 1).	**Moderate to Major Adverse** (Local)	D	T	Lt
	• View 4: View from the Oxford Green Belt Way which runs along the west side of the railway; • View 7: The Oxford Green Belt Way as it passes south of the Site after crossing the railway; • View 8: from the Oxford Green Belt Way as it skirts the Culham Science Centre, south of the Site; and • View 14: from within the Registered Park and Garden looking south.					
	• View 16: From deeper within the Registered Park and Garden.	Effect of the completed Proposed Development on views (Year 1).	**Minor to Major Adverse** (Local)	D	T	Lt
	Landscape setting of the Nuneham Courtenay Registered Park and Garden	Overall effect of the completed Proposed Development on the setting and character of the Registered Park and Garden once landscaping is established	Minor Adverse[4] to **Moderate Beneficial** (Local)	D	P	Lt
Decommissioning						
Built Heritage	Nuneham Courtenay Registered Park and Garden	Alteration to setting through decommissioning works, including noise, dust, vehicle and plant movements and visual changes.	**Moderate Adverse**[5] (National)	D	T	St
	Nuneham Courtenay Conservation Area			I	T	St

Notes:
Residual Effect
- Scale = Negligible / Minor / Moderate / Major
- Nature = Beneficial or Adverse

Geo (Geographic Extent) = Local (L), Regional (R), National (N)
D = Direct / I = Indirect
P = Permanent / T = Temporary
St = Short Term / Mt = Medium Term / Lt = Long Term
N/A = not applicable / not assessed

Land Take and Soils (Agriculture)

Soil Resources

8.8 Given that a primary function of the soil resource (agricultural use) will be lost, the residual effect on soil resources during the enabling and construction period is assessed as a Moderate Adverse effect (**Significant**).

8.9 It should be noted however that given that soils will not be removed from the site, most soils will be able to continue other various primary ecosystem functions on the site, principally as a medium for producing biomass; for storage and cycling of water and carbon; and for supporting habitats, biodiversity and landscape planting.

*[3] As set out in **ES Volume 1, Chapter 3: Cultural Heritage**, professional judgement has been used to determine whether an effect is significant or not. Where mitigation such as archaeological evaluation works may reduce the scale of an effect, the effect significance may remain the same. As such, a Minor Adverse effect may still be considered as 'Significant'.*

*[4] Note, the Minor Adverse effect relates to the proposed connection tower within the Registered Park and Garden, however (as noted in para. 8.113 of **ES Volume 2**) a significant beneficial effect was established for the receptor as a result of landscaping changes upon the setting of the parkland and in allowing permissive public access.*

[5] Note, long-term effects associated with the permanent features (landscaping and the connection tower) within the Registered Park and Garden are considered to have an overall Negligible effect.

8.10 The Construction Environmental Management Plan (CEMP) will address the measures set out in the Defra Construction Code of Practice for the Sustainable Use of Soils, which includes the most appropriate re-use for the different types of soils within the site, as relevant, and the proposed methods for handling and storing soils on-site. The adoption of these measures will ensure that the soil resources on-site will be able to continue to fulfil various ecosystem services and functions.

8.11 Following the decommissioning of the Proposed Development and the return of the site to agricultural use, the soils will be able to fulfil their current primary functions in addition to the other various ecosystem services and functions maintained throughout the operation of the Proposed Development.

8.12 As there will be a temporary loss of BMV agricultural land, the residual effect on agricultural land during the enabling and construction period is assessed as Moderate Adverse effect (**Significant**).

8.13 Areas of built development that require the use of agricultural land should be directed toward the lowest quality of agricultural land available, so far as is practicable, although the avoidance of BMV land is not possible on the site as most of the agricultural land is within the BMV category.

8.14 It should be noted that whilst the site predominantly comprises Grade 2 and Subgrade 3a land which is of good quality to very good quality agricultural land, the land is currently harvested for hay and silage use, and as such is not utilising the site to its full potential from an agricultural point of view.

8.15 Following the decommissioning of the Proposed Development the site (with the exception of the connection tower) will be returned to agricultural use.

Climate Change

8.16 The operational phase of the Proposed Development would enable the storage and use of excess renewable electricity (avoiding generation curtailment) and the displacement of fossil fuel-powered peaking power generators. This would result in a positive GHG impact in the order between 431,003 tCO_2e and 1,251,986 tCO_2e savings by 2037, the end of the Sixth Carbon Budget period. This would result in a Negligible to **Significant** beneficial effect.

Cultural Heritage

Archaeology

8.17 The Proposed Development is considered to have the potential to have a Minor Adverse (**Significant**) effect on Later Prehistoric (Bronze Age) activity, Later Prehistoric (Iron Age) activity, and Roman activity buried archaeological remains, and a Moderate Adverse (**Significant**) effect upon Early Prehistoric Flintwork and Neolithic artefact finds and features during the enabling and construction phase. Completion of further evaluation trial trenching (TT) works will be undertaken. The Written Scheme of Investigation (WSI) (**ES Volume 3, Appendix: Cultural Heritage – Annex 4**) outlines the scope of the TT and sets out that further work may be undertaken if remains are identified during the evaluation TT.

8.18 Mitigation of the archaeological remains through excavation or similar strategy would ensure that any archaeological remains within the site are appropriately preserved by record prior to any adverse construction effects. Any strategy would be agreed with South Oxford District Council and their archaeological advisor in advance of development. Whilst the ability to undertake archaeological fieldwork does not remove the adverse effect upon the archaeological remains, the archaeological investigation and appropriate dissemination of acquired data would be considered a residual beneficial effect during the operation of the Proposed Development, albeit a Negligible to Minor Beneficial effect (Not Significant).

Built Heritage

8.19 There is potential for the enabling and construction, and decommissioning works to result in Moderate Adverse (**Significant**) effects at Nuneham Courtenay Registered Park and Garden and Nuneham Courtenay Conservation Area given the proximity of the Proposed Development to these receptors and associated introduction of visual changes and activity, along with additional noise and vibration, altering the ability to appreciate the importance of the heritage assets.

8.20 These significant adverse effects would be temporary and restricted to the construction phase of the Proposed Development, predominantly associated with the 8 to 10 months civils phase of the programme, and the decommissioning activities associated with the removal of the battery storage infrastructure.

8.21 During its operation, the Proposed Development will result in the expansion of the industrial area to the south, introducing new units into views looking south from the designated heritage assets. This will reduce the arable landscape visible from these assets, however, as the Proposed Development would be experienced against the backdrop of the existing Culham Science Centre industrial complex, it will not significantly alter the character of the views looking south from the designated heritage assets. Furthermore, the impact of the completed Proposed Development upon built heritage assets has been significantly reduced by embedded mitigation measures, primarily relating to proposed landscaping.

8.22 The presence of landscaping and the connection tower within the Registered Park and Garden, which will remain following the decommissioning of the Proposed Development, is considered to have an overall Negligible effect. The benefits associated with the landscaping proposals within the Registered Park and Garden, including the creation of permissive paths, would enhance the landscape within this part of the Registered Park and Garden. The connection tower will always be seen in context with the existing transmission line and within the setting of the Culham Science Centre, where the planted parkland trees and native shrubs around the tower and compound will reduce visibility of the compound following 40 years of growth.

Landscape and Visual

8.23 During the enabling and construction works, temporary significant adverse effects (Moderate to Major Adverse, **Significant**) are likely to be experienced in relation to the following views[6]:

- View 4: View from the Oxford Green Belt Way which runs along the west side of the railway;
- View 6: The Oxford Green Belt Way as it passes west of the site;
- View 7: The Oxford Green Belt Way as it passes south of the site after crossing the railway;
- View 8: from the Oxford Green Belt Way as it skirts the Culham Science Centre, south of the site;
- View 9: from the Oxford Green Belt Way as it skirts the Culham Science Centre approaching the site of the proposed substation;
- View 10: from the Oxford Green Belt Way as it skirts the Culham Science Centre;
- View 11: from the Oxford Green Belt Way as it approaches the site of the proposed substation from the south;
- View 14: from within the Registered Park and Garden looking south;
- View 15: From within the Registered Park and Garden looking southwest; and
- View 16: From deeper within the Registered Park and Garden.

8.24 Furthermore, the landscape character of the site and the area of the Wooded Estatelands extending west across Warren Farm and 450m northeast within the Nuneham Courtenay Registered Park and Garden, and the landscape character and setting of the western edge of the Nuneham Courtenay Registered Park and Garden are likely to experience Moderate to Major Adverse (**Significant**) effects.

8.25 The most significant landscape and visual effects arising from the construction process will be the earthworks and moving machinery and workers on the site. Once the earthworks have been completed, the new landform will significantly reduce the visual effects of the works required to install the electrical equipment. Most of the equipment will be manufactured off-site and can be rapidly craned into place. Once in place, the remainder of the construction period comprises wiring up and testing, which has very little visual impact. Initially the earthworks will result in a magnitude of visual impact slightly greater than the operational impacts, but once completed the remainder of the works are unlikely to have a visual impact significantly greater than the operational impact. The landscape and visual effects arising from the construction process will be temporary in nature lasting only for the time it takes to complete these works on-site.

[6] *A figure illustrating the location of the viewpoints can be found in **ES Volume 2**.*

8.26 During the operation of the Proposed Development, temporary Moderate to Major Adverse (**Significant**) effects are likely to be experienced in Year 1 (i.e., before the primary landscaping mitigation embedded into the Proposed Development design has become established) in relation to the following views:

- View 3: Thame Lane just before it crosses the railway when approaching from the west (also where it meets the Oxford Green Belt Way;
- View 4: View from the Oxford Green Belt Way which runs along the west side of the railway;
- View 7: The Oxford Green Belt Way as it passes south of the site after crossing the railway;
- View 8: from the Oxford Green Belt Way as it skirts the Culham Science Centre, south of the site; and
- View 14: from within the Registered Park and Garden looking south.

8.27 View 16 (from deeper within the Registered Park and Garden) was assessed to have a Minor to Major Adverse (**Significant**) effect in Year 1, with the significant adverse effect relating to the proposed connection tower.

8.28 The on-site landscape character (Years, 1, 10 and 20) is also likely to experience Moderate to Major Adverse (**Significant**) effects, although this relates to the character of the land where it is proposed to construct the connection tower.

8.29 It is proposed to enhance the area of the site which lies within the Registered Park and Garden, including restoring a historical tree belt along the Parish boundary. Once the tree belt has established, the overall effect of the Proposed Development on the setting of the parkland as experienced from within it and outside it will be Moderate Beneficial (**Significant**). This beneficial effect on the character, setting and visual amenity of the parkland will take several years to be effective given that it relies upon the proposed planting to become established to screen the electrical infrastructure, however once established given that it will remain following the decommissioning of the Proposed Development, the beneficial effect will be permanent.

8.30 The significant adverse effects of the Proposed Development on visual amenity predominantly relates to walkers using a short stretch of the Oxford Green Belt Way; a stretch already adversely affected by the existing electrical infrastructure and surrounding Culham Science Centre. It should be noted that the significant adverse visual impacts identified relate to Year 1 of the operation of the Proposed Development – i.e., prior to landscaping establishing. By Year 10, once landscaping matures no significant adverse visual effects are anticipated.

8.31 Permissive access to the parkland, which includes a viewpoint over the Thames Valley will be a benefit, particularly given the proximity of the STRAT9 allocation to the west and any potential future mixed-use development. The beneficial aspects of the Proposed Development, in terms of the restoration of the Registered Park and Garden, public access and Biodiversity Net Gain, are considered to be greater than the limited, temporary significant adverse landscape and visual effects.

LIKELY SIGNIFICANT CUMULATIVE EFFECTS

8.32 The EIA process has identified likely significant cumulative effects additional to the main assessment of the Proposed Development summarised in Table 8.1 above, as a result of the Proposed Development coming forward in conjunction with other surrounding cumulative schemes, during the enabling and construction phase, once the Proposed Development is complete and operational, and following the decommissioning of the Proposed Development.

8.33 The following cumulative schemes were considered in the cumulative impact assessment:

- Land in the North East Corner of, Culham Science Centre, near Clifton Hampden for the "Erection of a Fusion Demonstration Plant with ancillary office space, parking, landscaping and associated infrastructure, including plant and machinery" (P22/S1410/FUL) – Tier 1 Scheme;
- Various sites across South and Vale From Clifton Hampden to Milton Exchange Via Appleford in relation to proposed road works and associated road infrastructure (P21/S4797/CM) – Tier 1 Scheme;
- UK A E A Culham Science Centre, near Clifton Hampden with regards to the development of an Energy Storage Facility (P16/S2368/FUL) – Tier 1 Scheme;
- STRAT8 strategic allocation to deliver a net increase in employment of 7.3ha – Tier 2 Scheme; and
- STRAT9 strategic allocation is for 217ha to be developed to deliver approximately 3,500 new homes, a net increase of at least 7.3ha of employment land in combination with the adjacent Science Centre and supporting services and facilities – Tier 2 Scheme.

8.34 Further information regarding cumulative schemes considered within this ES can be found in **ES Volume 1, Chapter 1: Introduction and EIA Methodology**.

Enabling and Construction

Land Take and Soils (Agriculture)

8.35 The Proposed Development in combination with the STRAT9 Strategic Allocation was considered to result in a Moderate to Major Adverse (**Significant**) cumulative effect with regards to the loss of agricultural land.

8.36 It should be noted that several assumptions have been made to inform this cumulative assessment. Firstly, the land classification has been informed by a review of the National Soils Map[7], whereby a detailed Agricultural Land Classification (ALC) survey would be required to confirm the high-level understanding of the agricultural quality of the soils. Also, the cumulative assessment has considered a worst-case scenario where all BMV quality land is permanently lost to built development associated with the STRAT9 allocation, however in reality it is likely that only a portion of the site would be developed when accounting for open space and landscaping.

Completed Development

8.37 The following likely significant cumulative effects have been identified during the operation of the Proposed Development.

Built Heritage

8.38 The STRAT 9 Strategic Allocation proposals for the construction of 3,500 new homes to the south-west of Nuneham Courtenay Registered Park and Garden and Nuneham Courtenay Conservation Area will likely have a Moderate Adverse (**Significant**) indirect cumulative effect on the designated heritage assets. Embedded mitigation will be designed into any planning proposals, however given that the extent of this mitigation is unknown at this time, the cumulative effect of the Proposed Development in combination with this Tier 2 scheme is considered conservatively.

Decommissioning

8.39 The following likely significant cumulative effects have been identified following the decommissioning works.

Land Take and Soils (Agriculture)

8.40 Following the decommissioning of the Proposed Development, given the extent of agricultural land removed to accommodate the STRAT9 site development, the cumulative effect would remain as Moderate to Major Adverse, **Significant**, as per the enabling and construction phase cumulative assessment. It should be noted that this significant cumulative effect is related only to the development of the STRAT9 site.

CONCLUSIONS

8.41 The Proposed Development would result in the following significant effects:

- **Significant Adverse** effects have been identified because of the enabling and construction works with regards to soil resources, landscape and visual amenity, archaeology and built heritage;
- Once completed and operational the Proposed Development would likely result in **Significant Adverse** effects relating to landscape and visual amenity;
- Once completed and operational the Proposed Development would likely result in **Significant Beneficial** effects relating to climate change and landscape; and
- During the decommissioning activities, **Significant Adverse** effects have been identified with regards to built heritage.

[7] https://www.landis.org.uk/soilscapes/

8.42 The significant adverse effect upon soil resources arising from the enabling and construction process are reflective of the loss of a primary function of the soils (i.e., agricultural use). It should be noted however that given that soils will not be removed from the site, most soils will be able to continue other various primary ecosystem functions on the site, principally as a medium for producing biomass; for storage and cycling of water and carbon; and for supporting habitats, biodiversity and landscape planting. Furthermore, following the decommissioning of the Proposed Development and the return of the site to agricultural use, the soils will be able to once again fulfil their current primary functions. As such, this significant adverse effect is temporary, albeit long-term.

8.43 Similarly, the significant adverse effect upon agricultural land, resulting from the temporary loss of BMV agricultural land as a result of the enabling and construction works, will be temporary (long-term).It should be noted that whilst the site predominantly comprises Grade 2 and Subgrade 3a land which is of good quality to very good quality agricultural land, the land is currently harvested for hay and silage use, and as such is not utilising the site to its full potential from an agricultural point of view. Following the decommissioning of the Proposed Development the site (with the exception of the connection tower) will be returned to agricultural use.

8.44 The significant adverse landscape and visual effects arising from the construction process will be temporary in nature lasting only for the time it takes to complete these works on-site. The significant adverse visual effects of the operational Proposed Development is restricted to walkers using a short stretch of the Oxford Green Belt Way; a stretch already adversely affected by the existing electrical infrastructure and surrounding Culham Science Centre. The beneficial aspects of the Proposed Development, in terms of parkland restoration, public access and Biodiversity Net Gain are considered to be greater than the limited adverse landscape and visual effects.

8.45 With regards to the potential significant adverse effect upon buried heritage assets during the enabling and construction works, it should be noted that further evaluation TT works will be undertaken. Mitigation of the archaeological remains through excavation or similar strategy would ensure that any archaeological remains within the site are appropriately preserved by record prior to any adverse construction effects. The WSI (**ES Volume 3, Appendix: Cultural Heritage – Annex 4**) outlines the scope of the evaluation TT, whereby any strategy would be agreed with South Oxford District Council and their archaeological advisor in advance of development. Whilst the ability to undertake archaeological fieldwork does not remove the adverse effect upon the archaeological remains, the archaeological investigation and appropriate dissemination of acquired data would be considered a residual beneficial effect during the operation of the Proposed Development.

8.46 The significant adverse effects during the enabling and construction works, and during decommissioning works at Nuneham Courtenay Registered Park and Garden and Nuneham Courtenay Conservation Area would be short-term and temporary. Following its completion, the Proposed Development will result in the expansion of the industrial area to the south, and as such will not significantly alter the character of the views looking south from the designated heritage assets. The enhancement of the area of the site which lies within the Registered Park and Garden, including restoring a historical tree belt along the Parish boundary, will have a permanent significant beneficial effect once the landscaping has become established.

8.47 The operational significant beneficial effect with regards to climate change is established on the basis that:

- it contributes to reducing carbon budget expenditure at a national and local level;
- it has an emissions intensity significantly lower than the grid average and that of the current baseline for flexible energy generation; and
- it is in keeping with local and UK energy and climate policy.

8.48 The Proposed Development is in line with the NPPF's principle of supporting new renewable and low carbon energy developments, in addition to their associated infrastructure, to contribute to reductions in GHG emissions. Further, the Proposed Development is supported by national energy and climate change policy (including the National Infrastructure Strategy, Sixth Carbon Budget, and Net Zero Strategy, detailed within **ES Volume 3, Appendix: Climate Change – Annex 1**) which promote the decarbonisation of grid electricity, aided by the implementation of energy storage technologies.

8.49 By facilitating the expansion of renewable energy supply, the Proposed Development would assist the UK Government target of achieving a fully decarbonised power system by 2035 and becoming net zero by 2050.

8.50 As a facilitator of the expansion of renewable energy generation, the Proposed Development is in line with UK-wide planning policy and legislation.

8.51 Additionally, significant adverse cumulative effects have been identified during the enabling and construction phase and following decommissioning associated with the loss of agricultural land, and also during the operation of the Proposed Development associated with built heritage impacts to Nuneham Courtenay Registered Park and Garden and Nuneham Courtenay Conservation Area. It should be noted however that these cumulative effects are derived only from the development of the STRAT9 site and are based upon worst-case assumptions for the purposes of assessment given that detailed information is not yet available relating to the future STRAT9 development.