

Green Hill Solar Farm Preliminary Environmental Information Report

Chapter 17 Socio-Economics, Tourism and Recreation

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17 Socio-Economics, Tourism and Recreation

17.1 Introduction

17.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the findings of the Environmental Impact Assessment (EIA) work undertaken to date concerning the potential impacts of the Scheme on socio-economics, tourism and recreation during the construction, operation and maintenance, and decommissioning phases. The following aspects will be considered within the socio-economics, tourism and recreation assessment process:

- Population demography;
- Population skill level and qualification attainment;
- Indices of deprivation;
- Economic activity and performance;
- Business profiles, sector shares and classification;
- Tourism as an economic sector;
- Agriculture as an economic sector; and
- Accessibility to and desirability of tourism and recreational facilities.

17.1.2 Regulation 5(2) of the EIA Regulations 2017 (Ref.1) require the direct and indirect significant effects of the Scheme on population and human health factors to be identified, described, and assessed. While this chapter considers socio-economic population factors, and factual reporting of population health, such as demographic trends and deprivation, matters directly relating to human health are covered in **Chapter 18: Human Health and Wellbeing**.

17.1.3 For more details about the Scheme, refer to **Chapter 4: Scheme Description** of this PEIR.

Appendices and Figures

17.1.4 This chapter is supported by the following figures:

- **Figure 17.1:** Study Areas for Socio-Economics, Tourism and Recreation; and
- **Figure 17.2:** Long-Distance Recreational Routes.

17.1.5 This chapter includes the following tables:

- **Table 17.1:** Summary of Consultation and Responses;
- **Table 17.2:** Sensitivity and Importance of the Identified Environmental Receptor (Socio-Economic);
- **Table 17.3:** Sensitivity and Importance of the Identified Environmental Receptor (Tourism and Recreation);
- **Table 17.4:** Magnitude of Change for the Identified Environmental Receptor (Socio-Economic);
- **Table 17.5:** Magnitude of Change for the Identified Environmental Receptor (Tourism and Recreation);
- **Table 17.6:** Criteria for Assessing the Significance of Effects;
- **Table 17.7:** Supply of Housing Land;
- **Table 17.8:** Gross Values Added (GVA) per Industrial Sector;
- **Table 17.9:** GVA per Worker by Industrial Sector (£);
- **Table 17.10:** Tourism and Visitor Spending and Visits;



- **Table 17.11:** Public Rights of Way and Permissive Recreational Routes Immediately Impacted by the Scheme;
- **Table 17.12:** Long-Distance Recreational Routes;
- **Table 17.13:** FTE Employment per Annum as a Result of Scheme Construction;
- **Table 17.14:** FTE Employment Peak during Scheme Construction;
- **Table 17.15:** FTE Employment as a Result of Scheme Construction;
- **Table 17.16:** Impacts on Public Rights of Way and Permissive Recreational Routes Immediately Impacted by the Scheme (Construction);
- **Table 17.17:** Impacts on Long-Distance Recreational Routes (Construction);
- **Table 17.18:** Long-term FTE Employment per Annum as a Result of Scheme Operation;
- **Table 17.19:** Peak FTE Employment as a Result of Panel Replacement;
- **Table 17.20:** FTE Employment per Annum as a Result of Scheme Operation;
- **Table 17.21:** Impacts on Public Rights of Way and Permissive Recreational Routes Immediately Impacted by the Scheme (Operation);
- **Table 17.22:** Impacts on Long-Distance Recreational Routes (Operation);
- **Table 17.23:** FTE Employment Peak during Scheme Decommissioning;
- **Table 17.24:** FTE Employment as a Result of Scheme Decommissioning; and
- **Table 17.25:** Residual Effects on Socio-economic, Tourism and Recreation Receptors.

17.1.6 This chapter is supported by the following plates:

- **Plate 17.1:** Age Profile of the United Kingdom;
- **Plate 17.2:** Age Profile of the Study Area;
- **Plate 17.3:** Projected National Age Profile in 2089;
- **Plate 17.4:** Qualification Attainment Rate in ages 16-64 as of December 2023;
- **Plate 17.5:** Economic Activity from 2014-2024;
- **Plate 17.6:** Unemployment Rate from 2014-2024;
- **Plate 17.7:** Employment Count 2014-2024 related to 2014 baseline;
- **Plate 17.8:** Employment Rate in 16-64 year olds from 2014-2024;
- **Plate 17.9:** Resident Median Annual Gross Income 2013-2023 ;
- **Plate 17.10:** Resident Median Annual Gross Income 2013-2023 related to 2013 baseline;
- **Plate 17.11:** Workplace Median Annual Gross Income 2013-2023;
- **Plate 17.12:** Workplace Median Annual Gross Income 2013-2023 related to 2013 baseline; and
- **Plate 17.13:** Proportion of Workforce per Business Sector.

17.2 Consultation

17.2.1 An EIA Scoping Report was submitted to the Planning Inspectorate (PINS) in July 2024, with a formal request for Scoping Opinion. PINS subsequently issued the Scoping Opinion on the proposed scope on 30th August 2024. Consultation undertaken throughout the pre-application and scoping phase for the Scheme has informed the approach to the socio-economics, tourism and recreation assessment and the information provided within this chapter.



17.2.2 A summary of consultation in the pre-application stages to date and response to the Scoping Report are outlined below in **Table 17.1**.

Table 17.1: Summary of Consultation and Responses

Consultee and Date	Response	Outcome and any further steps anticipated
The Planning Inspectorate Scoping Opinion: 3.13.1 30 Aug 2024	Socio-economic, tourism, and recreation impacts during decommissioning: The Inspectorate is content that a standalone assessment for the decommissioning phase is not required at this stage, provided that an ODEMP is submitted with the application that takes into consideration socio-economic, tourism, and recreation impacts.	The Applicant confirms an Outline Decommissioning Environmental Management Plan is to be provided at DCO submission through which mitigation measures for socio-economic, tourism and recreation impacts will be secured.
The Planning Inspectorate Scoping Opinion: 3.13.2 30 Aug 2024	Impacts upon property value at all phases: The Inspectorate agrees that this matter can be scoped out of further assessment in the ES.	The Applicant notes this comment and has no further action.
The Planning Inspectorate Scoping Opinion: 3.13.3 30 Aug 2024	Impacts upon crime at all phases: Security is proposed during construction and operation through installation of security fencing, CCTV, and lighting. The Inspectorate considers that significant effects are not likely in relation to crime and community safety and agrees to scope this matter out of further assessment. A description of security and crime prevention measures should be provided in the ES project description.	An overview of proposed security and crime prevention measures is provided in Chapter 4: Development Proposal. Additional details of crime prevention measures are to be set out and secured in the Outline Construction Environmental Management Plan and Outline Operational Environmental Management Plan at DCO submission. The Applicant notes no further commentary is made on the proposed scope of assessment in the socio-economics, tourism and recreation of the ES, and as such assumes all other aspects of the proposed scope are agreed by PINS.
The Planning Inspectorate Scoping Opinion: 3.13.4 30 Aug 2024	The Scoping Report states that professional judgement will be used for the assessment, stating that there is a lack of procedural guidance. Whilst this is acceptable in principle, the ES should still point toward recognised good practice methods and guidance that have influenced the professional judgement to ensure a coherent assessment.	Section 17.3 of this chapter sets out the policy, legislation and available guidance used to determine the appropriate assessment methodology in Section 17.4.
The Planning Inspectorate Scoping Opinion: 3.13.5 30 Aug 2024	The Applicant is requested to set out the data sources used to inform the assessment including justification of the identified Zone of Influence (Zoi) used within the assessment. Consultation with the relevant Councils is recommended to agree the Zoi and this should be documented within the ES.	The data sources used for the assessment of socio-economic, tourism and recreation impacts is set out in Section 17.4, as is a description and justification of the selection of the ZOI and Study Area for this chapter. This is supported by Figure 17.1. Specific consultation with host authorities regarding the ZOI have not been undertaken, although no request for changes to the ZOI have been received through Scoping.
Bedford Borough Council Scoping Opinion	In general, BBC is in agreement regarding this aspect's approach as set out by the	A description and justification of the selection of the ZOI and Study Area for this chapter is



Consultee and Date	Response	Outcome and any further steps anticipated
21 Aug 2024	<p>Applicant and makes no further comment in this regard.</p> <p>(§18.2.7) For clarity, it would be useful if the Applicant states the extent of the ZOI to be used in this Chapter (or approach as suggested elsewhere in this report).</p>	<p>set out Section 17.4 below. This is supported by Figure 17.1.</p>
<p>Bozeat Parish Council</p> <p>Scoping Opinion</p> <p>Not dated</p>	<p>We trust that the statement in 18.8.1 is a cut and paste error and that this section considers the wider socio-economic effects of the scheme and that it does not focus solely on the environmental effects. It is essential that this section addresses the negative impacts as well as the positive impacts included within the scoping document.</p> <p>It is not acceptable to scope out impact on property values because the size, scale and massing of the scheme is such that it is likely to change the rural nature of the area resulting in the loss of some or all of the rural premium. There is also the potential for particularly badly affected properties to suffer a substantial loss in value if not even made unsalable.</p>	<p>The Applicant understands this refers to paragraph 18.1.1 in the Scoping Report.</p> <p>The scope of the assessment, agreed by PINS in the Scoping Opinion 30 August 2024 is set out at section 18.5 of the Scoping Report. The Applicant can confirm that relevant wider socio-economic effects of the Scheme are included in the scope of assessment such as impacts on tourism, agriculture, and accommodation services. Both potentially adverse and positive effects of the Scheme on socio-economics, tourism and recreation are considered.</p> <p>PINS has agreed that of the potential effects of the Scheme on property value at the construction, operation and maintenance, and decommissioning stages should be scoped out of all further assessment. Please see item 3.13.2 of the Scoping Opinion.</p>
<p>Earls Barton Parish Council</p> <p>Scoping Opinion</p> <p>15 Aug 2024</p>	<p>Earls Barton Parish Council would request that anything affecting the A4500, The Wickets estate or the parish of Earls Barton as a whole is scoped into the report. This includes, but is not limited to: ... socio-economics, tourism and recreation.</p>	<p>The Applicant confirms that socio-economics, tourism and recreation effects are scoped into this assessment as agreed by PINS, and that the parish of Earls Barton falls within the Study Area for socio-economics, and the 2km ZOI for tourism and recreation.</p>
<p>Grendon Parish Council</p> <p>Scoping Opinion</p> <p>30 Aug 2024</p>	<p>Impacts on property values and crime: given the limited experience with developments of this scale we do not believe the impact is clearly understood, and would request that this is included in the scope.</p>	<p>PINS states at 3.13.3 of the Scoping Opinion that the Inspectorate considers that significant effects arising from the Scheme are not likely in relation to crime and community safety and agrees to scope this matter out of further assessment. However, PINS notes that a description of security and crime prevention measures should be provided in the ES project description.</p> <p>An overview of proposed security and crime prevention measures is provided in Chapter 4: Development Proposal. Additional details of crime prevention measures are to be set out and secured in the Outline Construction Environmental Management Plan and Outline Operational Environmental Management Plan at DCO submission.</p>
<p>Natural England</p> <p>Scoping Opinion</p> <p>30 Aug 2024</p>	<p>Connecting People with nature</p> <p>The ES should consider potential impacts on access land, common land, public rights of way and, where appropriate, the England Coast Path and coastal access routes and coastal margin in the vicinity of the development, in line with NPPF paragraph</p>	<p>The Applicant confirms impacts on the accessibility, desirability and use of public rights of way (PRoWs), open spaces, formal and informal recreation facilities in the countryside have been assessed in Section 17.8 of this chapter.</p>



Consultee and Date	Response	Outcome and any further steps anticipated
	<p>104. It should assess the scope to mitigate for any adverse impacts. Rights of Way Improvement Plans (ROWIP) can be used to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.</p> <p>Measures to help people to better access the countryside for quiet enjoyment and opportunities to connect with nature should be considered. Such measures could include reinstating existing footpaths or the creation of new footpaths, cycleways, and bridleways. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Access to nature within the development site should also be considered, including the role that natural links have in connecting habitats and providing potential pathways for movements of species.</p> <p>Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.</p>	<p>The Scheme does not contain open access land, common land, nor is the Scheme located near the England Coast Path or coastal margin.</p> <p>There may be opportunities to improve connectivity within the project area and the Applicant welcomes input from the local community and interested parties on their proposals to do this, so these can be explored further. Opportunities to develop local authority green infrastructure strategies are under consideration and being explored in tandem with landscape and ecological requirements.</p>
<p>North Northamptonshire Council</p> <p>Scoping Opinion</p> <p>22 Aug 2024</p>	<p>North Northamptonshire Council summarises paragraph 18.3.1 of the Scoping Report and then states that the conclusions set out in paragraph 18.5 of the scoping report are considered appropriate in terms of scoping in (socio-economic impacts during construction, during operation and during decommissioning and impacts on tourism and recreation during construction and operation). However, North Northamptonshire Council disagree with paragraph 18.5.2 in that crime should be scoped out of any stage.</p> <p>North Northamptonshire Council sets out information in relation to reported offences of solar panel / cable theft and then states that it is imperative that the Applicants do integrate security and crime prevention into the development from the outset, not just consider it. This will prevent the Applicants from becoming victims of crime, reducing the performance of the site, cost them money as well as putting personnel in danger.</p> <p>Crime should be scoped into all stages, and the applicants should provide a security and crime prevention strategy for the construction phase and a security and crime prevention statement for the finished site.</p>	<p>PINS states at 3.13.3 of the Scoping Opinion that the Inspectorate considers that significant effects arising from the Scheme are not likely in relation to crime and community safety and agrees to scope this matter out of further assessment. However, PINS notes that a description of security and crime prevention measures should be provided in the ES project description.</p> <p>An overview of proposed security and crime prevention measures is provided in Chapter 4: Development Proposal. Additional details of crime prevention measures are to be set out and secured in the Outline Construction Environmental Management Plan and Outline Operational Environmental Management Plan at DCO submission.</p>
<p>Walgrave Parish Council</p> <p>Scoping Opinion</p> <p>22 Aug 2024</p>	<p>Section 18 - Socio-Economics – We request that the impact on house prices be scoped in.</p>	<p>PINS has agreed that of the potential effects of the Scheme on property value at the construction, operation and maintenance, and decommissioning stages should be</p>



Consultee and Date	Response	Outcome and any further steps anticipated
		scoped out of all further assessment. Please see item 3.13.2 of the Scoping Opinion.
West Northamptonshire Council Scoping Opinion 22 Aug 2024	As set out under the Landscape and Visual Impact heading, there is a potential for an impact on recreational pursuits in the countryside due to the scale and massing of the solar farm. The ES should explore the impact on recreational walking, horse riding and other outdoor pursuits, with particular attention focused on the proposed sites to the east of Northampton and west of Wellingborough. This area is particularly sensitive because of the risk of coalescence between the two, large settlements, and the potential reliance of residents in this area of the open countryside.	The Applicant confirms recreational pursuits in the countryside are to be assessed in Section 17.8 below. This will cover PROWs, long distance recreation routes, outdoor sports and recreation, recreational use of waterways and water bodies, and on informal and youth facilities such as playgrounds in relation to the geographic extent of the Scheme including the proposed sites to the east of Northampton and west of Wellingborough.
Wellingborough Ramblers 9 September 2024	(Virtual meeting) Wellingborough Ramblers (WR) questioned how rights of way are to be managed, and warned that the community does not want to be met with disruption without notice. WR asked if the Applicant is open to establishing new footpaths. WR asked whether kissing gates will be available for footpaths. The representative was pleased to learn there was a community benefits fund that would support local projects. He claimed there is an opportunity to improve the link between Earls Barton and Mears Ashby.	The Applicant confirms that all PROWs are to be retained in situ on all parts of the Scheme. An Outline Public Rights of Way Management Plan will be submitted at DCO submission containing details of control and impact mitigation measures. This may include (but is not limited to): minimising extent and lengths of closures, providing minimum 2 months notice of closures, providing on-site diversions where able, or suitable signage to alternative routes where required. There may be opportunities to improve connectivity within the project area and the Applicant welcomes input from the local community and interested parties on their proposals to do this, so these can be explored further..
North Northamptonshire Council Economic Development Team	Outgoing correspondence made 13 September 2024 – no response received.	n/a
West Northamptonshire Council Economic Development Team	Outgoing correspondence made 16 September 2024 – no response received.	n/a

17.3 Legislation, Planning Policy and Guidance

17.3.1 This section provides an overview of the legislation, planning policy and guidance against which the Scheme will be considered for socio-economics, tourism and recreation.



Legislation

UK Legislation

Planning Act 2008

- 17.3.2 The Planning Act 2008 (Ref.2) sets out the process for the consenting of Nationally Significant Infrastructure Projects (NSIPs) and is the principal legislation governing an application for an order for development consent for NSIPs.

EIA Regulations 2017

- 17.3.3 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations) (Ref.1) sets out the regulatory framework for Environmental Impact Assessments in connection with development consent order applications, including screening, scoping and the requirements in respect of their content. Therein, Regulation 5(2) requires the direct and indirect significant effects of the Scheme on population and human health factors to be identified, described, and assessed.

Planning Policy

National Planning Policy

- 17.3.4 National Policy Statements (NPS) set out the policy basis for NSIPs including for ground mounted solar developments. The NPSs that are relevant to the Scheme are EN-1, EN-3 and EN-5, as adopted on 17 January 2024, and are important material considerations, in addition to other relevant and important national and local planning policies. Those policies therein that pertain directly to socio-economics, tourism and recreation are summarised as follows.

- Overarching National Policy Statement for Energy (EN-1) (Ref.3)
 - Specifically, Sections 5.11 and 5.13
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref.4)
 - Specifically, Section 2.10, wherein paragraphs 2.10.73-2.10.126, are considered in relation to socio-economics, and tourism and recreation.
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref.5) – this does not have any policy directly specific to socio-economics, tourism and recreation.

Overarching National Policy Statement for energy (EN-1)

- 17.3.5 Part 4 of EN-1 sets out the assessment principles for energy applications, including in principle, the presumption in favour of granting consent to applications for energy NSIPs, subject to specific and relevant policy considerations, and those referred to in the Planning Act 2008 (paragraph 4.1.3-4.1.4).
- 17.3.6 Paragraph 4.1.5 of EN-1 goes on to set out that in decision making, the Secretary of State should take into account the potential benefits and potential adverse impacts of development proposals including their “*contribution to meeting the need for energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits*”. Paragraph 4.1.6 goes on to state that the Secretary of State should take into account “*environmental, social and economic benefits and adverse impacts, at national, regional and local levels*”.
- 17.3.7 EN-1 reinforces the legal requirement (as defined by the EIA Regulations) for the Applicant to assess “*effects on population, human health, biodiversity, land, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them*” (paragraph 4.3.2) and goes on at paragraph 4.3.4 to specifically require consideration of “*potential effects, including benefits, of a proposal for a project, the applicant must set out information on the likely significant environmental, social and economic effects of the development, and show how any likely significant negative effects would be avoided, reduced, mitigated or compensated for, following the mitigation hierarchy.*”



- 17.3.8 Consideration of paragraph 4.4.3 is also relevant to this chapter assessment as EN-1 requires the ES to consider how the Scheme “*may also affect the composition and size of the local population, and in doing so have indirect health impacts, for example if it in some way affects access to key public services, transport, or the use of open space for recreation and physical activity.*”
- 17.3.9 NPS EN-1 requires applicants to consider the generic impacts of development on the surrounding environment with regard to land use in Section 5.11, and socio-economics in Section 5.13.
- 17.3.10 Paragraph 5.11.6 outlines that “*The government’s policy is to ensure there is adequate provision of high quality open space and sports and recreation facilities to meet the needs of local communities. Connecting people with open spaces, sports and recreational facilities all help to underpin people’s quality of life and have a vital role to play in promoting healthy living*” before going on at paragraph 5.11.7 to identify that “*Green and blue infrastructure can also enable developments to provide positive environmental, social, health and economic benefits*”.
- 17.3.11 The NPS also sets out the following requirement for impacts on existing sports and recreation facilities at paragraph 5.11.8:
- “Applicants will need to consult the local community on their proposals to build on existing open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green and blue infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal.”*
- 17.3.12 With specific regard to mitigating impacts on recreation, paragraph 5.11.30 states:
- “Public Rights of way, National Trails, and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The Secretary of State should expect applicants to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve or create new access. In considering revisions to an existing right of way, consideration should be given to the use, character, attractiveness, and convenience of the right of way.”*
- 17.3.13 Whilst all of Section 5.13 of EN-1 is relevant, the following extracts have been highlighted.
- 17.3.14 Paragraph 5.13.2 outlines that “*where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES.*”
- 17.3.15 The policy requires the applicant to describe the existing socio-economic conditions in the areas surrounding the proposed development and refer to how the development’s socio-economic impacts correlate with local planning policies (paragraph 5.13.5), and consider all relevant socio-economic impacts which may include (as set out in paragraph 5.13.4):
- The creation of jobs and training opportunities;
 - The contribution to the development of low-carbon industries at the local and regional levels as well as nationally;
 - The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;
 - Any indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains;
 - Effects (positive and negative) on tourism and other users of the area impacted;
 - The impact of a changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure; and
 - Cumulative effects.



- 17.3.16 EN-1 also states at paragraph 5.13.7 that “*applicants should also consider developing accommodation strategies where appropriate, especially during construction and decommissioning phases, that would include for the need to provide temporary accommodation for construction workers if required.*”
- 17.3.17 Furthermore, EN-1 requires the Secretary of State in paragraph 5.13.11 to “*consider any relevant positive provisions the applicant has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to the socio-economic impacts.*”
- National Policy Statement for renewable energy infrastructure (EN-3)
- 17.3.18 The adoption of EN-3 in January 2024 now provides specific policy dedicated to solar photovoltaic generation (Section 2.10), and as such, the policies therein are directly relevant to this Scheme. NPS EN-3 does not contain any policy that specifically relates to impacts on socio-economics, and tourism and recreation. However, by virtue of the inter-relationship between ES topics, it is pertinent that secondary impacts relating to matters such as public rights of way, landscape, visual and residential amenity, glint and glare, cultural heritage, and construction traffic, noise, and vibration. Where relevant, these are considered in relation to socio-economics, and tourism and recreation.
- National Planning Policy Framework (NPPF) (Ref.6)
- 17.3.19 Paragraph 5 of the National Planning Policy Framework (NPPF), amended December 2023, acknowledges that while it “*does not contain specific policies for nationally significant infrastructure projects*”, it may be given weight in decision-making for NSIPs where the policies in the NPPF are “*other matters that are relevant*”.
- 17.3.20 Key to the overarching principles of the NPPF is that the “*purpose of the planning system is to contribute to the achievement of sustainable development including the provision of [...] supporting infrastructure in a sustainable manner*” (paragraph 7) and this should be achieved by pursuing interdependent and mutually supportive economic, social, and environmental objectives (paragraph 8). Therefore: “*plans and decisions should apply a presumption in favour of sustainable development.*” (paragraph 11).
- 17.3.21 To meet the economic objectives, the NPPF emphasises the importance of building a strong, competitive economy by supporting “*economic growth and productivity, taking into account both local business needs and wider opportunities for development*” (paragraph 85) and helping to support a prosperous rural economy. Social sustainability is given policy context through emphasis on promoting healthy and safe communities (chapter 8) through enabling and supporting social healthy lifestyles, social interaction, providing social, recreational and cultural facilities (paragraphs 96-97), retaining access to open space, recreational spaces (paragraphs 102-103), and protecting and enhancing public rights of way (paragraph 104). Finally, the NPPF gives significant importance to protecting and enhancing the natural, built and historic environments (sections 15-16). All three of the overarching objective areas are relevant to the assessment of socio-economic, tourism and recreation effects anticipated from the development of the Scheme.
- 17.3.22 Paragraph 157 demonstrates the national ambitions for the planning system to “*support the transition to a low carbon future in a changing climate*” and to “*support renewable and low carbon energy and associated infrastructure*”. The NPPF (at paragraph 160) goes on to explain how local planning authorities should seek to increase the use and supply of renewable energy through providing a positive strategy for energy whilst ensuring adverse impacts are addressed and considering identifying suitable areas for renewable energy sources.
- National Planning Policy Framework (NPPF) consultation July 2024 (Ref.7)
- 17.3.23 Proposed reform to the NPPF opened for consultation in July 2024. Most policy in relation to supporting a prosperous economy, and to promoting health and safe communities has remained unaltered, or negligibly changed. Notably, at paragraph 164, the NPPF is proposed to require decision-makers to “*support planning applications for all forms of renewable and low carbon*



development” and “give significant weight to the proposal’s contribution to renewable energy generation and a net zero future”.

Local Planning Policy

North Northamptonshire Joint Core Strategy

17.3.24 The North Northamptonshire Joint Core Strategy 2011 to 2031 (adopted July 2016) (Ref.8); provides strategic-level planning and development policy for the unitary authority of North Northamptonshire.

17.3.25 The adopted policies deemed to be of most relevance from the North Northamptonshire Joint Core Strategy to socio-economic, and tourism and recreation factors, are:

- Policy 1 – Presumption in Favour of Sustainable Development;
- Policy 7 – Community Services and Facilities;
- Policy 8 – North Northamptonshire Place Shaping Principles;
- Policy 10 – Provision of Infrastructure;
- Policy 11 – The Network of Urban and Rural Areas;
- Policy 20 – Nene and Ise Valleys;
- Policy 22 – Delivering Economic Prosperity;
- Policy 25 – Rural Economic Development and Diversification; and
- Policy 26 – Renewable and Low Carbon Energy.

Wellingborough Local Plan

17.3.26 The Wellingborough Local Plan (Part 2) adopted February 2019 (Ref.9), provides local level development management policy for the area covered by the former Borough Council of Wellingborough. As such, the policies therein are read alongside those in the North Northamptonshire Joint Core Strategy. The adopted policies deemed to be of most relevance from the Wellingborough Local Plan (Part 2) to socio-economic, and tourism and recreation factors, are:

- Policy GI 1 – Local Green Infrastructure Corridors;
- Policy GI 5 – Enhancement and Provision of Sport and Recreation Facilities; and
- Policy E3 – Employment Outside Established Employment Estates.

West Northamptonshire Joint Core Strategy

17.3.27 Much in the same manner as North Northamptonshire, planning policy in West Northamptonshire operates in two levels, with strategic planning and development policy for the unitary authority area covered by the West Northamptonshire Joint Core Strategy Local Plan (Part 1), adopted December 2014 (Ref.10). The adopted policies deemed to be of most relevance from the West Northamptonshire Joint Core Strategy to socio-economic, and tourism and recreation factors, are:

- Policy SA – Presumption in Favour of Sustainable Development;
- Policy S1 – The Distribution of Development;
- Policy S7 – Provision of Jobs;
- Policy S10 – Sustainable Development Principles;
- Policy S11 – Low Carbon and Renewable Energy;
- Policy C5 – Enhancing Local and Neighbourhood Connections;
- Policy E7 – Tourism, Visitor and Cultural Industries;



- Policy INF1 – Approach to Infrastructure Delivery;
- Policy INF2 – Contributions to Infrastructure Requirements;
- Policy R1 – Spatial Strategy for the Rural Areas;
- Policy R2 – Rural Economy; and
- Policy R3 – A Transport Strategy for the Rural Areas.

Daventry Local Plan (Part 2)

17.3.28 The Daventry Local Plan (Part 2) adopted February 2020 (Ref.11) (Settlements and Countryside Local Plan for Daventry District 2011-2019), provides local level development management policy for the area covered by the former Daventry District. As such, the policies therein are read alongside those in the West Northamptonshire Joint Core Strategy.

17.3.29 In relation to the Scheme, this covers the sites at Green Hill A, Green Hill A.2, and Green Hill B, and the cable route between these Sites and Green Hill C. The adopted policies deemed to be of most relevance from the Daventry Local Plan (Part 2) to socio-economic, and tourism and recreation factors, are:

- SP1 – Daventry District Spatial Strategy;
- RA6 – Open Countryside;
- ST1 – Sustainable Transport Infrastructure;
- ENV9 – Renewable Energy and Low Carbon Development;
- ENV10 – Design; and
- CW1 – Health and Wellbeing.

South Northamptonshire Local Plan (Part 2)

17.3.30 South Northamptonshire Local Plan (Part 2) (2011-2029) adopted July 2020 (Ref.12), provides local level development management policy for the area covered by the former South Northamptonshire District. As such, the policies therein are read alongside those in the West Northamptonshire Joint Core Strategy. This policy document is only relevant to the Scheme for the area of the Cable Route Search Area that falls within South Northamptonshire – this being the area within Cogenhoe and Whiston, Castle Ashby, and Yardley Hastings.

17.3.31 The adopted policies deemed to be of most relevance from the South Northamptonshire Local Plan (Part 2) to socio-economic, and tourism and recreation factors, are:

- Policy SS2: General Development and Design Principles
- Policy EMP1: Supporting Skills;
- Policy EMP3: New Employment Development;
- Policy EMP4: The Visitor Economy;
- Policy EMP6: Farm Diversification;
- Policy INF1: Infrastructure Delivery and Funding;
- Policy GS1: Open Space, Sport and Recreation; and
- Policy HE3: Historic Parks and Gardens.

Plan:MK

17.3.32 The local plan for Milton Keynes City, titled Plan:MK 2016-2031 (Ref.13), was adopted in March 2019 and provides local planning policy, both for strategic development and development management. In relation to the Scheme, these policies are relevant to Green Hill G. The adopted



policies deemed to be of most relevance from Plan:MK to socio-economic, and tourism and recreation factors, are:

- Policy DS3 Employment Development Strategy;
- Policy DS5 Open Countryside;
- Policy SD1 Place-Making Principles for Development;
- Policy ER8 Employment Uses and The Rural Economy;
- Policy ER16 Hotel and Visitor Accommodation;
- Policy ER17 Tourism, Visitor and Cultural Destinations;
- Policy CT3 Walking and Cycling;
- Policy EH7 Promoting Healthy Communities;
- Policy INF1 Delivering Infrastructure;
- Policy L2 Protection of Open Space and Existing Facilities;
- Policy D1 Designing a High Quality Place;
- Policy CC3 Protection of Community Facilities;
- Policy SC2 Community Energy Networks and Large Scale Renewable Energy Schemes; and
- Policy SC3 Low Carbon and Renewable Energy Generation.

Neighbourhood Plans

17.3.33 Neighbourhood plans were introduced under the Localism Act 2011 (Ref.14) to provide a tool for parish and town councils, and neighbourhood groups to set out planning policies within their designated areas. Once adopted, these plans become an adopted part of local planning policy and as such are material considerations in the determination of planning applications.

17.3.34 The Scheme is located within and abutting a number of areas that are designated neighbourhood plan areas. Those areas that have adopted neighbourhood plans, or have plans at examination or referendum stage (as of 1st September 2024) are listed below:

- North Northamptonshire
 - Earls Barton;
 - Ecton; and
 - Pytchley (pre-submission stage only).
- West Northamptonshire
 - Cogenhoe and Whiston (area designated only);
 - Moulton; and
 - Overstone.
- Milton Keynes
 - Lavendon.

17.3.35 Those policies considered relevant to the socio-economic assessment and impacts on tourism and recreation are listed below.

- Earls Barton Neighbourhood Plan 2011-2031 (Ref.15)
 - EB.D1: High standard of design;



- EB.OS1: Protection of Open Green Places; and
- EB.DC1: Delivery of infrastructure.
- Ecton Neighbourhood Development Plan 2016-2031 (Ref.16)
 - Policy 6 – Local Green Space; and
 - Policy 10 – Important public views and vistas.
- Moulton Neighbourhood Development Plan 2014-2029 (Ref.17)
 - Policy SD 1 – Promoting Sustainable Transport;
 - Policy SD 2 – Adapting to Climate Change;
 - Policy CS2 – Local Services and Community Facilities; and
 - Policy E1 – Protect Existing Local Green Spaces.
- Overstone Neighbourhood Development Plan 2019-2029 (Ref.18)
 - Policy 1 – Promoting Sustainable Transport;
 - Policy 2 – Adapting to Climate Change;
 - Policy 4 – Local Services and Community Facilities;
 - Policy 5 – Village Confines; and
 - Policy 11 – Jobs and the Local Economy.
- Lavendon Neighbourhood Plan 2019 to 2031 (Ref.19)
 - Policy E1: Access to the Countryside;
 - Policy CD2: High Quality Design;
 - Policy HT1: Transport, Highways and New Development; and
 - Policy BE1: Business and Employment.

Minerals and Waste Planning

- 17.3.36 Planning policy for minerals and waste planning is dictated by the Minerals and Waste Local Plan for Northamptonshire (Ref.20), adopted July 2017, and in Milton Keynes by the Minerals Local Plan (Ref.21) (adopted July 2017) and the Waste Development Plan Document 2007-2026 (Ref.22) (adopted February 2008).
- 17.3.37 Together these define the planning strategy and policy framework for determining applications and allocation of land for mineral extraction and waste development, including safeguarding land from other developments, across Northamptonshire and Milton Keynes. Detailed matters regarding minerals and waste are discussed in **Chapter 11: Minerals** and **Chapter 24: Other Environmental Matters** of this PEIR respectively.
- 17.3.38 The policies of relevance to socio-economics are primarily concerned with minerals safeguarding and ensuring the Scheme does not impact on the viability of land for minerals extraction. These have been explored in **Chapter 11: Minerals** of this PEIR.

Emerging Policy

- 17.3.39 The emerging North Northamptonshire Strategic Plan (Ref.23) is a proposed strategic planning document to replace the existing North Northamptonshire Joint Core Strategy. The emerging plan is proposed to also take on some non-strategic planning policies from the Part 2 development management plans that form part of the Local Development Plan for North Northamptonshire. The emerging plan is in early draft and is due for publication consultation in January 2025. Emerging policies deemed to be of most relevance to socio-economic, and tourism and recreation factors will be monitored as they are published.



- 17.3.40 Similarly, West Northamptonshire Council is currently preparing their New Local Plan for West Northamptonshire (Ref.24) which will once published replace the current adopted West Northamptonshire Joint Core Strategy Local Plan (Part 1) and the Part 2 Local Plans. The emerging plan is in early draft and is due for publication consultation in early 2025. Emerging policies deemed to be of most relevance to socio-economic, and tourism and recreation factors will be monitored as they are published.

Local Climate, Economic and Tourism Strategy

- 17.3.41 Each of the host authorities have published their commitments to achieving Net Zero by at latest 2050. West Northamptonshire Council does not a specific climate strategy document, whilst North Northamptonshire's ran from 2020 to 2023 only. The only extant climate strategy document is Milton Keynes City Council's Climate Strategy MK Sustainability Strategy 2019-2050 (Ref.25). Key to this are their sustainable principles which consist of:

“Green energy – Maximising the use of renewable energy, reducing carbon and providing resilience to the grid;

Circular economy – Increasing the efficient use of resources to reuse materials, use less water, and ensure the best use of land; and

Low emissions – Reducing the level of emissions from transport, industry and agriculture and ensure clear air.”

- 17.3.42 The South East Midlands Local Enterprise Partnership (SEMLEP) Local Industrial Strategy (LIS) (Ref.26) provides a strategic industrial and business context which has helped to form the evidence base for economic policy across the three host authority areas. The LIS identifies aerospace and engineering as a key target business sector for ongoing development, whilst setting out key ambitions for promoting innovation, employment skill provision, productivity and sustainability.
- 17.3.43 Strategic tourism policies and objectives for the tourism and visitor economy in the county of Northamptonshire are set out in the 2024 adopted Northamptonshire's Tourism Strategy (Ref.27). The document also provides an up-to-date snapshot of current visitor economy conditions and sets local aims and objectives in context with the wider county level and national tourism strategies. Specifically, the strategy seeks to promote economic development in the tourism and recreation sectors through developing the county as a destination.
- 17.3.44 Milton Keynes City Council in co-ordination with Destination Milton Keynes are as of August 2023 preparing a Tourism Strategy for the city (Ref.28). This is intended to provide strategic guidance as to the keep opportunities and objectives for the tourism and visitor economy in Milton Keynes.

Guidance

- 17.3.45 As the professional accreditation body for the production of EIAs, the Institute of Environmental Management & Assessment (IEMA) provides a number of guides for the production of environmental assessments and hosts a collection of articles by professional bodies on the use of and publication of socio-economic assessments for EIA.
- 17.3.46 It is recognised in the industry that there is a widely varied approach to socio-economic assessments as a result of the significant scope of the assessment, variety in development impacts, and the lack of procedural guidance available directly relating to the technical production of socio-economic assessments (Ref.29). As such, measurements of baseline data sensitivity, and the significance of impacts from the development are reliant on professional judgement based on best practice and experience. As such, socio-economic impacts should consider socio-demographic and cultural receptors, local economic factors, as well as the accessibility and provision of local services (Ref.30, Ref.31). It is important that socio-economic assessments are not considered in isolation from other assessment areas in the EIA, as there are multiple overlapping factors, such as with transport, construction management, water and air quality, and human health assessment (Ref.32).



17.4 Assessment Methodology

17.4.1 The methodologies described in the following section have been developed in line with the relevant planning policy and appropriate industry guidance for assessing potential effects from the Scheme on socio-economics, tourism and recreation.

17.4.2 The scope of assessment is defined by that set out **Chapter 18: Socio-Economics, Tourism and Recreation in the EIA Scoping Report, July 2024**, and as agreed by the Planning Inspectorate in their **Scoping Opinion (August 2024)**.

17.4.3 These include:

- Socio-economic impacts during construction;
- Socio-economic impacts during operation;
- Socio-economic impacts during decommissioning, limited to assessment of direct employment and economic performance from decommissioning works and aspects such as education that may be directly related to the Scheme; and
- Impacts on tourism and recreation during construction and operation.

Study Area

17.4.4 The Study Area comprises the authority areas of Bedford Borough Council, Milton Keynes City Council, North Northamptonshire Council, and West Northamptonshire Council (also respectively referred to in this chapter as “Bedford”, “Milton Keynes”, “North Northamptonshire” and “West Northamptonshire”), due to the geographic expanse and scale of the Scheme. Data at the local authority level will be collected to determine the socio-economic baseline for this assessment. This will include where applicable, providing additional data at sub-district level for fine-grain data. Within that Study Area (and in the ES), tourism and recreation matters will be assessed within the Scheme’s Order limits, and within a focussed 5km Zone of Influence (ZOI) thereof for regionally important tourism and recreation venues, and within a smaller 2km ZOI thereof for locally important tourism and recreation venues. Zones of theoretical visibility and proximity to proposed access routes will also be taken into consideration to define the extent to which these impacts are likely to be felt.

17.4.5 The Study Area and ZOIs are shown on **Figure 17.1: Study Areas for Socio-Economics, Tourism and Recreation**.

17.4.6 As the Scheme’s Order limits are not to be defined until DCO submission following ongoing design refinement, for PEIR, this area is represented by the boundaries of the Sites (Green Hill A-G and Green Hill BESS) and the Cable Route Search Area together as outlined in **Volume 2, Figure 3 series**.

Impact Assessment Methodology

17.4.7 The assessment scenarios that are being considered for the purposes of the EIA are:

- Existing Baseline 2023-2024.
- Construction 2027-2029. This is based on the earliest possible construction commencement of the Scheme. The assessment will consider the full construction period, and a “worst-case” peak month.
- Operation 2029-2089. It has been assumed for the purposes of the EIA that the Scheme will be operational by the start of Q3 2029. The assessment will consider the full operation period, and any peaks of activity attributed to replacement of infrastructure.
- Decommissioning 2089. This would be the year when decommissioning of the Scheme would commence and has been based on an up to 60-year operational lifetime for solar projects. It has therefore been assumed for the purposes of the EIA that the Scheme will be decommissioned no later than 2089.



- 17.4.8 The assessment of socio-economic, tourism and recreation effects will therefore be grouped in Section 17.10 to set out likely effects during construction, operation, and decommissioning.
- 17.4.9 Alongside the expanded baseline assessments, data from the relevant local authorities will be used to assess how the Scheme will affect the socio-economic environment, and tourism and recreation receptors. The information sources to be used for the assessments are as follows:
- Office for National Statistics (ONS) 2021;
 - Scotland’s Census 2022;
 - Northern Ireland Statistics and Research Agency (NISRA) Census 2021;
 - ONS Annual Population Survey;
 - ONS Local Authority and National Population Projections;
 - Department for Communities and Local Government (DCLG): Indices of Multiple Deprivation Map App;
 - Office for Health Improvement and Disparities (OHID): Fingertips Public Health Data web tool;
 - ONS: Annual Survey of Hours and Earnings;
 - ONS Business Register and Employment Survey;
 - Department for Work and Pensions (DWP) Stat-Xplore web tool;
 - Communities NI Statistics;
 - Local Plans and supporting documentation;
 - North Northamptonshire Council;
 - Milton Keynes City Council;
 - West Northamptonshire Council;
 - Bedford Borough Council;
 - Local Enterprise Partnership strategic economic documentation;
 - South East Midlands
 - National Planning Policy Framework;
 - Natural England;
 - Tourism and visitor information:
 - Visit Britain;
 - Visit England;
 - Destination Milton Keynes;
 - Experience Bedfordshire;
 - Visit Northamptonshire;
 - OpenStreetMap;
 - OS Explorer Map;
 - Google Maps and Google Earth;
 - Long Distance Walkers Association;
 - The Ramblers Association;



- Cycling UK; and
- Sustrans.

Sensitivity of Receptors

17.4.10 The sensitivity of the receptors identified in this chapter will be assessed by understanding measurable indicators of the receptor’s present characteristics and considering this alongside the weighted importance of the receptor in local, regional, and national policy or strategic requirements together with professional judgment. For example, the sensitivity of number of jobs is likely to be determined from its local characteristics and how far it deviates from national trends, in consideration with the local policy requirements for the creation of new employment opportunities.

17.4.11 To ensure a consistency of approach across the socio-demographic and economic receptors identified in this assessment, each receptor will be measured by way of statistical analysis against national data at the local authority level to determine its sensitivity. Otherwise, sensitivity will be determined based on professional judgement of the qualitative criteria set out in **Table 17.2** and **Table 17.3**.

Socio-Economics

17.4.12 The Scheme is likely to have impacts on socio-economic receptors at the local and regional level, and to a more minor extent, the national level. These effects are predominantly focused on economic impacts (particularly during construction), given the nature of the Scheme. Impacts on socio-demographic receptors are likely to be limited to those as a result of the anticipated construction workforce and the related indirect impacts on socio-demographic characteristics. The sensitivity of these receptors will be assessed in accordance with **Table 17.2**.

Table 17.2 Sensitivity and Importance of the Identified Environmental Receptor

Sensitivity	Definition
High	Receptor is likely to experience direct and significant socio-economic challenges with fundamental change to present characteristics. Accorded a high priority in local, regional or national economic regeneration policy. Receptor is of regional or national importance. Data for the receptor shows it is more than 2σ (standard deviations) from the national population mean or median.
Medium	Receptor is likely to experience some socio-economic challenges, which may be indirect, but will materially change its present characteristics. Change relating to receptor has medium priority in local, regional and national economic and regeneration policy. Receptor is of significant local importance. Data for the receptor shows it is between 1σ and 2σ from the national population mean or median.
Low	Minor socio-economic challenges relating to receptor resulting in non-material changes to baseline conditions. Receptor is accorded a low priority in local, regional and national economic and regeneration policy. Receptor is of low importance. Data for the receptor shows it is less than 1σ from the national population mean or median.
Negligible	Receptor unlikely to experience any socio-economic challenges or changes to baseline conditions. Receptor is not a priority at any level of economic or regeneration policy.

Tourism and Recreation

17.4.13 The Scheme is likely to have an impact on tourism and recreation receptors, albeit these are likely to be limited to those receptors that are directly impacted by the location of the Scheme such as PRoWs, and landscape visual receptors and local heritage assets that rely on their setting for their value to the tourism and recreational economy. Assessment of these assets will be made in consideration of the impacts assessed in **Chapter 8: Landscape and Visual Impact**, and **Chapter 12: Cultural Heritage**. This PEIR will assess the preliminary sensitivity of receptors based on the metrics in **Table 17.3**.



Table 17.3: Sensitivity and Importance of the Identified Environmental Receptor

Sensitivity	Definition
High	Receptor is likely to experience significant direct and indirect tourism and economic challenges with fundamental change to present characteristics. Accorded a high priority in local, regional or national tourism and recreation policy. Receptor is of regional or national importance.
Medium	Receptor is likely to experience some direct and indirect tourism and economic challenges, that will materially change its present characteristics. Change relating to receptor has medium priority in local and regional tourism and recreation policy. Receptor is of significant local importance.
Low	Minor direct or indirect tourism and economic challenges relating to receptor resulting in non-material changes to baseline conditions. Receptor is accorded a low priority in local and regional tourism and recreation policy. Receptor is of low importance.
Negligible	Receptor unlikely to experience any tourism and economic challenges or changes to baseline conditions. Receptor is not a priority at any level of tourism and recreation policy.

Magnitude of Impacts

17.4.14 The identification of key effects has been determined through provision of a model of anticipated worker requirements for both construction and operation and maintenance arising from the Scheme by an accredited Engineering Procurement Construction (EPC) contractor and specialist high voltage cable installation contractor. The information modelled provides a reasonable worst-case scenario with regard to the quantum of work required for the construction of the Scheme within the projected approximately two-year construction period, and a reasonable worst-case employment requirement for the Scheme’s operation and maintenance. Furthermore, worst-case direct employment requirements during decommissioning have been derived from the projected construction programme. This model has then been used to determine secondary impacts on socio-economic receptors. Impacts on tourism and recreation receptors have been determined through professional judgement and have been assessed in consideration of the anticipated impacts in associated topic chapters, such as transport, landscape, and heritage.

17.4.15 The methodology for determining the impact magnitude is described below and has been determined by quantifying the predicted deviation from baseline conditions. This will be considered both with and without mitigation. The magnitude of change will be used for either beneficial or adverse impacts. As there is no standard methodology for determining how magnitude of impacts are calculated, professional judgement has been used to determine the criteria set out in **Table 17.4** and **Table 17.5**.

Socio-Economics

17.4.16 The Scheme is of a nationally significant scale, and as such will provide a significant number of employment opportunities for direct and indirect sectors of the local and regional economy during construction. These will also have knock-on impacts on other socio-economic factors such as wages, unemployment, and deprivation as a result of increased access to employment. The magnitude of these impacts will be quantified in full for the construction and operational phases of the Scheme and estimated for the Scheme’s decommissioning (considered for the purposes of the EIA to be no later than 2089) in accordance with the metrics set out in **Table 17.4**.

17.4.17 The Scheme is likely to impact on existing economic sectors within the entire Study Area as a result of competition for resources, labour force, and direct and indirect conflicts with economic sectors such as the agricultural economy and in the tourism and recreation economies. Additional localised economic impacts may occur where the location of the Scheme impacts on the operation of businesses near to or adjacent to the Sites where their location, landscape setting, and long views are fundamental to their economic success.



Table 17.4: Magnitude of Change for the Identified Environmental Receptor

Magnitude	Definition	Value of Change to Receptor
High	The total loss or major change/substantial alteration to key elements/features of the baseline conditions, such that the post-development characteristics will be fundamentally changed.	Change of more than or equal to 10%
Medium	Loss or alteration to one or more key elements/features of the baseline conditions, such that post-development characteristics of the baseline will be materially changed.	Change of between 1% and 10%
Low	A minor shift away from baseline condition. As change arising from the loss/alteration will be discernible/detectable but not material. The post development characteristics of the baseline condition will be similar to pre-development conditions.	Change of between 0.1% and 1%
Negligible	Very little change from baseline conditions. The change will be barely distinguishable and approximating to a non-change situation.	Change of less than 0.1%
Neutral	No change from baseline conditions.	No change

Tourism and Recreation

17.4.18 The Scheme, being located on existing agricultural land, is not anticipated to directly impact on the use and accessibility of dedicated recreational spaces and tourist attractions. The Scheme may impact on the use of PRoWs which cross the Scheme’s boundaries during the project’s construction, but this will be addressed in the Outline Public Rights of Way Management Plan (OPRoWMP) at DCO Submission, and as part of the emerging construction management strategy set out in the Outline Construction Environmental Management Plan (OCEMP) at DCO submission to ensure these features are retained and protected.

17.4.19 This chapter of the PEIR will therefore identify and assess the impact on key local tourism and recreational facilities including but not limited to:

- Public rights of way;
- Long distance walking and cycling routes;
- Navigable waterways; and
- Recreational hubs and key tourist attractions likely to be impacted by the Scheme.

17.4.20 The magnitude of impact on tourism and recreation receptors is a qualitative judgement and therefore not determined by a discrete or statistical value of change to a receptor.

Table 17.5: Magnitude of Change for the Identified Environmental Receptor

Magnitude	Definition
High	The total loss or major change/substantial alteration to key elements/features of the baseline conditions, such that the post development characteristics will be fundamentally changed.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions, such that post-development characteristics of the baseline will be materially changed.
Low	A minor shift away from baseline condition. As change arising from the loss/alteration will be discernible/detectable but not material. The post development characteristics of the baseline condition will be similar to pre-development conditions.
Negligible	Very little change from baseline conditions. The change will be barely distinguishable and approximating to a non-change situation.



Neutral	No change from baseline conditions.
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Assessment of Significance

17.4.21 The degree of significance of impacts, in respect of the assessment of the socio-economics and tourism and recreation environment, is determined using the matrix below in **Table 17.6**, taking into consideration both sensitivity to change and magnitude of change to baseline conditions for each receptor.

17.4.22 Effects assessed to be moderate, major-moderate, or major, are deemed to be significant effects.

Table 17.6: Criteria for Assessing the Significance of Effects

Sensitivity	High	Medium	Low	Negligible
Magnitude				
High	Major	Major-moderate	Moderate	Moderate-minor
Medium	Major-moderate	Moderate	Moderate-minor	Minor
Low	Moderate	Moderate-minor	Minor	Negligible
Negligible	Moderate-minor	Minor	Negligible	Negligible
Neutral	Neutral	Neutral	Neutral	Neutral

17.4.23 The degree of significance of an effect can be described either as beneficial or adverse in nature, and temporally as being of short-, medium-, or long-term. These together with the level of significance should be used to determine which effects from the Scheme need to be considered further in the ES, and therefore which effects require mitigation measures to be implemented in the further design, construction, operation, and decommissioning of the Scheme.

Cumulative and In-Combination effects

17.4.24 The assessment also considers potential cumulative and in-combination effects at **Section 17.11** where they are considered likely to have significant environmental effects. This includes assessing the cumulative impact of the construction of this Scheme, its operational lifetime, and its decommissioning, against other nearby NSIPs and relevant town and country planning act (TCPA) planning applications and approvals which will also have effects within the Study Area. A full list of these cumulative sites considered for assessment has been included at **Volume 3, Appendix 2.2**. Those considered in this chapter are identified in **Table 17.26**.

17.5 Assessment Assumptions and Limitations

17.5.1 This preliminary assessment is based on baseline and Scheme design information available at the time of writing this chapter. A full assessment is being undertaken as part of the EIA, the assessment will be developed and refined following statutory consultation and as additional information becomes available, the final assessment presented within the ES.

17.5.2 Where the Scheme designs and details are either not yet known or incomplete at this stage, either assumptions have been made based on professional judgment, or, in the event that it is not possible to make any assumptions, deferred to full assessment in the ES. This assessment is an iterative process and will be both expanded and made more specific as survey data is collected, analysed and reported on, and designs are further developed. This process will be carried out in conjunction with relevant consultees and third parties as necessary to achieve the most robust outcome.

17.5.3 The methodology for socio-economics, tourism and recreation has considered the following assumptions:



- Reporting of baseline conditions is based on the most up-to-date publicly available datasets for each receptor. Where data relies on the 2021 Census, the potential impact upon the socio-demographic and economic environments as result of the COVID-19 pandemic and associated national lockdowns have been identified. The report also recognises that datasets that are subject to repeated updates (such as Annual Population Survey, Business Register and Employment Survey, etc.) will be required to be updated for the ES at DCO submission.
- Due to the impact of the COVID-19 pandemic and national lockdowns, baseline data on place of work, and usual commuting methods, and commuting distance have not been gathered, and are therefore not assessed against.
- Preliminary effects on PRow during the construction, operation and decommissioning phases are assessed in this PEIR. At this stage, it is not possible to confirm length of time or nature of any closures or diversions of PRow. At this stage, no permanent PRow closures or diversions are expected, however, temporary PRow diversions and night-time closures are assessed as a worst-case assumption. Furthermore, PRow impacted by the Cable Route are unable to be defined and as such, all PRow in the Cable Route Search Area are considered to be equally likely to be affected by cable construction works.
- The assumption of construction activities and workforce is based on a single EPC model from which the likely peak impacts and impacts lasting the length of the construction process have been derived. This assumption considers a reasonable worst-case scenarios for socio-economic, tourism and recreation effects.
- In-combination effects during the construction, operation and decommissioning phases are based on preliminary assessments taking into consideration the preliminary reporting on matters relating to transport and access, landscape and visual amenity, and cultural heritage. Where any of these topics each record a significant effect on a receptor or group of receptors that have a likely pathway to have in-combination effects with regard to socio-economics, tourism and recreation, it will be assumed as a worst-case that the effect could occur at the same time. These will be further investigated in the ES that will be submitted with the DCO application.

17.6 Baseline Conditions

- 17.6.1 This section describes the baseline environmental characteristics for the Study Area with specific reference to socio-economics, tourism and recreation.
- 17.6.2 The existing baseline conditions are derived predominantly from desk-based studies with information on the status and use of PRow corroborate by field-studies undertaken by the Applicant team.

Existing Socio-Economic Baseline

Resident Population: Size and Growth

- 17.6.3 The Study Area had a combined population of 1,257,500 in 2021 (Ref.33). The proportion per authority area is as follows:
- Bedford: 14.7%
 - Milton Keynes: 22.8%
 - North Northamptonshire: 28.6%
 - West Northamptonshire: 33.9%
- 17.6.4 The population of the Study Area is approximately 2.2% of the population of England, and 1.9% of the population of the United Kingdom (Ref.33, Ref.34, Ref.35).
- 17.6.5 Office for National Statistics 2018-based population projections (Ref.36) indicate that from 2021 up to the year 2027 (the earliest year for the Scheme's construction), the population in the Study Area is anticipated to grow by approximately 3.9%. This however is biased towards greater growth



in North Northamptonshire (+5.6%) compared to Milton Keynes (+1.6%). The rate across the Study Area is greater than the estimated growth rate for both England (+2.7%) and the United Kingdom as a whole (+2.4%), with the rate in North Northamptonshire being more than one standard deviation more than the average for LPA areas in England.

17.6.6 The Scheme has an estimated operational life of up to 60 years, and for the purposes of the EIA, the Scheme is anticipated to be decommissioned no later than 2089, at which point, the national population of the UK is projected to grow by approximately 16.2% between 2021 and 2089 (Ref.37). Applied to the 2021 Census population, this generates a national population estimate of 77.8 million, generated almost entirely by population growth in England (+19.8% estimated growth). Applying the latter estimate to the Study Area, it can be estimated that the population in the Study Area may reach 1.51 million in 2089.

Resident Population: Age Demographics

17.6.7 As of 2021, the Study Area has an age profile that has a greater proportion of children, and working age people than the national population age profile (Ref.38, Ref.39, Ref.40). The largest five-year age bands are all from age 30 up to 59, together comprising 35.2% of the population in the Study Area. This is presented in **Plates 17.1** and **17.2** below.

Plate 17.1: Age Profile of the United Kingdom

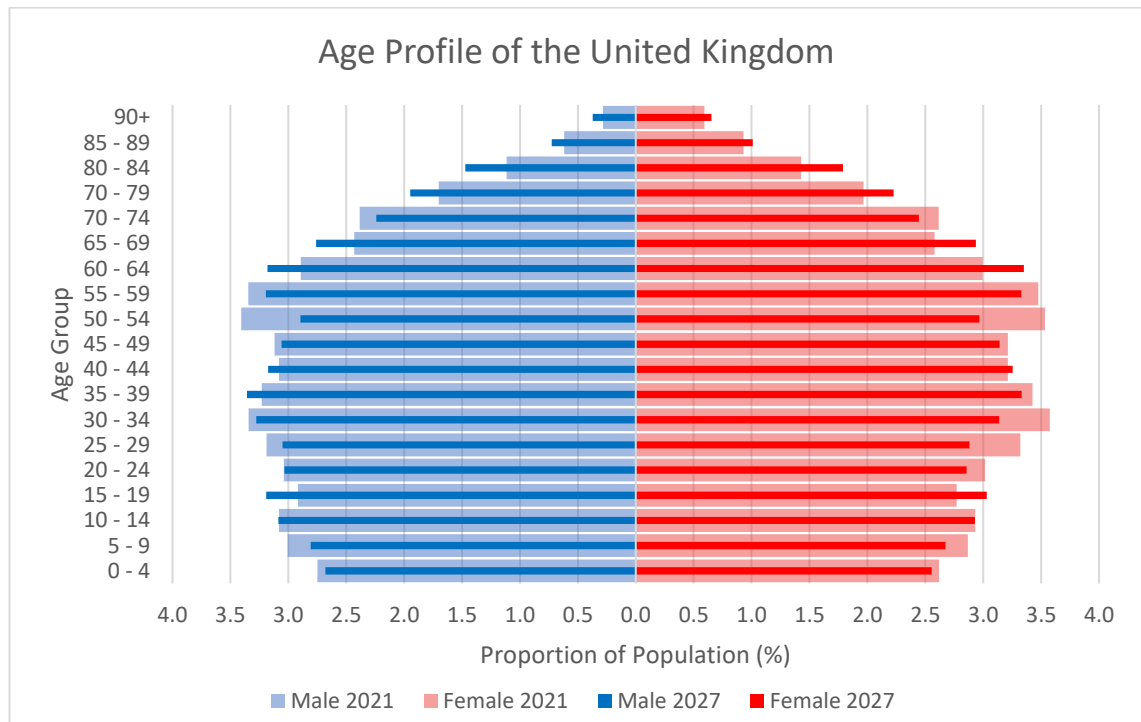
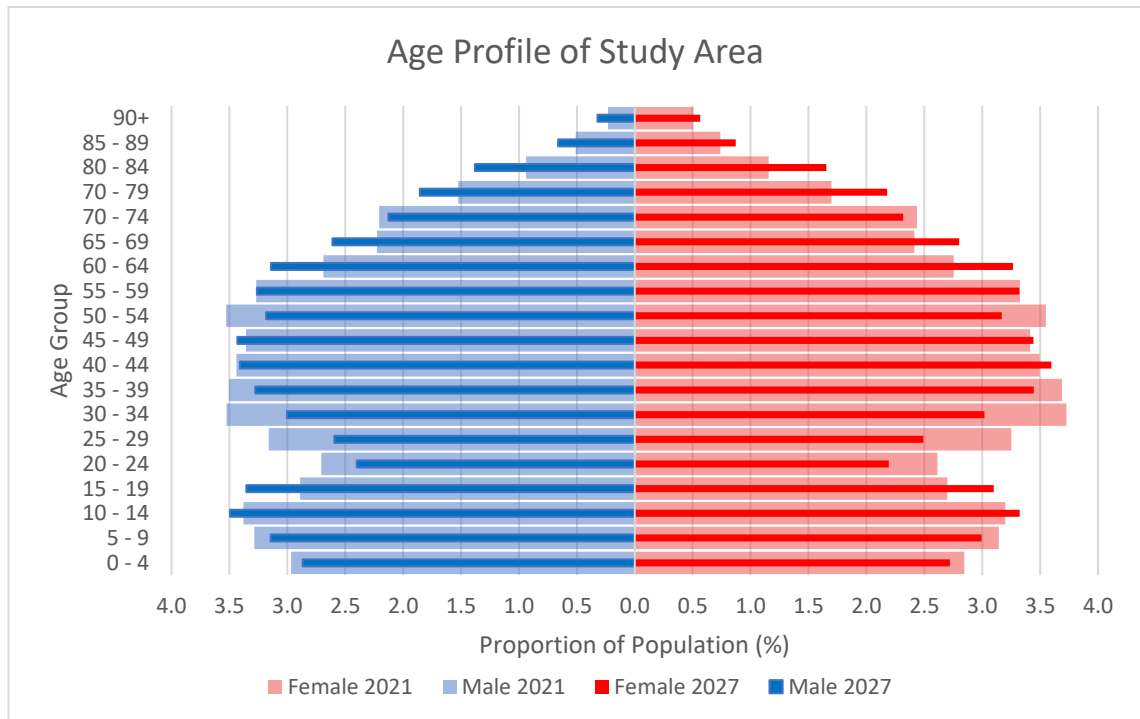




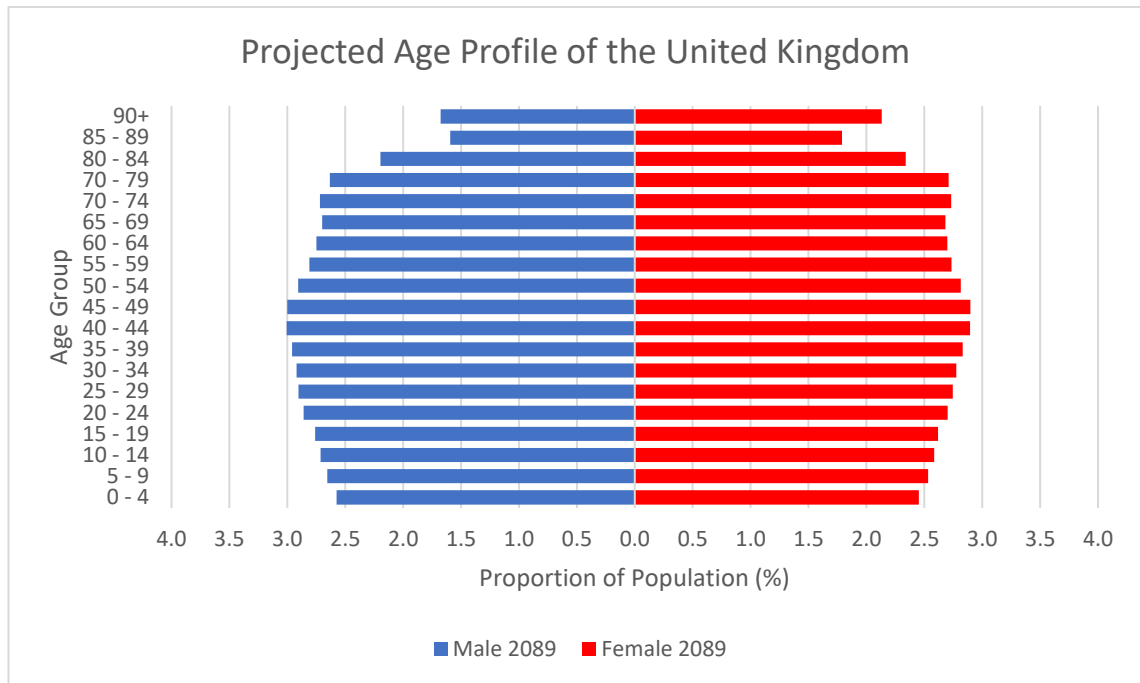
Plate 17.2: Age Profile of the Study Area



- 17.6.8 This is not, however, consistent across the authority areas within the Study Area. North Northamptonshire and Milton Keynes contrast notably in that North Northamptonshire has a greater proportion of its population in the age bands between 50 and 79 years of age, whereas Milton Keynes has a much greater proportion of children (5-14 years old) and young to middle age working aged people (25-49 years old). There is however a consistent trough across all four authority areas in ages 15 to 24, indicative of reducing birth rates in England and Wales in the late 1990s and 2000s (Ref.41) and exacerbated by the phenomenon of “brain-drain” as a result of young people moving out of the area to study or start their working careers.
- 17.6.9 These trends are projected to consistently move with age up to the year 2027, at which point the Study Area shows a very appreciable trough in population aged 20-34 years old, again indicative of exacerbated “brain-drain” amongst young working age adults. Furthermore, these show an increased proportion of the population reaching or nearing retirement age by 2027, likely to increase pressure on services and recreational facilities to cater for this growing demographic.
- 17.6.10 National population projections indicate that by the end of the Scheme’s operational lifetime, estimated for this EIA as being 2089, the age profile of the UK is likely to be weighted towards increasingly older demographics within the population (Ref.37). This is presented in **Plate 17.3** below. The 2089 projections estimate that all 5-year age bands up to age 79 years old will contain between 5% and 6% of the population, with over 90s accounting for 3.8% of the population. Notably, by this point, the proportion of the population above 70 years old (22.5%) will be greater than the number of under 20s (20.9%). Furthermore, all age groups up to 69 years old have a greater number of males than females, at which point the trend reverses for all older age bands.
- 17.6.11 Although no sub-national projection is available, it is likely that the Study Area will have an age profile that is structured by the same or similar trends.



Plate 17.3: Projected National Age Profile in 2089



Resident Population: Health Demographics

17.6.12 Resident population health and wellbeing baseline information is included in Section 18.6 of **Chapter 18: Human Health and Wellbeing**. This explores baseline conditions for physical health, mental health and wellbeing, and other wider determinants of health that are not explored elsewhere in the PEIR.

17.6.13 While the population of the Study Area is found not to be deprived of good health and life without disability compared to national trends, local area health profiles (see Tables 18.8 and 18.9 in **Chapter 18: Human Health and Wellbeing**) identify substantial variation in health outcomes across the Study Area and within the 2km ZOI, demonstrating notable levels of health inequalities. As such, the overall resident population is likely to be of medium sensitivity to changes in overall health demography.

Deprivation

17.6.14 The Indices of Multiple Deprivation 2019 provides the most up-to-date information regarding measures of population deprivation across England. The Study Area falls across a total of nine former district areas that were used for assessment in 2019. Each area has the following rank of the 317 authority areas (where “1st” is the most deprived area in England) (Ref.42):

- Bedford – 156th
- Milton Keynes – 172nd
- North Northamptonshire:
 - Corby – 70th
 - Wellingborough – 124th
 - Kettering – 161st
 - East Northamptonshire – 226th
- West Northamptonshire:



- Northampton – 105th
- Daventry – 243rd
- South Northamptonshire – 312th

17.6.15 Whilst there are significant deprivation inequalities present within the Study Area, the Sites and the majority of the Cable Route Search Area fall within Lower Super Output Areas that are in the 40% least deprived neighbourhoods in England (Ref.43).

17.6.16 The population of the Study Area is more likely than the national average to be deprived of access to suitable education and skills attainment, although this is of greatest concern in the former districts of Corby, Wellingborough, and Northampton. Barriers to accessing suitable housing and services are prevalent in many of the district areas, with Milton Keynes performing poorest of the areas in the Study Area. Some parts of the Study Area are also at risk of being more deprived than the national average in relation to health and crime, particularly within more urban areas such as in Corby and Northampton. The former council area of South Northamptonshire is a notable outlier in the Study Area as it performs better than the national average in all measured indices of deprivation.

17.6.17 As a result, this determines that the sensitivity of the population to changes in both the skills and qualifications environment, and in access to housing and accommodation is medium.

Access to Housing and Accommodation

Housing

17.6.18 The affordability threshold for housing in England and Wales is defined by ONS as the median average house value being 5 times the average (median) workplace-based full-time earnings. In the year 2023, the average ratio of earnings to average house value was 8.14, while in the Study Area, the 2023 ratio ranged from 8.2 to 9.7 (Ref.44). Although this is generally consistent with national rates, this demonstrates that homes in the Study Area are generally not affordable for a majority of workers. This therefore indicates that the local populace are more likely to be reliant on rented accommodation, living with parents to a greater age, or reliant on joint incomes to afford home ownership.

17.6.19 With regard to housing supply, each of the four authorities within the Study Area is required to evidence a five-year supply of housing land. The most recent results are shown in **Table 17.7** below. In summary, the authorities in the Study Area are able to demonstrate a five year supply of housing, although this is significantly skewed by projected undersupply in West Northamptonshire. As a result, there may be some parts of the population in West Northamptonshire who are unable to access suitable housing.

Table 17.7 Supply of Housing Land

Area	Reference period	Housing need over 5 years	Projected housing supply over 5 years	No. Years of Deliverable Supply
Bedford (Ref.45)	2023-2028	3,122	4,326	6.93
Milton Keynes (Ref.46)	2022-2027	9,277	11,320	6.10
North Northants. (Ref.47)	2023-2028	9,730	12,534	6.69
West Northants. (Ref.48)	2024-2029	19,218	14,654	3.81
Study Area	-	41,347	42,834	5.18



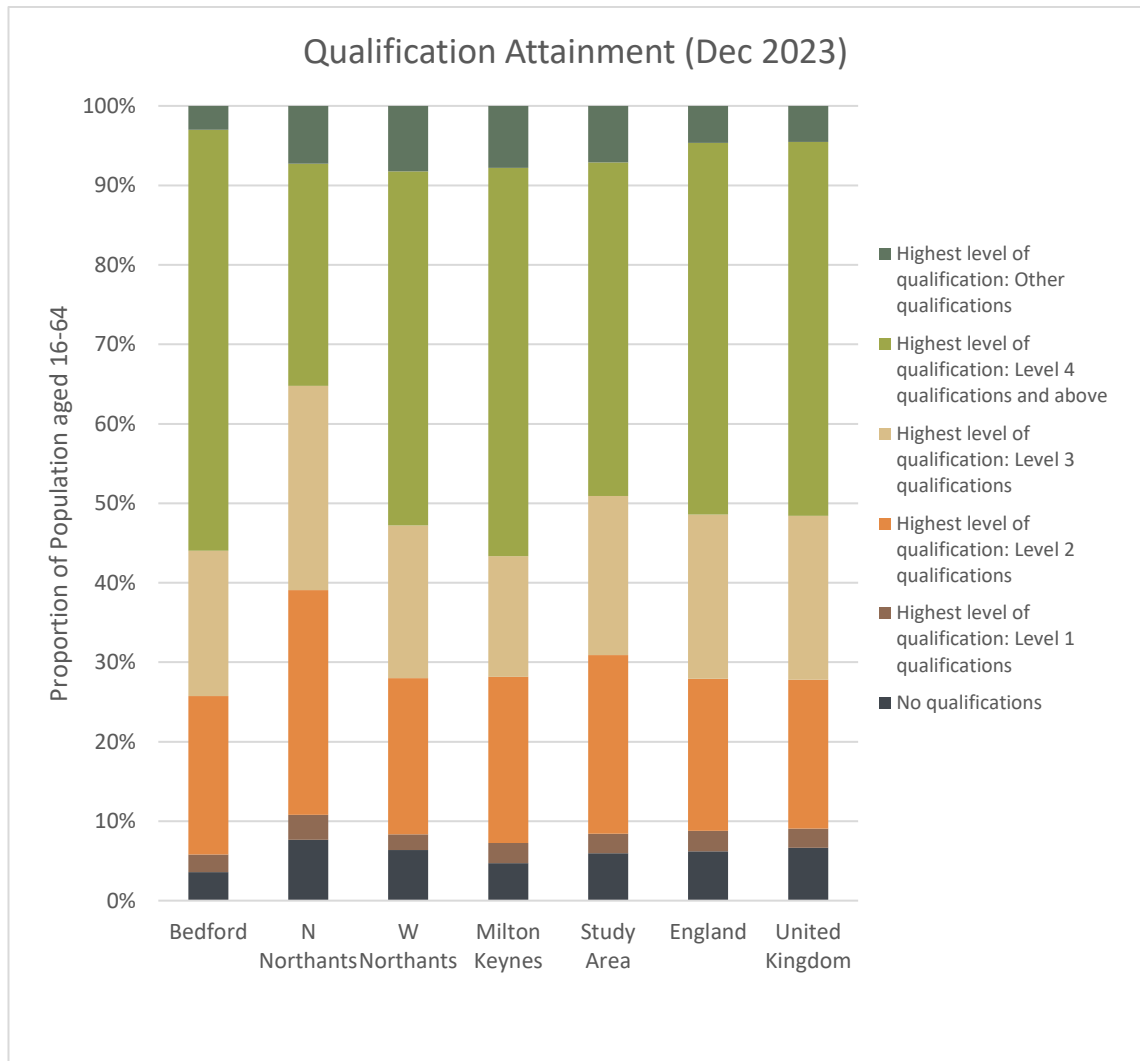
- 17.6.20 The construction workforce associated with the Scheme is likely to consist of a significant number of workers who live outside the Study Area. Whilst some of these workers may commute in, it is considered reasonable to assess the likelihood that these workers would require temporary accommodation in the Study Area during the construction period. These are most likely to be accommodated in private rental accommodation.
- 17.6.21 The 2021 Census estimates that 19.3% (98,400) of households in the Study Area are in private rental accommodation. This is lower than the national average rate for England of 20.5% (Ref.49). The English Housing Survey 2022 to 2023 indicates that across England, 10.3% of all private rented dwellings are vacant (Ref.50). Applying a very conservative estimate that the rate in the Study Area is half this proportion (5.2%), based on no sub-national information being available, and that not all vacant properties would be available for occupancy, this implies that there is an estimated 5,100 vacant private rental properties in the Study Area, of which an estimated 135 are within 2km of the Sites and Cable Route Search Area.

Skills and Qualification Attainment

- 17.6.22 The qualification attainment rate within the Study Area at the time of the December 2023 Annual Population Survey indicates a significant variance in skills and qualification between the four subject local authority areas within the Study Area and national qualification attainment rates (Ref.51). Qualification attainment rates between England and the United Kingdom as a whole are broadly consistent, largely as a result of England making up approximately 84% of the UK population.
- 17.6.23 The proportion of the population between the ages 16-64 years old achieving no qualifications varies significantly, with Bedford having a notably low rate of 3.6% compared to the high rate of 7.7% in North Northamptonshire. The resultant combined Study Area has a rate of 6.0%, which is consistent with, albeit slightly lower than, the national rates for England (6.2%) and the UK (6.6%). Across the Study Area there is a consistently greater than average proportion of the working age population with a maximum qualification of NVQ (National vocational qualification) Level 2 or equivalent. Attainment of NVQ Level 4 and higher qualifications is also widely varied across the Study Area, ranging from 27.9% in North Northampton to 53.0% in Bedford. Across the Study Area, the overall rate of Level 4 and higher qualifications stands at about 42.0%, compared to 46.7% in England, and 47.1% across the UK.
- 17.6.24 These can be seen in more detail in **Plate 17.4** below.



Plate 17.4: Qualification Attainment Rate in ages 16-64 as of December 2023



17.6.25 The variance in qualification attainment rates across the authority areas within the Study Area demonstrate a number of sectors that are significantly different to the national average. In North Northamptonshire, the proportion of the working age population achieving no greater than an NVQ Level 2 qualification is significantly higher than the national average, while the proportion of the working age population achieving NVQ Level 4 or higher qualification is significantly lower. Across North Northamptonshire, West Northamptonshire, and Milton Keynes, the attainment of other qualifications is significantly higher than the national average. As a result of this variance, the population of the Study Area is of no less than a medium sensitivity to changes to baseline conditions relating to skills, education and qualification.

Economic Activity and Unemployment

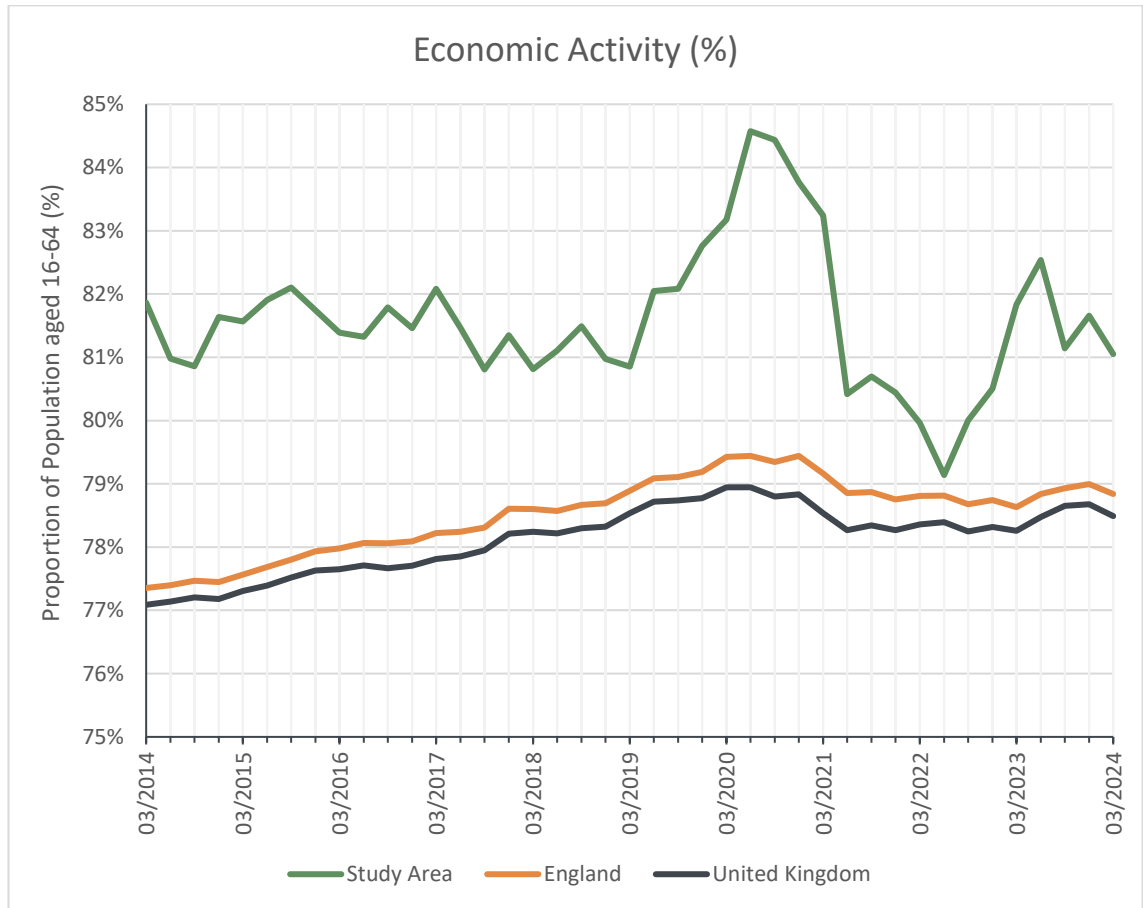
Economic Activity Rate

17.6.26 The economically active population is defined as the members of the working age (16-64-year-old) population being in employment, and those who are seeking employment and are able for work. Economically inactive members of a population are predominantly categorised by retirement, those in full-time education not seeking employment, full-time carers of family members, and long-term sick and disabled people.



17.6.27 The March 2024 Annual Population Survey indicates that the Study Area has an economic activity rate of 81.0% (Ref.52). Trends in economic activity since 2014, as can be seen in **Plate 17.5**, show that the Study Area has had a far more fluctuating, albeit consistently higher, activity rate than the national trends for England and the UK (which have remained relatively consistent, albeit with a slight upward trend).

Plate 17.5: Economic Activity from 2014-2024



17.6.28

17.6.29 Notably in the period Jun 2020-Jun 2022, the economic activity rate in the Study Area has dropped from a peak of 84.6% down to low of 79.1%. In the same period, the national rate dropped from 78.9% to 78.2%. Whilst this may be the result of several underlying factors, it is likely that the economy of the Study Area has been disproportionately affected by the COVID-19 pandemic. That notwithstanding, economic activity has been higher in the Study Area than the national rates for England and the UK at all surveyed points between 2013 and 2023.

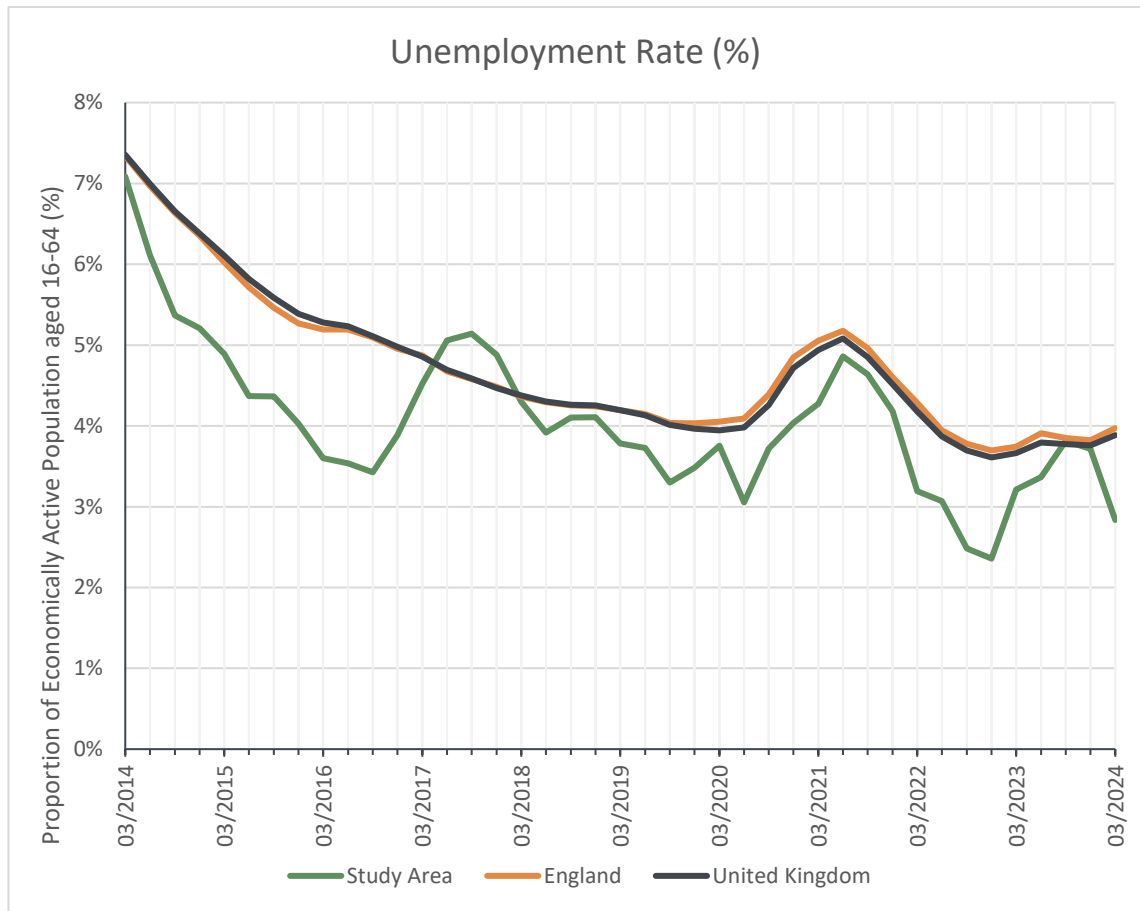
Unemployment

17.6.30

The March 2024 Annual Population Survey measures the unemployment rate as being the proportion of the economically active population who are not in active employment. National trends from 2014-2024 show unemployment has fallen from 7.4% in 2014 to a low of 3.6% in 2022, with an interim rise to 5.1% in 2021 (Ref.53), likely as a result of economic impacts from the COVID-19 pandemic. The trend in England has closely tracked the national trend over the decade. Data for the Study Area shows the overall trend for the Study Area also follows the national trend but shows far more exaggerated year-on-year fluctuations. Largely, the unemployment rate in the Study Area has been lower than national rates. This is shown in **Plate 17.6** below.



Plate 17.6: Unemployment Rate from 2014-2024



Employment and Wages

Employment Rate

17.6.31 Closely related to the rates of economic activity, the rate of residents in the Study Area between 16 and 64 years of age who are in employment has fluctuated considerably in the last 10 years. Growth in the employment market in the Study Area since 2014 has largely trended with the regional and national trends, although the employment rate has remained above national rates. From 2014 to 2024, the employment market in the Study Area has grown by 7.5% (equivalent to approximately 40,700 people), with the rate of employment increasing from 76.1% to 78.8% of the population aged 16-64 (Ref.54). The employment count and rate were at their highest in June 2020 following rapid growth prior to significant lows in June 2021, most likely as a result of the economic impacts of Brexit and the COVID-19 pandemic. This is shown in **Plates 17.7** and **17.8** below.



Plate 17.7: Employment Count 2014-2024 related to 2014 baseline

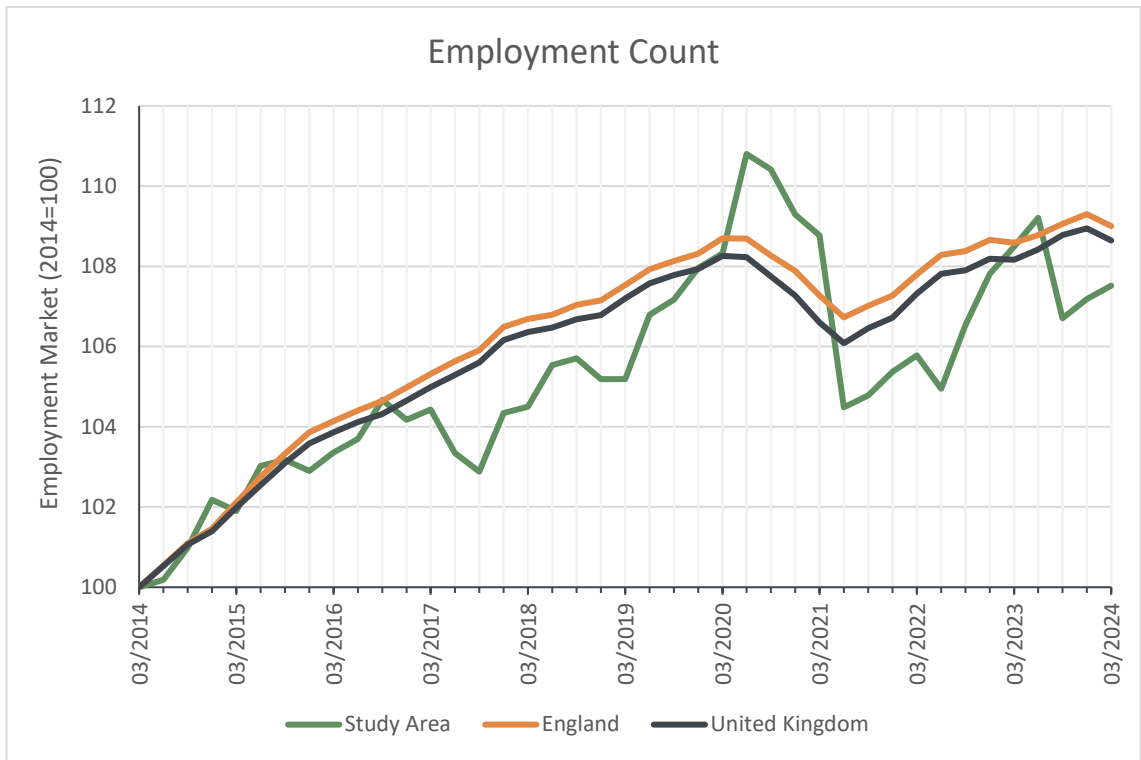
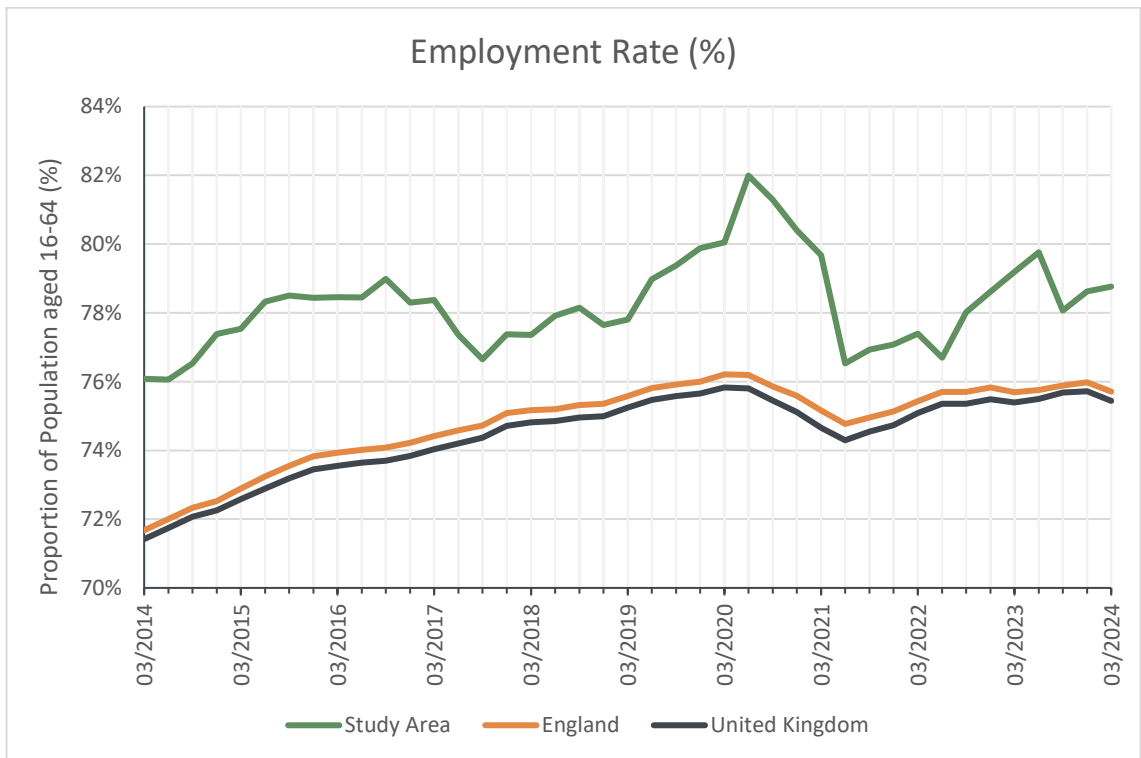


Plate 17.8: Employment Rate in 16-64 year olds from 2014-2024





Wages

17.6.32 For residents within the Study Area, the approximated median annual gross salary for full-time workers (in 2023) was £34,200. This is marginally lower than the median of England, at £35,100, and the UK median, at £35,000 (Ref.55). Income is uneven across the four constituent authorities within the Study Area, with residents in Milton Keynes earning approximately £5,000 more than their counterparts in North Northamptonshire.

17.6.33 Since 2013, approximated median annual gross wages for working residents in the Study Area have risen by approximately 22.3% (£6,250). This trajectory has not however been consistent, as it includes a drop in median wages from the 2013 basepoint in 2014 and 2015. The rate of annual wage growth has also varied somewhat across the Study Area, ranging from a 20.3-24.7% growth from 2013 to 2023. This is however consistently below median wage rises in the England (28.2% – £7,725) and nationally across the UK (29.4% – £7,950) in the decade 2013-2023 (Ref.55). It is noteworthy that Consumer Price Index (CPI) compared to 2013 is 134.2 in 2023, demonstrating that the costs of goods and services are on average 34.2% higher in 2023 than 2013. This likely indicated that on average people nationally, and especially in the Study Area have proportionally less surplus income or purchasing power as they did in 2013. These trends are shown in **Plate 17.9** by income in GBP (£) and proportionally to the 2013 base figure in **Plate 17.10**.

Plate 17.9: Resident Median Annual Gross Income 2013-2023

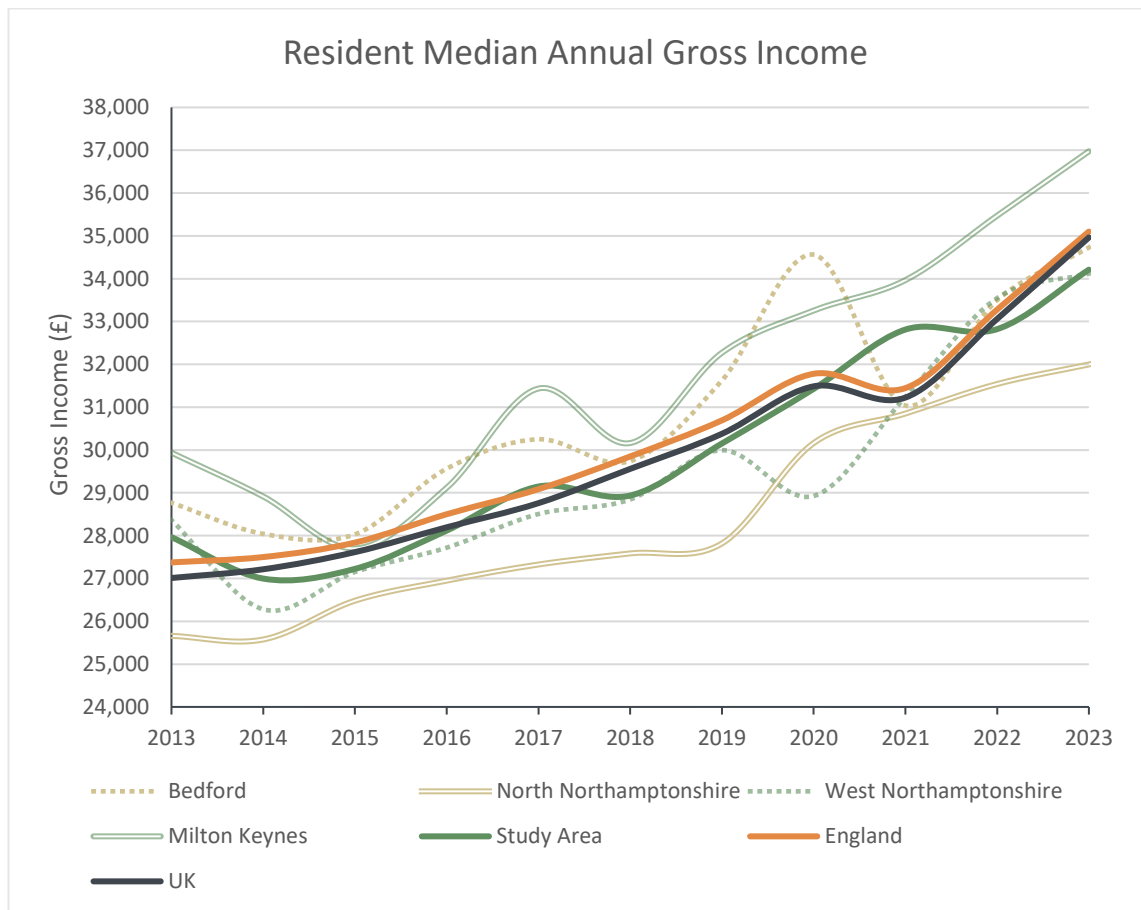
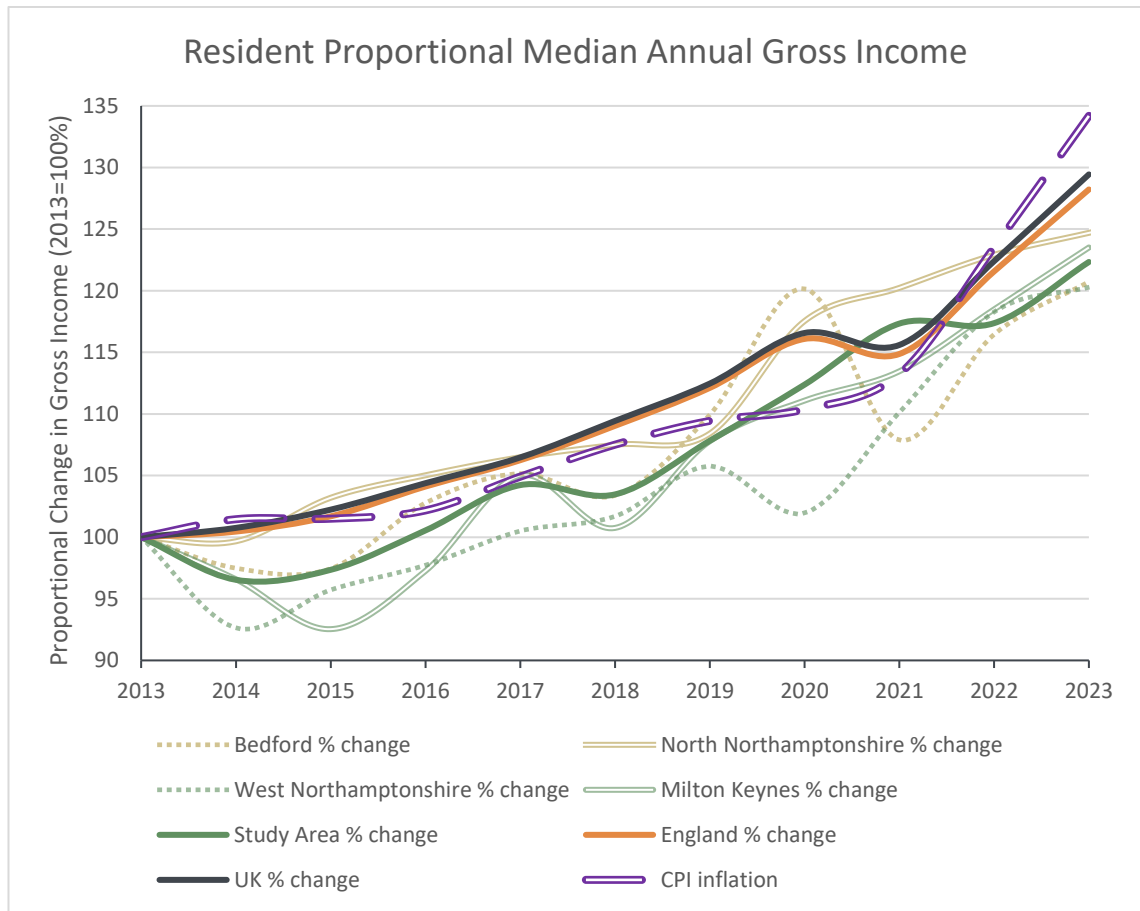




Plate 17.10: Resident Median Annual Gross Income 2013-2023 related to 2013 baseline



- 17.6.34 For workers within the Study Area, the approximated median annual gross salary for full-time employment (in 2023) was £33,900. This is marginally lower than the median for residents, and is resultantly lower than that of England and the UK median (Ref.56). This small difference between resident and workplace median pay indicates that it is likely that a small proportion of employees may travel outside the Study Area to access higher-paid work, or that lower-paid workers are more likely to travel into the area. As with residents’ median pay, there is a significant difference across the four constituent authorities within the Study Area, with workers in Milton Keynes earning approximately £6,100 more than workers in North Northamptonshire.
- 17.6.35 Since 2013, approximated median annual gross wages for full-time workers in the Study Area have risen by approximately 28.3% (£7,475). Median wages for workers have generally trajected upwards in the Study Area, largely following national trends for England (28.3% – £7,735) and nationally across the UK (29.4% – £7,950) in the decade 2013-2023 (Ref.56). Within the Study Area however, workplace wage growth has varied significantly in the reference period, with wage growth ranging from 25.4% in West Northamptonshire to 40.4% in Bedford. Only in North Northamptonshire and Bedford has wage growth met or exceeded Consumer Price Index (CPI) compared to 2013.
- 17.6.36 These trends are shown in **Plate 17.11** by income in GBP (£) and proportionally to the 2013 base figure in **Plate 17.12**.



Plate 17.11: Workplace Median Annual Gross Income 2013-2023

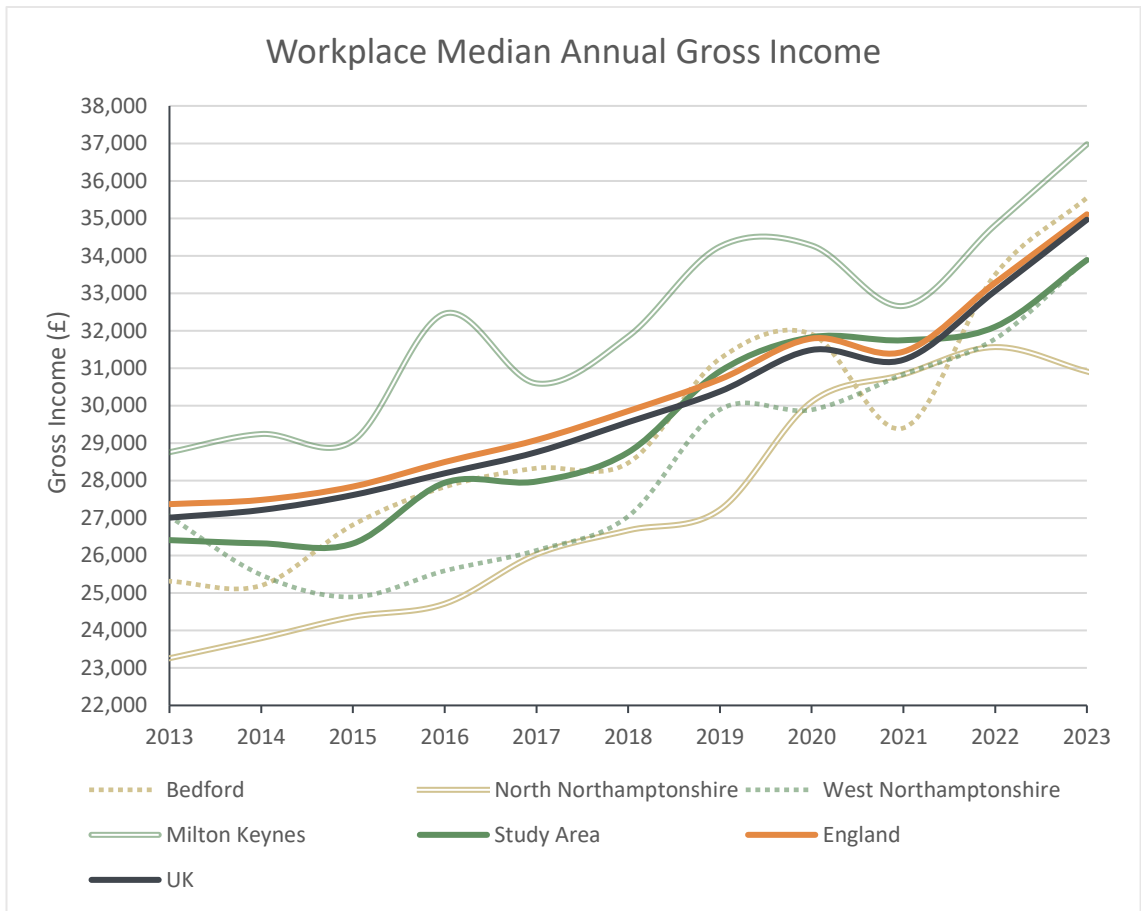
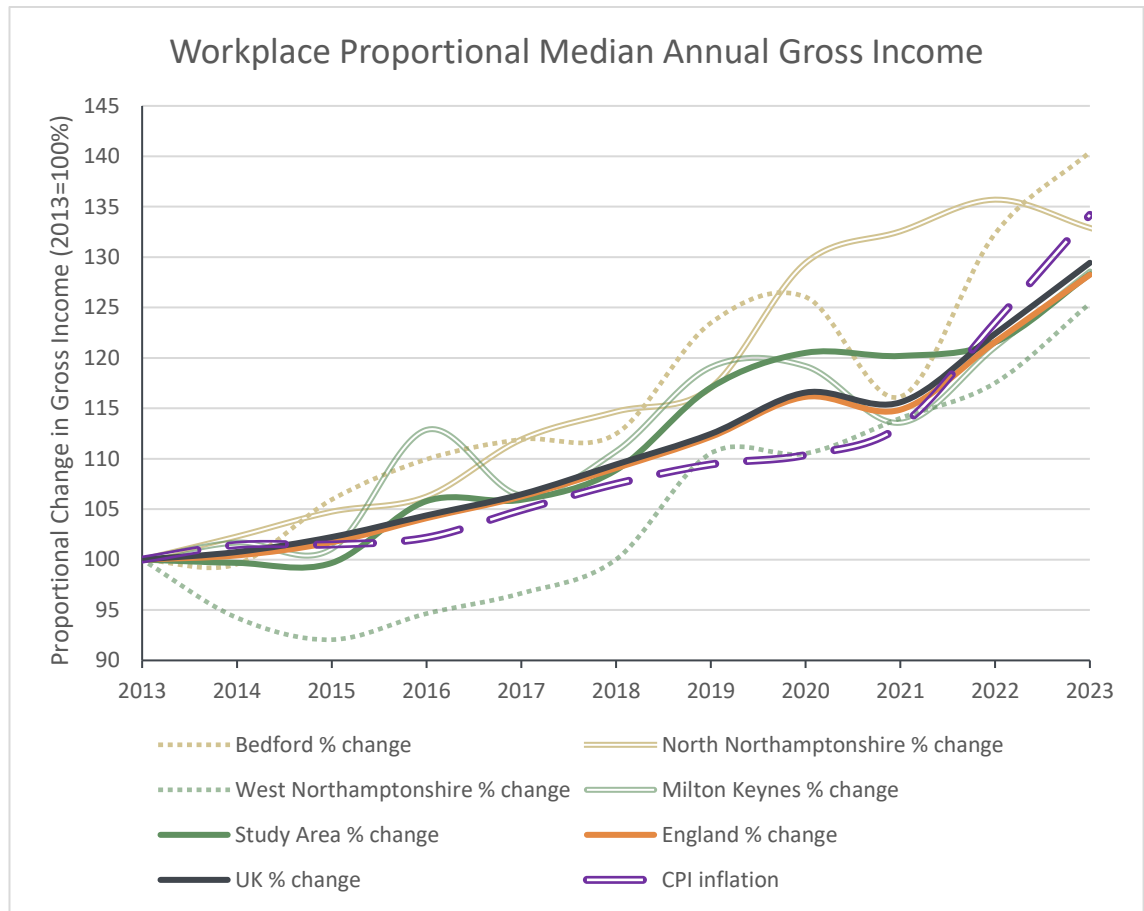




Plate 17.12: Workplace Median Annual Gross Income 2013-2023 related to 2013 baseline

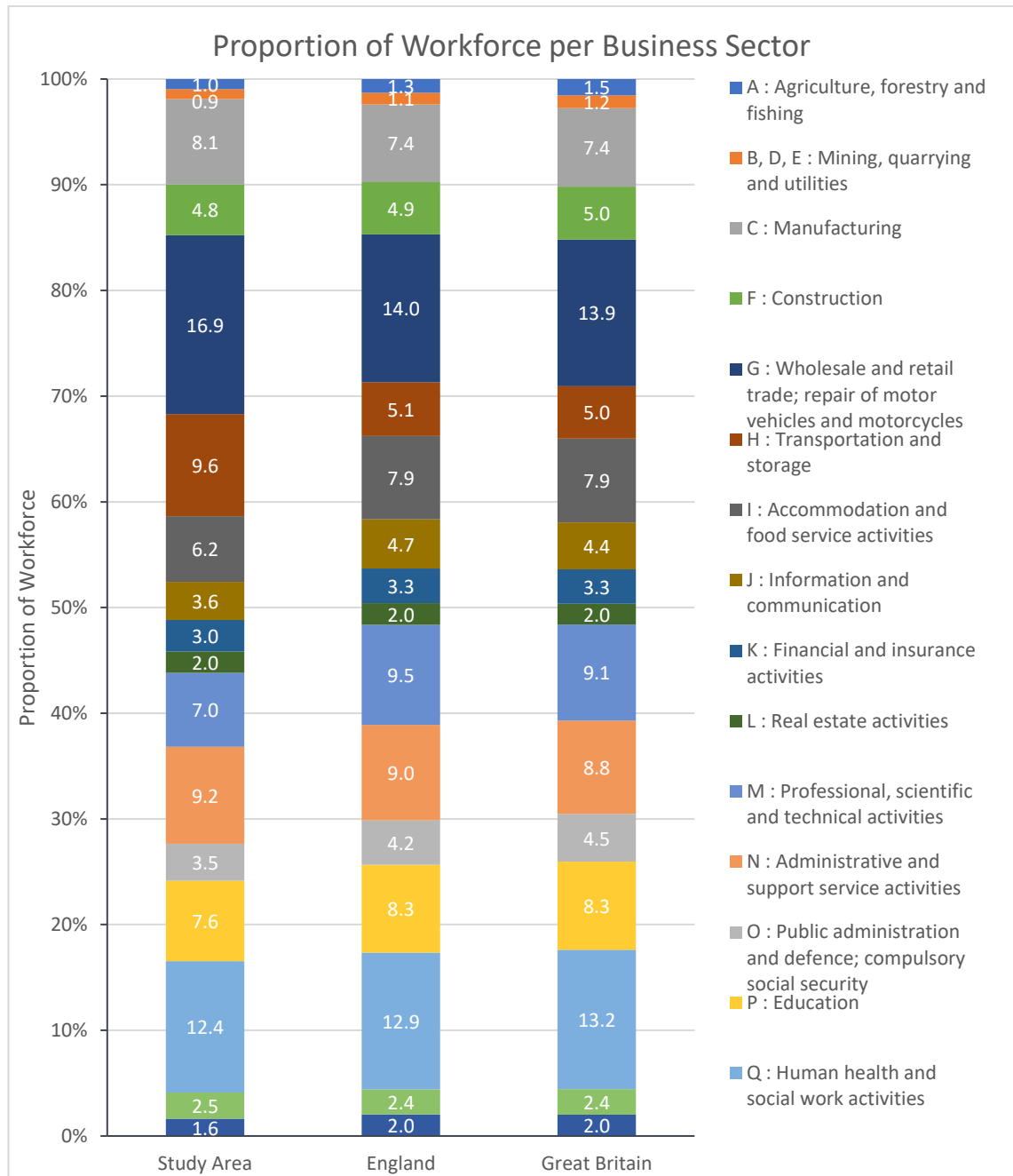


Business Sector Workforce

- 17.6.37 The 2022 Business Register and Employment Survey (BRES) documents a working population in the Study Area in 2022 of approximately 643,600, which constitutes approximately 2.3% of the working population of England of 27,952,000 (Ref.57). **Plate 17.13** below presents a detailed breakdown of the proportion of the workforce in broad business sectors in the Study Area, shown comparatively against England and Great Britain.
- 17.6.38 The 2023 Business Register and Employment Survey is due to be published in October 2024, and thus will be used to inform the final ES for DCO submission.



Plate 17.13: Proportion of Workforce per Business Sector



17.6.39 **Plate 17.13** above demonstrates the largest business sector by percentage of employed workforce in the Study Area is wholesale and retail trade and repair of motor vehicles and motorcycles (G) (16.9%), followed by human health and social work activities (Q) (12.4%), and transportation and storage (H) (9.6%). This compares to the English and national (Great Britain only) largest three sectors: wholesale and retail trade and repair of motor vehicles and motorcycles (G) (14.0% Eng, 13.9% GB), human health and social work activities (Q) (12.9% Eng, 13.2% GB) and professional, scientific and technical activities (M) (9.5% Eng, 9.1% GB).

17.6.40 There is, however, a significant level of variation across the four constituent authority areas that make up the Study Area. Wholesale and retail trade and repair of motor vehicles and motorcycles (G) is consistently the largest sector (ranging from 15.1%-19.6%), while human health and social



work activities (Q) is the second largest in all areas except for Milton Keynes (where it is the 4th largest). The second largest sector in Milton Keynes is instead joint between transportation and storage (H), and education (P). In North Northamptonshire, manufacturing (C) is joint second largest with human health and social work activities (Q). The third largest sector in Bedford is administrative and support service activities (N) and in West Northamptonshire is transportation and storage (H). (Ref.57). Of further note, the agriculture, forestry and fishing (A) sector is the smallest sector in both Milton Keynes and Bedford, while the information and communication sector (J) in Milton Keynes is substantially larger than other geographic areas.

17.6.41 By number of standard deviations away from the national mean, the Study Area's wholesale and retail trade and repair of motor vehicles and motorcycles (G) sector, and transportation and storage (H) sector are both significantly larger by business proportion than the national level. No industry in the Study Area is significantly smaller than the national mean.

17.6.42 At the individual authority level, wholesale and retail trade and repair of motor vehicles and motorcycles (G) sector is significantly larger than average in Bedford, North Northamptonshire, and Milton Keynes. The transportation and storage (H) sector is significantly larger than average in North Northamptonshire, West Northamptonshire, and Milton Keynes. Additionally, Bedford has two further sectors falling more than one standard deviation from the national rates: the real estate activities (L) sector is significantly larger than national rates, while the arts, entertainment and recreation (R) sector is significantly smaller.

Local Economy

17.6.43 The size of the local economy can be measured using Gross Value Added (GVA), which measures the value of goods and services in a given area. The most recent data for GVA available in the UK is from 2022 (for compatibility with BRES 2022 results Northern Ireland has been excluded). The Study Area had a GVA (balanced) of £42.6 billion, forming approximately 2.2% of England's GVA of £1.94 trillion, with Great Britain having a GVA of £2.18 trillion (Ref.58, Ref.59). Within the Study Area, the amount of GVA generated proportionally by authority area is:

- Bedford: 11.2%;
- Milton Keynes: 35.3%;
- North Northamptonshire: 19.2%; and
- West Northamptonshire: 34.3%.

17.6.44 By industry, the nominal and proportional split in GVA has been demonstrated in **Table 17.8** below in comparison with the values and proportions for England and Great Britain. A notably larger part of the local economy (in the Study Area) is generated in the arts, entertainment and recreation (R) sector than the national average, by more than one standard deviation. This is driven in large by this economic sector being very strong in West Northamptonshire and Milton Keynes. The wholesale and retail trade and repair of motor vehicles and motorcycles (G) sector is also larger than average but not by more than one standard deviation. In contrast, no sector is significantly smaller than the national average, although the accommodation and food service activities (I) and information and communication (J) sectors are both notably smaller than national trends.

17.6.45 Table 17.8 furthermore presents the GVA per sector of assessment-specific sub-sectors, so defined because they are likely to be directly affected by the Scheme. These are agriculture, forestry and fishing (A); electric power generation, transmission and distribution (35.1 – part of E (electricity and utilities)); and construction of utility projects and other civil engineering projects (42.2, 42.9 – part of F (construction)). It identifies that electric power generation, transmission and distribution is notably larger than the national average as a sub-sector, while construction of utility projects and other civil engineering projects is notably smaller than the national average as a sub-sector.



Table 17.8 GVA per Industrial Sector

Industrial Sector	Study Area		England		Great Britain	
	GVA (£million)	% total	GVA (£million)	% total	GVA (£million)	% total
Total	42,608	100.0%	1,940,258	100.0%	2,180,504	100.0%
Broad Industrial Sector						
Agriculture, mining, electricity, gas, water and waste (A, B, D, E)	1,267	3.0%	55,440	2.9%	70,854	3.2%
Manufacturing (C)	4,681	11.0%	176,156	9.1%	204,464	9.4%
Construction (F)	3,104	7.3%	120,679	6.2%	135,012	6.2%
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	6,083	14.3%	204,621	10.5%	226,981	10.4%
Transportation and storage (H)	2,500	5.9%	69,493	3.6%	77,214	3.5%
Accommodation and food service activities (I)	1,009	2.4%	60,898	3.1%	69,268	3.2%
Information and communication (J)	1,537	3.6%	135,933	7.0%	144,705	6.6%
Financial and insurance activities (K)	3,564	8.4%	180,513	9.3%	199,088	9.1%
Real estate activities (L)	4,340	10.2%	248,170	12.8%	275,003	12.6%
Professional, scientific and technical activities (M)	2,851	6.7%	168,474	8.7%	182,222	8.4%
Administrative and support service activities (N)	2,308	5.4%	102,130	5.3%	111,659	5.1%
Public administration and defence; compulsory social security (O)	1,668	3.9%	92,903	4.8%	111,248	5.1%
Education (P)	2,617	6.1%	115,915	6.0%	131,507	6.0%
Human health and social work activities (Q)	2,930	6.9%	144,580	7.5%	170,014	7.8%
Arts, entertainment and recreation (R)	1,123	2.6%	27,514	1.4%	30,519	1.4%
Other service activities (S, T, U)	1,026	2.4%	36,085	1.9%	39,992	1.8%
Assessment-specific Industrial Sector						
Agriculture, forestry and fishing (A)	255	0.60%	13,539	0.70%	17,981	0.82%
Electric power generation, transmission and distribution (35.1 – E)	382	0.90%	9,508	0.49%	12,909	0.59%



Industrial Sector	Study Area		England		Great Britain	
	GVA (£million)	% total	GVA (£million)	% total	GVA (£million)	% total
Construction of utility projects and other civil engineering projects (42.2, 42.9 – F)	208	0.49%	14,534	0.75%	16,146	0.74%

17.6.46 Per worker across the Study Area, the 2022 GVA per head is approximately £66,200. This is slightly lower than the GVA per worker across England (£69,400) and Great Britain (£68,300). That notwithstanding, the GVA per worker across the Study Area is unevenly split across the four constituent authorities, ranging from £53,600 in North Northamptonshire to £82,300 in Milton Keynes. Despite this difference, the GVA per worker for each of the four authorities lies within one standard deviation of the national mean. These figures have been derived from total GVA by industry ONS data, compared against BRES data for the year 2022 (Ref.57, Ref.58, Ref.59)

17.6.47 The GVA per worker varies considerably by different industrial sectors both nationally and within the Study Area. **Table 17.9** below sets the comparative differences in GVA per worker between the four local authorities within the Study Area, against the Study Area as a whole, and the combined figures for both England, and Great Britain. The GVA per worker is considerably higher in Milton Keynes than any other authority within the Study Area. Notably, Milton Keynes has a significantly greater GVA per worker than the national average in the wholesale and retail trade and repair of motor vehicles and motorcycles (G) sector; education (P) sector; arts, entertainment and recreation (R) sector; and in the other service activities (S, T, U) sector. The latter sectors (R, S, T, U) are so substantially greater in Milton Keynes that the average GVA per workers across the Study Area is resultantly more than one standard deviation greater than the national mean for these sector groups. It is also notable that the GVA per worker in each of the assessment-specific industrial sub-sectors identified are all higher than the national rates.

Table 17.9 GVA per Worker by Industrial Sector (£)

Industrial Sector	Bedford	Milton Keynes	North Northants.	West Northants.	Study Area	England	GB
Overall	58,062	82,296	53,608	64,669	66,203	69,414	68,307
Broad Industrial Sector							
Agriculture, mining, electricity, gas, water and waste (A, B, D, E)	128,780	131,054	66,667	108,215	104,711	82,746	80,333
Manufacturing (C)	90,800	113,273	83,000	82,588	90,019	85,637	86,235
Construction (F)	83,800	111,833	80,500	114,167	100,129	87,385	84,541
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	45,357	79,387	41,433	51,294	55,807	52,319	51,295



Industrial Sector	Bedford	Milton Keynes	North Northants.	West Northants.	Study Area	England	GB
Transportation and storage (H)	35,000	46,778	41,067	36,174	40,323	48,836	48,715
Accommodation and food service activities (I)	28,667	28,500	20,200	25,000	25,225	27,706	27,378
Information and communication (J)	52,000	66,417	66,000	70,833	66,108	104,286	102,380
Financial and insurance activities (K)	42,000	195,333	76,000	230,000	185,143	196,629	191,613
Real estate activities (L)	280,800	290,000	357,000	402,000	333,846	434,622	438,600
Professional, scientific and technical activities (M)	34,400	89,600	35,667	63,375	63,356	63,768	62,770
Administrative and support service activities (N)	25,143	55,625	39,000	31,957	39,119	40,384	39,581
Public administration and defence; compulsory social security (O)	83,333	110,400	50,500	59,889	74,133	79,200	77,255
Education (P)	50,429	63,000	43,200	49,857	53,408	49,920	49,476
Human health and social work activities (Q)	43,583	40,941	30,368	35,438	36,625	39,983	40,393
Arts, entertainment and recreation (R)	36,000	93,800	36,667	72,571	70,188	41,373	39,327
Other service activities (S, T, U)	74,400	126,250	75,111	86,333	97,714	63,949	62,763
Assessment-specific Industrial Sector							
Agriculture, forestry and fishing (A)	30,000	21,782	53,867	41,051	41,514	37,401	36,696
Electric power generation,	206,087	174,400	88,000	199,111	186,448	135,833	140,311



Industrial Sector	Bedford	Milton Keynes	North Northants.	West Northants.	Study Area	England	GB
transmission and distribution (35.1 – E)							
Construction of utility projects and other civil engineering projects (42.2, 42.9 – F)	118,333	234,286	160,000	130,000	149,776	133,344	124,201

Tourism and Recreation

Tourism Economy

- 17.6.48 The Study Area falls across the area covered by three tourism and visitor strategy and data areas: Northamptonshire, Bedford (as part of Bedfordshire), and Milton Keynes (some sources as part of Buckinghamshire). Each of the three areas has its own official tourism and visitors’ information website.
- 17.6.49 Discover Northamptonshire, which covers all of the county of Northamptonshire (comprising North Northamptonshire Council authority area and West Northamptonshire Council authority area), estimates the tourism and visitor economy of the county as being worth £567 million per year, generated by 15.9 million annual visitors, supporting approximately 31,000 jobs (Ref.60). The county’s Visitor Economy Strategy (Ref.27) identifies Rushden Lakes as the county’s largest single visitor attraction (both by number of visitors and quantum of spending) for extensive retail and some recreational users. The Visitor Economy Strategy recognises the importance of events, day-visits (such as to historic locations) and experience-based attractions as fundamental to the tourism and visitor economy in the county. Furthermore, sport plays a large role in the county visitor economy due to international level motorsports at Silverstone (Formula 1 and MotoGP), and national level cricket and rugby in Northampton.
- 17.6.50 The tourism information service for the Milton Keynes authority area, known as Destination MK provides extensive visitor information including accommodation booking, events, and points of interest. Milton Keynes is promoted as a destination for retail, and for day visits, with specific regard given to Bletchley Park for its historic significance. Sport and recreation feature greatly as visitor attractions, with emphasis placed on the large network of urban parks in the city, and access to football, cycling and indoor skiing as well as hosting the Red Bull Formula 1 team factory (Ref.61).
- 17.6.51 The Bedford Borough Council authority area falls within the visitor strategy area for Bedfordshire, with tourism and visitor information provided by the organisation Experience Bedfordshire (Ref.62). In the Bedford Borough Council authority area, key attractions include the Bedford town centre, for its riverside, historic, and entertainment attractions. Rural Bedford hosts a number of country parks and sports facilities. Much like Northamptonshire and Milton Keynes, motorsport plays a prominent role in the localised visitor economy, hosting the Santa Pod Raceway and Bedford Autodrome.
- 17.6.52 The most recent International Passenger Survey data shows that in the calendar year 2023, the UK received 38.0 million inbound visitors, 7% less than in 2019 (40.9 million), although more than 20% more than 2022 as a result of the tourism and visitor industry recovering following the



COVID-19 pandemic. Spending by inbound visitors in 2023 reached £31.1 billion, some 17% more than the £28.4 billion spent in 2019 (Ref.63).

17.6.53 In England between 2021 and 2023, domestic tourism and visitors annually contributed approximately £71.5 billion to the economy through spending from an estimated £157.4 million domestic overnight trips and holidays, and more than £967.8 million day trips (Ref.64).

17.6.54 Forecasts for the year 2024 anticipate visitor numbers and spending in 2024 may continue toward 2019 (pre-COVID) levels by the first quarter 2025, however the forecast recognises that ongoing economic pressures are impacting upon disposable income for visitors, but with a more positive economic forecast for the second half of the year potentially helping to improve consumer spending (Ref.65).

17.6.55 Tourism and visitor spending in the visitor strategy areas for Bedfordshire, Buckinghamshire, and Northamptonshire (focussing only on those areas which also cover the Study Area) has been estimated from the 2023 International Passenger Survey and 2023 Great Britain Tourism Survey and Great Britain Day Visits Survey. The breakdown per area is set out below in **Table 17.10** below.

Table 17.10 Tourism and Visitor Spending and Visits

	Bedford	Milton Keynes	North Northants.	West Northants.	Study Area
Total Spending (£ million)	152.5	289.4	283.5	335.6	1,060.9
Inbound Visitor Spending (£ million)	24.6	53.5	33.8	40.1	152.0
Domestic Overnight Trip Spending (£ million)	64.2	70.0	98.4	116.5	349.1
Domestic Holiday Spending (£ million)	15.0	14.8	25.8	30.5	86.2
Domestic Day Trip Spending (£ million)	48.6	151.0	125.5	148.6	473.7
Total Visits (thousands)	2,955.8	5,248.8	4,987.5	5,905.8	19,097.9
Inbound Visitors (thousands)	75.1	102.7	94.2	111.6	383.5
Domestic Overnight Trips (thousands)	310.5	457.3	571.1	676.3	2,015.2
Domestic Holiday Visitors (thousands)	69.1	50.2	126.1	149.3	394.7
Domestic Day Trips (thousands)	2,501.0	4,638.6	4,196.1	4,968.7	16,304.4

17.6.56 The tourism and visitor economy in the Study Area is driven predominantly by the domestic visitor market on overnight or day trips, with day trips by far contributing the greatest number of visits to any part of the Study Area. Inbound visitors (who comprise visitors from overseas) form a smaller but important part of the visitor economy, notably due to the substantially higher spending per visitor from this group. Of the four authority areas within the Study Area, West Northamptonshire



received the greatest proportion of visitors (at 30.9%) and the greatest proportion of visitor spending (31.6%).

Tourism and Visitor Accommodation

17.6.57 The most recent census of accommodation stock in England is the Visit Britain Accommodation Stock Audit 2016. Although dated, this provides the most up-to-date publicly available information on the number of rooms available in the Study Area. The Study Area is estimated to host a total of 13,500 “serviced accommodation” rooms (Ref.66). This includes hotels, bed and breakfasts, inns, and any other catered accommodation that is used by tourists and visitors, but may be used for the temporary accommodation of construction workers. The most recent occupancy rates for hotel room occupancy demonstrates that in the East of England, East Midlands, and South East regions, room occupancy for the month of April 2024 was between 75 and 78% (Ref.67). The usual busiest month however is July, which for 2023 demonstrates a room occupancy of 79-86% (Ref.68). Applying the greatest rate of occupancy demonstrates that after usual occupancy, there is a remaining minimum of 14% of rooms (resulting in a conservative estimate of approximately 1,890) available for use by temporary workers within the Study Area.

Local Attractions and Recreation Sites

17.6.58 The Scheme is located near to a number of local tourism attractions, principally country parks, and historic buildings. Within 2km of the Sites and Cable Route Search Area lie both Pitsford Water (with Broxworth Country Park) and Sywell Country Park, both reservoirs offering recreational use, as well as small associated nature reserves. Both locations have a visitors’ centre with supporting facilities. Additionally, Emberton Country Park, Harrold-Odell Country Park, and Summer Leys lakes are also located within 5km of the Scheme. Castle Ashby is the primary heritage attraction within 2km of the Sites and Cable Route Search Area, while there are also a small number of museums, including those at Sywell Aerodrome, and Jeyes of Earls Barton. Further afield, there are a number of country houses, halls, and a myriad of historic churches.

17.6.59 The Sites and Cable Route Search Area and their near surroundings host a substantial network of PRowS and permissive footpaths, which form important local recreational walking and cycling routes between villages in the immediate vicinity. The local network of PRowS is shown in **Figure 8.3: PRow Receptors**. These routes are important to the local population for personal health and wellbeing, and for local amenity. Those that fall within, or within the immediate vicinity of, the Sites, or that are directly affected by Cable Corridor construction works are likely to be most affected. As such, PRowS and permissive recreational routes that cross the Sites or the Cable Route Search Area or are within the immediate vicinity of the Sites are set out **Table 17.11** below. We note, however, that the full extent of any effects of the Scheme on these routes will not be known until the location of the Cable Corridor and final layout of the Scheme is determined. The Scheme is likely to have limited effects on all other PRowS and permissive paths within 2km of the Sites and Cable Route Search Area, usually only as a result of middle to long-distance views of the Sites (Ref.69, Ref.70, Ref.71, Ref.72).

Table 17.11: Public Rights of Way and Permissive Recreational Routes Directly Affected by the Scheme

PRow/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
Old FP DF4	Broughton Road, Old, to Mawsley Village	Immediately northwest of west end of Green Hill A. Potential effects from site construction traffic, and open views towards Green Hill A due to elevated topography.	Well defined field-edge route, with through field and woodland sections at northeast end.
Walgrave FP DT8	Kettering Road, Walgrave, towards Broughton	Crossed by Cable Route Search Area between	Roughly defined field-edge route, with through field sections at northeast end.



PRoW/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Green Hill A and Green Hill A.2. Potential effects from Cable Corridor construction works.	
Hannington BR CT3	Walgrave Road, Hannington, to A43	Immediately adjacent to Green Hill A.2 for 600m, and crossed by Cable Route Search Area between Green Hill A.2 and Green Hill C. Potential effects from Cable Corridor construction works.	Well defined field-edge route, with woodland edge sections.
Hannington BR CT5/CT6/CT9	Bridle Road, Hannington, to A43	Crossed by Cable Route Search Area between Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	Well defined field-edge route. Agglomerated due to movement of CT5 away from mid-field route.
Hannington FP CT7 Holcot CW7	CT5/CT6 near A43 towards Holcot village	Crossed by Cable Route Search Area between Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	Well defined through field route.
Hannington BR CT8	Main Street, Hannington, to A43	Crossed by Cable Route Search Area between Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	Well defined mixed field-edge and through field route, with woodland edge sections.
Holcot FP CW1	Holcot, towards Overstone	Crosses through Green Hill B for 450m, crossed by Green Hill B access and crossed by Cable Route Search Area between Green Hill B and Green Hill C. Direct effects from construction works on Green Hill B and Scheme operation and potential impacts from Cable Corridor construction works.	Well defined field-edge route, with through field section through Green Hill B.
Hardwick FP TG6	Hardwick Lodge to BR TG7	Crossed by Cable Route Search Area between Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	Well defined through field route, with tree-lined section at east end.
Hardwick BR TG7	Hannington Road, Hardwick, to A43	Crossed by Cable Route Search Area between	Well defined field-edge route, with wood edge section at west end.



PRoW/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	
Hardwick BR TG8	Hardwick Lodge to BR TN7 (see below)	Crossed by Cable Route Search Area between Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	Well defined field-edge/ wood edge route.
Hardwick BR TG12	A43 to BR TG7	Crossed by Cable Route Search Area between Green Hill A.2, Green Hill B and Green Hill C. Potential effects from Cable Corridor construction works.	Poorly defined through-field route offering alternative access to A43 to BR TG7.
Mears Ashby FP TN3	Mears Ashby village towards Hardwick	Crosses through Green Hill D for 1,600m. Direct effects from construction works on Green Hill D and Scheme operation.	Roughly defined through field route, entirely through Green Hill D.
Mears Ashby BR TN7	Glebe Road, Mears Ashby, towards Hardwick Lodge	Crosses through, and adjacent to Green Hill C for 1,200m. Direct effects from construction works on Green Hill C and Scheme operation.	Well defined field-edge route through Green Hill C, with wood edge section to north.
Wilby FP TU3	Moonshire Gap to A509/Rutherford Drive roundabout, Wellingborough	Crosses through Green Hill E for 200m. Direct effects from construction works on Green Hill E and Scheme operation.	Roughly defined field-edge route through Green Hill E, with through field sections to east and defined route through farmyard to west.
Mears Ashby BOAT TN10	Dead end from Duchess End, Mears Ashby	Immediately northwest of Green Hill E. Potential effects from construction works on Green Hill E and Scheme operation.	Well defined track leading to two agricultural accesses both used anecdotally used for recreational use.
Mears Ashby FP TN1	Wilby Road, Mears Ashby, towards Sywell Country Park	Crosses through Green Hill E for 300m. Direct effects from construction works on Green Hill E and Scheme operation.	Roughly defined through field route through Green Hill E, with field edge sections to north.
Mears Ashby FP TN2	Earls Barton Road, Mears Ashby, to Sywell Country Park.	Immediately west of Green Hill E.	Roughly defined through field route.



PRoW/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Potential effects from site construction traffic, and limited views towards Green Hill E due to intervening vegetation and topography.	
Earls Barton FP TC1	Shoemakers Close, Earls Barton, to B573	Crossed by Cable Route Search Area between Green Hills E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Partially paved, partially well defined field-edge route.
Earls Barton FP TC3 Ecton TE1	Northampton Road (B573), Earls Barton, to Ecton village	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined through field route, with short woodland edge sections.
Earls Barton BOAT TC12 Ecton TE11	Grendon Road, Earls Barton, to BOAT TE10	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined track, running roughly parallel to A45, providing non-traffic alternative for users.
Earls Barton BR TC13	Grendon Road, Earls Barton, towards Whiston	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined track, route highly modified due to quarrying activity north of River Nene.
Earls Barton BOAT TC14	Doddington Road (B573), Earls Barton, to The Mill House/River Nene	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined track.
Earls Barton FP TC17	Grendon Road, Earls Barton, to Whiston Lock	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined riverside route.
Earls Barton highway adj. Northampton Rd	Aggate Way, Earls Barton, to BR TC13	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Largely paved route, former road, and bridge over A45 to provide access to BOAT TC12 and BR TC13 avoiding A45/B573 junction
Cogenhoe and Whiston FP KF4	Mill Lane, Cogenhoe, to Whiston Lock	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS.	Well defined mixed riverside, field edge, and through field route. Route highly modified due to



PRoW/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Potential effects from Cable Corridor construction works.	quarrying activity south of River Nene.
Cogenhoe and Whiston FP KF9	Mill Lane, Cogenhoe, to Whiston Road	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined field-edge route.
Cogenhoe and Whiston BR KF19/KF20	Cogenhoe Road, Whiston, to Whiston Lock	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Potential effects from Cable Corridor construction works.	Well defined track.
Grendon FP TF3	Station Road to Lower End, Grendon	Crosses through Green Hill BESS for 350m and runs concurrent with Green Hill BESS access. Direct effects from construction works on Green Hill BESS and Scheme operation.	Well defined through field route through Green Hill BESS, with field edge sections to east and west, some areas subject to field-edge diversions.
Grendon FP TF4 Castle Ashby KE1	Manor Road, Grendon, towards Castle Ashby	Crossed by Cable Route Search Area between Green Hill BESS and Green Hill F. Potential effects from Cable Corridor construction works.	Well defined through field route.
Grendon FP TF10	Station Road, Grendon, passing north of nos. 700-710 Station Road	Crossed by Cable Route Search Area between Green Hill BESS and Green Hill F. Potential effects from Cable Corridor construction works.	Poorly defined mixed field-edge and through field route.
Bozeat FP TA1 Grendon FP TF11	Bozeat FP TA4 (in Green Hill F) towards Lower End, Grendon	Crosses through Green Hill F for 750m. Direct effects from construction works on Green Hill F and Scheme operation.	Well-defined through Green Hill F, partially as field edge, partially as through field.
Bozeat FP TA4	Bozeat village towards Strixton	Crosses through Green Hill F for 900m. Direct effects from construction works on Green Hill F and Scheme operation.	Well-defined field-edge route through Green Hill F, with through field section to north.
Bozeat FP TA3 Easton Maudit FP TD2 Grendon FP TF5	Bozeat FP TA4 to Chequers Lane, Grendon	Crosses through Green Hill F for 950m. Direct effects from construction works on	Well-defined through Green Hill F, partially as field edge, partially as through field. Part of off road route



PRoW/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Green Hill F and Scheme operation. Potential for substantial effects on views across Green Hill F due to topography and open aspect.	between Grendon and Bozeat villages.
Bozeat FP TA17	London Road, Bozeat, towards Grendon	Crossed by Cable Route Search Area between parts of Green Hill F. Potential effects from Cable Corridor construction works.	Well-defined mixed field-edge and through field route.
Easton Maudit FP TD3	Bozeat FP TA4 to Easton Maudit village	Crosses through Green Hill F for 950m. Direct effects from construction works on Green Hill F and Scheme operation.	Well defined through Green Hill F, partially as field edge, partially as through field.
Easton Maudit FP TD5	Easton Maudit BR TD8 to Easton Maudit village	Crosses through Green Hill F for 850m. Direct effects from construction works on Green Hill F and Scheme operation.	Well defined through Green Hill F, partially as field/wood edge, partially as hedge-lined track.
Easton Maudit FP TD7	Easton Maudit FP TD5 to Yardley Hastings village	Crosses through Green Hill F for 600m. Direct effects from construction works on Green Hill F and Scheme operation.	Well defined through Green Hill F, partially as field/wood edge, partially as hedge-lined track.
Easton Maudit BR TD8	Easton Maudit village towards Warrington	Crosses through Green Hill F in two locations for 350m and 200m, and crossed by Cable Route Search Area between Green Hill F and Green Hill G. Direct effects from construction works on Green Hill F and Scheme operation. Potential effects from Cable Corridor construction works.	Well defined through Green Hill F, partially as field edge, partially as through field. Wooded sections near Green Hill F.
Easton Maudit BR TD9	Easton Maudit village towards Castle Ashby	Crossed by Cable Route Search Area south of Green Hill F. Potential effects from Cable Corridor construction works.	Well defined field-edge route.
Bozeat FP TA20 Easton Maudit FP TD5	Easton Maudit BR TD8 to A509	Immediately south of south end of Green Hill F. Potential effects from Cable Corridor construction works.	Well defined field-edge route along site boundary, with through field sections to south.



PRoW/Route ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Potential effects from site construction traffic, and potential views towards Green Hill F due to elevated topography.	
Lavendon BW 2	Tinicks Lane, Lavendon towards Bozeat. Continues at Bozeat BW TA8	Crosses through Green Hill G for 1,500m. Direct effects from construction works on Green Hill G and Scheme operation.	Well defined through Green Hill G, as field track – some of which is adopted highway (Tinicks Lane), also partially as hedge-lined track along Threshire Wood.
Lavendon BW 4	Lavendon BW2 towards Castle Road, Lavendon	Crosses through Green Hill G for 250m. Direct effects from construction works on Green Hill G and Scheme operation.	Well defined through Green Hill G, as hedge-lined track. Continues partially as field edge, partially as hedge-lined track.
Lavendon BW 14	Tinicks Lane towards Castle Road, Lavendon	Crosses through Green Hill G for 600m. Direct effects from construction works on Green Hill G and Scheme operation.	Well defined through Green Hill G, as field edge track.
Lavendon BW 15	Tinicks Lane to A428 and towards Lavendon Grange	Crosses through Green Hill G for 300m. Direct effects from construction works on Green Hill G and operation.	Well defined through Green Hill G, as part of adopted highway (Tinicks Lane).
Lavendon FP 1	Lavendon BW2 towards Castle Road, Lavendon	Crosses through Green Hill G for 10m and immediately adjacent to Green Hill G site boundary for 250m. Direct effects from construction works on Green Hill G and Scheme operation. Potential effects on views towards Green Hill G due to elevated topography.	Well defined field edge route.
Lavendon FP 5 Warrington FP 7	Lavendon BW2 to A509 by Northey Farm	Crosses through Green Hill G for 1,300m. Direct effects from construction works on Green Hill G and Scheme operation.	Roughly defined field edge route.

17.6.60 The Sites and Cable Route Search Area and the surrounding countryside are also host to a number of long-distance recreational routes of regional or national importance, open for a range of users, making use of the substantial PRoW network. Those marked on official Ordnance Survey maps, registered by the Long Distance Walkers Association (Ref.73), and administered



by Sustrans (Ref.74) are described in **Table 17.12** below and shown on **Figure 17.2** supporting this chapter.

Table 17.12: Long-Distance Recreational Routes

Long-Distance Route Name/ID	Route	Relationship to Scheme	Description of Current Use and Quality
OS Mapped Routes			
Brampton Valley Way	Northampton to Market Harborough	Within 5km of Sites and Cable Route Search Area, west of Green Hill A. No effects from views of the Scheme due to topography.	High quality traffic-free walking and riding route along the former Brampton Valley railway line
Midshires Way	Stockenchurch to Stockport Locally: Chapel Brampton to Arthingworth	Within 5km of Sites and Cable Route Search Area, west of Green Hill A. No effects from views of the Scheme due to topography	Waymarked, high quality traffic-free walking and riding route along the former Brampton Valley railway line
Milton Keynes Boundary Walk	Circular, following Milton Keynes authority boundary	Immediately adjacent to Green Hill F for 200m. Crosses through Green Hill G for 2.3km.	Waymarked, mixed footpath and bridleway route. Largely field edge path in Green Hill G.
Nene Way	Daventry to Sutton Bridge Locally: Northampton to Irchester via Earls Barton	Crossed by Cable Route Search Area between Green Hill E and Green Hill BESS. Direct effects from construction works on Green Hill G and Scheme operation. Potential effects from Cable Corridor construction works.	Waymarked, mixed towpath, footpath and bridleway route. Minor diversion in place at Earls Barton Quarry.
Northamptonshire Round	Circular, starting and ending at Brixworth Country Park	Within 700m of Green Hill B – possible views. Crosses through, and adjacent to Green Hill C for 1,200m. Crosses through Green Hill E for 300m. Within 500m of Green Hill D – possible effects from views. Potential effects from long range (>2km) views of Green Hill F. Direct effects from construction works on	Waymarked, predominantly footpath route. Parts of route between Green Hill B and Green Hill C may have been lost or diverted to field edges due to agricultural practices.



Long-Distance Route Name/ID	Route	Relationship to Scheme	Description of Current Use and Quality
		Green Hill C and E and from Scheme operation. Potential effects from Cable Corridor construction works.	
Ouse Valley Way	Silverstone to King's Lynn Locally: Emberton to Harrold	Within 5km of Sites and Cable Route Search Area, south of Green Hill G. No expected effects from views of the Scheme due to topography	Waymarked, predominantly footpath route.
Three Shires Way	Milton Keynes to Grafham Water	Crosses through Green Hill G for 1.8km. Direct effects from construction works on Green Hill G and Scheme operation.	Waymarked, bridleway route. Endorsed by British Horse Society
Long Distance Walking Association Routes			
Buckinghamshire Way	Staines-upon-Thames to Lavendon	Crosses through Green Hill G for 2.2km. Direct effects from construction works on Green Hill G and Scheme operation.	Unmarked predominantly footpath route. Largely field edge path in Green Hill G.
Market Harborough Round	Circular, circling Market Harborough Locally: Cottesbrooke to Draughton	Within 5km of Sites and Cable Route Search Area, northeast of Green Hill A. Potential effects from long range (>2km) views of Green Hill A.	Unmarked mixed footpath and bridleway route.
North Bedfordshire Heritage Trail	Circular, starting and ending in Bedford Locally: Harrold to Turvey	Within 5km of Sites and Cable Route Search Area, south of Green Hill G. No expected effects from views of the Scheme due to topography	Partially waymarked, predominantly footpath route.
Northamptonshire Boundary Walk	Circular, following Northamptonshire county boundary	Crosses through Green Hill F for 900m. Direct effects from construction works on Green Hill F and Scheme operation. Potential additional effects from medium range (~1km) views of Green Hill F.	Unmarked mixed footpath and bridleway route. Largely field edge paths in Green Hill F.



Long-Distance Route Name/ID	Route	Relationship to Scheme	Description of Current Use and Quality
St Bernard's Way	Rievaulx Abbey, N Yorks to Citeaux Abbey, Dijon Locally: Irchester to Turvey	Within 5km of Sites and Cable Route Search Area, south of Green Hill G. No expected effects from views of the Scheme due to topography	Unmarked mixed footpath and bridleway route.
Via Beata	Lowestoft to St David's. Locally: Finedon to Brixworth	Within 1km of Green Hill B, Green Hill C, and Green Hill D. Potential effects from medium-long range (~2km) views of Green Hill B. No expected effects from views of Green Hill C and Green Hill D due to topography.	Partially waymarked, mixed footpath and bridleway route. Parts of route between Green Hill B and Green Hill C may have been lost or diverted to field edges due to agricultural practices.
Sustrans Cycling Routes			
Sustrans National Cycle Route 6	London to Lake District Locally: Northampton to Market Harborough	Within 5km of Sites and Cable Route Search Area, west of Green Hill A. No effects from views of the Scheme due to topography	High quality traffic-free route along the former Brampton Valley railway line
Sustrans National Cycle Route 539	Northampton Orbital	Within 5km of Sites and Cable Route Search Area, west of Green Hill A. No effects from views of the Scheme due to buildings and topography	Mixed quality, largely traffic-separated route although in places running alongside busy roads

- 17.6.61 The local area surrounding the Sites and Cable Route Search Area contains a number of waterways that are open for recreational use. Notably, the River Nene runs through the Order Limits, and will be crossed by the Cable Corridor between Cogenhoe Mill and White Mills Marina. The River Nene is navigable for much of its length, with White Mills Marina being located immediately east of the Cable Route Search Area. Additionally, Pitsford Water and Grendon Lakes are open to recreational sailing and watersports. Cransley Sailing Club is also based at Cransley Reservoir, approximately 4km northeast of Green Hill A. These waterways and lakes are also open for fishing, as well as dedicated fishing lakes at Castle Ashby and Sywell Reservoir.
- 17.6.62 The area within 2km of the Sites and Cable Route Search Area also hosts a large number of formal recreational facilities. These include local level cricket, tennis, bowling and football grounds in Mawsley, Old, Holcot, Glamis Hall, Wilby, Earls Barton, Grendon, Wollaston and Bozeat. Northampton Shooting Ground and Bedlam Paintball are also located within 2km of the Sites and Cable Route Search Area. Milton Keynes Heli Cub (for remote controlled aircraft) is located to the west of Green Hill F, between Castle Ashby and Easton Maudit. Within 5km of the Sites and Cable



Route Search Area are two golf clubs, located at Overstone Park, and Wellingborough Golf Course.

- 17.6.63 The Sites and Cable Route Search Area are also located close to a number of regional or national scale sports and recreation facilities. These include the Rugby & Northampton Athletic Club at Moulton College, Wellingborough Indians Cricket Club, and Wellingborough Rugby Club within 2km of the Sites and Cable Route Search Area, and Santa Pod Raceway, 5km east of Green Hill F.
- 17.6.64 A number of recreational aviation centres can be found within 2km of the Sites and Cable Route Search Area. Of these, four are private unpaved airstrips for individual users, located at: Hold Farm, Orlingbury (500m southeast of Green Hill A.2); Moulton Grange Farm (1.6km west of Green Hill B); The Grange, Mears Ashby (immediately adjacent to Green Hill E); and Home Farm, Easton Maudit (immediately adjacent to Green Hill F). A further private airfield at Tower Farm, Wollaston is located 2.9km northeast of Green Hill F.
- 17.6.65 Sywell Aerodrome, located immediately to the southwest of Green Hill C includes one paved runway, and two grass runways, and is open for recreational aviation as well as commercial aviation. Sywell is home to the Brooklands Flying Club which offers instructed recreational flying experiences for historic aircraft. The aerodrome also regularly hosts public and private aviation events.
- 17.6.66 There are a small number of recreational play and informal sport areas in local villages and settlements. Notably, there are sports pitches at Bozeat, Earls Barton, and Wilby. There are a number of play areas for children in local villages such as at Elliott Park, Sywell; Earls Barton; Stanmore Park, Grendon, and Lavendon. Smaller informal play areas are also located within some local housing developments.
- 17.6.67 The area also plays host to a number of equestrian centres, including a number open to the public. These include a number of equestrian sites, such as The Acorn Centre, and Hockerhill Farm, and Low Farm which are located immediately adjacent to Green Hill A, Green Hill E, and Green Hill F respectively.
- 17.6.68 The Scheme is predominantly set within agricultural land, which due to its existing use, is not in itself a key tourist attraction or destination. The land does however play an important role in providing a landscape context to recreational use of waterways and walking and cycling routes, as well as for key attractions wherein their location is a key selling point. The potential impacts to the tourism economy and the use of recreational facilities are explored in this chapter, whilst the preliminary landscape and visual impacts on PRoWs, and key viewpoints are explored in **Chapter 8: Landscape and Visual Impact**, and preliminary likely effects on local heritage assets are assessed in **Chapter 12: Cultural Heritage**.

Future Baseline

- 17.6.69 This section considers changes to the baseline conditions, described above, that might occur in the absence of the Scheme and during the time period over which the Scheme would be in place. The future baseline scenarios are set out in **Chapter 2: EIA Process and Methodology**.
- 17.6.70 In absence of the Scheme, it is considered that other than projected population increase, there will be no change to the future baseline for socio-economics and tourism and recreation. Businesses may open and close, however the exact details of this cannot be known at this stage. The land use of the Sites and Cable Route Search Area is likely to stay predominantly in agricultural use, albeit with potential changes to serve tourism and recreation use, which also cannot be definitively predicted at this stage. The baseline details as presented above therefore are not anticipated to change in the absence of the Scheme.

17.7 Embedded Mitigation Measures

- 17.7.1 The way that potential environmental impacts have been or will be prevented, avoided or mitigated to reduce impacts to a minimum through design and/or management of the Scheme is outlined in this section and will be taken into account as part of the assessment of the likely significant effects.



17.7.2 The following embedded mitigation measures for construction, operation, and decommissioning have been incorporated into the Scheme design, with detailed proposals and locations to be submitted with the DCO application. These measures are proposed to be secured through the following documents, for which outline versions will be submitted with the DCO submission:

- Outline Construction Environmental Management Plan (OCEMP);
- Outline Construction Traffic Management Plan (OCTMP);
- Outline Public Rights of Way Management Plan (OPRoWMP);
- Outline Landscape and Ecological Management Plan (OLEMP);
- Outline Operational Environmental Management Plan (OOEMP); and
- Outline Decommissioning Environmental Management Plan (OEMP).

Embedded Construction Mitigation Measures

17.7.3 The preliminary layout and configuration of the Scheme have been designed to include measures to minimise impacts on socio-economic, tourism and recreation receptors during the Scheme's construction.

17.7.4 Construction is anticipated to take place across an approximate two-year period. The OCEMP may include an all-encompassing mitigation measure for the construction schedule for the Scheme to retain appropriate flexibility to be phased and staggered across the Sites and Cable Corridor to reduce impacts on environmental receptors. With specific regard to socio-economic, tourism and recreation receptors, the embedded flexibility in the construction timescale of the Scheme could be utilised to reduce the peak number of construction workers and movements or alter when this peak will occur. This will help to moderate the level of temporary accommodation demand, to the benefit of both the accommodation and tourism employment and economic sectors.

17.7.5 Additionally, should temporary accommodation be sought for inbound construction workers during the Scheme's construction, the flexibility in the Scheme's construction programme, as set out in the OCEMP can be used to reduce the level of impact on access to temporary accommodation.

17.7.6 The embedded visual mitigation includes designing the preliminary layout of the Sites to provide suitable buffers from roads, PRoWs, neighbouring buildings, and other tourism destinations. These measures seek to reduce the visual impacts on the desirability of these receptors for tourism and recreational use during construction. Construction compounds are to be suitably located and screened from these receptors to minimise construction impacts. With specific regard to PRoWs, the Scheme is proposed to incorporate suitable buffers from PRoWs and will design the preliminary layout of each Site to minimise effects on the enjoyment, desirability and use of PRoWs on the Sites during construction.

17.7.7 Measures to mitigate visual impacts from construction operations, lighting, and the location of construction equipment, as set out in the OCEMP will have a secondary benefit to the tourism economy through reducing the level of impact on the desirability of the Study Area.

17.7.8 In co-ordination with the OCTMP and OPRoWMP, the embedded flexibility in the construction timescale of the Scheme will help to control construction traffic movements, to the benefit of accessibility and desirability of PRoWs; recreational use of highways; use, accessibility and desirability of recreation centres and facilities; and on the accessibility and desirability of local tourist attractions. Of greatest effect is the impact of fear and intimidation from construction traffic on vulnerable shared road users such as walkers, cyclists, and horse riders. Therefore mitigation measures including control of the routing and number of HGV movements secured through the OCTMP will help to protect these users.

17.7.9 Where recreational receptors, principally PRoWs, permissive routes, and regionally and nationally important walking and cycling routes are likely to be directly affected by the construction of the Scheme, the OCEMP, OCTMP and OPRoWMP together will set out mitigatory measures to ensure effects on these receptors are minimised. Recreational routes crossing or within the Sites and Cable Route Search Area will seek to be kept open during construction, with any crossing or



traffic conflict points overseen by spotters or banksmen for HGVs. Where closures are deemed to be necessary, these will be prioritised for overnight work, will be temporary in nature and supported by appropriate amount of notice and suitable diversions. Any diversions to routes will be appropriately signed, and the duration and length of diversions will be optimised to minimise impacts on accessibility and desirability.

Embedded Operation Mitigation Measures

- 17.7.10 Due to the proposed operational lifetime of the Scheme being up to 60 years, it is important that the preliminary layout and configuration of the Scheme have been designed to include measures to minimise impacts on socio-economic, tourism and recreation receptors during the Scheme's operation.
- 17.7.11 The measures set out in the OOEMP are used to control impacts on visual, accessibility, and operational and maintenance traffic impacts from the Scheme to mitigate adverse effects from the Scheme. Visual impacts from the Scheme are mitigated against in co-ordination with the measures set out in the OLEMP. These mitigation measures, such as noise attenuation, glint and glare mitigation, and additional landscape screening to residential and other sensitive receptors will help to reduce overall impacts on tourism and recreational receptors such as tourist attractions, recreation centres, and recreational routes in the proximity of the Scheme.
- 17.7.12 With regard to tourism and recreation impacts, the Scheme design is embedded with mitigation measures to minimise the visual impact of the Scheme, and to minimise the extent to which the Scheme affects the use of PRowS and other recreational routes.
- 17.7.13 The embedded visual mitigation includes designing the preliminary layout of the Sites to provide suitable buffers from roads, PRowS, and neighbouring tourism destinations. These buffers, along with minimal on-site operational activity during general operation and maintenance, help to mitigate impacts on the durability of tourism receptors, and on formal recreation facilities near to or within view of the Scheme during its operational lifetime. Furthermore, proposed landscaping planting is likely to mature over the lifetime of the Scheme, which will go some way to enhance the enjoyment of the surrounding landscape for residents and tourists visiting the area.
- 17.7.14 With specific regard to PRowS, the Scheme is proposed to incorporate suitable buffers from PRowS and will design the preliminary layout of each Site to minimise effects on the enjoyment, desirability and use of PRowS on the Sites during operation.
- 17.7.15 The Scheme allows for continued income for eligible landowners by way of ground rent in place of the loss of income from agricultural use of the Sites.
- 17.7.16 Peaks in operational and maintenance activity are anticipated to take place during the likely replacement of BESS twice during the operational lifetime of the Scheme, and the replacement of PV array infrastructure once during the lifetime of the Scheme. In these instances, embedded mitigation and best practice measures set out for construction will be reintroduced and implemented for these periods of peak activity on the Scheme.

Embedded Decommissioning Mitigation Measures

- 17.7.17 The decommissioning of the Scheme is likely to impact upon socio-economic, tourism and recreation receptors in a similar manner to during construction, and so embedded mitigation measures set out for construction are also applicable to decommissioning. In addition, the potential for cable infrastructure to be left in situ or extracted through joint bays will help to mitigate socio-economic impacts on agricultural users of the land along the as-built Cable Corridor through minimising disruption to agricultural activities. These measures will be secured as required in the ODEMP.

17.8 Assessment of Likely Significant Effects

- 17.8.1 Taking into account the embedded mitigation measures as detailed in **Section 17.7**, the potential for the Scheme to likely significant effects on socio-economic environment, recreation and tourism was assessed using the methodology as detailed in **Section 17.4** of this Chapter. In the



sections below, effects during the construction, operation and decommissioning phases of the Scheme are discussed.

- 17.8.2 As has been identified in the Section 17.4: Methodology, the identification of likely significant effects has been informed by various model and data including a model of anticipated worker requirements for construction by an accredited EPC contractor and specialist high voltage cable installation contractor. Anticipated worker requirements for operation and maintenance have been provided by the Applicant based on industry experience and professional judgement. Economic effects have been derived from the EPC model for construction and from the anticipated worker requirements for operation and maintenance by multiplying number of workers by the GVA per worker per annum for the relevant sector and area.
- 17.8.3 All figures for numbers of full-time equivalent (FTE) employees are rounded to the nearest whole number. All figures for GVA to economic sectors are rounded to the nearest £100,000. As such, some figures in the tables in the following sections may appear to not total due to rounding.
- 17.8.4 The likely significance of these effects is to be assessed in full in the ES submitted with the DCO application, on the basis of completed baseline data being available, and the full scale of the anticipated effects of the Scheme being known.
- 17.8.5 Where suitable, the pre-mitigation effects described below will be subject to mitigatory design and procedural alterations to ensure negative effects are minimised.

Construction

- 17.8.6 The construction of the Scheme is estimated for the purpose of EIA to be undertaken over a 2-year period. Subject to when the DCO is approved, the earliest construction may start is Q2 2027 and will run for approximately two-years to Q2 2029. The Scheme retains flexibility for construction across the Sites and Cable Corridor to be undertaken in parallel or as a phased development.

Socio-Economics

Employment Generation

- 17.8.7 The construction of the Scheme is anticipated to generate an estimated total quantum of labour equivalent to 183,800 days of employment, based on the modelled worker requirements for construction used for this assessment. The consequential estimated labour requirement for the Scheme over the projected approximately two-year construction period is therefore equivalent to a gross 408 full time equivalent (FTE) employees per annum, with the estimated on-site construction workforce expected to peak at approximately 671 employees towards the end of the construction period.
- 17.8.8 The construction workforce is to consist of a mix of employees from within and outside the Study Area. There may be need for specialist employment to be sourced from outside the Study Area where particular skillsets cannot be sourced locally. A full breakdown of the required worker skillset is to be set out in the Outline Skills, Supply Chain and Employment Plan (OSSCEP) for DCO submission. As such, there is likely to be “leakage” of economic benefits to employees travelling in from outside the Study Area. The 2022 Business Register and Employment Survey (Ref.57) indicates a total of 140 residents in the Study Area work directly in the “42.2: Construction of Utility Projects” industry. This is equivalent to 34% of the gross 408 full time equivalent (FTE) employees per annum, and 21% of the gross peak employees, and as such respective representative 66% and 79% “leakage” rates have been assumed.
- 17.8.9 The uplift in labour demand as a result of the employment opportunities arising from the Scheme cannot be treated simply as a net benefit as there is potential for workers within the Study Area to be displaced, thus reducing the extent of the net benefit to the labour market. However, due to the scale of the Scheme, its corresponding Study Area, and the likely impacts on the labour market in the construction industry, the level of displacement is assumed to be medium.



- 17.8.10 Although withdrawn as official guidance as of May 2022¹, the HCA Additionality Guide; 4th edition (Ref.75), provides the most relevant and up to date standards (or ‘ready reckoners’) for displacement. Within the context of a construction project in the Study Area, a medium displacement factor for 50% is considered appropriate according to the HCA. This factor is a best practice approach in the absence of special local information that might provide a defensible justification for a different level of displacement being used. As such, the net direct employment generated by the Scheme can be estimated as 204 FTE per annum during the construction period.
- 17.8.11 In addition to the direct employment generated by construction, the Scheme is anticipated to support an estimated further 1.33 employees per direct FTE employee per annum through indirect employment in the construction industry supply chain, and through induced economic impacts of increased spending by employees and suppliers on local goods and services. This multiplier is based on the findings of CEBR in their 2014 report for the Solar Trade Association (Ref.76), which gives the most up-to-date information available on construction effects from small-scale and major-scale solar development.
- 17.8.12 Taking into account the direct, indirect, and induced employment generated by the Scheme, and the effects of leakage and displacement, the net employment figures during the construction of the Scheme have been provided in **Table 17.13** below.

Table 17.13: FTE Employment per Annum as a Result of Scheme Construction

Category (rounding to nearest 1 FTE)	Study Area	Rest of UK	Total
Gross Direct Employment	140	268	408
Displacement (50%)	-70	-134	-204
Net Direct Employment	70	134	204
Indirect and Induced Employment (net x1.33)	93	178	272
Total Net Employment	163	313	476

Table 17.14: FTE Employment Peak during Scheme Construction

Category (rounding to nearest 1 FTE)	Study Area	Rest of UK	Total
Gross Direct Employment	140	531	671
Displacement (50%)	-70	-266	-336
Net Direct Employment	70	266	336
Indirect and Induced Employment (net x1.33)	93	353	446
Total Net Employment	163	619	782

Socio-Demographic Effects

- 17.8.13 In assessing the worst-case scenario, it is prudent to assess the potential socio economic impacts of the approximately 531 FTE peak employees from outside the Study Area relocating to within (based on gross direct employment uplift from the rest of the UK in Table 17.14).

¹ The HCA Additionality Guide, 4th edition, was removed from official guidance as HCA – the Homes & Communities Agency – has been replaced by Homes England. No replacement like-for-like guidance has yet been published.



- 17.8.14 As stated in paragraph 17.6.5, the projected population increase in the Study Area from 2021-2027 is anticipated to be approximately 3.9%. This is greater than national rates in the same period (+2.7% for England) and in North Northamptonshire is greater than 1 σ above the average for LPAs in England. As such, the population is of medium sensitivity to further changes. The population uplift attributed to the Scheme's construction peak will bring a likely short-term, temporary uplift of 1.1% to the projected residential population growth between 2021 and 2027 of approximately 48,500, bringing the total anticipated population growth to 49,000 (3.9%). This therefore represents a short-term temporary low magnitude impact and resultantly contributing a short-term temporary moderate-minor beneficial effect to the Study Area.
- 17.8.15 Any changes to the demographic profile of the Study Area on the basis of the projected additional population growth or changes to the general health of the population associated with the Scheme's construction are expected to be extremely low and unlikely to have either a predominantly positive or negative bias. Therefore, there is anticipated to be a neutral effect overall with regard to resident demographic profile.
- 17.8.16 The potential increase in population may require temporary accommodation within the Study Area during the Scheme's construction. As a worst-case scenario, the potential impacts of all inbound 268 employees (Table 17.13) overall during construction requiring permanent accommodation in the Study Area are assessed, and the potential impacts of all inbound 531 employees (Table 17.14) during the construction peak requiring temporary accommodation are also assessed. Access to housing in the Study Area is of medium sensitivity to change. This is as a result of the local population experiencing greater than national average barriers to accessing housing, and as a result of average levels of housing supply in the four local authority areas in the Study Area.
- 17.8.17 **Table 17.7** indicates that there is likely excess of housing supply (based on a comparison of the projected housing supply and housing need over 5 years) of 1,487 new-build housing units in the period 2022-2029 which would be available to inbound employees to buy as permanent homes. The proposed uplift of 268 employees is likely to require 18.0% of the likely new-build housing excess, and therefore can entirely be accommodated therein, thus having a negligible effect on access to existing housing or new-build housing to meet existing need. Due to the medium sensitivity of access to housing in the Study Area, this is a no more than a medium-term minor adverse effect to access to permanent housing.
- 17.8.18 Where inbound employees are instead anticipated to be temporarily accommodated in private rental accommodation, paragraph 17.6.21 identifies an estimated total of 5,100 vacant private rental properties in the Study Area, of which an estimated 135 are within 2km of the Sites and Cable Route Search Area. The proposed peak 531 inbound employees could therefore occupy up to 10.4% of vacant private rental accommodation in the Study Area, of whom up to 25.4% could theoretically be located within 2km of the Sites and Cable Route Search Area. As again this demonstrates that temporary workers can be accommodated in vacant rental stock, this implies no greater than a negligible magnitude impact on the local private rental accommodation market for existing renters or those in need of rental accommodation in the local population. As there is a level of competition for rental properties, this is a negative effect on the local socio-demographic environment. Due to the medium sensitivity of access to housing in the Study Area, this is therefore a short- to medium-term temporary minor adverse effect.
- 17.8.19 As demonstrated in **Plate 17.4**, qualification attainment in the Study Area varies greatly dependent on location, and as such, skills and qualification attainment is a medium sensitivity receptor. The Scheme is unlikely to have more than a negligible magnitude impact on skills and education opportunities, such as through construction apprenticeships. Therefore, the likely effect on skills and qualification attainment in the Study Area is no more than a medium-term temporary minor beneficial effect.

Economic Effects (Employment and GVA)

- 17.8.20 The net direct employment generated by the Scheme is anticipated to induce an uplift of £10.8 million GVA per annum to the Study Area. This is anticipated to be felt in the construction sector, specifically the construction of utility infrastructure sub-sector. The proposed uplift is equivalent to a 50% uplift to this economic sub-sector, or 0.3% of the wider construction industry.



- 17.8.21 The Scheme is anticipated to induce a further uplift in GVA more generally in the economy through indirect and induced economic benefits associated with the Scheme’s construction, as a result of prosperity for suppliers, merchants, and those benefitting from increased spending by construction workers. This indirect and induced uplift is estimated at £6.2 million GVA per annum.
- 17.8.22 The Scheme is however anticipated to have somewhat of an adverse impact on the agricultural industry in the Study Area. This is primarily as a result of a loss of employment of tenant farmers either wholly or partially displaced by the Scheme. The Scheme is estimated to lead to a reduction in up to 8 FTE jobs in the agricultural sector as a result of direct impacts on tenant farmers and indirect impacts on suppliers. Owner-occupier landholdings are not anticipated to be adversely impacted due to the Scheme as they are expected to be able to continue agricultural practices on other parts of their land not included in the Scheme, while financially benefitting from ground rent. Eligible agricultural workers affected by the construction of the grid connection cable are to be compensated for any temporary losses before being able to resume agricultural activities following completion of construction works on the relevant land. The resultant economic impact of the Scheme on the agricultural industry is a loss of £300,000, or 0.1% of the sector in the Study Area.
- 17.8.23 The Scheme’s construction is also anticipated to have a negative impact on tourism spending in Study Area. For example, the potential changes to landscape views, both temporarily from construction equipment and longer-term from the installation of the Scheme infrastructure, and the impacts from construction traffic impacting the desirability and accessibility of tourism and recreation routes and centres, could negatively impact the prosperity of the local tourism economy. A total of 2.5% of the Study Area falls within 2km of the Sites and Cable Route Search Area, and within this area, a conservative estimate of a 20% loss in tourist and visitor spending is assessed. This therefore is equivalent to a loss of up to £5.3 million in visitor spending, which as a worst-case scenario could reduce employment in tourism-dependent sectors by 76 FTE per annum.
- 17.8.24 The accommodation sector, where not affected by losses due to reduced visitor spending, has potential to benefit from construction workers requiring temporary accommodation where serviced accommodation is preferred to private rental accommodation. In this instance, an uplift of between 8 and 17 FTE (dependent on average or peak accommodation need) is likely to be induced by increased occupancy of hotels. This is likely to generate an additional £200,000 GVA minimum to the economy in the Study Area.

Table 17.15: FTE Employment as a Result of Scheme Construction

Economic Area	Study Area Employment	GVA per worker	Study Area GVA
Net Direct Scheme Employment	70	£153,895	£10,800,000
Indirect and Induced Scheme Employment (net ×1.33)	93	£66,203	£6,200,000
Agriculture (Direct and Indirect)	-8	£41,514	-£300,000
Tourism	-76	£70,188	-£5,300,000
Accommodation	8	£25,225	£200,000
Total Net Employment	89	n/a	£11,500,000

- 17.8.25 The resultant changes to employment and GVA in the Study Area is therefore estimated to be an uplift of 89 FTE jobs per annum, generating £11.5 million GVA per annum in the Study Area during the Scheme’s construction. Outside the Study Area, employment and economic benefits felt across the rest of Great Britain as a result of “leakage” are likely to be up to an additional 313 FTE, generating £28.9 million GVA per annum. Overall, the Scheme is likely to generate a total GVA of £40.4 million per annum.



- 17.8.26 As a result of sensitivity in the Study Area to changes to economic activity, unemployment, and the level of employment, the overall workforce in the Study Area is of a medium sensitivity to change. The uplift of 89 workers in the Study Area represents a 0.01% increase in employment from the baseline of 643,600 total workers. The uplift in employment represents an overall negligible positive impact to a medium sensitivity receptor, thus having an overall medium-term temporary minor beneficial effect on the labour force in the Study Area.
- 17.8.27 The £11.5 million increase in the GVA per annum to the local economy will amount to a 0.03% rise in GVA per annum in the Study Area from the 2022 baseline (Ref.58, Ref.59) during the Scheme's construction. This rise would constitute a negligible positive impact on the local economy, as well as on local prosperity, and has the potential to have a medium-term negligible positive impact on resident and workplace population salary. These are medium sensitivity receptors as a result of the greater than regional and national rates of volatility within the economy and subsequent volatility of resident and workplace population income. These impacts would therefore constitute medium-term temporary minor beneficial effects in the Study Area.

Tourism and Recreation

- 17.8.28 Whilst the economic impact as a result of the Scheme's potential effect on temporary accommodation provision has been explored in the previous section, the Scheme may have further likely significant effects within the 2km and 5km ZOIs on tourism and recreation receptors as a result of direct and indirect impacts. As discussed previously, these effects are likely to include visual impacts on individual receptors and on transport routes which could affect the desirability, enjoyment of, and use of tourism and recreation facilities.

Tourism Attractions

- 17.8.29 The immediate surroundings of the Sites and Cable Route Search Area are host to a small number of regionally important tourism destinations. These include Castle Ashby House and Gardens, within 2km of Green Hill BESS and Green Hill F, and Sywell Aviation Museum, adjacent to Green Hill C. Within 5km of the Sites and Cable Route Search Area lie Turvey House, Brixworth Country Park, and Santa Pod Raceway. As these are identified as regionally important, their sensitivity to changes is medium. Whilst there may be a degree of impact on the landscape setting of these attractions, it is not anticipated that this will impact upon their use, desirability and importance as visitor attractions. The exception to this is there are specific impacts of up to high negative magnitude impact due to the significance of setting of the Grade I Listed Registered Park and Garden at Castle Ashby, dependant on the final configuration of the Scheme at Green Hill F. This therefore has potential to generate significant adverse effects to this location as a tourism destination. Specific assessment of this location will be undertaken further in the ES.
- 17.8.30 Attractions found in Wellingborough and Northampton within an urban context are furthermore less likely to be affected by the Scheme than those where visual impacts may arise. Furthermore, construction traffic impacts are assessed at having a negligible impact on the highway network used to access these identified attractions. As such, whilst there is potential for likely significant effects at Castle Ashby Registered Park and Garden, the anticipated impact on regionally important destinations overall is low to negligible, and as a result the expected effect will be medium-term temporary moderate-minor to minor adverse.
- 17.8.31 The immediate surroundings to the Sites and Cable Route Search Area contain a number of localised attractions, including local landscape, heritage, and recreational attractions. These receptors are attributed a low sensitivity due to their localised importance. A minimal number of receptors are anticipated to be directly affected by the development due to embedded mitigation and the fact that the Sites and Cable Route Search Area are physically separated from formal recreation sites. Whilst many of the local attractions within the Scheme's area of visual influence are likely to be negligibly affected by the construction of the Scheme, those that are reliant on their landscape setting as an intrinsic part of their value may be impacted to a greater extent, such as on their surrounding landscape character and serenity. Key landscape and heritage assets, such as along the River Nene, county parks, and the large number of listed buildings and scheduled monuments, are identified and assessed in **Chapter 8: Landscape and Visual Impact** and **Chapter 12: Cultural Heritage**.



17.8.32 The landscape receptors assessed in **Chapter 8: Landscape and Visual Impact** identify a substantial number of viewpoints which have been subject to a preliminary assessment of potential effects. It is identified that as a result of the Scheme’s construction some of these receptors may experience up to a high negative magnitude impact on their visual setting. This is particularly the case where viewpoint and receptors have views of immediate, or multiple parts of the Scheme. Likewise with local heritage assets, the preliminary assessment of the potential effects of the Scheme in **Chapter 12: Cultural Heritage** identify instances of up to high negative magnitude impact on the significance of setting of certain listed buildings, scheduled monuments, and non-designated heritage assets, including the Castle Ashby Grade I listed Registered Park and Garden.

17.8.33 As a result, at this stage of assessment, there may be potential for significant impacts to some local tourism attractions, particularly in the villages of Grendon, Mears Ashby, and Earls Barton, where multiple parts of the Scheme may be visible from ground-level or from publicly accessible areas. This may also be exacerbated by views of the Scheme’s construction and experience of construction traffic on transport routes to tourism attractions. A full assessment of individual receptors likely to experience significant effects will be undertaken as landscape and visual and heritage surveys are completed ahead of production of the full ES. In the context of the overall tourism industry, the overall level of impact in the 2km Zone of Influence is likely to be medium to low, resulting in a medium-term temporary moderate-minor to minor adverse effect during the Scheme’s construction.

Public Rights of Way and Long-Distance Recreational Routes

17.8.34 The Scheme’s construction is likely to have direct impacts on a number of PRowS and long-distance recreation routes as a result of temporary use as construction accesses, any required diversions and closures, and secondary temporary impacts as a result of the movements of construction goods and employee traffic. Embedded mitigation to limit impacts on these features will be detailed in the OCEMP, OCTMP, and OPRoWMP that will accompany the DCO application. This will include provision of suitable temporary diversions and notices of closures, and the provision of temporary management measures at HGV crossing points, such as signage and banksmen, to mitigate impacts upon PRow users.

17.8.35 The local network of PRowS and permissive recreation routes is important to the local population for personal health and wellbeing, and for local amenity. Thus, the PRowS and permissive recreational routes network is of a medium sensitivity to effects. As a result of their regional and national importance, Long Distance Recreation Routes are of high sensitivity to effects from the Scheme.

17.8.36 The resultant effects in relation to these routes are tabulated in **Table 17.16** and **Table 17.17** below. Only PRowS and permissive recreational routes directly affected by the Scheme are tabulated. The location of each route and the relationship between each route and the relevant part of the Sites or Cable Route Search Area is set out at Table 17.11. All other PRowS and permissive recreational routes within 2km of the Sites and Cable Route Search Area are anticipated to experience no more than temporary minor adverse effects as a result of medium to long-range views of construction activities. PRowS and permissive recreational routes more than 2km from the Sites and Cable Route Search Area, and long-distance recreational routes more than 5km from the Sites and Cable Route Search Area have not been assessed as impacts from the Scheme at these distances are not expected to be material.

Table 17.16: Effects on Public Rights of Way and Permissive Recreational Routes Directly Affected by the Scheme

PRow/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Old FP DF4	Medium-term temporary potential for construction traffic on connecting routes	Negligible medium-term negative	Minor adverse effect



PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Walgrave FP DT8	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hannington BR CT3	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hannington BR CT5/CT6/CT9	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hannington FP CT7 Holcot CW7	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hannington BR CT8	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Holcot FP CW1	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Hardwick FP TG6	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hardwick BR TG7	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hardwick BR TG8	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Hardwick BR TG12	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Mears Ashby FP TN3	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect



PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Mears Ashby BR TN7	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Wilby FP TU3	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Mears Ashby BOAT TN10	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Mears Ashby FP TN1	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Negligible medium-term negative	Minor adverse effect
Mears Ashby FP TN2	Medium-term temporary potential for construction traffic on connecting routes	Negligible medium-term negative	Minor adverse effect
Earls Barton FP TC1	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Earls Barton FP TC3 Ecton TE1	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Earls Barton BOAT TC12 Ecton TE11	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Earls Barton BR TC13	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Earls Barton BOAT TC14	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Earls Barton FP TC17	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Earls Barton highway adj. Northampton Rd	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect



PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Cogenhoe and Whiston FP KF4	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Cogenhoe and Whiston FP KF9	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Cogenhoe and Whiston BR KF19/KF20	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Grendon FP TF3	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Grendon FP TF4 Castle Ashby KE1	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Grendon FP TF10	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Bozeat FP TA1 Grendon FP TF11	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Bozeat FP TA4	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Bozeat FP TA3 Easton Maudit FP TD2 Grendon FP TF5	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Bozeat FP TA17	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Easton Maudit FP TD3	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Easton Maudit FP TD5	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect



PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Easton Maudit FP TD7	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Easton Maudit BR TD8	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Easton Maudit BR TD9	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Minor adverse effect
Bozeat FP TA20 Easton Maudit FP TD5	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by cable construction traffic	Low medium-term negative	Moderate-minor adverse effect
Lavendon BW2	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Lavendon BW4	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Lavendon BW14	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Lavendon BW15	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect
Lavendon FP1	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Minor adverse effect
Lavendon FP5 Warrington FP7	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate-minor adverse effect

Table 17.17: Impacts on Long-Distance Recreational Routes

PRoW/Route ID	Potential Impacts	Magnitude of Impact	Significance of Effect
Brampton Valley Way	No direct impacts on use	Neutral	Neutral
Midshires Way	No direct impacts on use	Neutral	Neutral
Milton Keynes Boundary Walk	Short-term temporary diversion or closure due to site works, and medium-	Low medium-term negative	Moderate adverse effect



PRoW/Route ID	Potential Impacts	Magnitude of Impact	Significance of Effect
	term temporary management system due to use by works construction traffic		
Nene Way	Short-term temporary diversion or closure due to cable burying and medium-term temporary potential for construction traffic on connecting routes.	Negligible medium-term negative	Moderate-minor adverse effect
Northamptonshire Round	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate adverse effect
Ouse Valley Way	No direct impacts on use	Neutral	Neutral
Three Shires Way	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate adverse effect
Buckinghamshire Way	Short-term temporary diversion or closure due to site works, and medium-term temporary management system due to use by works construction traffic	Low medium-term negative	Moderate adverse effect
Market Harborough Round	No direct impacts on use – long-distance visual impact only	Neutral	Neutral
North Bedfordshire Heritage Trail	No direct impacts on use	Neutral	Neutral
Northamptonshire Boundary Walk	Short-term temporary diversion or closure due to site works.	Negligible medium-term negative	Moderate-minor adverse effect
St Bernard's Way	No direct impacts on use	Neutral	Neutral
Via Beata	Potential for construction traffic on connecting routes	Negligible medium-term negative	Moderate-minor adverse effect
Sustrans National Cycle Route 6	No direct impacts on use	Neutral	Neutral
Sustrans National Cycle Route 539	No direct impacts on use	Neutral	Neutral

17.8.37 As a result of the embedded mitigation measures set out in Section 17.6, the greatest effects on the use, accessibility, and desirability of PRoWs and permissive recreational routes are medium-term temporary moderate-minor adverse effects. The greatest level of effects on high sensitivity long-distance recreational routes are medium-term temporary moderate adverse effects. These are therefore significant.

17.8.38 The local highway network also plays a substantial role as a recreational facility, as it is not only used itself for recreational activity, such as walking, riding, and cycling, are important as links connecting the PRoW network to nearby settlements and are therefore important to be considered as part of the assessment of effects on recreational routes. **Chapter 13: Transport and Access** has conducted a preliminary assessment and concluded, at this stage, that the construction



impacts on the local highway will be temporary negligible for accidents and safety, severance, pedestrian and driver delay and hazardous loads, which is not significant, and temporary minor adverse residual effects on pedestrian amenity, which is not significant. The resultant effect on the local highway network for recreational users is medium-term temporary minor adverse and therefore not significant.

Recreational Facilities and Attractions

- 17.8.39 Waterways and bodies of water used for recreation are not anticipated to be impacted directly by the Scheme due to their physical separation from construction works on the Sites, and the use of horizontal directional drilling for crossing major waterways, to be in the Crossing Schedule for DCO submission. As such, the River Nene has not been assessed as a receptor likely to experience significant effects in **Chapter 8: Landscape and Visual Impact** and its supporting appendices. Due to its regional significance, the River Nene as a recreational waterway is of a medium sensitivity to changes. Given the landscape and visual assessment does not assess for significant effects, and the Augmented ZTVs provided at **Figures 8.9-8.9.8.1** of Chapter 8 demonstrate no part of the river is likely to experience more than fleeting or long-distance views of the Scheme, this will be no more than a low magnitude impact, resulting in a temporary, medium-term moderate-minor adverse effect to the recreational desirability of the river.
- 17.8.40 Pitsford Water is likely to experience some medium to long-range views (scoped out of landscape visual assessment in **Volume 3, Appendix 8.3: Potential Visual Effects**) of Green Hill A and Green Hill B, and as such is likely unlikely to experience more than a temporary, medium-term minor adverse effect to the recreational desirability of the lake for water sports and fishing. Likewise, users of the Grendon Lakes complex are also only likely to experience fleeting views of infrastructure at Green Hill BESS, albeit in the immediate context of the National Grid Substation. As such, no more than a temporary, medium-term minor adverse effect for users is anticipated during construction.
- 17.8.41 Fishing and wild swimming locations on Sywell Reservoir are likely to experience mid-range views of construction works at Green Hill E, thus there may be up to a low magnitude impact on the use of this location. As a result of its local level of importance, and thus a low sensitivity, the Scheme will likely therefore have a medium-term temporary minor adverse effect on his receptor. The ponds at Castle Ashby are not likely to be affected by the Scheme due to existing intervening topography and vegetation, and therefore will experience a neutral effect.
- 17.8.42 The maximum effect of the Scheme on the recreation use of waterways and water bodies is therefore no greater than a medium-term temporary moderate-minor adverse effect.
- 17.8.43 Formal recreational facilities for activities such as organised sports, horse-riding and flying have been identified within 2km of the Sites and Cable Route Search Area. A number of these are anticipated to be directly and indirectly affected by construction works or traffic, and as such there is deemed to be an overall medium sensitivity to changes from the Scheme. That notwithstanding, there may be a low impact on the landscape context as a result of short, and long-range views (as identified in the indicative Augmented Zone of Theoretical Visibility Plans at **Figures 8.9-8.9.8.1** in **Chapter 8: Landscape and Visual Impact**) and thus on the desirability of these locations for recreational use. As such, the maximum potential effect on these receptors would be a medium-term temporary minor adverse effect.
- 17.8.44 As outlined in the baseline conditions section, the areas surrounding the Sites and the Cable Route Search Area play host to a number of formal and informal recreational facilities, including those for recreational youth sports and children's play areas. As some of these recreational facilities for youths are located near to or on construction access routes, or routes likely to be affected by construction employment traffic, there is potential for accessibility to recreational facilities to be affected. Given that these facilities are more likely to be used by children and youths, there is greater risk of reduced accessibility and desirability impacting health and wellbeing. As such, these facilities are of a medium sensitivity to changes.
- 17.8.45 Construction of the Scheme, including the laying of cables, is not anticipated to impact the desirability of these facilities as a result of landscape context. At worst, it can be anticipated that construction traffic has an up to low-level impact on the accessibility of some of the local



recreation areas, particularly where users may have to use routes allocated for construction traffic to access the facilities. As a result, the Scheme could generate up to a medium-term temporary moderate-minor adverse effect on the accessibility of recreational facilities for children and youth groups.

Operation

17.8.46 For the purposes of assessment, it has been assumed that the Scheme will commence operation at the end of Q2 2029. The operational life of the Scheme is anticipated to be no more than 60 years and decommissioning is therefore estimated to be no later than 2089.

Socio-Economics

Employment Generation

17.8.47 During its operational lifetime, the Scheme is anticipated to generate a modest quantum of labour, related to ongoing operational management and site management. It is projected that the Scheme will require a gross 15 FTE employees per annum. This number for worker requirements for operation and maintenance have been provided by the Applicant based on industry experience and professional judgement.

17.8.48 The long-term operational workforce is to consist of a mix of employees from the energy industry and groundskeeping and landscaping sectors. It is considered that the majority (up to 75%) of this workforce can be sourced from within the Study Area. There may be need for specialist employment to be sourced from outside the Study Area where particular skillsets cannot be sourced locally. As such, there is likely to be “leakage” of economic benefits to employees travelling in from outside the Study Area of 25%. This is equivalent to 4 of the gross 15 full time equivalent (FTE) employees per annum during operation.

17.8.49 Given the small scale nature of the operational workforce, and the likelihood that the majority of the operational workforce can be sourced from within the Study Area, a ‘ready reckoner’ medium displacement factor of 25% (Ref.75) is considered appropriate. A further 1.33x multiplier is applied to calculate additional indirect and induced employment from supply chains and additional spending.

17.8.50 The resultant long-term employment per annum generated by the Scheme is therefore set out in **Table 17.18**.

Table 17.18: Long-term FTE Employment per Annum as a Result of Scheme Operation

Category (rounding to nearest 1 FTE)	Study Area	Rest of UK	Total
Gross Direct Employment	11	4	15
Displacement (25%)	-3	-1	-8
Net Direct Employment	8	3	8
Indirect and Induced Employment (net x1.33)	11	4	10
Total Net Employment	20	7	17

17.8.51 The Scheme is, as described in **Chapter 4: Development Proposal**, likely to require the replacement of all solar PV panels once in the Scheme’s estimated 60 year operational lifetime, and the replacement of BESS infrastructure at least twice. To ensure a worst-case scenario is assessed, the workforce required to deliver this is a gross of 100 FTE employees in the scenario of all panels being replaced over a 2-year window. Applying the same assumptions as set out in paragraphs 17.8.8 to 17.8.11, the estimated peak employment during the Scheme’s operational lifetime is set out in **Table 17.19**.



Table 17.19: Peak FTE Employment as a Result of Panel Replacement

Category (rounding to nearest 1 FTE)	Study Area	Rest of UK	Total
Gross Direct Employment	75	25	100
Displacement (50%)	-38	-13	-50
Net Direct Employment	38	13	50
Indirect and Induced Employment (net x1.33)	50	17	67
Total Net Employment	87	29	117

Socio-Demographic Effects

- 17.8.52 As set out in **Table 17.18**, there is an estimated 4 long-term gross direct employment anticipated to come from outside the Study Area. Given that this is long-term employment, it is reasonable to assess the scenario wherein these employees permanently move into the Study Area.
- 17.8.53 The potential population uplift as a result would amount to <0.001% of the projected 2027 baseline. This is a very negligible increase in population to a medium sensitivity population, thus generating no more than a long-term minor beneficial effect to the resident population in the Study Area. As during construction, the resultant changes to the demographic profile of the Study Area are expected to be extremely small and unlikely to have either a predominantly positive or negative bias. Therefore, there is anticipated to be a neutral effect overall with regard to resident demographic profile.
- 17.8.54 The level of accommodation required to permanently house 4 long-term employees is likely to be easily supplied within the Study Area, as a result of projected oversupply of market housing from 2022-2029. The projected need from long-term employees is 0.3% of the projected oversupply, and as such this is anticipated to have a negligible magnitude impact on the local housing market, and is projected to be a neutral effect as it does not adversely affect access to permanent housing for existing residents.
- 17.8.55 With respect to the peak workforce associated with all panels being replaced in a 2-year window, **Table 17.19** identifies a total of 100 FTE medium-term gross direct employment with 25 FTE medium-term employees anticipated to come from outside the Study Area. Temporarily accommodating these workers within the Study Area is likely to result in limited socio-demographic effects.
- 17.8.56 The potential temporary population uplift as a result would amount to 0.002% of the projected 2027 baseline. This is a negligible increase in population to a medium sensitivity population, thus generating no more than a short- to medium-term temporary minor beneficial effect to the resident population in the Study Area. As during construction and as set out in paragraph 17.8.53 above, the resultant changes to the demographic profile of the Study Area are expected to have a neutral overall effect.
- 17.8.57 To accommodate the peak employment workforce required for all panels being replaced in a 2-year window, a total of 25 rental properties are likely to be required. This is 0.005% of the estimated total of 5,100 vacant private rental properties in the Study Area (of which an estimated 135 are within 2km of the Sites and Cable Route Search Area). This would therefore have a negligible magnitude impact on the local private rental accommodation market. Due to the medium sensitivity of access to housing in the Study Area, this is a short- to medium-term temporary minor adverse effect.
- 17.8.58 During construction, the Scheme is unlikely to have more than a negligible magnitude impact on skills and education opportunities (such as apprenticeships) during its operational lifetime, including during the peak activity period for when all PV infrastructure is replaced. Therefore, the



likely effect on skills and qualification attainment in the Study Area is no more than a long-term minor beneficial effect.

Economic Effects (Employment and GVA)

- 17.8.59 The net direct employment generated by the Scheme is anticipated to induce an uplift of £1.6 million GVA per annum to the Study Area. This is anticipated to be felt in the electric power generation, transmission and distribution industry sub-sector. The proposed uplift is equivalent to a 0.4% uplift to this economic sub-sector in the Study Area.
- 17.8.60 The Scheme is anticipated to induce a further uplift in GVA more generally in the economy through indirect and induced economic benefits associated with the Scheme’s construction, as a result of prosperity for suppliers, merchants, and those benefitting from increased spending by construction workers. This indirect and induced uplift is estimated at £700,000 GVA per annum.
- 17.8.61 As stated in paragraph 17.8.22, the Scheme is likely to result in a long-term loss of 8 FTE agriculture sector jobs, resulting in a £300,000 GVA per annum loss to the Study Area throughout the operational lifetime of the Scheme. This is however likely to be more than repaid back into the same industry via working eligible landowners benefitting from ground rent from the Scheme’s operators.
- 17.8.62 The operational lifetime of the Scheme is up to 60 years, during which there is likely to be a long-term adverse impact on tourism and visitor spending in the Study Area as a result of the effects of the Scheme on some features, such as landscape views, PRoWs, and nearby heritage assets. This is most likely to be felt as a result of reduced enjoyment of experience due to views of the Scheme, resulting in reduced desirability and thus spending at those locations. As the effects of the Scheme are more passive in its operational phase than during construction, the estimate of the level of loss in visitor spending in the 2km area nearest the Sites and Green Hill BESS is likely to be more than 5%. This therefore is equivalent to a loss of up to £1.3 million GVA per annum in visitor spending, which as a worst-case scenario could reduce employment in tourism-dependent sectors by 19 FTE per annum over the operational lifetime of the Scheme.
- 17.8.63 The peak activity during the operational lifetime of the Scheme is the likely 2-year regime of replacing the PV arrays. As this is likely to produce more actively apparent effects on the surrounding area, it is pertinent to assume that an additional level of effects on visitor spending may occur during these periods: estimated up to £2.6 million GVA per annum total in this 2-year window for when all panels are replaced.
- 17.8.64 The accommodation sector, where not affected by losses due to reduced visitor spending, is unlikely to benefit greatly from any need for inbound workers requiring temporary accommodation during the operational lifetime of the Scheme, except in circumstances where a specialist worker may be required to travel to the Scheme from elsewhere in the UK. In this instance, an uplift of is likely to be minimal (<£10,000) to the economy in the Study Area.
- 17.8.65 That notwithstanding, the peak activity associated with all panels being replaced in a 2-year window may require up to 25 FTE inbound workers to require temporary accommodation in serviced accommodation. This could bring a modest uplift of up to £20,000 GVA per annum in the years replacement activities are being undertaken.

Table 17.20: FTE Employment per Annum as a Result of Scheme Operation

Economic Area	Study Area Employment	GVA per worker	Study Area GVA
Net Direct Scheme Employment	8	£186,448	£1,600,000
Indirect and Induced Scheme Employment (net x1.33)	11	£66,203	£700,000
Agriculture (Direct and Indirect)	-8	£41,514	-£300,000
Other (Ground Rent)	n/a	n/a	£2,400,000



Economic Area	Study Area Employment	GVA per worker	Study Area GVA
Tourism	-19	£70,188	-£1,300,000
Accommodation	0	£25,225	<£10,000
Total Net Employment	-7	n/a	£3,100,000

- 17.8.66 The resultant changes to employment (as set out in Table 17.20 above) is therefore estimated to be an annual loss of 7 FTE jobs in the Study Area, largely as a result of effects on tourism and visitors. That notwithstanding, the Scheme is likely to generate an uplift of £3.0 million GVA per annum in the Study Area during its operational lifetime, with an additional £10.3 million GVA per annum during the 2-year solar array replacement period.
- 17.8.67 Outside the Study Area, employment and economic benefits felt across the rest of Great Britain as a result of “leakage” are likely to be up to an additional 4 FTE, generating an additional £600,000 GVA per annum elsewhere in the UK. During the peak operational 2-year solar array replacement period, this is estimate to increase to £2.7 million GVA per annum.
- 17.8.68 As the overall workforce in the Study Area is of a medium sensitivity to change. The loss of 7 FTE long-term workers in the Study Area represents a 0.001% decrease in long-term employment from the baseline of 643,600 total workers. The change in employment represents an overall negligible negative impact to a medium sensitivity receptor, thus having an overall long-term minor adverse effect on the labour force in the Study Area. During the peak replacement period, an increase of 43 FTE jobs may be created in the Study Area, representing a short- to medium-term minor beneficial effect during that period.
- 17.8.69 The £3.0 million increase in the GVA per annum to the local economy will amount to a 0.01% rise in GVA per annum in the Study Area from the 2022 baseline (Ref.58, Ref.59) during the Scheme’s operation. This rise would constitute a negligible positive impact on the local economy, as well as on local prosperity, and has the potential to have a long-term negligible positive impact on resident and workplace population salary. These are medium sensitivity receptors as a result of the greater than regional and national rates of volatility within the economy and subsequent volatility of resident and workplace population income. These impacts would therefore constitute long-term minor beneficial effects in the Study Area. While the 2-year solar array replacement period would create additional uplift, the significance of effect is no greater than overall during the operational lifetime of the Scheme.

Tourism and Recreation

- 17.8.70 The proposed 60-year maximum operational lifetime of the Scheme is likely to induce long-term impacts to tourism and recreation receptors in the localised 2km and 5km ZOIs, beyond the economic impacts assessed above.

Tourism Attractions

- 17.8.71 The Scheme is not anticipated to directly impact upon the use, desirability and importance of regionally important tourism destinations. Whilst there may be a degree of impact on the landscape setting of these attractions, this effect will largely be mitigated by minimal direct views, and the implementation of landscape planting associated with the Scheme maturing over its operational lifetime. The exception to this is there are specific impacts (assessed as up to a potentially high negative magnitude) which may affect the significance of setting of the Grade I Listed Registered Park and Garden at Castle Ashby, dependant on the final configuration of the Scheme at Green Hill F. This therefore has potential to generate significant adverse effects to this location as a tourism destination. Specific assessment of this location will be undertaken further in the ES. There is a low risk that the Scheme itself becomes a deterrent to visitors travelling to the local area by virtue of its existence and views of the Scheme seen when travelling to visitor destinations, however the risk of the Scheme affecting access to visitor destinations is negligible due to the negligible impact of operational traffic on the local highway network. As such, the



anticipated impact of the Scheme on regionally important destinations is negligible albeit experienced over a long period, and as a result the expected effect will be a long-term minor adverse effect.

- 17.8.72 A minimal number of localised attractions, including local landscape, heritage, and recreational attractions are anticipated to be directly affected by the Scheme during its operational lifetime, with wider effects avoided by embedded mitigation and the fact that the Sites and Cable Route Search Area are physically separated from formal recreation sites. Whilst many of the local attractions within the Scheme's area of visual influence are likely to be negligibly affected by the operation of the Scheme, those that are reliant on their landscape setting as an intrinsic part of their value may be impacted to a greater extent, such as on their surrounding landscape character and serenity. Key landscape and heritage assets, such as along the River Nene, county parks, and the large number of listed buildings and scheduled monuments, are identified and assessed in **Chapter 8: Landscape and Visual Impact** and **Chapter 12: Cultural Heritage**.
- 17.8.73 As stated for construction, the landscape receptors assessed in **Chapter 8: Landscape and Visual Impact** identify a substantial number of viewpoints which have been subject to a preliminary assessment of potential effects. It is identified that as a result of the Scheme's construction some of these receptors may experience up to a high negative magnitude impact on their visual setting. This is particularly the case where viewpoint and receptors have immediate views of the Scheme. Likewise with local heritage assets, the preliminary assessment of the potential effects of the Scheme in **Chapter 12: Cultural Heritage** identify instances of up to high negative magnitude impact on the significance of setting of certain listed buildings, scheduled monuments, and non-designated heritage assets, including on Castle Ashby Grade I listed Registered Park and Garden. These effects are additionally important due their long-term effect during the operational phase of the Scheme.
- 17.8.74 As a result, at this stage of assessment, there may be potential for long-term significant impacts to some local tourism attractions, particularly in the villages of Grendon, Mears Ashby, and Earls Barton, where multiple parts of the Scheme may be visible from ground-level or from publicly accessible areas during the Scheme's operational lifetime. A full assessment of individual receptors likely to experience significant effects will be undertaken as landscape and visual and heritage surveys are completed ahead of production of the full ES. In the context of the overall tourism industry, due to the intermittent nature of views within the 2km Zone of Influence, the overall level of impact is likely to be medium to low, resulting in a long-term moderate-minor to minor adverse effect during the Scheme's operation.

Public Rights of Way and Long-Distance Recreational Routes

- 17.8.75 The local network of PRoWs and permissive recreation routes is important to the local population for personal health and wellbeing, and for local amenity. Thus, the PRoWs and permissive recreation routes network is of a medium sensitivity to impacts. As a result of their regional and national importance, Long Distance Recreation Routes are of high sensitivity to impacts from the Scheme.
- 17.8.76 The Scheme, through its design and embedded mitigation set out in the OPRoWMP, preserves the routing and access of all existing PRoWs and permissive recreation routes on the Sites and in the Cable Route Search Area throughout the operational lifetime of the Scheme except during times of infrastructure replacement. During this time, impacts are expected to be no greater than those anticipated during construction (low magnitude). As a result, anticipated long-term impacts on PRoWs and permissive recreational routes during the general operational and maintenance period are experiential in nature: impacting only on the desirability of the PRoWs or permissive recreational route as a result of changes to landscape setting and visual aspect, not their accessibility or use. A full assessment of the landscape impacts on PRoWs is presented in **Chapter 8: Landscape and Visual Impact**. Where receptors in **Table 17.21** and **Table 17.22** are marked as having no visual impact, this is based on the **Augmented Zone of Theoretical Visibility Plans** contained within that Chapter.
- 17.8.77 The resultant effects in relation to these routes (during the operational phase when Scheme infrastructure is not being replaced) are tabulated in **Table 17.21** and **Table 17.22** below. Only



PRoWs and permissive recreational routes directly affected by the Scheme are tabulated. The location of each route and the relationship between each route and the relevant part of the Sites or Cable Route Search Area is set out at Table 17.11. All other PRoWs within 2km of the Site and Cable Route Search Area are anticipated to experience no more than minor adverse effects as a result of medium to long-range views of construction activities. PRoWs more than 2km from the Sites and Cable Route Search Area and long-distance recreational routes more than 5km from the Sites and Cable Route Search Area have not been assessed as impacts from the Scheme at these distances are not expected to be material.

Table 17.21: Effects on Public Rights of Way and Permissive Recreational Routes Directly Affected by the Scheme

PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Old FP DF4	Visual impacts	Negligible long-term negative	Minor adverse effect
Walgrave FP DT8	Occluded / distant visual impacts	Neutral	Neutral
Hannington BR CT3	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Hannington BR CT5/CT6/CT9	Occluded / distant visual impacts	Neutral	Neutral
Hannington FP CT7 Holcot CW7	Occluded / distant visual impacts	Neutral	Neutral
Hannington BR CT8	Occluded / distant visual impacts	Neutral	Neutral
Holcot FP CW1	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Hardwick FP TG6	Occluded / distant visual impacts	Neutral	Neutral
Hardwick BR TG7	Occluded / distant visual impacts	Neutral	Neutral
Hardwick BR TG8	Occluded / distant visual impacts	Neutral	Neutral
Hardwick BR TG12	Occluded / distant visual impacts	Neutral	Neutral
Mears Ashby FP TN3	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Mears Ashby BR TN7	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Wilby FP TU3	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Mears Ashby BOAT TN10	Visual impacts	Negligible long-term negative	Minor adverse effect
Mears Ashby FP TN1	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Mears Ashby FP TN2	Visual impacts	Negligible long-term negative	Minor adverse effect
Earls Barton FP TC1	Occluded / distant visual impacts	Neutral	Neutral



PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Earls Barton FP TC3 Ecton TE1	Occluded / distant visual impacts	Neutral	Neutral
Earls Barton BOAT TC12 Ecton TE11	Occluded / distant visual impacts	Neutral	Neutral
Earls Barton BR TC13	Occluded / distant visual impacts	Neutral	Neutral
Earls Barton BOAT TC14	Occluded / distant visual impacts	Neutral	Neutral
Earls Barton FP TC17	Occluded / distant visual impacts	Neutral	Neutral
Earls Barton highway adj. Northampton Rd	Occluded / distant visual impacts	Neutral	Neutral
Cogenhoe and Whiston FP KF4	Occluded / distant visual impacts	Neutral	Neutral
Cogenhoe and Whiston FP KF9	Occluded / distant visual impacts	Neutral	Neutral
Cogenhoe and Whiston BR KF19/KF20	Occluded / distant visual impacts	Neutral	Neutral
Grendon FP TF3	Visual impacts	Negligible long-term negative	Minor adverse effect
Grendon FP TF4 Castle Ashby KE1	Visual impacts	Negligible long-term negative	Minor adverse effect
Grendon FP TF10	Visual impacts	Negligible long-term negative	Minor adverse effect
Bozeat FP TA1 Grendon FP TF11	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Bozeat FP TA4	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Bozeat FP TA3 Easton Maudit FP TD2 Grendon FP TF5	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Bozeat FP TA17	Visual impacts	Negligible long-term negative	Minor adverse effect
Easton Maudit FP TD3	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Easton Maudit FP TD5	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Easton Maudit FP TD7	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Easton Maudit BR TD8	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Easton Maudit BR TD9	Visual impacts	Negligible long-term negative	Minor adverse effect



PRoW/Route ID	Potential Effects	Magnitude of Impact	Significance of Effect
Bozeat FP TA20 Easton Maudit FP TD5	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Lavendon BW2	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Lavendon BW4	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Lavendon BW14	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Lavendon BW15	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Lavendon FP1	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect
Lavendon FP5 Warrington FP7	Immediate visual impacts	Low long-term negative	Moderate-minor adverse effect

Table 17.22: Impacts on Long-Distance Recreational Routes

PRoW/Route ID	Potential Impacts	Magnitude of Impact	Significance of Effect
Brampton Valley Way	No visual impact	Neutral	Neutral
Midshires Way	No visual impact	Neutral	Neutral
Milton Keynes Boundary Walk	Immediate visual impacts	Low long-term negative	Moderate adverse effect
Nene Way	Occluded / distant visual impacts	Neutral	Neutral
Northamptonshire Round	Immediate visual impacts	Low long-term negative	Moderate adverse effect
Ouse Valley Way	Occluded / distant visual impacts	Neutral	Neutral
Three Shires Way	Immediate visual impacts	Low long-term negative	Moderate adverse effect
Buckinghamshire Way	Immediate visual impacts	Low long-term negative	Moderate adverse effect
Market Harborough Round	Occluded / distant visual impacts	Neutral	Neutral
North Bedfordshire Heritage Trail	No visual impact	Neutral	Neutral
Northamptonshire Boundary Walk	Immediate visual impacts	Low long-term negative	Moderate adverse effect
St Bernard's Way	Occluded / distant visual impacts	Neutral	Neutral
Via Beata	Occluded / distant visual impacts	Neutral	Neutral



PRoW/Route ID	Potential Impacts	Magnitude of Impact	Significance of Effect
Sustrans National Cycle Route 6	No visual impact	Neutral	Neutral
Sustrans National Cycle Route 539	No visual impact	Neutral	Neutral

17.8.78 As a result of the embedded mitigation measures set out in Section 17.6, the greatest effects on the use, accessibility, and desirability of PRoWs and permissive recreational routes are long-term moderate-minor adverse effects. The greatest level of adverse effects on high sensitivity long-distance recreational routes are moderate adverse effects. These are therefore significant effects.

17.8.79 The local highway network also plays a substantial role as a recreational facility, as it is not only used itself for recreational activity, such as walking, riding, and cycling, are important as links connecting the PRoW network to nearby settlements and are therefore important to be considered as part of the assessment of effects on recreational routes. **Chapter 13: Transport and Access** has conducted a preliminary assessment and concluded, at this stage, that the operational impacts on the local highway network as a result of operational traffic will be negligible for accidents and safety, severance, pedestrian and driver delay and hazardous loads, which is not significant, and pedestrian amenity, which is not significant. The resultant effect on the local highway network for recreational users is long-term negligible adverse and not significant. This may have a short-term temporary peak to a minor adverse effect during peak operational activity associated with the replacement of PV infrastructure on the Sites, however this is no greater than during construction.

Recreational Facilities and Attractions

17.8.80 During the operational lifetime of the Scheme, effects on waterways and bodies of water used for recreation are only anticipated as a result of change to landscape setting for recreational waterway users. The River Nene is likely only to experience intermittent or long-distance visual impacts from the Scheme at Green Hill BESS, and Green Hill F as a result of intervening vegetation and topography. As such, the long-term effect on the desirability of the River Nene for recreational use, which has a medium sensitivity due to its regional significance, is a negligible negative impact, and this a long-term minor adverse effect.

17.8.81 Pitsford Water is likely to experience some medium to long-range views (scoped out of landscape visual assessment in **Volume 3, Appendix 8.3: Potential Visual Effects**) of Green Hill A and Green Hill B, and as such is likely unlikely to experience more than a long-term minor adverse effect to the recreational desirability of the lake for water sports and fishing. Likewise, users of the Grendon Lakes complex are also only likely to experience fleeting views of infrastructure at Green Hill BESS, albeit in the immediate context of the National Grid Substation. In both instances, views are likely to become more screened with the passage of time as intervening and on-site vegetation matures. As such, no more than a long-term minor adverse effect for users until intervening planting sufficiently matures to screen the majority of views.

17.8.82 Fishing locations on Sywell Reservoir are likely to experience mid-range views of Green Hill E, thus there may be up to a low magnitude impact on the use of this location. As a result of its local level of importance, and thus a low sensitivity, the Scheme will likely therefore have a long-term minor adverse effect on this receptor. The ponds at Castle Ashby are not likely to be affected by the Scheme due to existing intervening topography and vegetation, and therefore will experience a neutral effect.

17.8.83 The maximum effects of the Scheme on the recreation use of waterways and water bodies is therefore no greater than a long-term minor adverse effect, acknowledging that the significance of these effects may reduce over time as intervening and screening planting matures.



17.8.84 Formal recreational facilities for activities such as organised sports, horse-riding and flying have been identified within 2km of the Sites and Cable Route Search Area. A number of these are anticipated to be directly and indirectly affected by construction works or traffic, and as such there is deemed to be an overall medium sensitivity to changes from the Scheme. That notwithstanding, there may be a low impact on the landscape context as a result of short, and long-range views (as identified in the indicative Augmented Zone of Theoretical Visibility Plans at **Figures 8.9-8.9.8.1 in Chapter 8: Landscape and Visual Impact**) and thus on the desirability of these locations for recreational use. As such, the maximum potential effect on those receptors would be a long-term minor adverse effect.

17.8.85 Formal and informal recreational facilities, including those for recreational youth sports and children’s play areas are not anticipated to be directly affected by the operation of the Scheme. This is due to the negligible levels of traffic associated with the Scheme during operation and maintenance, and the minimal impact to the desirability of these as a result of landscape context. As a result this could generate up to a long-term minor adverse effect on the accessibility of recreational facilities for children and youth groups. During peak operational and maintenance activity on the Scheme associated with the replacement of PV infrastructure, up to a short-term moderate-minor adverse effect may be experienced.

Decommissioning

Socio-Economics

17.8.86 The decommissioning of the Scheme is anticipated to generate an estimated 75-80% of the level of employment of the construction phase, owing to the reduced labour requirements of decommissioning works, including those on the Cable Corridor. As such, it can be estimated that the decommissioning phase will employ up to a gross of 327 FTE employees per annum, based on a worst-case approximately two-year decommissioning timeframe. For the purpose of this assessment, this would produce a likely peak decommissioning workforce of 537 employees, however this peak may be higher if a shorter decommissioning timeframe is undertaken.

17.8.87 Applying the same assumptions as set out for construction with regard to the number of employees likely to be sourced from within the Study Area, the resultant “leakage”, and the 50% displacement factor, the Scheme is likely to generate peak employment (based on 537 employees gross) as set out in Table 17.23 below. Resultantly, effects in the Study Area are likely to be very similar to those experienced during construction.

Table 17.23: FTE Employment Peak during Scheme Decommissioning

(rounding to nearest 1 FTE)	Study Area	Rest of UK	Total
Gross Direct Employment	140	397	537
Displacement (50%)	-70	-198	-268
Net Direct Employment	70	198	268
Indirect and Induced Employment (net x1.33)	93	264	357
Total Net Employment	163	462	625

17.8.88 Based on existing GVA per worker, and acknowledging that this may not be representative of economic value at the point of decommissioning, the net direct scheme employment of 70 FTE generated by the Scheme is anticipated to induce an estimated uplift of £10.8 million GVA per annum to the Study Area. This is anticipated to be felt in the construction sector, specifically the construction of utility infrastructure sub-sector where specialist skills are required for infrastructure decommissioning activities.



- 17.8.89 As during construction, the Scheme’s decommissioning is likely to generate a further economic uplift through indirect and induced employment for suppliers, merchants, and those benefitting from increased spending by decommissioning workers. This is anticipated to generate an additional 93 FTE employment per annum in the Study Area, generating an estimated £6.2 million GVA per annum.
- 17.8.90 During decommissioning, the land is proposed to be restored to its existing state ready for the recommencement of agricultural activities. As such, the approximate 8 FTE agricultural employees displaced by the Scheme are likely to be able to be reemployed on the land following completion of decommissioning activities. That notwithstanding, completion of decommissioning works will also complete ground rent contracts to eligible landowners.
- 17.8.91 Decommissioning activities in relation to the Scheme are likely to lead to temporarily changes to landscape views, both from equipment and movement on the Sites, and the impacts from decommissioning traffic impacting the desirability and accessibility of tourism and recreation routes and centres, could negatively impact the prosperity of the local tourism economy. However, this is not anticipated to be as intense as during construction, and so an 80% factor has been applied to assumptions made for construction. As a result, the estimated loss to the tourism industry during decommissioning works is anticipated to be up to 60 FTE workers, and a loss of £4.2 million GVA per annum.
- 17.8.92 Following completion of decommissioning works, it can be assumed that the tourism industry will largely return to existing conditions as a result of the return of the land to agricultural activity. That assumption is caveated by not knowing what other changes may occur to the Study Area in the 60 year operational lifetime of the Scheme, and any beneficial or adverse legacy impacts as a result of the Scheme being in this location for a significant period of time.
- 17.8.93 The accommodation sector, where not affected by losses due to reduced visitor spending, has potential to benefit from decommissioning workers requiring temporary accommodation where serviced accommodation is preferred to private rental accommodation. In this instance, an uplift of between 6 and 13 FTE (dependent on average or peak accommodation need) is likely to be induced by increased occupancy of hotels. This is likely to generate an additional £150,000 GVA minimum to the economy in the Study Area during decommissioning works.

Table 17.24: FTE Employment as a Result of Scheme Decommissioning

Economic Area	Study Area Employment	GVA per worker	Study Area GVA
Net Direct Scheme Employment	70	153,895	10,772,650
Indirect and Induced Scheme Employment (net x1.33)	93	66,203	6,163,499
Agriculture (Direct and Indirect)	-8	41,514	-311,355
Tourism	-60	70,188	-4,243,777
Accommodation	6	25,225	149,040
Total Net Employment	101	124,004	12,530,057

- 17.8.94 The resultant changes to employment and GVA in the Study Area is therefore estimated to be an uplift of 101 FTE jobs per annum, generating £12.5 million GVA per annum in the Study Area during the Scheme’s decommissioning. Note this is potential greater than during construction due to reduced tourism and visitor impact. Outside the Study Area, employment and economic benefits felt across the rest of Great Britain as a result of “leakage” are likely to be up to an additional 218 FTE, generating £20.1 million GVA per annum. Overall, the Scheme is likely to generate a total GVA of £32.6 million per annum during this period.



- 17.8.95 As a result of sensitivity in the Study Area to changes to economic activity, unemployment, and the level of employment, the overall workforce in the Study Area is of a medium sensitivity to change. Acknowledging that this is based on existing baseline conditions due to no ability to accurately forecast future baseline conditions in these circumstances, the uplift of 101 workers in the Study Area represents a 0.02% increase in employment from the baseline of 643,600 total workers. The uplift in employment represents an overall negligible positive impact to a medium sensitivity receptor, thus having an overall medium-term temporary minor beneficial effect on economic activity and employment in the labour force in the Study Area.
- 17.8.96 The £12.5 million increase in the GVA per annum to the local economy will amount to a 0.03% rise in GVA per annum in the Study Area from the 2022 baseline (Ref.58, Ref.59) during the Scheme's decommissioning. This rise would constitute a negligible positive impact on the local economy, as well as on local prosperity, and has the potential to have a medium-term negligible positive impact on resident and workplace population salary. These are medium sensitivity receptors as a result of the greater than regional and national rates of volatility within the economy and subsequent volatility of resident and workplace population income. These impacts would therefore constitute medium-term temporary minor beneficial effects in the Study Area.

Tourism and Recreation

- 17.8.97 The scale of works required for decommissioning is likely to be no greater than that of the Scheme's construction phase, and as such, impacts on tourism and recreation receptors during decommissioning are of a reduced or no greater than equitable level of significance to those during the construction phase.
- 17.8.98 That notwithstanding, following completion of decommissioning and the return of the land to agricultural use, the desirability of the surrounding area is likely to return to near baseline conditions prior to the construction of the Scheme. A notable exception to this will be any landscape or ecological enhancement measures installed as part of the Scheme that are intended to be retained in perpetuity.
- 17.8.99 Mitigation measures to control impacts on tourism and recreation facilities as a result of traffic, and decommissioning activities, will be set out in the OCTMP and ODEMP for the main ES.
- 17.8.100 The decommissioning phase is likely to have direct effects on a number of PRoWs and long-distance recreation routes as a result of temporary use as HGV accesses, required diversions and closures, and secondary temporary impacts as a result of the movements of goods and employee traffic. The magnitudes of these impacts are anticipated to be similar to those anticipated during the Scheme's construction. Some PRoWs and long-distance recreational routes may have fewer or smaller impacts as cable ducting relating to the Cable Corridor is anticipated to be left in situ, thus reducing the need for closures or diversions of routes.

17.9 Additional Mitigation and Enhancement Measures

- 17.9.1 This section provides information of additional mitigation measures that may be applied in circumstances where the preliminary assessment in section 17.8 concludes that the Scheme will have a likely significant adverse effect on a socio-economic, tourism and recreation receptor that requires further mitigation to manage the effect to an appropriate level. These measures will be confirmed as required in the ES and supporting documents at DCO submission.
- 17.9.2 The mitigation measures set out in this section would allow the design, construction, operation, and management of the Scheme to be adapted where feasible to minimise adverse effects of the Scheme on the relevant receptors. These mitigation measures furthermore aim to reduce the impacts of the Scheme when considered cumulatively with other developments being built out over a similar timeframe in the same area.
- 17.9.3 Similarly, where beneficial effects are anticipated, a series of enhancement measures can be introduced where feasible to ensure the greatest beneficial effects can be generated and secured.
- 17.9.4 Mitigation and enhancement measures are proposed to be secured through the OCEMP, OCTMP, OPRoWMP, OLEMP, OOEMP, OSSCEP, and ODEMP, which will be submitted with the DCO submission:



Construction

- 17.9.5 The following additional mitigation measures for the construction phase of the Scheme have been identified and are proposed to be implemented where necessary.
- 17.9.6 To reduce the level of effect on PRoWs, permissive routes, long distance recreational routes, and the recreational use of the local highway network, the OCTMP and OPRoWMP could include further measures to target managing driver behaviours, the times vehicles arrive and leave each of the Sites or to reduce traffic volumes and effects overall. This include staggering the construction programme to ensure sites are worked on at different times, while providing additional signage to enforce preferred HGV and construction traffic routes, provide warning signs at points where PRoWs and recreational routes cross construction traffic routes onsite, and provide banksmen to control sensitive points on HGV routes. These may help to reduce effects on recreational routes, but are not likely to reduce the significant effect on long-distance recreational routes due to the sensitivity of these receptors.
- 17.9.7 Additional targeted mitigation measures may be required subject to full assessment of the likely effects on regionally important tourism destinations in the ES.

Operational Phase

- 17.9.8 The operational lifetime of the Scheme is estimated to be 60 years from the completion of the construction phase. For the purpose of assessment, it has been assumed that the Scheme will commence operation from Q2 2029, with decommissioning estimated to be no later than 2089.
- 17.9.9 In addition to embedded mitigation measures for the Scheme's operation and maintenance set out in the OOEMP and OLEMP, additional measures may be required during peak operational and maintenance periods: namely the replacement of BESS or PV array infrastructure. This may include the reintroduction of traffic management including banksmen at sensitive points on the highway network or at PRoW and recreational route crossing points. These may help to reduce peak effects on recreational routes, but are not likely to reduce the significant effect on long-distance recreational routes over the operational lifetime of the Scheme due to the sensitivity of these receptors.
- 17.9.10 Whilst a significant long-term adverse effect has been identified to long-distance recreational routes, additional mitigation is not likely to be effective in reducing the significance of effect due to the sensitivity of these receptors and the longevity of the effect.

Decommissioning

- 17.9.11 Decommissioning will see the return of impacts to socio-economic, tourism and recreation receptors in a similar magnitude to those experienced during construction, largely from the Scheme, with likely comparatively reduced effects in the Cable Route Search Area. Whilst a detailed assessment on the anticipated effects cannot be reliably made due to uncertainty of future baseline conditions, mitigatory measures can still be implemented as set out in the ODEMP (see Section 17.7 above). Additional mitigation measures including traffic management including banksmen at sensitive points on the highway network or at PRoW and recreational route crossing points may go some way to reduce effects on recreational routes, but are not likely to reduce the significant effect on long-distance recreational routes over the decommissioning period of the Scheme due to the sensitivity of these receptors.

Enhancement Measures

Construction

- 17.9.12 Enhancement to local education through promoting of apprenticeship and training schemes will have a positive impact on education and skills attainment in fields such as construction, engineering, and energy technology throughout the lifetime of the Scheme, and may be set out where appropriate in the OSSCEP.
- 17.9.13 During construction, an enhancement to availability of apprenticeship and training schemes in the Study Area is likely to induce an uplift to access to education as a measured index of deprivation



resulting in an improvement in skills and qualification attainment of up to a medium-term temporary moderate-minor beneficial effect.

- 17.9.14 Practicable opportunities to promote local recruitment and procurement, education and skills uplifting, and apprenticeship and training schemes for construction, manufacturing, and the energy industry are also to be explored through the OSSCEP. Focus on local recruitment and procurement during construction will help to enhance construction sector employment and the sector economy in the Study Area. Furthermore, exploration of options to find ways to support agricultural workers in moving to diversified agricultural practices (such as sheep rearing and grazing) that can be continued alongside the operation of the Scheme will help to mitigate the impacts on agriculture sector employment and the sector economy. As a result of the enhancements to be set out in the OSSCEP there is likely to be an uplift in level of net benefit to the local economy, and thus to economic prosperity, and resident and workplace income. As with the level of employment, this change is not anticipated to increase the level of significance of the effect to these receptors.
- 17.9.15 These measures may collectively help to enhance the level of economic activity and employment in the Study Area. As a secondary effect, this will also enhance access to employment as a measured index of deprivation in the Study Area. Whilst these enhancements are anticipated to improve employment conditions in the Study Area, it is not anticipated that the level of significance of the effects to these receptors is likely to be increased.

Operation

- 17.9.16 As described for the construction phase, efforts should be made to find opportunities for local recruitment and procurement, and supporting local education and skills uplifting during the Scheme's operation.
- 17.9.17 The OSSCEP should seek to build upon these measures by enhancing the Scheme's employment and economic benefit through focussing on local recruitment and procurement, and supporting local education and skills uplifting. This should be focussed on ensuring loss of tourism and agricultural employment is directly mitigated or compensated through uplifts in other employment sectors. Efforts to secure opportunities for re-skilling of employees into new industries, including the energy sector, and supporting the local agricultural industry (such as through diversified agricultural practices, such as sheep rearing and grazing) should be set out in the OSSCEP. Resultantly, it is anticipated that the measures set out in the OSSCEP will mitigate the adverse effect on economic activity and employment to a long-term minor beneficial effect. The measures are not however likely to change the level of significance of the effects on the local economy, economic prosperity, or resident and working population incomes.
- 17.9.18 Support for local education and skills uplifting during operation should be secured through the OSSCEP to enhance access to education as a measured index of deprivation, and improve overall skills and qualification attainment. Resultantly, skills and qualification attainment in the Study Area is likely to be enhanced to experience a long-term minor beneficial effect with a peak short- to medium-term moderate-minor beneficial effect during peak PV replacement activities.
- 17.9.19 The Scheme also features opportunities for a number of enhancements to existing PRoWs and the provision of a new non-vehicular permissive routes where it can be shown that there is a local need or appetite for such a route to be included as part of the Scheme. The opportunity for members of the public to comment on potential connections they wish to see added or improved will be made available through the statutory consultation process and will be integrated where feasible into the Schem design for DCO submission. Any implemented measures will create the potential for enhance connectivity in the local area and may help to improve recreation in the immediate vicinity, secondarily benefitting local population health and wellbeing in the long-term.

Decommissioning

- 17.9.20 Additional enhancement measures during decommissioning can be implemented in a similar respect to during construction, including promotion of local skills and training opportunities, and focus on promoting local labour, supply chains, and delivery of transferable skills and employment.



17.10 Residual Effects

- 17.10.1 This section summarises the residual significant effects of the Scheme following the implementation of additional mitigation as outlined in **Section 17.9** of this chapter.
- 17.10.2 Following the implementation of the appropriate site-specific mitigation measures identified during the construction, operation and decommissioning phases, the residual effects of the Scheme on socio-economic, tourism and recreations receptors are determined as set out in **Table 17.25** below.



Table 17.25 Residual Effects on Socio-economic, Tourism and Recreation Receptors

Significant Effects are highlighted in orange.

Receptor	Description of Effect	Area of Effect	Embedded and Additional Mitigation and Enhancement Measures	Residual Significance of Effect
Resident population	Peak uplift in population from inbound temporary construction workforce	Study Area	Use of embedded flexibility in construction schedule to reduce construction workforce peak Investment in local recruitment and procurement to increase proportion of construction workforce from within the Study Area.	Short-term temporary moderate-minor beneficial
Demographic profile	Change to demographic profile due to inbound temporary construction workforce	Study Area	Use of embedded flexibility in construction schedule to reduce construction workforce peak Investment in local recruitment and procurement to increase proportion of construction workforce from within the Study Area.	Neutral
Access to permanent housing	Decreased supply of permanent housing for residents due to requirement for inbound construction workers and families	Study Area	Investment in local recruitment and procurement to increase proportion of construction workforce from within the Study Area.	Medium-term minor adverse effect
Access to temporary rental accommodation	Decreased supply of private rental housing for residents due to requirement for inbound construction workers and families	Study Area	Investment in local recruitment and procurement to increase proportion of construction workforce from within the Study Area. Use of embedded flexibility in construction schedule to reduce construction workforce peak	Short- to medium-term temporary minor adverse



Receptor	Description of Effect	Area of Effect	Embedded and Additional Mitigation and Enhancement Measures	Residual Significance of Effect
Skills and qualification	Increase in sector-based skills training and qualification opportunities	Study Area	Promotion of local education and skills uplifting, and apprenticeship and training schemes	Medium-term temporary moderate-minor beneficial
Economic activity and employment	Changes in overall employment opportunities generated from Scheme construction	Study Area	Investment in local recruitment and procurement to increase proportion of construction workforce from within the Study Area.	Medium-term temporary minor beneficial
Local economy and economic prosperity	Economic impacts on the overall existing economy generated from Scheme construction	Study Area	Investment in local recruitment and procurement to increase proportion of construction workforce from within the Study Area.	Medium-term temporary minor beneficial
Regional tourist attractions	Impacts from construction noise, traffic, and views on desirability and use	5km ZOI	Mitigation of construction works impact through OCEMP and OCTMP	Medium-term temporary moderate-minor to minor adverse
				Potential significant effects on individual attractions
Local tourist attractions	Impacts from construction noise, traffic, and views on desirability and use	2km ZOI	Mitigation of construction works impact through OCEMP and OCTMP	Medium-term temporary moderate-minor to minor adverse
PRoW and Permissive Routes	Impacts from construction noise, traffic, views, and diversions and closures of routes on PRoW desirability and use	Within and adjacent to Sites and Cable Route Search Area	Mitigation of construction works impact through OCEMP, OCTMP, and OPRoWMP	Up to medium-term temporary moderate-minor adverse
		2km ZOI	Mitigation of construction works impact through OCEMP, OCTMP, and OPRoWMP	Up to medium-term temporary minor adverse
Long Distance Recreational Routes	Impacts from construction noise, traffic, views, and diversions and closures of routes on desirability and use	5km ZOI	Mitigation of construction works impact through OCEMP, OCTMP, and OPRoWMP	Up to medium-term temporary moderate adverse



Receptor	Description of Effect	Area of Effect	Embedded and Additional Mitigation and Enhancement Measures	Residual Significance of Effect
Local highway network	Impacts from construction noise, traffic, views, and diversions and closures of routes on desirability and use Fear and intimidation from construction HGVs and worker movements on non-vehicular users	2km ZOI	Mitigation of construction traffic impact through OCEMP and OCTMP	Medium-term temporary minor adverse
Recreational use of waterways for navigation or fishing	Impacts from construction noise, traffic, views, on desirability and use	2km ZOI	Mitigation of construction works impact through OCEMP and OCTMP	Medium-term temporary moderate-minor adverse
Formal recreation facilities (including sports, equestrian, and aviation)	Impacts from construction noise, traffic, views, on desirability and use	2km ZOI	Mitigation of construction works impact through OCEMP and OCTMP	Medium-term temporary minor adverse
Informal and youth play and recreation centres	Impacts from construction noise, traffic, views, on desirability and use	2km ZOI	Mitigation of construction works impact through OCEMP and OCTMP	Medium-term temporary moderate-minor adverse
Resident population	Uplift in population from inbound permanent operation and maintenance workforce	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Long-term minor beneficial
	Peak uplift in population from inbound temporary workforce for replacement of PV infrastructure	Study Area	Use of flexibility in works schedule to reduce workforce peak Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Short- to medium-term temporary minor beneficial
Demographic profile	Change to demographic profile due to inbound permanent operation and maintenance workforce	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Neutral



Receptor	Description of Effect	Area of Effect	Embedded and Additional Mitigation and Enhancement Measures	Residual Significance of Effect
	Peak change to demographic profile due to inbound temporary workforce for replacement of PV infrastructure	Study Area	Use of flexibility in works schedule to reduce workforce peak Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Neutral
Access to permanent housing	Decreased supply of permanent housing for residents due to requirement for inbound permanent operation and maintenance workforce and families	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Neutral
Access to temporary rental accommodation	Peak decreased supply of private rental housing for residents due to requirement for inbound temporary workforce for replacement of PV infrastructure	Study Area	Use of flexibility in works schedule to reduce workforce peak Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Short- to medium-term temporary minor adverse
Skills and qualification	Increase in sector-based skills training and qualification opportunities	Study Area	Promotion of local education and skills uplifting, and apprenticeship and training schemes	Long-term minor beneficial
	Peak increase in sector-based skills training and qualification opportunities during replacement of PV infrastructure	Study Area	Promotion of local education and skills uplifting, and apprenticeship and training schemes	Short- to medium-term temporary moderate-minor beneficial
Economic activity and employment	Changes in overall employment opportunities generated from Scheme operation	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Long-term minor beneficial
	Peak changes in overall employment opportunities generated from Scheme operation during replacement of PV infrastructure	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Short- to medium-term temporary minor beneficial



Receptor	Description of Effect	Area of Effect	Embedded and Additional Mitigation and Enhancement Measures	Residual Significance of Effect
Local economy and economic prosperity	Economic impacts on the overall existing economy generated from Scheme operation	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Long-term minor beneficial
	Peak economic impacts on the overall existing economy generated from Scheme replacement of PV infrastructure	Study Area	Investment in local recruitment and procurement to increase proportion of operation and maintenance workforce from within the Study Area.	Short- to medium-term temporary minor beneficial
Regional tourist attractions	Impacts from Scheme on landscape setting and views, and thus on desirability and use	5km ZOI	Implementation and maturation of landscape planting in Scheme	Long-term minor adverse
Local tourist attractions	Impacts from Scheme on landscape setting and views, and thus on desirability and use	2km ZOI	Implementation and maturation of landscape planting in Scheme	Long-term moderate-minor to minor adverse
PRoW and Permissive Routes	Impacts from Scheme on immediate landscape setting and views, and thus on desirability and use Improvements to signage, route clarity, and route-side planting regimes	Within and adjacent to Sites and Cable Route Search Area	Implementation and maturation of landscape planting in Scheme Provision and maintenance of 15m offset from PRoWs to developable areas and planting within buffer	Long-term moderate-minor adverse
		2km ZOI	Implementation and maturation of landscape planting in Scheme Provision and maintenance of 15m offset from PRoWs to developable areas and planting within buffer	Long-term minor adverse
Long Distance Recreational Routes	Impacts from Scheme on immediate landscape setting and views, and thus on desirability and use Improvements to signage, route clarity, and route-side planting regimes	5km ZOI	Implementation and maturation of landscape planting in Scheme Provision and maintenance of 15m offset from PRoWs to developable areas and planting within buffer	Long-term moderate adverse
Local highway network	Impacts from operational noise, traffic, views on desirability and use	2km ZOI	Implementation and maturation of landscape planting in Scheme	Long-term negligible adverse



Receptor	Description of Effect	Area of Effect	Embedded and Additional Mitigation and Enhancement Measures	Residual Significance of Effect
	Fear and intimidation from construction HGVs and worker movements on non-vehicular users		Provision and maintenance of 15m offset from recreational routes to developable areas and planting within buffer	
	Peak impacts from operational noise, traffic, views, on desirability and use	2km ZOI	Mitigation of maintenance and replacement works impact through OOEMP and OCTMP	Short-term temporary minor adverse
Recreational use of waterways for navigation or fishing	Impacts from Scheme on landscape setting and views, and thus on desirability and use	2km ZOI	Implementation and maturation of landscape planting in Scheme	Long-term minor adverse
Formal recreation facilities (including sports, equestrian, and aviation)	Impacts from Scheme on landscape setting and views, and thus on desirability and use	2km ZOI	Implementation and maturation of landscape planting in Scheme	Long-term minor adverse
Informal and youth play and recreation centres	Impacts from Scheme on landscape setting and views, and thus on desirability and use	2km ZOI	Implementation and maturation of landscape planting in Scheme	Long-term minor adverse
	Peak impacts from operational noise, traffic, views, on desirability and use	2km ZOI	Mitigation of maintenance and replacement works impact through OOEMP and OCTMP	Short-term temporary moderate-minor adverse
Economic activity and employment	Changes in overall employment opportunities generated from Scheme decommissioning	Study Area	Investment in local recruitment and procurement to increase proportion of decommissioning workforce from within the Study Area.	Medium-term temporary minor beneficial
Local economy and economic prosperity	Economic impacts on the overall existing economy generated from Scheme construction	Study Area	Investment in local recruitment and procurement to increase proportion of decommissioning workforce from within the Study Area.	Medium-term temporary minor beneficial



17.11 Cumulative and In-combination Effects

Cumulative effects

- 17.11.1 The ES will give consideration to potential cumulative effects of the Scheme and other relevant projects within the vicinity of the Scheme on a single receptor/resource.
- 17.11.2 A list of cumulative projects can be found in **Volume 3, Appendix 2.2** of the PEIR, the list will be reviewed and refined in preparation of the DCO application submission through further consultation and will be presented and assessed in the ES. Cumulative effects will be listed within **Chapter 25: Cumulative Effects** of the ES.
- 17.11.3 For socio-economics, tourism and recreation, cumulative effects will be measures across the Study Area for socio-economic effects, and within the 2km and 5km ZOIs for locally and regionally important tourism and recreation facilities respectively. Those developments considered relevant in the assessment of cumulative effects are anticipated to be any other NSIPs in the Study Area, any other TCPA solar developments, large scale major housing developments (>100 dwellings), and any other strategic built developments or allocations.
- 17.11.4 Those cumulative developments identified and considered relevant to are set out in **Table 17.26** below. These include developments under construction, approved, under consideration, in scoping, and that are strategic developments for local development plans, as defined in Section 25.7 of **Chapter 25: Cumulative Effects**.

Table 17.26: Cumulative Developments Relevant to Socio-Economics, Tourism and Recreation

Development Name / Reference	Description	Quantum of Development
Planning Inspectorate (NSIPs)		
East Park Solar	Solar PV NSIP with battery energy storage	400MW export capacity 100MW BESS
North Northamptonshire		
Niort Way, Wellingborough	Urban extension – mixed use	3,000 dwellings >26,000m ² business and employment space
Niort Way Phase 2, Wellingborough	Residential development	250 dwellings
Prologis Park	Business and employment development	200,000m ² business and employment space
South of Gipsy Lane Irchester	Solar PV development	20MW export capacity (26MW installed capacity)
Grendon Lake BESS	BESS development	~50MWh BESS
Grendon Lake Solar	Solar PV development	-----
Kettering Energy Park	Energy infrastructure	-----
Rothwell	Business and employment development	170,000m ² business and employment space
Land North Of Northampton Road, Rushden	Business and employment development	23,000m ² retail, business and employment space
Ditchford Road	Solar PV development	-----
Rushden East	Urban extension – mixed use	2,200 dwellings



Development Name / Reference	Description	Quantum of Development
		110,000m ² business and employment space
West Northamptonshire		
South and East of Grange Park, Northampton	Residential development	850 dwellings
Overstone Leys	Urban extension – mixed use	2,000 dwellings 8,000m ² business and employment space
North Overstone	Urban extension – mixed use	1,600 dwellings 8,000m ² business and employment space
Hackleton	Residential development	525 dwellings
Milton Keynes		
Not Applicable		
Bedford		
Not Applicable		

- 17.11.5 During construction, there is potential for cumulative impacts on economic activity and employment, local economy and economic prosperity. Significant cumulative effects may be experienced by some socio-economic receptors, most likely in: construction industry employment and economic size, tourism and visitor spending, employment and tourism sector economy. Tourism and recreation receptors may also experience cumulative effects where they are exposed to multiple developments within visual range, along their route (where referring to PRoWs and long-distance recreation routes), or where affected by cumulative construction traffic movements. Only those with high sensitivity, due to regional importance, are anticipated to experience significant cumulative effects during construction. Socio-demographic receptors are not anticipated to be significantly impacted as the majority of construction workforce for residential and commercial development is likely to be generated from within the Study Area, reducing the impacts on inbound workers on socio-demographic profile, and the requirement for permanent or temporary accommodation.
- 17.11.6 A full assessment of cumulative effects is to be presented in the ES, and will be based on the most up-to-date publicly available information about the cumulative developments assessed.
- 17.11.7 Cumulative effects during operation are less likely to be significant due to the reduced level of activity associated with the Scheme, and the movement from construction activity to operational or occupational activity on any other assessed developments. This includes for peak operational and maintenance activities associated with the replacement of onsite infrastructure, which is likely to be less intense than during construction, and less likely to induce cumulative effects due to differing operational and maintenance requirements across the identified cumulative developments. That notwithstanding, the long-term nature of cumulative effects will be taken into account in respect of their significance. Significant cumulative effects are likely to be limited to tourism and visitor spending, employment and tourism sector economy, and to overall employment and economic performance subject to completion and occupation of new-build employment space.
- 17.11.8 Cumulative effects at the point of decommissioning are likely to be substantially fewer than those experienced during construction, as there is minimal anticipated overlap in project decommissioning timeframes for assessed projects and developments. Residential and employment developments are not anticipated to be decommissioned and are assessed as being



permanent. The likelihood of significant cumulative effects is reduced as most built developments such as those for residential and employment use are treated as being permanent in nature with no prospective decommissioning timeframe.

In-combination effects

- 17.11.9 The Scheme has potential to incur combined effects with regard to socio-economic and tourism and recreation impacts with other topics assessed within the ES. The following interactions are considered in this assessment:
- The combination of individual effects, for example, the combined effects of noise, dust and visual effects on a particular receptor;
 - The combination of individual topics, for example, the combined effects of climate change on ground conditions;
 - The combination of different works of the Scheme on a particular receptor for example, the in-combination effects of the construction of the Cable Corridor and the energy storage infrastructure at the same time; and
 - The combined effects of the three generating stations.
- 17.11.10 The in-combination effects of socio-economics, tourism and recreation generated from the Scheme will be fully assessed in the ES and likely to consist of:
- In-combination effects on access to primary healthcare, and resident healthcare and wellbeing from hydrological, ground conditions, noise, and air quality impacts in tandem with the anticipated resident population uplift generated by the Scheme;
 - Transport and landscape impacts from the construction and operation of the Scheme on tourism and recreation receptors have potential for an in-combination effect on health and wellbeing as a result of decreased desirability and accessibility of recreational facilities and walking and cycling routes;
 - Landscape and heritage impacts have been identified as having in combination effect on the tourism economy as a result of reduced desirability of the Scheme's Zone of Influence and the visitor attractions therein;
 - Increased employment and subsequent resident population are likely to generate additional traffic movements on the local highway network as a result of commuting for work, education, and recreational trips – thus generating an anticipated in-combination effect with transport; and
 - Resultant increase in traffic movements and resident population from the increased employment is likely to generate in-combination effects with climate change as a result of increased vehicle emissions, and increased use of water, food, energy and materials – thus generating an anticipated in-combination effect with climate change.
- 17.11.11 As the assessment of socio-economics, tourism and recreation effects assesses the impact of the Scheme as a whole, there are no additional in-combination effects as a result of the combination of effects associated with different Works Packages or generating stations.

17.12 Summary

- 17.12.1 This chapter of the PEIR has identified the existing environment in relation to socio-economics, tourism and recreation and the preliminary assessment work that has been undertaken to date to identify environmental effects as a result of the Scheme.
- 17.12.2 Preliminary mitigation and enhancement measures including the development of the promotion of local employment and procurement and investment in local skills uplifting and training opportunities are being explored and have been described with potential residual effects outlined. However, it is to be noted that it is not possible to identify all significant likely environmental effects of the Scheme.



17.12.3 To complete the ES for DCO submission, the assessment of socio-economic, tourism and recreation effects will require the following additional work:

- Baseline conditions will be re-assessed incrementally as new information, such as updated Business and Employment Register Survey data, and updated Annual Population Surveys are published;
- As the design of the Scheme is updated, the construction and operational programmes upon which the socio-economic assessment is based will need to be updated, as will the results of the assessment thereof;
- As the finalised layout (for DCO) and associated landscaping mitigation of the Scheme are integrated into the Scheme design, the assessment of effects on tourism and recreation receptors, including PRowS and any improved or new access routes will be updated;
- Where significant adverse preliminary effects have been identified, the ES will explore these in greater detail to identify where additional mitigation or changes to the Scheme design can be provided to reduce the level of these effects as much as feasible;
- Updated assessments will feed into the drafting of outline mitigation documents to be secured through the DCO. The level of mitigation that can be secured will then be used to assess the post-mitigation residual effects of the Scheme, and any cumulative effects from other developments in the relevant Zone of Influence.



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