



SUNNICA ENERGY FARM

Preliminary Environmental Information Report

Chapter 12: Socio-Economics and Land Use

Sunnica Ltd

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12 Socio-Economics and Land Use

12.1 Introduction

- 12.1.1 This chapter of the PEI Report presents the findings of an assessment of the likely significant effects on socio-economics and land use as a result of the Scheme. For more details about the Scheme, refer to **Chapter 3: Scheme Description**.
- 12.1.2 This chapter identifies and proposes measures to address the potential impacts and effects of the Scheme on socio-economics and land use, during construction, operation and decommissioning.
- 12.1.3 This chapter is supported by the following figures:
- Figure 12-1: Agricultural Land Classifications Sunnica East
 - Figure 12-2: Agricultural Land Classifications Sunnica West
 - Figure 12-3: Existing Public Rights of Way
 - Figure 12-4: Public Rights of Way Closed During Construction
 - Figure 12-5: Public Rights of Way Post Construction

12.2 Legislation and Planning Policy

National Legislation

- 12.2.1 There following national legislation is directly applicable to the Scheme in terms of the assessment of socio-economic and land use effects.

Town and Country Planning Act 1990

- 12.2.2 The Town and Country Planning Act 1990 (Ref 12-1) is a central part of English land law in that it concerns town and country planning in the United Kingdom. Repealed in parts by the Planning and Compensation Act 1991, it is now also complemented by the Planning and Compulsory Purchase Act 2004.
- 12.2.3 Part III of the Act is concerned with control over development focusing on effectively putting into public ownership, under democratically accountable regulation, all significant construction or demolition decisions by private landowners. This was seen necessary to ensure that private development did not run contrary to the community's interest.

Planning Act 2008

- 12.2.4 The Planning Act 2008 (Ref 12-2) is an Act of the Parliament of the United Kingdom intended to speed up the process for approving major new infrastructure projects such as airports, roads, harbours, energy facilities such as nuclear power and waste facilities.
- 12.2.5 Along with the Climate Change Bill and the Energy Bill this bill was considered by the Brown administration to be one of the "*three legislative*

pillars of the Government's strategy to secure long-term prosperity and quality of life for all".

- 12.2.6 Part 3 of the Planning Act 2008 introduces the concept of a Nationally significant infrastructure Projects (NSIPs) and the elements that classify a project as a NSIPs. The Planning Act also highlights the decision-making process on achieving development consent for a NSIPs and the requirements needed.

National Planning Policy

National Policy Statement for Energy (EN-1) (2011)

- 12.1.4 As outlined in Section 1.3 of **Chapter 1: Introduction**, the EIA for the Scheme must have regard to the relevant policies of the NPPF and relevant NPSs. Key aspects of the NPPF and relevant NPSs, which have been considered during the development of this chapter, are outlined below.

- **NPS EN-1** (Ref 12-3) with specific reference to: **paragraphs 4.1.3 and 4.1.4** which requires the decision maker to take into account potential benefits of development proposals including *"contribution to meeting the need for energy infrastructure, job creation and any long-term or wider benefits"*. and environmental, social and economic benefits and adverse impacts *"at national, regional and local levels"* should be considered; **section 5.12** which deals in detail with socio-economic effects of major energy infrastructure and states that the assessment should consider all relevant socio-economic effects, which may include the creation of jobs and training opportunities; provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities; effects on tourism; the effect of a changing influx of workers and cumulative effects. It also states that applicants should describe the existing socio-economic conditions in the areas surrounding schemes and refer to how their socio-economic impacts correlate with local planning policies; and **section 5.10** land use policies which expects assessments to *"identify existing and proposed land uses near the project, and assess any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan"*. **Paragraph 5.10.8** states *"applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations"* and **paragraph 5.10.9** states *"Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place"*.
- **NPPF** (Ref 12-4) with specific reference to **paragraph 8** encouraging strong, vibrant and healthy communities by creating a good quality built environment, with accessible local services that reflect community needs and support well-being and requiring land use decision makers to take account of the need to protect, and make prudent use of, natural

resources; **section 6** which aims to build a strong and flexible economy by ensuring the right supply of land; section 15: Conserving and enhancing the natural environment (paragraph 170b, in relation to impacts on best and most versatile agricultural land) and Section 17 (Facilitating the sustainable use of minerals).

Other relevant national policy

National Economic Development Policy

- 12.2.7 The Government's Industrial Strategy White Paper outlines its ambitions to increase productivity and drive growth across the whole country. It outlines its ambitions to increase productivity and drive growth across the whole country (Ref 12-19). The strategy sets out four Grand Challenges to ensure Britain is at the forefront of the industries of the future, one of these being Clean Growth to lead the world in the development, manufacture and use of low carbon technologies. One of the key tenants of the White Paper is the upgrading of infrastructure to support productivity, and ultimately, economic growth. One of the focuses of upgrading this infrastructure is to provide clean and affordable energy.

National Planning Guidance

Planning Practice Guidance (2018)

- 12.2.8 Accompanying the revised NPPF, the National Planning Practice Guidance (PPG) (Ref 12-5) provides guidance on planning and the economy and to consider the existing and potential future needs of the population in terms of economic development, jobs and employment opportunities. The PPG does not contain specific policies for NSIPs, however that applications in relation to NSIPs are to be determined in accordance with the decision making framework set out in the Planning Act 2008 and relevant NPSs, as well as any other matters that are considered both important and relevant. Last updated in 2019, the contents of the guidance are not materially relevant to the assessment of socio-economic and land-use effects as the content does not influence the undertaking of the assessment of effects relevant to the Scheme.

Local Planning Policy

East Cambridgeshire District Council Local Plan (2015)

- 12.2.9 The East Cambridgeshire Local Plan was adopted in April 2015 (Ref 12-6). The Local Plan sets the vision for future development and long-term spatial strategy from 2015 to 2031. One of the key objectives of the plan relevant to socio-economics and land use is delivering local jobs in order to maintain a skilled labour force within the district. The plan notes this as a key challenge stating that *'the district has one of the highest levels of out-commuting in the region (49% of the working population), with many high skilled workers commuting to Cambridge and elsewhere'*.
- 12.2.10 The Local Plan also highlights the importance of ensuring future developments deliver sustainable growth within the local community by identifying housing and employment requirements needed in order to meet the needs of future generations.

12.2.11 The following policies are relevant to socio-economics or land use:

- **Policy Growth 1: Levels of housing, employment and retail** growth states that the District needs to maximise opportunities for job growth, with the aim of achieving a minimum of 9,200 additional jobs in East Cambridgeshire. The district has one of the highest levels of out-commuting in the region and therefore creating job opportunities in the district is a key priority.
- **Policy EMP 6: Development affecting the horse racing industry** states that any development which is likely to have an adverse impact on an existing site within the horse racing industry will not be permitted.

12.2.12 In October 2019, the Council undertook its first 'review' of its Local Plan 2015, and determined at that stage that, following that review, that a new Local Plan would not be drafted. However, the Council also committed to monitoring the situation. Accordingly, and with the Plan hitting its 5th Anniversary on 21 April 2020, a further review has been undertaken, as set out in the East Cambridgeshire Local Plan Second Review (Ref 12-7). The main changes arising from the second review is the need to update the Local Housing Needs and the housing requirement figures in the East Cambridgeshire Local Plan in order to plan for the community's housing needs in the future long-term. This has yet to be completed.

[East Cambridgeshire District Council SPD: Renewable Energy Development \(2014\)](#)

12.2.13 Section 2.2.1 of the SPD (Ref 12-8) states that "*Renewable energy schemes can contribute to the reduction of carbon emissions, and can also have wider environmental, economic and social benefits.*"

12.2.14 The following economic and social benefits were highlighted in Paragraph 2.2.1:

- Economic Benefits: Job creation (direct and indirect), expertise in manufacturing, Research & Development, Farm diversification/revitalisation.
- Social Benefits: Retention of population (by providing direct employment), community pride, ground rent, educational opportunities and longer term health and quality of life benefits.

12.2.15 Section 8 of the SPD focuses on Public Rights of Way (PRoW) and access on local highway networks. Paragraph 8.3 specifically states that "*Renewable energy development schemes will be expected to incorporate existing public rights of way without the need for existing routes being diverted.*" It also states that if the renewable energy development adversely affects existing PRoWs, then provision should be made to offset the disadvantages to the public.

[Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document \(2015\)](#)

12.2.16 The following policies of the Joint Development Management Policies Document published in 2015 (Ref 12-9):

- **Policy CS6: Sustainable Economic and Tourism Development** states that "support will be given to developing and sustaining Forest Heath's

existing economy with particular priority given to key sectors including the equine industry around Newmarket, the air bases of Mildenhall and Lakenheath, Centre Parcs and tourism, and agriculture and forestry.”

- **Policy CS10: Employment in the Country** states “that the diversification of existing rural enterprises and the development of new enterprises where a rural location is either environmentally or operationally justified will be supported, provided there are no significant detrimental environmental, landscape, conservation or highway impacts”.
- **Policy DM31: Farm Diversification** states that “proposals for farm diversification will be permitted if the scale and nature of the proposal is appropriate within its rural location”.
- **Policy DM44: Rights of Way** states that “development which would adversely affect the character of or result in the loss of existing or proposed rights of way, will not be permitted unless alternative provision or diversions can be arranged”.

12.2.17 Development allocations for West Suffolk District are identified in the Forest Heath Area of West Suffolk Council Site Allocations Local Plan (SALP) September 2019.

[Suffolk County Council Minerals & Waste Local Plan \(2020\)](#)

12.2.18 The Suffolk Minerals & Waste Local Plan (SMWLP) (Ref 12-11) adopted in July 2020, contains planning policies for determining planning applications and allocation of land for minerals and waste development as well as safeguarding the same from other forms of competing development. The following policies relevant to the assessment of socio economic and land use effects are set out in summary below::

- **Policy MP10: Mineral consultation and safeguarding areas** states “*The county council will safeguard those Minerals Safeguarding Areas located within the Minerals Consultation Areas identified on the Proposals Map from proposed development in excess of five Ha. The County Council will object to such development unless it can be shown that the sand and gravel present is not of economic value, or not practically or environmentally feasible to extract, or that the mineral will be worked before the development takes place or used within the development*”.
- **Policy WP18: Safeguarding of waste management sites** “*seeks to safeguard existing sites and sites proposed for waste management use as shown on the Proposals & Safeguarding Maps and will object to development proposals that would prevent or prejudice the use of such sites for those purposes unless suitable alternative provision is made. Development proposals in close proximity to existing sites, should demonstrate that they would not prejudice or be prejudiced by a waste management facility. The safeguarding policy will also apply to any site where planning permission has already been granted*”.
- **Policy MS10: Worlington-** allocates new mineral extraction areas and the existing quarry..

Cambridgeshire and Peterborough minerals and waste policy

12.1.5 Cambridgeshire and Peterborough's adopted and emerging minerals and waste policy relevant to the assessment of socio economic and land use effects is set out in summary below:

- Cambridgeshire and Peterborough Minerals and Waste Development Strategy (2011) with particular reference to allocations relating to Policy CS26 (Mineral Safeguarding Areas), CS23 (Sustainable Transport of Minerals), CS30 (Waste Consultation Areas);
- Cambridgeshire and Peterborough Minerals and Waste Site Specific Proposals Development Plan Document (2012), with particular reference to Section 8.8 (Waste Consultation Areas) and Section 9.2 (Transport Safeguarding Areas); and
- Cambridgeshire and Peterborough Minerals and Waste Local Plan Proposed Submission November 2019 with particular reference to Policy 6: Mineral Development Areas (MDAs) and Mineral Allocation Areas, Policy 10 (Waste Management Areas); Policy 11: Water Recycling Centres; Policy 15: Transport Infrastructure Areas (TIAs) and Policy 16: Consultation Areas.

Guidelines for Environmental Impact Assessment (2016)

12.2.19 The Institute of Environmental Management & Assessment (IEMA) published in 2014 guidelines (Ref 12-10) on how to write an Environmental Impact Assessment using a robust authoritative guide on good EIA practice that aims to assist all participants in the development process. The chapter and PEI Report have followed the guidance set out by IEMA following the set out process of writing an EIA as well as the practices to develop and manage the EIA.

12.3 Assessment Assumptions and Limitations

12.3.1 This preliminary assessment is based on baseline and design information available at the time of writing this PEI Report. A full assessment is being undertaken as part of the EIA and will be reported in the Environmental Statement (ES) that will be submitted with the DCO application.

12.3.2 The assessment of the significance of effects has been carried out against a benchmark of current socio-economic baseline conditions prevailing around the Scheme, as far as is possible within the limitations of such a dataset. Baseline data is also subject to a time lag between collection and publication. As with any dataset, these conditions may be subject to change over time which may influence the findings of the assessment.

12.3.3 Baseline Conditions reported in Section 12.6 in regard to population and labour force and the local economy are based on latest data available at the time of writing. It is likely that current conditions are greatly changed owing to the ongoing effect of the Covid-19 pandemic on the labour market, businesses and the economy. The assessment of effects reported in Section 12.8 is based on the conditions as reported wherever relevant and it is not expected that the assessment of significance would change if they were based on current conditions.

- 12.3.4 As it is not possible to confirm at PEI Report stage with certainty the length of time each Public Right of Way (PRoW) will be closed for, as a worst-case scenario it has been assumed that the PRoW lying within the DCO Site are closed for the entire length of the construction period. This information will be known and assessed in the ES.
- 12.3.5 Effects on local amenities and land use during the construction, operation and decommissioning phases are based on PEI Report preliminary assessments taking into consideration the results from the relevant environmental studies that can act in-combination to cause effects to occur. These studies comprise the transport, noise and vibration, visual, and air quality assessments. These will be further investigated in the ES.
- 12.3.6 The Agriculture and Soils assessment was not conducted at PEI Report stage and therefore effects related to agriculture and soils have not been assessed within the PEI Report but will be included at ES stage.

12.4 Assessment Methodology

Introduction

- 12.4.1 There is currently no statutory guidance on the methodology for undertaking assessments of socio-economic and land use effects. The assessment follows best practice methodology from other assessments undertaken on comparable energy infrastructure schemes.
- 12.4.2 This section sets out the scope and methodology for the socio-economics and land-use assessment of the Scheme.
- 12.4.3 The Scheme has the potential to have a range of effects, some of which would be temporary, whilst others would be permanent. For the purposes of this PEI Report chapter, due consideration is given to the Scheme in terms of effects on the following:
- Agricultural land and soils;
 - Employment generation;
 - Gross value added (GVA)
 - Public Rights of Way;
 - Local amenities and land use (residential properties, business properties, community facilities and development land).
- 12.4.4 The effects are assessed as relevant for all four sites which are Sunnica East Site A, Sunnica East Site B, Sunnica West Site A and Sunnica West Site B. Effects arising from the two cable route corridors 'Grid Connection Route A' and 'Grid Connection Route B' and the Burwell National Grid Substation Extension are also assessed.
- 12.4.5 Further details on the methodology for the socio-economics and land-use assessment of the Scheme are detailed below.

Study Area

- 12.4.6 The impacts of the Scheme are considered at varying spatial levels according to the nature of the effects considered. This approach is consistent with the

Homes and Communities Agency (HCA), now known as Homes England, guidance entitled 'Additionality Guide, A Standard Approach to Assessing the Additional Impact of Projects, 4th Edition' (Ref 12-12).

- 12.4.7 The Scheme comprises of four sites (the 'Sites'), two cable route corridors (Grid Connection Route A and Grid Connection Route B) and one national grid substation (Burwell National Grid Substation Extension), see **Chapter 3: Scheme Description** for further information
- 12.4.8 The four sites are Sunnica East Site A, Sunnica East Site B, Sunnica West Site A and Sunnica West Site B. Sunnica East Site A is located south of Isleham straddling ECDC and WSC administrative boundaries. Sunnica East Site B is located south of Worlington in WCS. Sunnica West Site A and B are located south and west of Chippenham, respectively, within ECDC. The cable route corridor for 'Grid Connection Route A' is located between Sunnica East Site A, Sunnica West Site B, Sunnica West Site A, and 'Grid Connection Route B' is located between Sunnica West Site A, Sunnica West Site B and Burwell National Grid Substation Extension (See Figure 3-19).
- 12.4.9 The potential impacts arising from the Scheme are considered relative to the Cambridge Travel to Work Area (TTWA) as this represents the principal labour market catchment area for the Scheme, particularly given the absence of a functional economic market area within local policy. TTWAs have been developed from the origin-destination data for employees within the 2011 Census (Ref 12-13) to approximate self-contained labour market areas¹ (at least 75% of the population live and work in the area). Therefore, the TTWA incorporates the population that may reasonably be expected to travel to, and benefit from, the Scheme and constitutes the relevant labour market for the Scheme.
- 12.4.10 The boundary of the Sites and effects on land that borders this through severance has been used for consideration of effects on agricultural land and soils. The study area for the assessment of effects on farm holdings covers the land required for the construction and operation of the Scheme, together with the rest of the holding affected. The Grid Connection Routes are not considered as part of this assessment since the impacts of land from the cabling routes are not expected to be long lasting effects on the quality of the land.
- 12.4.11 Effects on users of public rights of way consider those resources likely to be affected by closures and diversions of routes. The study area is therefore all public rights of way located in or within 500m of the Scheme boundary.
- 12.4.12 The principal impacts on local amenities will be considered on a geographical scale based on the finding of other assessments such as presented in **Chapter 10: Landscape and Visual Impact Assessment, Chapter 11: Noise and Vibration, Chapter 13: Transport** and **Chapter 14: Air Quality** of this PEI Report.

¹ The criteria for defining Travel to Work Areas are that at least 75% of the area's resident workforce work in the area and at least 75% of the people who work in the area also live in the area. The area must also have a working population of at least 3,500. However, for areas with a working population in excess of 25,000, self-containment rates as low as 66.7% are accepted.

12.4.13 Table 12-1 presents the different components of the socio-economic and land use effects assessment and the geographical scale at which each component is assessed.

Table 12-1: Socio-economics and land use impacts by geographical scale

<i>Impact</i>	<i>Geographical area of impact</i>	<i>Rationale for impact area</i>
Employment generation during construction phase, operational phase and decommissioning phase (direct, indirect and induced impacts)	Cambridge TTWA	2011 Census TTWA
Gross Value Added (GVA) ² during construction phase		
Public Rights of Way	The DCO Site and the immediately adjacent land within 500m.	Professional judgement and experience from other schemes in southern England
Agriculture and soils	The DCO Site and the immediately adjacent land.	Professional judgement and experience from other schemes in southern England.
Local amenities- Residential Properties	500m radius from the DCO Site has been used. This will be reviewed for adequacy following receipt of Stage 2 consultation comments.	Professional judgement and location of sensitive receptors for impacts arising from the scheme as informed by other assessments.
Local amenities- Business Premises	500m radius from the DCO Site has been used. This will be reviewed for adequacy following receipt of Stage 2 consultation comments.	Professional judgement and location of sensitive receptors for impacts arising from the scheme as informed by other assessments.
Local amenities- Community Facilities	2km radius from the DCO Site has been used. This will be reviewed for adequacy following receipt of Stage 2 consultation comments.	Professional judgement and location of sensitive receptors for impacts arising from the scheme as informed by other assessments.
Development land	The DCO Site and the immediately adjacent land.	Professional judgement and experience from other schemes in southern England.

² Gross Value Added (GVA) is the measure of the value of goods and services produced in an area, industry or sector of an economy

Sources of Information

Desktop Research

- 12.4.14 The following assessment seeks to establish the potential social, economic and land use effects of the Scheme and assesses these against the current baseline conditions at the DCO Site and in the surrounding area.
- 12.4.15 Baseline data illustrating the existing conditions surrounding the DCO Site has been collected through a desk-based research exercise using publicly available sources, documents and web-based applications. These sources include:
- Mid-Year Population Estimates (Ref 12-14);
 - Annual Population Survey (Ref 12-15);
 - Indices of Multiple Deprivation (Ref 12-16); and
 - Business Register and Employment Survey (Ref 12-17).

Impact Assessment Methodology

- 12.4.16 The socio-economic and land use assessment follows the general Impact Assessment Methodology set out in **Chapter 5: EIA Methodology**. However, the specific methodology, impact magnitude and impact sensitivity criteria for this assessment have been set out below.

Methodology for determining demolition and construction effects, operational effects and decommissioning effects

- 12.4.17 As mentioned, the economic impact of the Scheme is considered relative to the Cambridge TTWA, as this is the principal labour market catchment area.
- 12.4.18 Additionality has been calculated by considering the overall impact of job gains to the area, the level of leakage, number of displaced jobs and multiplier effects, such as supply chains and worker spending related jobs. These assumptions have been informed by the HCA Additionality Guidance (Ref 12-12).
- 12.4.19 Table 12-2 below outlines the values that have been allocated to the construction, operational and decommissioning phases' additionality formula, enabling the tailored calculation of the net additional employment and economic impacts. Justifications for the values have been considered and are summarised in the right-hand column of the table.

Table 12-2: Construction, operational and decommissioning phases economic additionality assumptions

<i>Additionality Factor</i>	<i>Value</i>	<i>Justification</i>
Leakage (% of jobs that benefit those residents outside the Scheme's identified target area)	22%	The analysis of Census 2011 data indicates that approximately 22% of workers in the Cambridge TTWA live outside the TTWA (Ref 12-13). This corresponds to approximately the medium leakage rate as set out by HCA Additionality Guide (Ref 12-12) and implies that a reasonably high proportion of benefits will be retained within the TTWA.

<i>Additionality Factor</i>	<i>Value</i>	<i>Justification</i>
Displacement (% of jobs that account for a reduction in related jobs in the Scheme's identified target areas)	25%	For the purpose of this assessment, a low level of displacement (25%) has been assumed, in line with the HCA Additionality Guidance (Ref 12-12).
Multiplier (further economic activity associated with the additional local income, supplier purchase and longer term development effects)	1.5	The multiplier is a composite figure which takes into account both the indirect jobs created across the Functional Economic Market Area (FEMA) based on supply chain activity but also the induced employment created through increased spending across the TTWA. The HCA Additionality Guidance (Ref 12-12) provides a 'ready reckoner' of composite multipliers. The FEMA is likely to have 'average' supply linkages and induced effects based on the scale of its economy. Therefore, a 'medium' multiplier of 1.5 is determined from the HCA guidance to be the most appropriate measure.

12.4.20 The land use and public rights of way impacts have been assessed against the significance criteria below using professional judgement.

12.4.21 The principal social impacts on residential properties, business premises and community facilities will be informed by other assessments and assessed against the significance criteria using these assessments and professional judgement.

Significance criteria

12.4.22 The assessment of potential socio-economic effects uses the effect significance terms and definitions described within **Chapter 5: EIA Methodology** of this PEI Report. Where possible, socio-economic impacts have been appraised against relevant national standards, such as those provided by Department for Business, Energy & Industrial Strategy (DBEIS) and HCA. Where relevant standards do not exist, professional experience and expert judgement have been used to assess the scale and nature of the effects of the Scheme against baseline conditions.

12.4.23 The assessment aims to be objective and quantifies effects as far as possible. However, some effects can only be evaluated on a qualitative basis. Effects are defined as follows:

- **Beneficial** classifications of significance indicate an advantageous or beneficial effect on an area, which may be minor, moderate, or major in effect;
- **Negligible** classifications of significance indicate imperceptible effects on an area;
- **Adverse** classifications of significance indicate a disadvantageous or adverse effect on an area, which may be minor, moderate or major in effect; and
- **No effect** classifications of significance indicate that there are no effects on an area.

12.4.24 The geographical scales considered to assess significance are described in Table 12-1, and are organised around the following:

- **National** levels are associated with effects that impact on England and Wales;
- **Regional** levels are associated with effects that impact on East of England;
- **District** levels are associated with effects that impact on East Cambridgeshire and West Suffolk; and
- **Local** levels are associated with effects that impact on the DCO Site and neighbouring area.

12.4.25 Duration of effect is also considered, with more weight given to permanent changes than to temporary ones. Permanent effects are generally those associated with the completed scheme. Temporary effects are those associated with the construction works. For the purposes of this assessment, short-term effects are of one year or less, medium-term effects of one to five years and long-term effects for over five years.

12.4.26 For socio-economics, there is no accepted definition of what constitutes a significant (or not significant) socio-economic effect. It is however recognised that 'significance' reflects the relationship between the scale of effect (magnitude) and the sensitivity (or value) of the affected resource or receptor. As such the significance criteria of socio-economic effects has been assessed based on expert judgment and professional experience of the author, and relies on the following considerations:

- **Sensitivity of resources/receptors:** specific values in terms of sensitivity are not attributed to socio-economic resources / receptors due to their diverse nature and scale; however, the assessment takes account of the qualitative (rather than quantitative) 'sensitivity' of each receptor and, in particular, their ability to respond to change based on recent rates of change and turnover (if appropriate);
- **Magnitude of impact:** this entails consideration of the size of the effect on people or business in the context of the area in which effects will be experienced; and
- **Scope for adjustment:** the socio-economic assessment is concerned in part with economies. These adjust themselves continually to changes in supply and demand, and the scope for the changes brought about by the Scheme to be accommodated by market adjustment will therefore be a criterion in assessing significance.

12.4.27 Criteria for receptor sensitivity and impact magnitude have been set out below (although specific sensitivity values are not attributed to socio-economics receptors as explained above), which have been grouped as follows: economic impacts, local amenities and land use impacts, and tourism impacts. The significance of effect matrix has been provided following the receptor sensitivity and impact magnitude criteria.

Economic impacts

- 12.4.28 The following criteria have been set to assess the effects on socio-economics receptors in relation to employment and GVA (Gross Value Added) which have been grouped together as economic impacts.
- 12.4.29 Table 12-3 identifies the sensitivity criteria that have been used to inform the assessment on socio-economic receptors relating to employment and GVA, in conjunction with the magnitude criteria set out above to establish the significance of the identified effects.

Table 12-3: Economic impact sensitivity criteria

<i>Magnitude</i>	<i>Description</i>
High	Businesses, workers or residents who have little or no capacity to experience the impact without incurring an economic loss or have capacity to experience an economic gain.
Medium	Businesses, workers or residents that have a moderate or average capacity to experience the impact without incurring a change on their economic well-being.
Low	Businesses, workers or residents that generally have adequate capacity to experience impacts without incurring a change on their economic well-being.
Very low	Businesses, workers or residents that are unlikely to experience impacts on their economic well-being.

- 12.4.30 Table 12-4 identifies the magnitude of impact criteria which have been used to assess the socio-economic receptors relating to employment and GVA.

Table 12-4: Economic impact magnitude criteria

<i>Magnitude</i>	<i>Description</i>
High	An impact that is expected to have considerable adverse or beneficial socio-economics effects. Such impacts will typically affect large numbers of businesses, workers or residents.
Medium	An impact that will typically have a noticeable effect of a moderate number of businesses, workers or residents, and will lead to a small change to the study area's baseline socio-economic conditions.
Low	An impact that is expected to affect a small number of businesses, workers or residents or an impact that may affect a larger number of receptors but does not materially alter the study area's baseline socio-economic conditions.
Very low	An impact which has very little change from baseline conditions where the change is barely distinguishable, approximating to a "no change" situation.

Public Rights of Way

- 12.4.31 The following criteria have been set to assess the effects of users on PRowS focusing on the impact of severance of existing routes and the resulting changes in journey lengths and times and local travel patterns.
- 12.4.32 Table 12-5 identifies the sensitivity criteria that have been used to inform the assessment on PRow, in conjunction with the magnitude criteria set out above to establish the significance of the identified effects.

Table 12-5: Public Rights of Way impact sensitivity criteria

<i>Magnitude</i>	<i>Description</i>
High	PRow is of high importance with limited potential to substitute with other route options to access with the wider network or community infrastructure.
Medium	PRow is of medium importance with moderate potential to substitute with other route options to access with the wider network or community infrastructure. Or PRow is of high importance with alternative routes available. Or PRow is of low importance with limited potential to substitute with other route options to access with the wider network or community infrastructure.
Low	PRow is of low importance with alternative routes available. Or PRow is of very low importance with moderate potential to substitute with other route options to access with the wider network or community infrastructure.
Very low	PRow is of very low importance with alternative routes available.

- 12.4.33 Table 12-6 identifies the magnitude of impact criteria which have been used to assess the impacts on public rights of way.

Table 12-6: Public Rights of Way impact magnitude criteria

<i>Magnitude</i>	<i>Description</i>
High	Substantial increase/decrease in journey length and/or travel patterns and increased/decreased opportunities for users to access the wider network and/or community infrastructure.
Medium	Noticeable increase/decrease in journey length and/or travel patterns and increased/decreased opportunities for users to access the wider network and/or community infrastructure.

Low	Slight increase/decrease in journey length and/or travel patterns and increased/decreased opportunities for users to access the wider network and/or community infrastructure
Very low	No increase or decrease in journey length and/or travel patterns and no increase or decrease in opportunities for users to access the wider network and/or community infrastructure.

Local amenities and land use - Local amenities and development land

12.4.34 The following criteria has been set to assess the effects on local amenities which in this Scheme comprises residential properties, business premises and community facilities and development land.

12.4.35 Table 12-7 identifies the sensitivity criteria that have been used to inform the assessment of effects relating to local amenities, which in conjunction with the magnitude criteria set out above to establish the significance of the identified effects.

Table 12-7: Local amenities impact sensitivity criteria

<i>Magnitude</i>	<i>Description</i>
High	Amenity or land use is of high importance and rarity with limited potential for substitution or access to alternatives.
Medium	Amenity or land use is of medium importance and rarity with moderate potential for substitution or access to alternatives.
Low	Amenity or land use is of low importance and rarity with alternatives available.
Very low	Amenity or land use is of very low importance and rarity with alternatives available.

12.4.36 The magnitude of change on local amenities (residential properties, business premises, community facilities and development land) is assessed by appraising the level of impact on the receptor and the permanency of change arising from the Scheme. Table 12-8 identifies the magnitude of impact criteria which have been used to assess the impacts on local amenities and land use.

Table 12-8: Local amenities impact magnitude criteria

<i>Magnitude</i>	<i>Description</i>
High	An impact that permanently affects the integrity and value of an amenity; or an impact that considerably enhances the value and quality of an amenity or land use.
Medium	An impact that negatively affects the value of an amenity, but a recovery is possible with no permanent impacts; or an impact

that improves key characteristics and features of the amenity or land use.

Low	An impact that negatively affects the value of an amenity, but a recovery is expected in the short-term with no change to its integrity; or an impact that has some beneficial impact on the attributes of the amenity or land use.
Very low	An impact which is a very minor loss or benefit from baseline conditions where the change is barely distinguishable, approximating to a “no change” situation.

Significance of effects

12.4.37 Socio-economic effects are a reflection of the relationship between the sensitivity of the affected receptor (Table 12-3, Table 12-5 and Table 12-7) and the magnitude of the impact. Table 12-9 below shows how the assessment of the significance of effects is arrived upon.

Table 12-9: Impact assessment and significance

Magnitude of Impact	Sensitivity of receptor			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

12.4.38 In accordance with the methodology set out within **Chapter 5: EIA Methodology** of this PEI Report, the following criteria is applied:

- ‘Moderate’ or ‘major’ are classed as ‘**significant**’;
- ‘Minor’ are classed as ‘**not significant**’, although they may be a matter of local concern; and
- ‘Negligible’ effects are classed as ‘**not significant**’.

12.5 Stakeholder Engagement

12.5.1 The Scoping Report outlined the assessment methodology, relevant legislation and policy, defined study areas and identified baseline conditions pertaining to the scope of the socio-economics and land-use assessment.

12.5.2 As set out in the Scoping Opinion as received, issues relevant to the socio-economics and land use assessment were raised during consultation. These main matters are presented in Table 12-10.

Table 12-10: Main matters raised during consultation

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
Planning Inspectorate	Ensure the Study Area for each potential impact for socio-economics and land use are identified clearly.	The Study Area for each potential impact has been identified.	See Sections 12.4 and Table 12-1
Planning Inspectorate	Ensure guidance used in the methodology is explicitly referenced and how socio-economic receptors will be assessed.	The Methodology identifies the guidance the assessment has been based on.	See Section 12.4
Planning Inspectorate	Ensure the potential impacts for the operations of Worlington Quarry are assessed. Including the relationship between the Proposed Development and Worlington Quarry.	The impacts of Worlington Quarry have been scoped out of this assessment as the operational quarry is no longer within the boundaries of the Scheme. Area 5 of Worlington Quarry which is the only area within the Scheme boundary has been confirmed by Frimstone to be barren for sand and gravel extraction. Therefore, there are no potential impacts on current or future operational activity in the Worlington Quarry affected by the Scheme.	N/A
NHS West Suffolk Clinical Commissioning Group	The possible impacts on healthcare services arising from employment generated during the construction period should be assessed.	The impact on primary healthcare facilities have been considered in Chapter 15: Human Health .	See Chapter 15: Human Health .
SCC and WSC	The Scheme lies within Minerals Consultation Area which should be given due consideration in the assessment.	The DCO Site boundary lies within the Worlington Quarry and Barton Mills Chalk quarry safeguarding zones identified in the Suffolk Minerals and Waste Local Plan July 2020.	N/A
SCC and WSC	Ensure the non-irreversible nature of the proposed development is considered to safeguard existing minerals and waste developments and potential future areas of extraction including those which might offer further potential extensions in the	Mineral deposits within Minerals Safeguarding Areas will not be permanently sterilised by the Scheme and can be extracted, if required, after its decommissioning. It is considered that this satisfies the requirements of the Cambridgeshire and	N/A

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
	foreseeable future to the existing quarry.	Suffolk Mineral Safeguarding policies	

12.6 Baseline Conditions

12.6.1 In order to assess the potential effects of the Scheme, the environmental conditions, resources and sensitive receptors that currently exist in the Study Area. have been determined These are known as 'baseline conditions' and have been considered in the context of socio-economic impact assessment.

- The existing DCO Site and land use, including development land;
- Population and labour force;
- The local economy;
- PRoW;
- Residential Properties;
- Business Premises; and
- Community Facilities.

12.6.2 Potential effects arising from the Scheme are assessed relative to the baseline impact areas set out in Table 12-1 and benchmarked against local, regional and national standards where appropriate. Therefore, baseline conditions have been provided for these areas.

Existing Baseline

Existing DCO Site and land use, including development land

12.6.3 The Sunnica East Site A and Sunnica East Site B consists of agricultural land containing some ecological features, farm access tracks, footpaths and abutted by local transport roads. The operational areas of Worlington Quarry are located adjacent to the south-eastern area of the Sunnica East Site B accessed from Elms Road. Part of Sunnica East Site B lies within working area 5 of the extant 2004 planning permission for the quarry (application reference F/04/0227). This area was confirmed by the current operator to be barren of sand and gravel and has therefore not been worked and is currently in agricultural use. The quarry has been operational since planning permission was originally granted for mineral extraction in 2004, extracting sand and gravel and importing inert material for recycling and to utilise for the restoration of the site. The consent for quarry extraction expires on 30 October 2025, after which it will be restored in accordance with an approved restoration plan. Extension areas to the quarry are allocated in the Suffolk Minerals and Waste Local Plan adopted in July 2020 and these are adjacent to Sunnica East Site B.

12.6.4 The Sunnica West Site A also consists of agricultural fields bound by trees, managed hedgerows, footpaths and farm access tracks. A Grade II Listed Building (Waterhall Farmhouse) is located on the southern side of the A11, separated from the Sunnica West Site A by the A11 to the west and Chippenham Road to the east.

- 12.6.5 The Sunnica West Site B is located approximately 1.2km north west of Sunnica West Site A, separated by agricultural fields and Chippenham Road. The Sunnica West Site A is in proximity to the industrial and commercial estates on Newmarket Road and Fordham Road. The Sunnica West Site B consists of agricultural fields bound by trees and managed hedgerows.
- 12.6.6 Grid Connection Route A heading south from the Sunnica East Site A crosses agricultural land and the B1102 immediately north of Sunnica East Site B. The cable route then passes through Sunnica East Site B before running south, crossing the River Kennett and Havacre Meadows and Deal Nook CWS. The cable route corridor then crosses the Chippenham footpath 49/7, before passing approximately 20m west of the Chippenham Gravel Pit CWS and crossing the B1085 before joining the Sunnica West Site A.
- 12.6.7 The Grid Connection Route B connects Sunnica West Site A with Sunnica West Site B, and Sunnica West Site B with the Burwell National Grid Substation. It crosses agricultural fields and roads including the B1102 and A142. It also crosses several watercourses including the Burwell Lode, New River and the River Snail. It crosses land which has full and outline planning permission for a mix of B1, B8, A1, A3 and D2 use classes associated with an extension to a bioanalytical and pharmaceutical analysis centre at Fordham. Furthermore, this route crosses within the northern most part of an area of land allocated by Policy FRD 7 (Employment allocation, land north of Turners) for employment development (B1/B2/B8 uses) in the East Cambridgeshire Local Plan (2015) which also has planning permission (18/00579/ESF) granted for the construction of a frozen goods warehouse, replacement lorry park, Sustainable Urban Drainage System and a bund.
- 12.6.8 Burwell National Grid Substation Extension is currently on an agricultural field, located to the east of the existing substation and is in proximity to the village of Burwell.
- 12.6.9 The existing DCO Site is within safeguarding zones and consultation areas for various proposed minerals and waste site allocations of the Suffolk Minerals and Waste Local Plan adopted in July 2020 and the emerging Peterborough and Cambridgeshire Minerals and Waste Local Plan 2019 (proposed submission) and adopted policy which are located close by but not within the DCO Site.

Agricultural land and soils

- 12.6.10 In regard to agricultural land and soils, mapping of soils have been prepared based on site surveys of the DCO Site identifying that the 'Sites' are located within an area of land comprising Grade 3 (undifferentiated) soils and Grade 4 land. Under the Agricultural Land Classification (ALC) system³, Subgrade 3a land would form Best and Most Versatile Land (BMV) whereas Subgrade 3b would not. Therefore, an ALC soil survey was commissioned.
- 12.6.11 In Sunnica East Site A and Sunnica East Site B, the ALC identifies Sunnica East Site B as being formed of largely Grade 4 land. There is a small pocket

³ The Agricultural Land Classification (ALC) system, provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades (Grade 1 'excellent' to Grade 5 'very poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. ALC is based upon an assessment of limiting factors, including soils, climate and other physical limitations and the way in which these factors interact.

of Subgrade 3a towards the northern most section of the Site near Golf Links Rd. In Sunnica East Site A the land is comprised mostly of Subgrade 3b land and a few small pockets of Grade 4.

- 12.6.12 In Sunnica West Site A, the ALC shows that the Site is formed largely of Subgrade 3b land. There are some medium sized pockets of Grade 4 land found in the middle and northern portion of the Site. There is also a larger patch of land north east of the Site with Subgrade 3a and Subgrade 3b land near Dane Hill Road and Red Lodge Bypass.
- 12.6.13 Sunnica West Site B is comprised of Subgrade 3b land. The extent and distribution of the different ALC grades and subgrades is shown in Table 12-11. This shows that the largest proportion of land affected on the ‘Sites’ is land in Subgrade 3b with 49% of agricultural land followed by Grade 4 with 40%.

Table 12-11: Agricultural Land Classification

Agricultural Land Class	Total Area (Ha)	Percentage of the ‘Sites’
Subgrade 3a	46.6	4%
Subgrade 3b	536.2	49%
Grade 4	439.9	40%
Non- Agricultural	66.1	6%

Population and labour force

Population

- 12.6.14 According to the Office for National Statistics Mid-Year Population Estimates (Ref 12-14) the residential population of East Cambridgeshire has increased from 81,035 in 2008 to 89,362 in 2018, representing a 10% increase over ten years. The population of West Suffolk increased by 13.7% over the same time period, from 57,506 in 2008 to 65,399 in 2018. These population growth rates are higher than the overall rates recorded for the East of England and England and Wales during the same time period (9% and 3.7% respectively).
- 12.6.15 In 2018, 53,700 (60.1%) of East Cambridgeshire residents were of working age (defined by ONS as men and women aged 16 to 64). This is a similar rate to West Suffolk (59.9%) but slightly lower than the rates recorded for the East of England (61%) and England and Wales as a whole (62.8%) (Ref 12-14).

Employment

- 12.6.16 According to the Annual Population Survey (Ref 12-15), the unemployment rate among working age residents in East Cambridgeshire in 2019 was 2.1%, slightly lower than the levels recorded for West Suffolk (2.5%) and significantly lower than East of England (3.1%) and England and Wales (3.7%).
- 12.6.17 Residents of working age residing in East Cambridgeshire in 2019, had an economic activity rate of 86.7%. This rate is higher than the average for West Suffolk (81.9%). Both districts have higher economic activity rates than

recorded for England and Wales (78.9%) and the East of England 80.6%. This is shown in Table 12-12.

Table 12-12: Economic activity and unemployment rates

Economic Indicator	East Cambridgeshire	West Suffolk	East of England	England and Wales
Economic activity rate (for residents aged 16-64)	86.7%	81.9%	80.6%	78.9%
Unemployment rate (for residents aged 16-64)	2.1%	2.5%	3.2%	3.9%

Source: ONS (2020), Annual Population Survey (January-December 2019)

Qualifications and occupational profile

12.6.18 In 2019, 43.4% of working age residents in East Cambridgeshire have a degree level qualification or higher (National Vocational Qualification [NVQ] Level 4+) (Ref 12-15), similar to the rate for England and Wales (40.0%) but considerably higher than 32.7% recorded for West Suffolk and also higher than the East of England. However, the proportion of residents in East Cambridgeshire with no qualifications is 5.1%, which is slightly lower than 5.9% recorded for West Suffolk and significantly lower than rates recorded for East of England (7.2%) and England and Wales (7.5%).

12.6.19 The proportion of residents in East Cambridgeshire engaged in level 3 and 4 (Standard Occupation Classification (SOC)-3) occupations (45.6%) is slightly higher than that recorded for West Suffolk (41.9%), but both rates are considerably higher than the average for England and Wales (48.1%). The proportion of residents in West Suffolk in elementary occupations (21%) is significantly higher than recorded for East Cambridgeshire (5.1%), East of England (10.4%) and England and Wales (10.2%).

Deprivation

12.6.20 Based on the 2019 Indices of Multiple Deprivation (IMD) (Ref 12-16), West Suffolk is the 176th most deprived borough out of 326 districts in England (where 1 is the most deprived), and the 20th most deprived out of 47 districts in the East of England. East Cambridgeshire is less deprived in comparison with a rank of 272nd most deprived borough out of 326 districts and 38th most deprived out of 47 districts in the East of England. No lower layer super output areas (LSOAs⁴) in East Cambridgeshire or West Suffolk are ranked in the top 10% most deprived parts of the country.

Local Economy

12.6.21 In 2018, the workforce of West Suffolk comprised around 30,800 employees compared to a workforce of around 168,000 employees in East Cambridgeshire (Ref 12-17). According to the most recent data on commuting patterns from the 2011 Census, a majority (55.3%) of the workforce in West Suffolk also live in the area (Ref 12-13). This contrasts with

⁴ Lower Layer Super Output Areas are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. Lower Layer Super Output Areas are built from groups of contiguous Output Areas and have been automatically generated to be as consistent in population size as possible, and typically contain from four to six 'Output Areas'.

East Cambridgeshire where a minority (39.7%) of people working there also reside in the district.

- 12.6.22 Table 12-13 presents a detailed breakdown of employment by broad industry group in East Cambridgeshire, West Suffolk, the East of England, and England and Wales. Based on the most recently available data (Ref 12-17) on employment by group, East Cambridgeshire's economy, the highest levels of employment are recorded in manufacturing (11.1% of employment) and professional, scientific & technical (9.2%) sectors. These industrial groups are more prominent in East Cambridgeshire than they are in West Suffolk, where the lead groupings are Accommodation & Food services accounting for 15.3% of jobs, followed by the retail grouping which accounts for 9.7%.
- 12.6.23 Specific to this assessment, the construction sector contributes 7% of employment within East Cambridgeshire and 7.3% in West Suffolk, which are both higher than the proportions recorded regionally and nationally. There are around 2,000 construction jobs found within East Cambridgeshire and West Suffolk and 1,500 construction jobs found within the TTWA in Cambridge.
- 12.6.24 In addition, the mining, quarrying and utilities broad industrial group (which includes employment from the generation of energy) is slightly less prominent in West Suffolk compared to East Cambridgeshire, the East of England and England and Wales. This group represents 2.7% in East Cambridgeshire higher than both regional and national levels (1.3% and 1.2% respectively) and significantly higher than the employment level recorded in West Suffolk (0.4%).

Table 12-13: Employee jobs by Broad Industrial Group in 2018

Sector	East Cambridgeshire (%)	West Suffolk (%)	East of England (%)	England and Wales (%)
Agriculture, Forestry & Fishing	5.3	5.2	1.6	0.6
Mining, Quarrying & Utilities	2.7	0.4	1.3	1.2
Manufacturing	11.1	9.3	7.4	8.2
Construction	7.0	7.3	5.7	4.7
Motor Trades	2.6	2.3	2.5	1.7
Wholesale	4.4	7.0	4.4	3.9
Retail	7.8	9.7	9.6	9.5
Transport & Storage	7.7	2.5	5.5	4.7
Accommodation & Food Services	6.0	15.3	6.6	7.4
Information & Communication	2.9	1.3	3.4	4.5
Financial & Insurance	0.9	1.4	2.3	3.5
Property	1.5	1.9	1.7	1.7
Professional, Scientific & Technical	9.2	6.9	9.8	8.5
Business Administration & Support	7.2	5.4	10.3	9.2

Sector	East Cambridgeshire (%)	West Suffolk (%)	East of England (%)	England and Wales (%)
Public Administration & Defence	1.4	3.1	2.9	4.1
Education	9.5	6.9	8.9	9.0
Health	7.4	5.3	11.6	13.0
Arts, Entertainment, Recreation & Other	5.4	8.8	4.2	4.5

Source: ONS (2019), Business Register and Employment Survey 2018

- 12.6.25 GVA is a measure of value of goods and services produced in an area of the economy. In 2015, East Cambridgeshire generated around £1.9 billion GVA at current basic prices within its economy and West Suffolk generated around £1.3bn GVA (Ref 12-18).
- 12.6.26 East Cambridgeshire's GVA per head in 2015 was £22,000, which is similar to West Suffolk with £21,041 GVA per head, with both districts recording slightly lower rates than the regional average for the East of England (£23,901) and lower than the average for England and Wales (£25,722). These statistics suggest that both district's economies are underperforming compared to regional and national indicators.

Public Rights of Way

- 12.6.27 Both the East Cambridgeshire and West Suffolk Local Plan documents emphasise the importance of ensuring existing PRowS are kept and minimal disruptions of PRowS during the construction phase.
- 12.6.28 As described above in the existing and land use section, the Scheme is on agricultural land where there are a several PRowS on or abutting the Scheme, as illustrated in Figure 12-3.
- 12.6.29 There are three PRowS located within the boundary of the Sunnica East Site A. Three PRowS (W-257/002/0, W-257/002/X, and W-257/007/0) run from Mortimer Lane in the south to Beck Road in the north.
- 12.6.30 There are two PRowS located within the boundary of Sunnica East Site B. PRow (W-257/003/0) runs along the south-western boundary from Turnpike Road at Red Lodge in the south-east to Badlingham Manor in the north-west. An unclassified road (U6006), which is a publicly accessible route, including for equestrians, extends northwards from Elms Road to Worlington.
- 12.6.31 There are no PRowS situated within the boundary of the Sunnica West Site A or Sunnica West Site B itself. Adjacent to Site A there is Snailwell 5 bridleway (PRow 204/5) which runs along the south-west boundary of the Site. As well as Snailwell 1 footpath (PRow 204/1) which crosses the land to the north-west of the Sunnica West Site A boundary.
- 12.6.32 There is one footpath 49/7 that intersects Grid Connection Route A, located to the south of the Sunnica East Site B, accessed by users making local journeys between Chippenham and Red Lodge.

- 12.6.33 There are six PRoWs that intersect with Grid Connection Route B. Towards Snailwell footpath PRoW 204/1 connects Snailwell with Chippenham Park. Heading west from Sunnica West Site B, footpath 92/19 runs from through agricultural fields between Fordham and Snailwell. Then footpath 35/10 and 35/11 which runs between Wicken and Burwell passing through several agricultural fields. There are also two PRoWs 35/7 and 35/17 running between Burwell and Reach, again through agricultural land.
- 12.6.34 These PRoW are predominantly used for recreational purposes and form part of a wide network of PRoW in the surrounding area providing residents with alternative routes.

Local Amenities

Residential Properties

- 12.6.35 The study area is mostly rural and relatively sparsely populated. The closest residential properties to the Sunnica East Site A are a small group of properties located 500m to the north in Isleham and in Sunnica East Site B there are also a small group of properties located immediately north in Worlington. The Sunnica West Site A lies approximately 100m from a lone property on Dane Hill Road. There are no residential properties in proximity to Sunnica West Site B.
- 12.6.36 The extension to Burwell National Grid Substation is likely to be located to the east of the existing substation and the closest residential properties are located 200m to the east in the village of Burwell.

Business Premises

- 12.6.37 There are no business premises lying directly within the DCO Site of the Scheme. The closest business to Sunnica East Site A is bus/coach hire depot located 500m north in Isleham as well as a cluster of premises within the village including a restaurant, post office and a medical centre.
- 12.6.38 The closest businesses to the Sunnica East Site B are a cluster of premises at Worlington comprising two vehicle repair shops, a restaurant and a food wholesale supplier. There is also a ready mix concrete supplier 300m south of the Sunnica East B Site nearby Elms Road.
- 12.6.39 The closest business to Sunnica West Site A is Chippenham Park Gardens located 100m north from the Site, which offers a private garden and wedding venue. As well as the La Hogue Farm Shop & Café located less than 50m of the Site. Located 1km south of the Site there is also a horse training facility for horse racing in Newmarket.
- 12.6.40 To the south of Sunnica West Site B approximately 100m to the Sunnica West Site B are a cluster of businesses including an auto repair shop, a food store, a computer store, a chemical industry and a scrap metal dealer. To the west approximately 100m to the Sunnica West Site B there are also a few businesses including a packaging company, a pharmaceutical company, a wholesaler and a trucking company.

Community Facilities

12.6.41 There is a selection of community facilities and recreation facilities lying within the Study Area of the Scheme. Table 12-14 sets out these facilities and their distances from the DCO Site.

Table 12-14: Community and Recreational facilities

Recreation receptor	Description	Approximate distance from Site
Sunnica East Site A		
The Ark Church Isleham	Church in the small village of Isleham.	500m
Isleham Church of England	Church of England in the small village of Isleham.	600m
The Beeches Isleham Community Centre	The Beeches Isleham community centre has a range of facilities including a main hall, meeting rooms and a café for the use of the community.	800m
West Row Baptist Church	Baptist Church in the small village of West Row offering a range of activities including youth groups and after school clubs for all ages.	1.4km
The Golden Boar Inn	Traditional inn with rooms in the small village of Feckenham.	1.5km
Sunnica East Site B		
Royal Worlington and Newmarket Golf Club	An outdoor golf course with 9 holes.	0.3km
All Saints Church	Church of England in the small village of Worlington.	0.5km
Worlington Cricket Club	Cricket club in the village of Worlington.	0.6km
Mildenhall & Red Lodge Rugby Club	Rugby club in the village of Red Lodge.	1.6km
Sunnica West Site A		
WildTracks Outdoor Activity Park	An outdoor sports activity facility offering motocross, karting or quad bike tracks and archery.	0.1km
Red Lodge Karting	An outdoor karting facility with circuits of 1,200m and 700m.	1km
Chippenham Cricket Club	Cricket club in the small village of Chippenham.	1.1km

Sunnica West Site B

George and Dragon pub	A family-run pub located in the small village of Snailwell.	0.5km
St Peter Church	Church of England in the small village of Snailwell.	0.7km

Sensitivity of Receptors

12.6.42 Table 12-15 identifies the sensitivity of effects on socio-economics receptors identified within the baseline and sets a sensitivity value based on the criteria highlighted in Table 12-3, Table 12-5 and Table 12-7.

Table 12-15: Sensitivity of Socio-Economic and Land use receptors

Impact	Sensitivity of receptor
Local Economy (employment creation during construction, operation and decommissioning)	Varies due to type of employment activity - Low to Medium
Gross Value Added (GVA) during construction phase	Medium
Impact on Public Rights of Way	Very Low or Low
Local amenities and land use - Residential Properties	Varies due to type of amenity - Medium to High
Local amenities and land use - Business Premises	Varies due to type of amenity - Low to Medium
Local amenities and land use - Community Facilities	Varies due to type of amenity - Low to Medium
Local amenities and land use – Development Land	Variable by use - Low to Medium

Future Baseline

12.6.43 The future baseline is anticipated to be the same as the existing baseline for socio-economics and land use. The population projections for the area have been presented in the existing baseline conditions. Businesses may open and close; however, the exact details of this cannot be known in advance. Therefore, it is not expected that there will not be any perceptible changes to the local economic baseline assessment and the Scheme should be assessed against current baseline conditions and policies.

12.7 Embedded Design Mitigation

12.7.1 Primary mitigation measures are embedded within the Scheme, as set out in the respective chapters, to reduce other construction and operational effects (such as noise, air quality, transport and landscape) which in turn will mitigate the effects on the local community and existing facilities from a socio-economic and land use perspective.

Table 12-16: Embedded design mitigations from respective chapters

Embedded Design Mitigation Chapters	Paragraph reference of mitigations
Chapter 10 Landscape and Visual Amenity	Para 10.7.1- Para 10.7.8
Chapter 11 Noise & Vibration	Para 11.7.1- Para 11.7.5
Chapter 13 Transport & Access	Para 13.7.1 – Para 13.7.6
Chapter 14 Air Quality	Para 14.3.89

12.7.2 Appropriate measures to mitigate temporary impacts on users of PRowS during the construction and decommissioning phases have been proposed. The temporary closures and diversions will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users.

12.8 Assessment of Likely Impacts and Effects

12.8.1 The impacts and effects (both beneficial and adverse) associated with the construction, operation and decommissioning of the Scheme are outlined in the sections below. The assessments have been assessed following consideration of the embedded mitigation measures as described in Section 12.7.

Construction (2023)

Employment during Enabling Works, Construction and Commissioning

12.8.2 The estimated construction period is expected to last 24 months. Therefore, the likely effects will be of a medium-term temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period that can be estimated as the function of the scale and type of construction.

12.8.3 The Applicant estimates that the Scheme will require an average of 994 gross Full-time employment (FTE) construction jobs on-site per day during this construction period. The peak number of staff across the Scheme is forecast to occur in month 11 of the construction period with 1,260 staff per day. Across the entire construction period the average number of staff required for the Sunnica West Sites is forecast to be 494 staff and 500 staff for the Sunnica East Sites, resulting in an average of 994 staff per day across the Scheme.

Leakage

12.8.4 Leakage effects are the benefits to those outside the effect area, defined as Cambridge TTWA as shown in Table 12-1. Analysis carried out of Census 2011 data indicates that 22% of people working in the TTWA live outside of the area (Ref 12-13). This corresponds to approximately the medium leakage rate as set out by HCA Additionality Guide (Ref 12-12). This rate implies that although a reasonably high proportion of employment opportunities will be retained in the effect area, a noticeable amount of jobs will be taken up by people living outside the impact area. Whilst it is not a specific consideration

of the assessment, it is noted that a larger proportion of the jobs taken up by people living outside the area will likely be in more specialised professions owing to the scarcity of such resources within localised areas compared with less skilled professions.

- 12.8.5 An adjustment of 22% has therefore been applied to the estimated 994 gross construction jobs to find the jobs created outside the target area. Thus, it is estimated that the construction period at the Scheme will create 775 jobs for residents within Cambridge TTWA and 219 jobs for residents outside of this area.

Displacement

- 12.8.6 Displacement measures the extent to which the benefits of a development are off-set by reductions in output or employment elsewhere. Any additional demand for labour cannot simply be treated as a net benefit since it has the potential to displace workers from other positions and the net benefit is reduced to the extent that this occurs.
- 12.8.7 Construction workers typically move between construction projects when delays occur or to help the workforce meet construction deadlines. Due to the flexibility of the labour market, construction labour force displacement has been assumed to be low.
- 12.8.8 The HCA Additionality Guide (Ref 12-12) provides standards (or 'ready reckoners') for displacement. Within the context of a construction project in the TTWA, a low displacement factor for 25% 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. Applying this level of displacement to the total gross direct employment figure results in a total net direct employment figure of 745 jobs per year during the construction period.

Multiplier Effect

- 12.8.9 In addition to the direct employment generated by the construction of the Scheme, there will be an increase in local employment arising from indirect and induced effects of the construction activity. Employment growth will arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, it is assumed part of the income of the construction workers and suppliers will be spent in the East Cambridgeshire and West Suffolk area, generating further employment (in terms of induced or income multipliers).
- 12.8.10 The effect of the multiplier depends on the size of the geographical area that is being considered, the local supply linkages and income leakage from the area. The HCA Additionality Guide (Ref 12-12) provides a 'ready reckoner' of composite multipliers – the combined effect of indirect and induced multipliers. This is a best practice approach in the absence of specific information that might provide a defensible justification for another multiplier effect level being used, appropriate to the sectors concerned. For the Cambridge TTWA, a medium multiplier effect of 1.5 has been considered appropriate. Applying the 1.5 multiplier to the total net direct employment figure of 745 workers results in net indirect and induced employment of 373

jobs per annum during the demolition and construction period, together generating 1,118 total net jobs per annum.

Net Construction Employment

- 12.8.11 Table 12-17 presents the temporary employment generated by the Scheme identified above, accounting for leakage, displacement and multiplier effects. The Scheme will support, on average, 1,118 total net jobs per annum during the construction period. Of these, 872 jobs per annum will be expected to be taken-up by residents within the Cambridge TTWA, whilst 246 jobs will likely be taken-up by workers living outside the region.

Table 12-17: Net additional construction employment per annum from the Scheme

	Cambridge TTWA	Outside Cambridge TTWA	Total
Gross Direct Employment	775	219	994
Displacement	-194	-55	-249
Net Direct Employment	581	164	745
Indirect & Induced Employment	291	82	373
Total Net Employment⁵	872	246	1,118

Source: AECOM Calculations 2020

12.8.12 The direct, indirect and induced employment, expenditure and upskilling created from the construction of the Scheme must be judged in the context of the labour pool of construction workers in the Cambridge TTWA. Cambridge TTWA currently has around 1,500 workers in its construction sector (Ref 12-17).

12.8.13 The impact of construction employment generation on Cambridge TTWA's economy has been assessed as temporary medium beneficial, which results in a medium-term temporary **moderate beneficial** effect. This is considered significant.

Gross Value Added during the construction phase

12.8.14 Applying the average gross value added per construction worker in the area to the total number of construction workers generated from the Scheme gives the total GVA arising from the construction period.

12.1.6 In East Cambridgeshire, the average GVA per worker in the construction sector was £62,608 in 2015 (Ref 12-17) (Ref 12-18). In West Suffolk, the GVA per worker in the construction sector was £63,157. Therefore, by taking an average of both GVA's, this results in a final figure for the study area of £62,883 GVA per worker in the construction sector. By applying this figure to the total construction workers generated by the Scheme, it is estimated the construction phase will contribute £70 million to the economy, of which £54m is within the Cambridge TTWA; as shown in Table 12-18.

Table 12-18: Gross value added per annum from the Scheme during the construction phase

	Cambridge TTWA	Outside Cambridge TTWA	Total
GVA during the construction phase (£)	54,854,099	15,449,095	70,303,194

Source: AECOM Calculations 2020

12.8.15 The impact of GVA generation from the construction phase on Cambridge TTWA's economy has been assessed as medium-term temporary medium

⁵ Sum of Net Direct Employment and Indirect & Induced Employment

beneficial, which results in a temporary **moderate beneficial** effect. This is considered significant.

Public Rights of Way

- 12.8.16 Changes to journey times, local travel patterns, and certainty of routes for users would arise from the temporary closures and diversions of PRowS. Effects during construction on relevant routes are set out in the following paragraphs for the DCO Site and are shown in Figure 12-4.
- 12.8.17 It is not possible to confirm with certainty the length of time each route will be closed for, so as a worst-case scenario it is assumed the PRow are closed for the entire length of the construction period.

Sunnica East Site A

- 12.8.18 Temporary disruption to users making local journeys on bridleways W-257/007/0, W-257/002/X and W-257/002/0 between Freckenham and Isleham would be experienced due to these conjoining routes being temporarily severed preventing access. Although in the added presence of traffic, users would be able to use an alternative route via Beck Road (approximately 1km in additional journey length), to complete their journeys. Impacts arising from this on user journeys are assessed to be temporary high adverse, and the effect on users is assessed to be temporary **moderate adverse** effect. This is considered significant.

Sunnica East Site B

- 12.8.19 Temporary disruption to users making local journeys on the permissive bridleway which cuts diagonally from Worlington to Elms Road would be experienced due to the entire route being temporarily severed, preventing access. Although in the added presence of traffic, users would be able to use an alternative route via Freckenham Road (approximately 1.8km in additional journey length), to complete their journeys. Noting that this is not a right of way through which access is assured the impacts arising from this on user journeys are assessed to be temporary medium adverse, and the effect on users is assessed to be temporary **minor** effect. This is not considered significant.
- 12.8.20 To the south of the Site is footpath W-257/003/0 where temporary disruption to users making local journeys on this footpath between Freckenham and Red Lodge would be experienced due to this route being temporarily severed, preventing access. Users would be able to use an alternative route via Mildenhall Road (approximately 1.2km in additional journey length), to complete their journeys. Impacts arising from this on user journeys are assessed to be temporary high adverse, and the effect on users is assessed to be temporary **moderate adverse** effect. This is considered significant.

Sunnica West Site A

- 12.8.21 To the west of the Site there is one bridleway PRow 204/5 which borders the Site between Newmarket Bypass and Snailwell, temporary disruption to users making local journeys on this bridleway would be experienced due to the route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via Newmarket Road which would add no additional journey length to users. Using this route

should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.

Sunnica West Site B

- 12.8.22 There are no PRowS adjacent or within the Site and therefore there are no expected effects during the construction phase.

Grid Connection Route A

- 12.8.23 The Grid Connection Route A intersects footpath 49/7, temporary disruptions to users using this footpath to travel between Chippenham and Red Lodge would be experienced due to the route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via Dane Hill Road (approximately 300m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.

Grid Connection Route B

- 12.8.24 The Grid Connection Route B intersects footpath 204/1 between Snailwell and Chippenham, temporary disruptions to users on this footpath would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via Chippenham Road (approximately 400m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**, which is not considered significant.
- 12.8.25 Temporary disruptions to users on footpath 92/19 between Fordham and Snailwell would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via the A142 (approximately 200m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.
- 12.8.26 Temporary disruption to users making local journeys on footpath 35/10 and 35/11 between Wicken and Burwell would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to take an alternative route via Broads road (approximately 100m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.
- 12.8.27 Temporary disruptions to users on footpaths 35/6, 35/7 and 35/17 between Burwell and Reach would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to take an alternative route via Hightown Drove (approximately 400m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**, and which is not considered significant.

Local Amenities and Land Use

Agricultural Land

- 12.8.28 Effects on agricultural land and land use during the construction phase will be reported in the ES and will be developed taking into consideration the construction methodology.

Residential Properties, Business Premises, and Community Facilities

- 12.8.29 The construction of the Scheme would not require the demolition of residential and business premises and community facilities located within the study area, nor would it require land temporarily from these properties.
- 12.8.30 There is potential for noise, air quality, visual and traffic effects arising from construction of the Scheme to impact on the amenity of residents, businesses and users of community facilities.
- 12.8.31 Taking into account the results of the air quality, noise, traffic and visual assessments, there are no residents, businesses or community facilities that would likely experience a significant effect on their amenity during construction from effects acting in combination.
- 12.8.32 Therefore, there are no effects arising from the Scheme on these local amenities during construction which results in a **negligible effect**, and which is not considered significant.

Development Land

- 12.8.33 Potential temporary impacts on development land (unimplemented planning permissions and development allocations in the Local Planning Authority development designations) will be assessed in the ES.

Combined Effects on Receptors

- 12.8.34 The assessment has been undertaken for the Scheme as a whole, and therefore, the effects defined above account for any in-combination effects. Therefore, there are no combined effects on receptors related to socio-economic effects in the construction phase.

12.8.35 The construction effects (pre-mitigation) are listed in Table 12-19.

Table 12-19: Summary of Magnitude of Impact and Significance of Effect for the Scheme

Receptor	Sensitivity (Value)	Description of Impact	Magnitude of Impact	Effect Category	Significant effect (Yes / No)
Cambridge TTWA's economy	Medium	Employment generation during the construction phase	Medium beneficial	Moderate beneficial	Yes
Cambridge TTWA's economy	Medium	GVA generation during the construction phase	Medium beneficial	Moderate beneficial	Yes
Users of PRoWs	Low	Impacts on public rights of way USERS during the construction phase	Medium/ low adverse	Moderate adverse/ Minor adverse/ Negligible	Yes/ No
Agricultural Land	To be assigned at ES stage	The change in agricultural land use within the DCO Site and any direct effects due to this	To be assessed at ES stage	-	-
Local amenities and land use – Residential Properties, Business Properties and Community Facilities	Variable by type	Impacts on residential properties, business premises and community facilities during the construction phase	No effect	Negligible	No
Local amenities and land use – Development Land	Variable by use	Land take of development land affecting viability for future development of the land allocation	To be assessed at ES stage	-	-

Operation (2025)

Employment

12.8.36 The Scheme will generate long-term jobs once it is complete and operational. In estimating operational employment generation, it is important to consider not just the gross effects of the Scheme, but also net effects considering leakage, displacement and multiplier effects.

Existing employment ('deadweight')

12.8.37 'Deadweight' refers to outcomes which would have occurred without intervention such as if the Scheme were to result in a disruption to any existing economic activity currently occurring in relation to the DCO Site.

12.8.38 The existing DCO Site is agricultural land, and there is expected to be no employment loss as a result of the Scheme; however, there may be some temporary jobs which will no longer be offered. The Applicant has estimated this to be close to two temporary jobs related to agricultural activities. Considering these are not permanent jobs which are being lost, the 'deadweight' employment has been assessed as one permanent job will be lost.

Total net operational employment

12.8.39 The Applicant has estimated the gross number of jobs to be generated at the Scheme when complete and operational is 5 jobs.

12.8.40 Assuming a leakage of 22% outside the TTWA, displacement of 25% and a 1.5 multiplier, it is estimated that the Scheme will result in a net creation of an estimated 5 jobs, of which at least 3 are within the TTWA. Accounting for the deadweight effects outlined above, the total net employment of the Scheme remains 5 jobs. This is presented in Table 12-20.

Table 12-20: Total net employment during operation of the Scheme

	Cambridge TTWA	Outside Cambridge TTWA	Total
Gross Direct Employment	4	1	5
Displacement	-1	0	-1
Net Direct Employment	3	1	4
Indirect & Induced Employment	1	1	2
Deadweight Employment	-1	0	-1
Total Net Employment⁶	3	2	5

Source: AECOM Calculations 2020

12.8.41 It should be noted that the actual number of jobs generated by the Scheme may be greater than those represented in Table 12-20 as part-time staff will be created to perform maintenance and engineering works from time to time to ensure the Scheme is operational over a long period of time.

12.8.42 There are around 351,611 total jobs in Cambridge TTWA (Ref 12-17). In this context, and accounting for the additional net direct, indirect, induced and deadweight employment associated with the Scheme, the impact of

⁶ Sum of Net Direct Employment and Indirect & Induced Employment minus Deadweight Employment.

operational employment generation on Cambridge TTWA's economy has been assessed as permanent, very low beneficial. This results in a permanent **negligible effect**, which is not considered significant.

Public Rights of Way

- 12.8.43 All of the PRowS located within the Scheme that are closed during the construction phase will be re-opened during the operation phase.

Sunnica East Site A

- 12.8.44 To the north-west of the Site there will be a new permissive route on Beck Road, see Figure 12-5. Whilst this may result in some reduction to local journey lengths and provide a safe route for the use of local residents in the area, as it is not a right of way through which access is assured, the impact is permanent low beneficial which results in a **minor beneficial effect**. This is not considered significant.

Sunnica East Site B

- 12.8.45 To the north-east of the Site south of Freckenham Road (see Figure 12-5) there will be a new permissive route providing a circular route. It will provide a safe route for the use of local residents in the area. As this is not a right of way through which access is assured the impact is low beneficial which results in a **minor beneficial effect**. This is not considered significant.

Sunnica West Site A

- 12.8.46 To the west of the Site there will be an additional new permissive route which connects with the existing PRow 204/5. It will provide a safe route for the use of local residents in the area. As this is not a right of way through which access is assured the impact is permanent low beneficial which results in a **minor beneficial effect**. This is not considered significant.

Local Amenities and Land use

Agricultural Land

- 12.8.47 Effects on agricultural land use during the operation phase will be reported in the ES and will be developed taking into consideration the operational methodology.

Residential Properties, Business Properties, and Community Facilities

- 12.8.48 There is potential for noise, air quality, and visual effects arising from operation of the Scheme to impact on the amenity of residents, businesses and users of community facilities.
- 12.8.49 Taking into account the results of the noise, air quality visual and transport assessments, there are no residents, community facilities or businesses that would likely experience a significant effect on their amenity during operation. Therefore, there are no effects arising from the Scheme on local amenities which results in a **negligible effect**, and which is not considered significant.

Development Land

- 12.8.50 Potential operational phase impacts on development land (unimplemented planning permissions and development allocations in the Local Planning Authority development designations) will be assessed in the ES.

Combined Effects on Receptors

- 12.8.51 The assessment has been undertaken for the Scheme as a whole, and therefore, the effects defined above already take into account the in-combination effects. There are no combined effects on receptors related to socio-economic effects in the opening phase.

12.8.52 The operational effects (pre-mitigation) are listed in Table 12-21.

Table 12-21: Summary of Magnitude of Impact and Significance of Effect for the Scheme

<i>Receptor</i>	<i>Sensitivity (Value)</i>	<i>Description of Impact</i>	<i>Magnitude of Impact</i>	<i>Effect Category</i>	<i>Significant effect (Yes / No)</i>
Cambridge TTWA's economy	Low	Employment generation during the operational phase	Very low beneficial	Minor beneficial	No
Users of PRoWs	Low	Creation of new PRoWs during the operational phase	Low beneficial	Minor beneficial	No
Agricultural Land	To be assigned at ES stage	The change in agricultural land and land use within the DCO Site and any direct effects due to this	To be assessed at ES stage	-	-
Local amenities and land use – Residential Properties, Business Properties and Community Facilities	Variable by type	Impacts on residential properties, business premises and community facilities during the operational phase	No effect	Negligible	No
Local amenities and land use – Development Land	Variable by use	Land take of development land affecting viability for future development of the land allocation	To be assessed at ES stage	-	-

Decommissioning (2065)

Employment during Decommissioning (temporary medium-term)

- 12.8.53 A Decommissioning Environmental Management Plan will be prepared prior to the decommissioning phase as outlined in **Chapter 3: Scheme Description**.
- 12.8.54 The year for the decommissioning of the Scheme has been adopted as 2065, reflecting a 40 year operation period however it is possible that the Scheme will be operational for a longer period of time. At the end of its operating life, the most likely scenario is that the Scheme would be shut down and all infrastructure removed. It can be expected that employment will be generated to carry out the removal of the infrastructure from the DCO Site.
- 12.8.55 The estimated duration of the decommissioning period is expected to be similar to that of the construction period of 24 months. Therefore, the likely effects will be of a medium-term temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period that can be estimated as the function of the scale and type of activities required to decommission the DCO Site.
- 12.8.56 It is assumed based on the activities taking place that the same number of jobs required for constructing the Scheme will be needed to carry out the activities required to remove the infrastructure from the DCO Site. Therefore an average of 994 gross Full-time employment (FTE) jobs will be generated on-site per day during this decommissioning period.

Net Construction Employment

- 12.8.57 Table 12-22 presents the temporary employment generated by the Scheme identified above, accounting for leakage, displacement and multiplier effects as identified in the above section of the construction period. The Scheme will support, on average, 1,118 total net jobs per annum during the decommissioning period. Of these, 872 jobs per annum will be expected to be taken-up by residents within the Cambridge TTWA, whilst the remaining 246 jobs will likely be taken-up by workers living outside the region.

Table 12-22: Net additional decommissioning employment per annum from the Scheme

	Cambridge TTWA	Outside Cambridge TTWA	Total
Gross Direct Employment	775	219	994
Displacement	-194	-55	-249
Net Direct Employment	581	164	745
Indirect & Induced Employment	291	82	373
Total Net Employment⁷	872	246	1,118

Source: AECOM Calculations 2020

- 12.8.58 The direct, indirect and induced employment, expenditure and upskilling created from the decommissioning of the Scheme must be judged in the

⁷ Sum of Net Direct Employment and Indirect & Induced Employment

context of the labour pool of construction workers in the Cambridge TTWA. Cambridge TTWA currently has around 1,500 workers in its construction sector (Ref 12-17).

- 12.8.59 The impact of decommissioning employment generation on Cambridge TTWA's economy has been assessed as temporary medium beneficial, which results in a medium-term temporary **moderate beneficial** effect. This is considered significant.

Employment loss during Decommissioning (permanent long-term)

- 12.8.60 It can be expected that if the Scheme is shut down and all infrastructure is removed, the employment generated within Cambridge TTWA's economy during the operational phase will no longer be generated at this point. Therefore, the reversal of the previous effect assessed during the operational phase would occur. These workers can be expected to be integrated into the economy and find new employment after the loss of their job at the Scheme.
- 12.8.61 The impact of employment loss on Cambridge TTWA's economy during the decommissioning phase during the long-term has been assessed as permanent very low adverse. This results in a permanent **negligible effect**, which is not considered significant.

Public Rights of Way

- 12.8.62 Changes to journey times, local travel patterns, and certainty of routes for users would arise from the temporary closures and diversions of PRowS. Effects during decommissioning on relevant routes are set out in the following paragraphs for each Site and are shown in Figure 12-4.
- 12.8.63 It is not possible to confirm with certainty the length of time each route will be closed for, so as a worst-case scenario it is assumed the PRowS are closed for the entire length of the decommissioning period.

Sunnica East Site A

- 12.8.64 Temporary disruption to users making local journeys on bridleways W-257/007/0, W-257/002/X and W-257/002/0 between Freckenham and Isleham would be experienced due to these conjoining routes being temporarily severed preventing access. Although in the added presence of traffic, users would be able to use an alternative route via Beck Road (approximately 1km in additional journey length), to complete their journeys. Impacts arising from this on user journeys are assessed to be temporary major adverse, and the effect on users is assessed to be temporary **moderate adverse** effect. This is considered significant.

Sunnica East Site B

- 12.8.65 Temporary disruption to users making local journeys on the permissive bridleway which cuts diagonally from Worlington to Elms Road would be experienced due to the entire route being temporarily severed, preventing access. Although in the added presence of traffic, users would be able to use an alternative route via Freckenham Road (approximately 1.8km in additional journey length), to complete their journeys. Noting that this is not a right of way through which access is assured the impacts arising from this on user journeys are assessed to be temporary medium adverse, and the effect on

users is assessed to be temporary **minor adverse** effect. This is not considered significant.

- 12.8.66 To the south of the Site is footpath W-257/003/0 where temporary disruption to users making local journeys on this footpath between Freckenham and Red Lodge would be experienced due to this route being temporarily severed, preventing access. Users would be able to use an alternative route via Mildenhall Road (approximately 1.2km in additional journey length), to complete their journeys. Impacts arising from this on user journeys are assessed to be temporary major adverse, and the effect on users is assessed to be temporary **moderate adverse** effect. This is considered significant.
- 12.8.67 Temporary disruption will be experienced by users making local journeys on the new permissive route to the north-east of the Site, south of Freckenham Road due to the entire route being temporarily severed, preventing access. Although in the added presence of traffic, users would be able to use an alternative route via Freckenham Road (approximately 500m in additional journey length), to complete their journeys. Noting that this is not a right of way through which access is assured the impacts arising from this on user journeys are assessed to be temporary low adverse, and the effect on users is assessed to be a **negligible effect**. This is not considered significant.

Sunnica West Site A

- 12.8.68 To the west of the Site there is one bridleway PRow 204/5 which borders the Site between Newmarket Bypass and Snailwell, temporary disruption to users making local journeys on this bridleway would be experienced due to the route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via Newmarket Road which would add no additional journey length to users. Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.
- 12.8.69 Temporary disruption will be experienced by users making local journeys on the new permissive route to the west of the Site between Newmarket Bypass and Snailwell. Although in the added presence of traffic, users would be able to use an alternative route via Newmarket Road which would add no additional journey length to users. Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.

Sunnica West Site B

- 12.8.70 There are no PRowS adjacent or within the Site and therefore there are no expected effects during the decommissioning phase.

Grid Connection Route A

- 12.8.71 The Grid Connection Route A intersects footpath 49/7, temporary disruptions to users using this footpath to travel between Chippenham and Red Lodge would be experienced due to the route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via Dane Hill Road (approximately 300m in additional journey length). Using this route should result in minimal disruption, and thus impacts on

users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.

Grid Connection Route B

- 12.8.72 The Grid Connection Route B intersects footpath 204/1 between Snailwell and Chippenham, temporary disruptions to users on this footpath would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via Chippenham Road (approximately 400m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**, which is not considered significant.
- 12.8.73 Temporary disruptions to users on footpath 92/19 between Fordham and Snailwell would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to use an alternative route via the A142 (approximately 200m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.
- 12.8.74 Temporary disruption to users making local journeys on footpath 35/10 and 35/11 between Wicken and Burwell would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to take an alternative route via Broads road (approximately 100m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**. This is not considered significant.
- 12.8.75 Temporary disruptions to users on footpaths 35/6, 35/7 and 35/17 between Burwell and Reach would be experienced due to a small section of this route being temporarily severed. Although in the added presence of traffic, users would be able to take an alternative route via Hightown Drove (approximately 400m in additional journey length). Using this route should result in minimal disruption, and thus impacts on users are assessed to be low adverse which results in a **negligible effect**, and which is not considered significant.

Local Amenities and Land use

Residential Properties, Business Properties, and Community Facilities

- 12.8.76 There is potential for noise, air quality, visual and traffic effects arising from operation of the Scheme to impact on the amenity of residents, businesses and users of community facilities.
- 12.8.77 Taking into account the results of the noise, air quality, visual and transport assessments, there are no residents, community facilities or businesses that would likely experience a significant effect on their amenity during decommissioning. Therefore, there are no effects arising from the Scheme on local amenities during operation which results in a **negligible effect**, and which is not considered significant.

12.8.78 The decommissioning effects (pre-mitigation) are listed in Table 12-23.

Table 12-23: Summary of Magnitude of Impact and Significance of Effect for the Scheme

Receptor	Sensitivity (Value)	Description of Impact	Magnitude of Impact	Effect Category	Significant effect (Yes / No)
Cambridge TTWA's economy	Medium	Employment generation during the temporary decommissioning phase	Medium beneficial	Moderate beneficial	Yes
Cambridge TTWA's economy	Low	Employment loss during the permanent decommissioning phase	Very low adverse	Negligible	No
Users of PRowS	Low	Impacts on public rights of way users during the decommissioning phase	High/ Medium/ low adverse	Moderate adverse/ Minor adverse/ Negligible effect	Yes / No
Local amenities and land use – Residential Properties, Business Premises and Community Facilities	Variable by type	Impacts on residential properties, business premises and community facilities during the construction phase	No effect	Negligible	No

12.9 Additional Mitigation and Enhancement Measures

- 12.9.1 Temporary significant adverse residual effects have been assessed on users of two PRowS during both the construction and decommissioning phases of the Scheme. No further mitigation beyond those measures outlined in Table 12-24 below, which states that the temporary closures will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users.
- 12.9.2 Otherwise this preliminary assessment has concluded that there will be no other potential significant adverse socio-economic effects during the construction, operational or decommissioning phases of the Scheme and therefore no additional mitigation measures are required.
- 12.9.3 No other additional mitigation measures, over and above that stated in the other technical chapters, are required to avoid or minimise the socio-economic effects identified in this chapter.

12.10 Residual Effects

- 12.10.1 This section summarises the residual significant effects of the Scheme on socio-economic and land use following the implementation of mitigation.
- 12.10.2 Significant residual effects are defined as moderate or major adverse or beneficial are listed in the following tables below:
- Table 12-24 (construction); and
 - Table 12-26 (decommissioning).
- 12.10.3 The construction phase residual effects are due to the employment generated during the construction of the Scheme and the temporary closures of Public Rights of Ways which will impact users in the vicinity.
- 12.10.4 There are no significant residual effects in the operation phase, shown in Table 12-25, as the employment generated during the operation phase is considered minor beneficial. Only 5 permanent jobs will be created to manage the Scheme as well as addition part-time employment for occasional maintenance works. The Scheme will also include three new permissive rights of ways expected to have a permanent minor beneficial effect on users.
- 12.10.5 The decommissioning phase residual effects are expected to be similar to those during the construction phase generating temporary employment in the local economy to remove the solar panels and a temporary adverse effect for when the public rights of ways are closed.
- 12.10.6 All socio-economics and land use effects (significant and not significant) for the above phases are set out in the tables below.

12.10.7 Table 12-24 outlines the likely residual construction effects after mitigation.

Table 12-24: Summary of Residual Effects (Construction)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Cambridge TTWA's economy	Employment generation during the construction phase	Moderate beneficial Significant	N/A	Moderate beneficial Significant
Cambridge TTWA's economy	GVA generation during the construction phase	Moderate beneficial Significant	N/A	Moderate beneficial Significant
Agricultural Land	The change in agricultural land use within the DCO Site and any direct effects due to this	To be assessed at ES stage	-	-
Users of PRoWs	Impacts on public rights of way during the construction phase.	Moderate adverse/ Minor adverse/ Negligible effect Significant/ Not Significant	<i>The temporary closures will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users</i>	Moderate adverse/ Minor adverse/ Negligible effect Not Significant
Local amenities and land use – Residential Properties, Business Premises and Community Facilities	Impacts on residential properties, business premises and community facilities during the operational phase	Negligible effect Not Significant	N/A	Negligible effect Not Significant

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Local amenities and land use – Development Land	Land take of development land affecting viability for future development of the land allocation	To be assessed at ES stage	-	-

12.10.8 Table 12-25 outlines the likely residual operation effects after mitigation.

Table 12-25: Summary of Residual Effects (Operation)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Cambridge TTWA's economy	Employment generation during the operational phase	Minor beneficial Not Significant	N/A	Minor beneficial Not Significant
Agricultural Land	The change in agricultural land use within the DCO Site and any direct effects due to this	To be assessed at ES stage	-	-
Users of PRoWs	Impacts on public rights of way during the operational phase	Minor beneficial Not Significant	N/A	Minor beneficial effect Not Significant
Local amenities and land use – Residential Properties, Business Premises and Community Facilities	Impacts on residential properties, business premises and community facilities during the operational phase	Negligible effect Not Significant	N/A	Negligible effect Not Significant
Local amenities and land use – Development Land	Land take of development land affecting viability for future development of the land allocation	To be assessed at ES stage	-	-

12.10.9 Table 12-26 outlines the likely residual decommissioning effects after mitigation.

Table 12-26: Summary of Residual Effects (Decommissioning)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Cambridge TTWA's economy	Employment generation during the temporary decommissioning phase	Moderate beneficial Significant	N/A	Moderate beneficial Significant
Cambridge TTWA's economy	Employment loss during the permanent decommissioning phase	Negligible effect Not Significant	N/A	Negligible effect Not Significant
Users of PRoWs	Impacts on public rights of way during the decommissioning phase	Moderate adverse/ Minor adverse/ Negligible effect Significant/ Not Significant	<i>The temporary closures will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users</i>	Moderate adverse/ Minor adverse/ Negligible effect Significant/ Not Significant

12.11 Cumulative Effects

12.11.1 This section of the chapter assesses the potential effects of the DCO Site in combination with the potential effects of other development schemes (referred to as 'cumulative schemes') within the surrounding area, as listed within **Chapter 5: EIA Methodology**. The existing developments within the DCO Site have already been considered to form the baseline of the assessment and therefore do not require assessment here.

Construction

12.11.2 All the approved cumulative schemes and submitted applications listed in **Chapter 5: EIA Methodology** will generate additional construction related employment either in the Cambridge TTWA or in the surrounding areas to the TTWA if they were to go ahead. The scale of the construction employment generated cannot be readily quantified based on the information available for each scheme as this information is commercially sensitive and not available.

12.11.3 The combined effect of the construction of the cumulative developments is likely to bring considerable additional employment to Cambridge TTWA. Although this is expected to result in an increase in construction employment, the overall cumulative effect from the generation of construction workers is likely to remain as temporary medium beneficial effect on the Cambridge TTWA economy, resulting in a temporary **moderate beneficial** effect which is considered significant.

12.11.4 The overall cumulative effect from the generation of GVA from construction is likely to remain temporary medium beneficial on Cambridge TTWA's economy, resulting in a temporary **minor beneficial** effect, which is not considered significant.

12.11.5 The overall cumulative effect on public rights of way is likely to remain temporary medium adverse as there are no cumulative schemes adjacent to the Scheme or in close proximity. The closest two cumulative schemes are 50m south from the Burwell National Grid Substation Extension which will not impact any public rights of way, let alone those located within the Scheme. Therefore, the overall cumulative assessment on public rights of way and land use remains **minor adverse/ negligible effect**, which is not considered significant.

12.11.6 The overall cumulative effect on residential properties, business premises and community facilities is likely to remain as a **negligible effect**, which is not significant as there are no cumulative schemes adjacent to the Scheme or in close proximity.

12.11.7 The overall cumulative construction effects on agricultural land will be reported in the ES once the effects arising from the Scheme have been assessed.

Operation

12.11.8 If all the schemes are to be realised there will be considerable additional employment from some of the cumulative schemes offering new offices, retail and commercial space. Most cumulative schemes, however, will not generate

considerable operational employment due to their nature as infrastructure or utilities projects or as purely residentially-led development projects. Therefore, the overall combined cumulative effect from the generation of workers during operation is likely to remain permanent low beneficial, resulting in a permanent **negligible effect** which is not considered significant.

12.11.9 The overall cumulative operation effects on public rights of way will remain as negligible as there are no cumulative schemes adjacent to or in close proximity to the Scheme, resulting in a permanent **negligible effect**, which is not considered significant.

12.11.10 The overall cumulative effect on residential properties, business premises and community facilities is likely to remain as a negligible effect, which is not significant as there are no cumulative schemes adjacent to the Scheme or in close proximity.

12.11.11 The overall cumulative operation effects on agricultural land will be reported in the ES once the effects arising from the Scheme have been assessed.

Decommissioning

12.11.12 The cumulative schemes do not affect the employment effects during decommissioning of the Scheme. Therefore, the effect for medium term job creation remains as a moderate beneficial temporary effect, this is considered significant. The permanent loss of employment on the DCO Site will also remain as a negligible effect, this is not considered significant.

12.11.13 The overall cumulative effect on public rights of way is likely to remain temporary medium adverse as there are no cumulative schemes adjacent to the Scheme or in close proximity. The closest two cumulative schemes are 50m south from the Burwell National Grid Substation Extension which will not impact any public rights of way, let alone those located within the Scheme. Therefore, the overall cumulative assessment on public rights of way and land use remains **minor adverse/ negligible effect**, which is not considered significant.

12.11.14 The overall cumulative effects arising during commissioning on residential properties, business premises and community facilities is likely to remain as a **negligible effect**, not significant as there are no cumulative schemes adjacent to the Scheme or in close proximity.

12.12 References

- Ref 12-1 UK Legislation (1990): Town and Country Planning Act 1990
- Ref 12-2 UK Legislation (2008): Planning Act 2008
- Ref 12-3 Department of Energy and Climate Change, (2011); Overarching National Policy Statement for Energy (EN-1). London: The Stationery Office.
- Ref 12-4 Ministry of Housing, Communities and Local Government (MCHLG), (2019); National Planning Policy Framework (NPPF). MCHLG. Available online at: www.gov.uk/government/publications/national-planning-policy-framework--2
- Ref 12-5 Department of Communities and Local Government (DCLG), (2018); Draft Planning Practice Guidance
- Ref 12-6 East Cambridgeshire District Council (ECDC), (2015): East Cambridgeshire Local Plan
- Ref 12-7 East Cambridgeshire District Council (ECDC), (2020): East Cambridgeshire Local Plan- Second Review
- Ref 12-8 East Cambridgeshire District Council (ECDC), (2014): East Cambridgeshire District Council SPD: Renewable Energy Development
- Ref 12-9 West Suffolk Council (2015); Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document
- Ref 12-10 Institute of Environmental Management & Assessment (2016); Guidelines for Environmental Impact Assessments.
- Ref 12-11 Suffolk County Council (2020); Suffolk Minerals & Waste Local Plan
- Ref 12-12 Homes and Communities Agency (HCA), (2014); Additionality Guide: A Standard Approach to Assessing the Additional Effect of Projects: 4th Edition, HCA.
- Ref 12-13 Office of National Statistics (ONS), (2015); Census 2011. ONS.
- Ref 12-14 ONS, (2019); Mid-Year Population Estimates 2018. ONS.
- Ref 12-15 ONS, (2020); Annual Population Survey (January 2019-December 2019). ONS.
- Ref 12-16 DCLG, (2019); Indices of Multiple Deprivation. DCLG.
- Ref 12-17 ONS, (2019); Business Register and Employment Survey. ONS.
- Ref 12-18 ONS, (2016); Gross Value Added (Income Approach) 2015. ONS
- Ref 12-19 HM Government, Industrial Strategy: building a Britain fit for the future, November 2017

