FENWICK SOLAR FARM

Fenwick Solar Farm
EN010152

Environmental Statement

Volume I Chapter 12: Socio-Economics and Land Use

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Table of Contents

Plates

Tables

12. Socio-Economics and Land Use

12.1 Introduction

12.1.1 This chapter of the Environmental Statement (ES) presents the findings of an assessment of the likely significant effects on socio-economics and land use as a result of the proposed Fenwick Solar Farm (hereafter referred to as the 'Scheme'). A description of the Scheme is provided in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**.

12.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects of the Scheme on socio-economics and land use during the construction, operation and maintenance, and decommissioning phases.

12.1.3 This chapter should be read in conjunction with the Scheme description provided in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**. Additionally, socio-economics and land use interfaces with in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]** of this ES and, as such, should be considered alongside **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.

12.1.4 This chapter is supported by the following figures in **ES Volume II [EN010152/APP/6.2]**:

a. **Figure 12-1: Study Area and Socio-Economic Receptors**;

b. **Figure 12-2: Sixty Minute Drive Time from Site Boundary**;

c. **Figure 12-3: Thirty Minute Drive Time from Site Boundary**;

d. **Figure 12-4: Predicted Agricultural Land Classification**;

e. **Figure 12-5: Agricultural Land Classification for the Solar PV Site**; and

f. **Figure 2-2: Public Rights of Way**.

12.1.5 This chapter is supported by the following appendices in **ES Volume III [EN010152/APP/6.3]**:

a. **Appendix 12-1: Legislation, Policy and Guidance (Socio-Economics and Land Use)**;

b. **Appendix 12-2: Minerals Safeguarding Report;** and

c. **Appendix 12-3: Agricultural Land Classification Report**.

12.1.6 A glossary and list of abbreviations are defined in **ES Volume I Chapter 0: Table of Contents, Glossary and Abbreviations [EN010152/APP/6.1]**.

12.1.7 A Non-Technical Summary is presented in **ES Volume IV Non-Technical Summary [EN010152/APP/6.4]**.

12.2 Legislation, Policy and Guidance

12.2.1 Legislation, policy, and guidance relating to socio-economics and land use and pertinent to the Scheme comprises of the documents listed below. More detailed information regarding the above legislation, policy and guidance can

be found in **ES Volume III Appendix 12-1: Legislation, Policy and Guidance (Socio-Economics and Land Use) [EN010152/APP/6.3]**.

Legislation

12.2.2 There is no applicable legislation specific to the assessment of socio-economics and land use.

National Policy

12.2.3 Relevant national planning policy that has been considered includes:

a. Overarching National Policy Statement (NPS) for Energy (EN-1) (November 2023) (Ref. 12-1);

b. NPS for Renewable Energy Infrastructure (EN-3) (November 2023) (Ref. 12-2);

c. NPS for Electricity Networks Infrastructure (EN-5) (November 2023) (Ref. 12-3);

d. National Planning Policy Framework (NPPF) (December 2023) (Ref. 12-4); and

e. Build Back Better: Our Plan for Growth (2021) (Ref. 12-5).

Regional and Local Policy

12.2.4 Relevant regional and local planning policy that has been considered includes:

a. Adopted Doncaster Local Plan 2015-2035 (2021) (Ref. 12-6);

b. Adopted Selby District Core Strategy (2013) (Ref. 12-7); and

c. Selby District Publication Consultation Local Plan (2022) (Ref. 12-8).

12.2.5 On 1 April 2023 North Yorkshire County Council and its six constituent District Councils, including Selby District Council, were merged to form the new Unitary Authority of North Yorkshire Council. For this reason the adopted planning policy for Selby has been reviewed.

National Guidance

12.2.6 Supporting national guidance that has been considered includes:

a. National Planning Practice Guidance (PPG) (Ref. 12-9).

Local and Regional Guidance

12.2.7 Supporting local and regional guidance that has been considered includes:

a. Yorkshire and the Humber Climate Action Plan (2021) (Ref. 12-10);

b. South Yorkshire Mayoral Combined Authority Strategic Economic Plan 2021-2041 (2021) (Ref. 12-11); and

c. Selby District Economic Development Framework: 2017–2022 and beyond (2017) (Ref. 12-12).

12.3 Consultation

12.3.1 This section provides a summary of the consultation undertaken to date regarding the Scheme. Further detail on consultation can also be found in **ES Volume I Chapter 4: Consultation [EN010152/APP/6.1]**.

Scoping Opinion

12.3.2 A scoping exercise was undertaken in spring 2023 to establish the content of the assessment and the approach and methods to be followed. The scoping exercise outcomes were presented in the Scoping Report (**ES Volume III Appendix 1-1: EIA Scoping Report [EN010152/APP/6.3]**) which was submitted to the Planning Inspectorate on 1 June 2023. The Scoping Report records the findings of the scoping exercise and details the technical guidance, standards, good practice, and criteria to be applied in the assessment to identify and evaluate the likely significant effects of the Scheme on Socio-Economics and Land Use.

12.3.3 A Scoping Opinion was received from the Planning Inspectorate on 11 July 2023 (**ES Volume III Appendix 1-2: EIA Scoping Opinion [EN010152/APP/6.3]**).

12.3.4 A full review of all comments raised in the Scoping Opinion is provided in **ES Volume III Appendix 1-3: EIA Scoping Opinion Responses [EN010152/APP/6.3]**. This outlines how and where the Scoping Opinion comments have been addressed within this ES.

Statutory Consultation

12.3.5 Further consultation in response to formal pre-application engagement was undertaken. Responses to statutory consultation are presented in the **Consultation Report [EN010152/APP/5.1]**.

12.3.6 Statutory consultation responses relating to socio-economics and land use are presented in **Appendix O1**, **Appendix O2**, **Appendix O3** and **Appendix O4** of the **Consultation Report [EN010152/APP/5.1]**. The key topics identified in these responses are summarised below.

Loss of Agricultural Land

12.3.7 Responses expressed concern about the loss of farmland, and in particular the loss of Best and Most Versatile (BMV) land as a valuable resource for the production of food.

12.3.8 Impacts on agricultural land holdings (i.e. farm businesses) are considered in Sections 12.5.37, 12.5.56, 12.5.65,12.7.36, 12.7.72 and 12.10.16 of this chapter. Loss of BMV agricultural land is also covered in Sections 12.5.43, 12.5.65 12.7.47, 12.7.79 12.7.98, and 12.10.17 of this chapter, informed by a survey of agricultural land undertaken within the Solar PV site.

Impacts on Local Infrastructure and Assets

12.3.9 Responses expressed concern about the potential for adverse impacts on receptors such as schools, PRoW, and tourism assets especially the safety of users.

12.3.10 Sections 12.4.43, 12.7.36, 12.7.71 and 12.7.93 of this chapter assesses effects on private and community assets including homes, businesses,

community facilities and visitor attractions. Sections 12.5, 12.6, and 12.7 consider PRoW and Sections 12.5.17 and 12.7.16 assess visitor accommodation. Also relevant are **Chapter 13: Transport and Access [EN010152/APP/6.1]**, **Chapter 10 Landscape and Visual Amenity [EN010152/APP/6.1] and Chapter 11 Noise and Vibration [EN010152/APP/6.1]**, as these chapters consider indirect effects on local infrastructure and services and on the amenity of local people. With regard to safety concerns related to traffic, robust procedures to ensure user safety are articulated in the **Framework Construction Traffic Management Plan [EN010152/APP/7.7]** and the **Framework Public Right of Way Management Plan [EN010152/APP/7.13]** which is included within this Development Consent Order Application.

Impacts of the health of local residents, including mental health

12.3.11 Responses expressed concern that the Scheme would have adverse effects on the health of local residents, especially their mental health.

12.3.12 The Applicant appreciates that the potential for the Scheme to have adverse effects creates uncertainly and anxiety for local residents. The comprehensive and detailed approach to the Scheme design, and the EIA process, has been adopted precisely so that any adverse effects can be identified early on in the planning process and wherever possible mitigated.

12.3.13 As described in the EIA Scoping Report (ES Volume III Appendix 1-1: EIA Scoping Report [EN010152/APP/6.3]) and accepted in the EIA Scoping Opinion (ES Volume III Appendix 1-2: EIA Scoping Opinion [EN010152/APP/6.3]), potential effects to human health are considered in the ES technical chapters with a standalone assessment scoped out of the EIA. For clarity, potential effects to human health are set out in the following technical assessments:

d. **ES Volume I Chapter 9: Water Environment [EN010152/APP/6.1]**, Section 9.9 Assessment of Likely Significant Effects;

e. **ES Volume I Chapter 10: Landscape and Visual Amenity [EN010152/APP/6.1]**, Section 10.8 Assessment of Likely Significant Effects;

f. **ES Volume I Chapter 11: Noise and Vibration [EN010152/APP/6.1]**, Section 11.8 Assessment of Likely Significant Effects;

g. **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**, Section 13.8 Assessment of Likely Significant Effects;

h. **ES Volume I Chapter 14: Other Environmental Topics, Air Quality, [EN010152/APP/6.1]**, Section 14.2;

i. **ES Volume I Chapter 14: Other Environmental Topics, Ground Conditions [EN010152/APP/6.1]**, Section 14.4, **ES Volume III Appendix 14-3: Preliminary Risk Assessment - Solar PV Site [EN010152/APP/6.3]**, and **ES Volume III Appendix 14-4 Preliminary Risk Assessment - Grid Connection Corridor [EN010152/APP/6.3]**;

j. **ES Volume I Chapter 14: Other Environmental Topics, Major Accidents and Disasters [EN010152/APP/6.1]**, Section 14.5; and

k. **ES Volume I Chapter 14: Other Environmental Topics, Electromagnetic Fields [EN010152/APP/6.1]**, Section 14.7.

12.3.14 A consideration of the effect of the scheme on both physical and mental health runs through many chapters of the EIA. given that many of the effects considered are relevant to mental as well as, or rather than, physical health. For example, Landscape and Visual Amenity effects solely relate to mental health, while noise and vibration effects have potential to affect both mental and physical health.

Benefits versus disbenefits for local people

12.3.15 A number of responses convey the view that while landowners might benefit from the Scheme there are only disbenefits for local people.

12.3.16 This chapter (Section 12.7.24) finds that the scheme would have minor beneficial effects in terms of employment and Gross Value Added (GVA) generation on local communities during the construction and decommissioning phase. The **Framework Skills Employment and Supply Chain Plan [EN010152/APP/7.15**] sets out a variety of interventions which the Applicant proposes to pursue post-consent to maximise the economic benefits of the scheme, for example promoting local employment, apprenticeships and education. The production of a Final Skills Employment and Supply Chain Plan, which will be subject to approval by the City of Doncaster Council, will be secured through the DCO.

Additional Consultation

12.3.17 Additional consultation has been undertaken with Council officers including with the City of Doncaster Council's PRoW lead and the officer leading on agricultural land and soils. The following matters have been discussed:

City of Doncaster Council's PRoW Lead

12.3.18 A meeting with City of Doncaster Council's PRoW lead was held on 29 August 2023 to discuss the Scheme's approach to PRoW during construction, operation and decommissioning, including the potential permanent diversion of PRoW Sykehouse 29 footpath. The Council did not anticipate that the proposed diversion would have an adverse impact on the users. It was noted that AECOM had received feedback from local residents at non-statutory consultation that most users do not currently follow the route shown on the definitive map, but instead follow the route of the proposed permanent diversion.

12.3.19 The Council also provided baseline context on the existing PRoW network within the Solar PV Site, indicating that the network is mostly used by local residents for recreational purposes such as dog walking and guided walks by equestrians, and that the usage tended to be low compared to paths in the town centre or urban fringe.

12.3.20 Further engagement with the City of Doncaster Council's PRoW lead was undertaken via email on the 12 October 2023 regarding the baseline context for the existing PRoW network surrounding the Grid Connection Corridor (which includes the Existing National Grid Thorpe Marsh Substation). It was confirmed that the current user levels and usage for the PRoW intersecting the Grid Connection Corridor Study Area were likely to be similar to those within the Solar PV Site. It was noted that the Trans Pennine Trail runs through the Grid Connection Corridor by Thorpe in Balne. However, it was

recognised that the trail runs along the road network (Thorpe Lane, Marsh Road, Moss Lane and Willow Bridge Lane).

12.3.21 Given the nature of the likely impacts on the existing PRoW and the information provided on the current usage (recreational purposes and low usage), it was agreed with the City of Doncaster Council's PRoW lead that PRoW surveys do not need to be undertaken.

12.3.22 Further engagement was held with City of Doncaster Council in August 2024 where potential permanent diversions to Moss 6 and Fenwick 14 were discussed. Feedback was received from City of Doncaster Council on all proposed PRoW diversions, and this feedback has been incorporated into Scheme design and proposed PRoW mitigation measures.

City of Doncaster Council's Agricultural Land and Soils Lead

12.3.23 Additional consultation was also undertaken with City of Doncaster Council's agricultural land and soils lead via email on the 5 October 2023 which discussed the approach to the BMV agricultural land and soils survey (ALC Survey) and assessment.

12.3.24 The Council agreed with the approach to complete an ALC survey, in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) guidelines, for the Solar PV Site. An ALC survey was not proposed for the Grid Connection Corridor because the Applicant confirmed that that there would be no above ground infrastructure in the Grid Connection Corridor and therefore any impacts would be temporary during construction. The Council agreed with this approach but recommended that a planning requirement/legal agreement with respective land owners should be considered to ensure that the soils are not degraded during the construction process and farming activities can re-commence following completion. A Soil Management Plan (SMP) has been published for the ES which follows industry standard good practice measures. The SMP and its measures are captured within the Framework Construction Environment Management Plan (CEMP) submitted as **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**. Compliance with the CEMP (which must be based on the Framework CEMP submitted with the application) is secured in the drafting of the DCO and will be approved by City of Doncaster Council prior to the start of construction. This will ensure soils are not degraded and farming activities can re-commence following completion of the Scheme.

12.4 Assessment Methodology

12.4.1 This section sets out the scope and methodology for the preliminary assessment of the impacts of the Scheme on socio-economics and land use.

Study Area

12.4.2 The impacts of the Scheme with respect to socio-economics and land use are considered at varying spatial levels according to the likely spatial extent of the effect under consideration. 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. 12-13).

12.4.3 The Order limits (comprising the Solar PV Site, the Grid Connection Corridor and the Existing National Grid Thorpe Marsh Substation, as shown in **ES Volume III Figure 1-2: Site Boundary Plan**) is located within the area administered by City of Doncaster Council, and on the boundary with the North Yorkshire Council administrative area which is to the north of the Order limits. It should be noted that prior to 1 April 2023, the part of the Study Area now administered by North Yorkshire Council was administered by Selby District Council. On 1 April 2023 North Yorkshire County Council and its six constituent District Councils, including Selby District Council, were merged to form the new Unitary Authority of North Yorkshire Council. Given the recent nature of this change, Selby District is still referred to at points within this chapter, in particular when baseline data for the new Unitary Authority of North Yorkshire Council administrative area is not available and therefore baseline data for Selby District has been presented instead. **ES Volume I Chapter 2: The Scheme** provides a description of the Order limits and its surroundings, which mainly consists of agricultural fields under arable production. References to the Grid Connection Corridor in this chapter encompass the Existing National Grid Thorpe Marsh Substation.

12.4.4 Minor junction works associated with the Scheme during the construction and decommissioning phase are located at Askern, to the west of the Solar PV Site and the Grid Connection Corridor. These works will be limited to temporary removal of road furniture to allow an abnormal load to turn at the junction. There are likely to be no significant socio-economic effects associated with these minor junction works and therefore they have not been considered further with this chapter.

12.4.5 If the Scheme utilises a Grid Connection Line Drop, this would comprise below ground cables connecting the On-Site Substation to a new cable sealing end compound at the base of an existing on-site 400 kV overhead line tower located within Field SE2. These works have also been considered as part of this assessment.

Local Economy and Employment

12.4.6 The potential economic impacts arising from the Scheme are considered relative to a 60-minute drive time from the Order Limits (as can be seen in **ES Volume II Figure 12-2: Sixty Minute Drive Time from the Site Boundary** as this represents the principal labour market catchment area for the Scheme (Travel to Work Area). The economic Study Area baseline profile is comprised of the 2021 Lower Layer Super Output Areas (LSOA) geographical boundaries within a 60-minute drive time from the Order Limits.

12.4.7 The potential impacts on the local hotel, bed and breakfast and inns accommodation sector from the Scheme are considered relative to both a 30-minute and 60-minute drive time. The 30-minute drive time has been added to consider a worst-case scenario in which all of the construction workers require accommodation within a 30-minute radius of the Order Limits. The 30-minute drive time area is presented in **ES Volume II Figure 12-3: Thirty Minute Drive Time from the Site Boundary.**

Public Rights of Way (PRoW)

12.4.8 The assessment of effects on PRoW users considers resources which could be affected by closures and diversions of routes due to the Scheme. The Study Area therefore comprises all PRoW located within the Order limits

(including along the Grid Connection Corridor) or within 500 m of the Order Limits.

Private and Community Assets (residential properties, local businesses, open space, community facilities, visitor attractions, agricultural land holdings and development land)

12.4.9 The Study Area for land use impacts on residential properties, local businesses, open space, community facilities and visitor attractions considers receptors that could be directly or indirectly affected by the Scheme. The receptors that could be impacted are those within the Solar PV Site and within 500 m of the Order Limits, though receptors within 2 km of the Order Limits are considered for community facilities.

12.4.10 Effects on development land within and up to 500 m radius from the Order Limits are assessed. Development land refers to sites on which there are planning applications, planning permissions and local plan allocations. The assessment considers the potential for the Scheme to conflict with, hinder or otherwise adversely affect development land within or nearby to the Order Limits.

BMV Agricultural Land and Soils

12.4.11 Impacts on BMV agricultural land and soils, and consideration of impacts on agricultural land use considers land that falls within the Order Limits. This land would be directly impacted by the Scheme during its construction and operation and maintenance phases.

Study Area Summary

12.4.12 Table 12-1 presents the different components of the socio-economics and land use effects assessment for this ES, the geographical scale at which each component is assessed, and the rationale behind these geographical scales.

Table 12-1: Socio-Economic and Land Use Impacts by Geographical Scale

Receptor/Impact	Geographical Area of Impact	Rationale for Impact Area
Employment generation during construction, operation and decommissioning (direct, indirect and induced impacts)	60-minute travel area (drive time estimated using geographic information system (GIS) data, based on the Order Limits and indicative Site access points).	Research by the Chartered Institute of Personnel and Development (CIPD) found that 90% of national employees commuted for 60 minutes or less each way. This was reported by CIPD in the 2017 Employee outlook 'Employee views on working life' (Ref. 12-14).
Local Accommodation Services	30- and 60-minute travel area (drive time estimated using GIS data, based on the Order Limits and	Professional judgement and experience from other solar development schemes in England.

Receptor/Impact	Geographical Area of Impact	Rationale for Impact Area
	indicative site access points).	
Gross Value Added (GVA) during construction phase	60-minute travel area.	GVA generation relates directly to employment generation.
Public Rights of Way	Within, and up to 500 m radius. From the Order Limits.	Professional judgement and experience from other solar development schemes in England.
Residential Properties, Local Businesses, Open Space, Visitor Attractions, Agricultural Land Holdings and Development Land	500 m radius from the Order Limits.	Professional judgement and location of sensitive receptors for impacts arising from the Scheme, as informed by other assessments.
Community Facilities	2 km radius from the Order Limits.	Professional judgement and location of sensitive receptors for impacts arising from the Scheme, as informed by other assessments. Community facilities are likely to be accessed by residents from a wider catchment, especially in rural areas, as provision tends to be sparse. A 2 km radius has been considered for this receptor in order to fully consider the effect of severance on access to these facilities.
BMV agricultural land and soils	The Order Limits	Impacts on BMV agricultural land and soils will only occur within the Order Limits as this is the only area where there is a spatial overlap. Other solar development schemes in England have used the same approach.

Sources of Information

12.4.13 The following assessment seeks to establish the potential social, economic, and land use effects of the Scheme and assesses these against current

baseline conditions within the Solar PV Site, surrounding area and Grid Connection Corridor.

12.4.14 Relevant policy has been reviewed at the local, regional and national levels to identify the key socio-economic and land use issues of relevance to the Scheme.

12.4.15 Baseline data illustrating the existing socio-economic conditions within and surrounding the Order Limits has been collected through a desk-based research exercise using publicly available sources, documents, and web-based applications.

12.4.16 In preparation of this chapter, the following sources of published information have been referenced:

a. Office for National Statistics (ONS) (2021) 2021 Census Data (Ref. 12-15);
b. Ministry of Housing, Community and Local Government (2019) English Indices of Deprivation (2019) (Ref. 12-16);
c. ONS (2018) Gross Value Added (Income Approach) (2017) (Ref. 12-17);
d. ONS (2024) Claimant Count (Ref. 12-18);
e. ONS (2023) UK Business Register and Employment Survey 2022 (Ref. 12-20);
f. ONS (2023) Annual Population Survey (January 2022 to December 2022) (Ref. 12-21);
g. ONS (2024) Annual Population Survey (January 2023 to December 2023) (Ref. 12-22); and
h. ONS Mid-Year Population Estimates 2022 (2023) (Ref. 12-23).

ALC Survey

12.4.17 Natural England 'Technical Information Note 049 – Agricultural Land: protecting the best and most versatile agricultural land (TIN049)' provides guidance on agricultural land quality assessment for development planning (Ref. 12-24). A provisional ALC is available from the Department for Environment, Food and Rural Affairs (Defra) mapping service found at: magic.defra.gov.uk. This plan shows land grades across the whole of England. However, TIN049 advises that it is of limited value for assessing land quality of large sites, particularly because it is does not differentiate Grade 3 land between Subgrades 3a and 3b.

12.4.18 An ALC soil survey has therefore been undertaken for the land within the Solar PV Site, as deemed necessary to determine the ALC quality of the land, and is appended at **ES Volume III Appendix 12-3: Agricultural Land Classification Report**. The ALC soil survey was carried out in accordance with MAFF guidelines (Ref. 12-25). It was based on observations of soil samples at intersects of a 100 m grid, giving a density of one sample observation per hectare.

12.4.19 To assist in assessing land quality, the MAFF developed a method for classifying agricultural land by grade according to the extent to which physical or chemical characteristics impose long-term limitations on agricultural use for food production. The MAFF ALC system classifies land

into five grades numbered 1 to 5, with grade 3 divided into two subgrades (3a and 3b).

12.4.20 No ALC soil survey has been undertaken in the Grid Connection Corridor. This is because there is no above ground infrastructure in the Grid Connection Corridor, and disruption to soil functioning from trenching to contain the Grid Connection Cables would be temporary during construction. During operation, the Grid Connection Cables would be buried at sufficient depth to allow typical farming operations to continue (including ploughing) and so the Scheme would not affect the agricultural use of the land during operation. Any potential impacts on BMV land (defined as Grades 1, 2 and Subgrade 3a) from the Grid Connection Cables would therefore be temporary, and have been mitigated through industry standard measures outlined in the **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**. Furthermore, a SMP has been published which follows industry standard good practice measures, as outlined in the Framework CEMP submitted as **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**.

Agricultural Land Holdings

12.4.21 The Applicant has reached voluntary land agreements with all landowners in the Solar PV Site.

12.4.22 The Applicant has identified all landowners located in the Grid Connection Corridor apart from two, and voluntary agreements are being negotiated, should the Scheme need to utilise the Grid Connection Corridor for cabling as opposed to an overhead line drop. Landowners have not yet been identified for Plot 9/03 or Plot 9/08, as described within the Schedule of Negotiations and Powers Sought document (**EN010152/APP/4.4)**. The Applicant will continue in its endeavours to identify and seek engagement with any owners of these two plots.

12.4.23 An agricultural holdings and land use survey has not been completed given that the Applicant and Scheme team are engaging directly with affected landowners and given the nature of likely effects (as noted above, in the Grid Connection Corridor any impacts would comprise permanent below ground works only, with land returned to its original use following installation).

Methodology

12.4.24 There is currently no statutory guidance on the methodology for undertaking assessments of socio-economic and land use effects. The assessment follows good practice methodology and professional judgement from other assessments undertaken on comparable energy infrastructure schemes.

12.4.25 This section sets out the scope and methodology for the socio-economics and land use assessment of the Scheme.

12.4.26 The Scheme has the potential to have a range of temporary and permanent effects. For the purposes of this chapter, based on professional judgement and experience, as well as national planning policy, due consideration is given to the Scheme in terms of effects on the following:

a. Employment generation (temporary and long-term), including multiplier effects (i.e. indirect benefits for the local area and the region resulting from supply chain activity including contribution to the Scheme of low

carbon industries as well as induced employment created through increased spending across the Study Area), potential training benefits and apprenticeship opportunities;

b. Impacts on local services and facilities, comprising local accommodation facilities (the Scheme would not provide educational or visitor facilities, though potential impacts on existing education and visitor facilities are covered under 12.4.43 below);

c. GVA, including multiplier effects (i.e. indirect benefits for the region);

d. PRoW;

e. Other private and community assets (including residential properties, business premises, community facilities including GP surgeries, visitor attractions, agricultural land holdings and development land), in terms of any change of land use within the Solar PV Site and any changes to accessibility for receptors beyond the Order Limits; and

f. BMV agricultural land and soils.

Impact Assessment Methodology

Additionality Assumptions

12.4.27 As mentioned in Table 12-1, the economic impact of the Scheme is considered relative to a 60-minute travel time (car or road-based public transport) to or from the Scheme in any direction. In accordance with CIPD research and previous similar projects (as set out in Table 12-1), this is considered a reasonable timeframe to use as a baseline within which workers would commute to the Scheme.

12.4.28 Additionality has been calculated by considering the overall job gains to the area, then factoring in 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 Guide (Ref. 12-13).

12.4.29 Table 12-2 outlines the values that have been allocated within 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

Additionality Factor	Value	Justification
Leakage (% of jobs that benefit those residents outside of the Study Area area)	55%	This is the proportion of jobs taken by people who live outside of the Study Area, defined as a 60-minute travel area. Based on professional judgment and other similar schemes, given the specialised nature of the construction, operation and maintenance roles, this has been estimated to be 55%.

Additionality Factor	Value	Justification
Displacement (% of jobs that account for a reduction in related jobs in the Study Area)	25%	For the purpose of this assessment, a low level of displacement (25%) has been assumed, in line with the HCA Additionality Guide (Ref. 12-13). This level of displacement reflects that there are expected to be some displacement effects, although these are only to a limited extent. This displacement level is assessed as appropriate for a construction project, as used in other comparable solar schemes.
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 Study Area based on supply chain activity, but also the induced employment created through increased spending across the Study Area. The HCA Additionality Guide (Ref. 12-13) provides a 'ready reckoner' of composite multipliers. The Study Area 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.

Significance Criteria

12.4.30 The assessment of potential socio-economic and land use effects uses the effect significance terms and definitions described within **ES Volume I Chapter 5: Environmental Impact Assessment Methodology [EN010152/APP/6.1]**. Where practicable, socio-economic and land use impacts have been appraised against relevant national standards, such as those issued by Department for Energy Security and Net Zero including NPS EN-1 (November 2023) (Ref. 12-1), NPS EN-3 (November 2023) (Ref. 12-2) and NPS EN-5 (November 2023) (Ref. 12-3) and HCA Additionality Guide (Ref. 12-13) (now renamed Homes England). 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.

12.4.31 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:

a. **Beneficial** classifications of significance indicate an advantageous effect on an area, which may be minor, moderate or major in effect;

b. **Adverse** classifications of significance indicate a disadvantageous effect on an area, which may be minor, moderate or major in effect;

c. **Negligible** classifications of significance indicate imperceptible effects on an area; and

d. **No effect** classifications of significance indicate that there are no effects on an area.

12.4.32 The geographical scales considered to assess effect significance are described in Table 12-1.

12.4.33 Duration of effect is also considered, with more weight given to permanent changes than to temporary ones. As defined in within **ES Volume I Chapter 5: Environmental Impact Assessment Methodology [EN010152/APP/6.1]**, permanent effects are those effects which cannot be reversed following decommissioning.

12.4.34 Construction phase effects are assessed against the present-day baseline (which is projected to be the same, or at least similar, to conditions when construction activities commence), while the operational and decommissioning effects are assessed against the future baseline.

12.4.35 For socio-economics and land use, 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 impact (magnitude) and the sensitivity (or value) of the affected resource or receptor. As such the significance criteria of socio-economic and land use effects has been assessed based on expert judgment and professional experience of the author, and relies on the following considerations:

a. **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);

b. **Magnitude of impact**: this entails consideration of the size of the impact on people or business in the context of the area in which impacts would be experienced; and

c. **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.

12.4.36 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 (covering employment effects and GVA effects, as described in Paragraph 12.4.26); PRoW; private and community assets (including impacts on local accommodation services as described in Paragraph 12.4.26) and BMV agricultural land and soils. The significance of effect matrix has been provided following the receptor sensitivity and impact magnitude criteria.

Economic Impacts

12.4.37 The following criteria have been set to assess effects relating to employment and GVA (grouped together as economic impacts).

12.4.38 Table 12-3 identifies the sensitivity criteria that have been used to inform the assessment on socio-economic receptors relating to employment and GVA.

Table 12-3: Economic Impact Sensitivity Criteria

Sensitivity	Description
High	Businesses, workers or residents who have little or no capacity to experience the impact without incurring a change on their economic well-being.
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.

12.4.39 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

Magnitude	Description
High	An impact that is expected to have considerable adverse or beneficial socio-economic effects. Such impacts will typically affect large numbers of businesses, workers or residents.
Medium	An impact that will typically have a noticeable effect on 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.
Negligible	An impact which represents very little change from baseline conditions where the change is barely distinguishable, approximating to a "no change" situation.

PRoW

12.4.40 The following criteria have been set to assess the effects of users on PRoW, focusing on the impact of severance of existing routes and the resulting changes in journey lengths and times and local travel patterns.

12.4.41 Table 12-5 identifies the sensitivity criteria that have been used to inform the assessment on PRoW.

Table 12-5: Public Rights of Way Impact Sensitivity Criteria

Sensitivity	Description
High	PRoW is of high importance with limited potential to be substituted with other route options to access the wider network or community infrastructure.
Medium	PRoW is of medium importance with moderate potential to be substituted with other route options to access 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 for substitution with other route options to access 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 for substitution with other route options to access the wider network or community infrastructure.
Very Low	PRoW is of very low importance with alternative routes available.

12.4.42 Table 12-6 identifies the magnitude of impact criteria which have been used to assess the impacts on PRoW.

Table 12-6: Public Rights of Way Impact Magnitude Criteria

Magnitude	Description
High	Substantial increase/decrease in journey length and/or change in 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 change in 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.

Magnitude	Description
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.

Other Private and Community Assets

12.4.43 The following criteria has been set to assess the effects on other private and community assets which comprise residential properties, business premises, community facilities, visitor attractions, agricultural land holdings, local accommodation services and development land. Development land is defined as planning applications or Development Consents Order (DCO) Applications which have received consent, been submitted for determination, or are at pre-application stage (including EIA scoping), and allocated sites (including Mineral Safeguarding Areas, Mineral Consultation Areas, Waste Consultation Areas and Transport Safeguarded Areas).

12.4.44 Table 12-7 identifies the sensitivity criteria that have been used to inform the assessment on private and community assets.

Table 12-7: Private and Community Assets Sensitivity Criteria

Sensitivity	Description
High	Asset or land use is of high importance and rarity with limited potential for substitution or access to alternatives.
Medium	Asset or land use is of medium importance and rarity with moderate potential for substitution or access to alternatives.
Low	Asset or land use is of low importance and rarity with alternatives available.
Very Low	Asset or land use is of very low importance and rarity with alternatives available.

12.4.45 The magnitude of change to local assets (residential properties, business premises, community facilities, visitor attractions, agricultural land use, accommodation services 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 private and community assets (excluding development land, which is covered in Table 12-9 below).

Table 12-8: Private and Community Assets Magnitude Criteria

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

Magnitude	Description
	an impact that improves key characteristics and features of the asset or land use.
Low	An impact that negatively affects the utility of an asset, but is temporary in nature and 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 asset 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.

12.4.46 The assessment of effects on development land considers any temporary and permanent land take of development land which affects its viability, and any other ways in which the Scheme conflicts with, hinders or otherwise adversely affects development land within or nearby to the Order Limits. Table 12-9 identifies the magnitude of impact criteria used to assess the impacts on development land.

Table 12-9: Development Land Magnitude Criteria

Magnitude	Description
High	An impact that permanently affects the integrity and value of a development land resource; or an impact that considerably enhances the value and quality of such a resource.
Medium	An impact that negatively affects the value of a development land resource, but a recovery is possible with no permanent impacts; or an impact that improves key characteristics and features of such a resource.
Low	An impact that negatively affects the value of a development land resource, 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 such a resource.
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.

BMV Agricultural Land and Soils

12.4.47 The sensitivity of agricultural land is assessed according to its ALC grade, as set out in Table 12-10.

12.4.48 BMV agricultural land is a strategic national resource with longstanding policy to prevent the unnecessary loss of such land to non-agricultural development. As set out in TIN049 (Ref. 12-24), land in ALC Grades 1, 2 and 3a are considered to be the nation’s BMV. Paragraph 180 of the NPPF (December 2023) directs that planning should consider the economic and other benefits of BMV agricultural land. TIN049 and national planning policy

do not seek to enforce continuity of agricultural production or any specific agricultural management.

12.4.49 For the agricultural land resource, the presence of BMV land and the grade of that land determine sensitivity, with Grades 1 and 2 land (excellent and very good quality land respectively) having fewer limitations to agricultural use than land in Subgrade 3a (good quality agricultural land).

12.4.50 This criteria set out in Table 12-10 takes into account the above guidance in respect of the economic and other benefits of the BMV and give limited weight to the loss, from agricultural production of land in Subgrades 3b, and Grades 4 and 5.

Table 12-10: BMV Agricultural Land Sensitivity Criteria

Sensitivity	Description
High	Agricultural land predominantly in Grades 1 and 2.
Medium	Agricultural land predominantly in Grades 3a or containing some Grade 1 and 2
Low	Agricultural land containing some Grade 3a, but predominantly Grade 3b or lower.
Very Low	Agricultural land all Grade 3b or lower.

12.4.51 The thresholds for the magnitude of impact adopted in this assessment are based on a threshold of the permanent change of 20 hectares (ha) of BMV agricultural land, taken from Article 18(1), Paragraph (y) of the Table in Schedule 4 to the Town and Country Planning (Development Management Procedure) Order 2015 (S.I. No 2015/595) (Ref. 12-26). The magnitude of change criteria is therefore based on the extent of BMV land lost, with the area of 20 ha referred to below being derived from the threshold contained within the former MAFF guidance (Ref. 12-25) and maintained by Natural England when informing their position on projects. As this is the area of BMV change that triggers a requirement to consult with Natural England, it implies that this is also the point at which the change is no longer considered to be ‘not significant’. Therefore, for the purposes of this assessment:

a. Total permanent loss of BMV land which exceeds 20 ha is considered significant;

b. A loss of BMV which is either temporary and reversible after construction, or which falls below the 20 ha threshold, is considered as being not significant; and

c. A loss of non-BMV land is considered as being not significant.

Significance of Effects

12.4.52 Socio-economic and land use effects reflect the relationship between the sensitivity of the affected receptor (Table 12-3, Table 12-5, Table 12-7, Table 12-10) and the magnitude of the impact. Table 12-11 shows how the assessment of the significance of effects is arrived upon.

Table 12-11: Impact Assessment and Effect 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

12.4.53 In accordance with the methodology set out within **ES Volume 6.1 Chapter 5: Environmental Impact Assessment Methodology**, the following criteria is applied:

a. '**Moderate**' or '**Major**' are classed '**significant**';

b. '**Minor**' are classed as '**not significant**', although they may be a matter of local concern; and

c. '**Negligible**' effects are classed as '**not significant**', although they may be a matter of local concern.

Assumptions, Limitations and Uncertainties

12.4.54 There is currently no statutory guidance on the methodology for undertaking assessments of socio-economic and land use effects. The assessment follows professional judgements and good practice methodology from other assessments undertaken on comparable energy infrastructure schemes.

12.4.55 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. The most recently available data sources have been used in this assessment, although it should be noted that baseline data can be 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.

12.4.56 The construction phase of the Scheme is expected to last approximately 24 months in duration. It is noted that the installation of the Grid Connection Cables is expected to take approximately 12 months to complete, whereas the construction of the Solar PV Site is expected to take an estimated 24 months. Additionally, some aspects of construction-related effects will last longer than others, with some effects likely to be relatively short in duration, with respect to the whole construction phase. Construction of the Solar PV Site and Grid Connection Cables is expected to start in tandem. This is expected to be a realistic worst-case assumption for the consideration of accessibility effects within this socio-economics and land use assessment, as it represents the expected minimum build time and therefore the most intense activity onsite (and therefore greatest impacts associated with traffic). This approach may mean the maximum number of jobs during peak construction has been overestimated; however, the overall amount of construction activity over the construction phase and therefore the

associated employment and spending benefits of the Scheme overall would remain unchanged.

12.4.57 The assessment of the effects of the Scheme on the hotel, bed and breakfast and inns accommodation sector during the construction phase reflect a worst-case scenario and assess the likely capacity against the demand from the potential peak construction workforce arising with 30 minutes and 60 minute drive time of the Order limits. The assessment of severance effects on land use receptors during the construction, operation and decommissioning phases is informed by **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]** which also uses the potential peak construction workforce to assess a worst-case scenario.

12.4.58 The assessment of the effects of the Scheme on BMV agricultural land use have taken into consideration the ALC of the areas of the Scheme which are known at this time. Mapping of agricultural land and soils within the Solar PV Site has been based on site surveys undertaken between February and May 2023, and in June 2024. Site surveys were not undertaken for the Grid Connection Corridor and therefore the ALC within the Grid Connection Corridor is based on data from the Defra Natural England mapping service (see **ES Volume II Figure 12-4: Predicted Agricultural Land Classification**).

12.4.59 Based on the designs for the minor junction works associated within the Scheme at Askern, it is assumed that the minor works will not adversely impact any nearby receptors or that any adverse impacts could be mitigated through temporary traffic management measures. Therefore, no adverse effects are anticipated.

12.5 Baseline Conditions

12.5.1 This section describes the existing and anticipated future baseline conditions for the socio-economics and land use assessment. The socio-economic receptors located within the Socio-Economic and Land Use Study Area are presented in **ES Volume II Figure 12-1: Study Area for Socio-Economic Receptors**.

12.5.2 The potential impacts arising from the Scheme are assessed relative to baseline conditions and benchmarked against regional and national standards where appropriate. Key indicators and measures of the Study Areas have been established for:

a. Population and deprivation;

b. Employment;

c. Visitor accommodation;

d. Local economy and labour market;

e. PRoW;

f. Socio-economic and land use receptors (comprising residential properties, community facilities, business premises, visitor attractions, agricultural land holdings and development land), first local to the Solar PV Site and second, local to the Grid Connection Corridor;

g. Mineral Safeguarding Areas; and

h. BMV agricultural land and soils.

Existing Baseline – Solar PV Site

12.5.3 **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]** contains a detailed description of existing conditions within and surrounding the Order Limits.

12.5.4 Within the Order limits and the immediate adjacent area, the area is mostly used for agricultural purposes, characterised by large-scale regular arable fields across several land-holdings.

12.5.5 Other existing energy infrastructure includes overhead powerlines carried by pylons and the Existing National Grid Thorpe Marsh Substation.

12.5.6 The Order limits is located within the area administered by the City of Doncaster Council. The boundary of the North Yorkshire Council administrative area is also located within the Study Area, to the north of the Order limits. Therefore, this section considers the baseline conditions within both local authorities (as well as within other geographical areas as appropriate, as described in Table 12-1). It should be noted that until 1 April 2023 Selby District Council was the Local Authority to the north of the Order limits. While Selby District has now been incorporated into North Yorkshire, many of the most recent statistical sources reflect the pre-existing administrative boundaries and therefore where data is not available for the new Unitary Authority of North Yorkshire Council administrative area, data for Selby District is presented below.

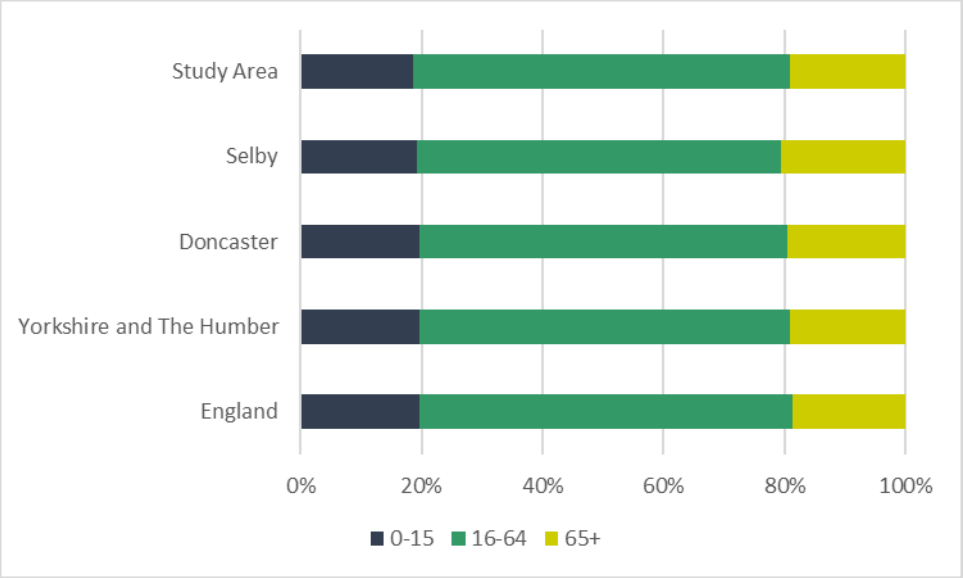
Population and Deprivation

12.5.7 According to ONS Mid-Year Population Estimates (Ref. 12-23), the residential population of Doncaster has increased from 302,626 in 2012 to 311,027 in 2022, representing a 2.8% increase over 10 years. This growth is lower than that in Yorkshire and the Humber (4.3%) and England (6.7%) over the same period. Population growth was much higher in Selby, where the population increased by 10.9% from 84,331 in 2012 to 93,565 in 2022.

12.5.8 According to the ONS Mid-Year Population Estimates (Ref. 12-23), the residential population of the economic Study Area (the 60-minute drive time radius) has increased from 5,993,357 in 2011 to 6,312,107 in 2022, representing a 5.3% increase over eleven years.

12.5.9 In 2022,192,048 (61.7%) of residents in Doncaster and 57,414 (61.4%) of residents in Selby were of working age (defined by ONS as men and women aged 16 to 64). These are similar to the rates recorded for Yorkshire and the Humber (62.3%) and England as a whole (62.9%). Higher proportions of the populations of Doncaster (19.6%) and Selby (20.6%) are aged over 65, compared to averages across Yorkshire and Humber (19.2%) and England (18.6%).

12.5.10 In 2022, there were 3,935,507 (62.3%) residents of working age within the Study Area. This is slightly higher than or in line with the percentages in Doncaster (60.7%), Selby (60.2%), Yorkshire and the Humber (61.1%) and England (61.7%). This comparison is shown in Plate 12-1.



Source: ONS, (2024), Mid-Year Population Estimates 2022

Plate 12-1 Age Breakdown of Population

12.5.11 In 2022, the Annual Population Survey (Ref. 12-21) showed that 32.0% of working-age residents in Doncaster had a degree-level qualification or equivalent (Regulated Qualifications Framework Level 4 or above), which is notably lower than the rate in Selby (40.9%), the Yorkshire and the Humber region (38.9%) and England (45.1%). The proportion of residents in Doncaster with no qualifications (7.9%) was higher than that in Selby (4.2%), and England (6.6%) but marginally lower than the rate in the Yorkshire and Humber (8.0%). The survey does not produce findings at the LSOA level and so data for the economic Study Area (60 minute drive time) is not available.

12.5.12 Based on the 2019 Indices of Multiple Deprivation (IMD) (Ref. 12-16), which is measured at local authority level, Doncaster is the 41st most deprived local authority of 317 districts in England (where 1 is the most deprived). Within Doncaster, 23.7% of the LSOAs are within the top 10% most deprived LSOAs in England. When comparing performance in the seven different domains of deprivation, Doncaster performs worst for crime deprivation (for which it is the 12th most deprived local authority) and best for barriers to housing and services deprivation (for which it is the 262nd most deprived).

12.5.13 In terms of IMD, Selby is the 252nd most deprived local authority in England. Within the local authority, 2% of the LSOAs are within the top 10% most deprived in England. The worst performing domain in Selby is education deprivation, for which the local authority is the 172nd most deprived in England. The local authority performs best in terms of crime for which it is the 278th most deprived.

Employment

12.5.14 According to Business Register and Employment Survey (BRES) data (Ref. 12-20), the number of employees (amongst 16- to 64-year-olds) in Doncaster reached 136,500 and 38,500 in Selby in 2022. The number of employees in the economic Study Area (60 minute drive time) in 2022 was 2,628,000.

12.5.15 According to the Annual Population Survey, in 2023 the economic activity rate (amongst 16- to 64-year-olds) was 76.9% in Doncaster, lower than the rates in Selby (87.0%) and England (79.0%) and in line with the rate in the Yorkshire and the Humber (76.8%).

12.5.16 In 2023, the unemployment rate (Ref. 12-22) for working-age residents was 3.1% in Doncaster – which was slightly lower than the average rates across the Yorkshire and The Humber (3.5%) and England (3.8%). Claimant count data (Ref. 12-18) shows the proportion of residents aged 16-64 claiming Jobseeker's Allowance and the number of Universal Credit claimants placed in the 'Searching for Work' conditionality group. The most recent data recorded in May 2024, showed the claimant count was 4.5% in Doncaster, which is higher than the rates across the Yorkshire and the Humber (4.4%) and England (4.0%). The claimant count was 2.1% in Selby. Data is not available at the LSOA level.

Local Accommodation Services

12.5.17 According to the 2021 Census (Ref. 12-15), there are 407,861 households in Doncaster and North Yorkshire, of which 77,105 are privately rented (accounting for 18.9% of the tenure mix). This compares to 271,981 owner occupied properties (66.7%), 2,989 shared ownership properties (0.7%) and 55,210 (13.5%) socially rented houses. According to the latest English Housing Survey (Ref. 12-28), in 2023, approximately 3.3% of the dwellings in Doncaster and North Yorkshire were vacant, which relates to a total of 13,335 dwellings. This empty housing stock could potentially be occupied by incoming workers. If the same tenure mix were assumed for the vacant units (i.e. 18.9% being privately rented), approximately 2,521 privately rented dwellings in Doncaster and North Yorkshire are currently unoccupied.

12.5.18 In addition to the private rented homes that are likely to be available to construction workers, data on room occupancy in hotel, bed and breakfast and inns accommodation within the 30-minute and 60-minute drive time Study Areas have been sourced from CoStar, a property resource website (Ref. 12-29). As of 2024, there are approximately 4,411 rooms in local hotel, bed and breakfast and inns accommodation within a 30-minute drive of site and 40,209 rooms within a 60-minute drive of site. This number has been adjusted in Table 12-12 and Order limits below to reflect typical availability based on seasonal occupancy rates from 2023, as reported by CoStar.

Table 12-12: Accommodation Capacity Within a 30-Minute Drive Time Radius of the Order limits

Month	Room Occupancy (%)	Rooms Typically Available after Existing Demand
January	65	1,530
February	74	1,164
March	74	1,164
April	77	997

Month	Room Occupancy (%)	Rooms Typically Available after Existing Demand
May	76	1,041
June	78	953
July	80	887
August	75	1,107
September	76	1,054
October	74	1,151
November	72	1,244
December	66	1,487

Source: CoStar (2023). Data reflects 2023/2024 occupancy for the 30-min drive time radius from the Order limits.

Table 12-13: Accommodation Capacity Within a 60-Minute Drive Time Radius of the Order limits

Month	Room Occupancy (%)	Rooms Typically Available after Existing Demand
January	67	13,223
February	75	9,928
March	76	9,499
April	80	8,118
May	77	9,192
June	80	8,118
July	82	7,084
August	79	8,520
September	83	6,912
October	79	8,470
November	77	9,024
December	70	11,942

Source: CoStar (2023). Data reflects 2023/2024 occupancy for the 60-min drive time radius from the Order limits.

Local Economy and the Labour Market

12.5.19 GVA per head in North Yorkshire County Council (which includes Selby) is slightly higher (£22,915) than in Doncaster (£17,404) and the wider Yorkshire and the Humber region (£21,748) (Ref. 12-17). However, at £22,915 it is still below the GVA per head for England (£27,949). The Manufacturing, Distribution, Real Estate and Public Administration sectors contribute the most towards GVA in North Yorkshire. The sectors which contribute the most towards GVA in Doncaster are the Public Administration, Education and Health, Distribution and Manufacturing sectors.

12.5.20 Table 12-14 presents a detailed breakdown of employment by broad industrial group across the economic Study Area (60 minute drive time) and its comparators. Based on the most recently available data (2022) (Ref. 12-20), the highest levels of employment in the Study Area are recorded in Health (14.9%), Manufacturing (11.6%) and Education (8.9%). Health (14.5%), Manufacturing (11.1%) and Education (8.8%) also make up the three largest industries by employment in Yorkshire and the Humber.

12.5.21 The broad industrial groups that employ the most people in Doncaster are the Health sector (15.4% of total employment) and the Transport and Storage sector (13.2%). The Manufacturing sector is the predominant sector in Selby, contributing to 20.5% of total employment, followed by the Transport and Storage sector (10.3%). The Transport and Storage sector in both local authorities represent a much larger proportion of employment than in either the Yorkshire and The Humber region (5.4%) or England (5.1%).

12.5.22 The proportion of employment in the Mining, Quarrying and Utilities broad industrial group (which includes employment from the generation of energy) is higher in Selby (3.8%) than in Yorkshire and The Humber and England (both 1.1%). The proportion of the Doncaster population employed in the Mining, Quarrying and Utilities broad industrial group is slightly above the regional and national average (1.3%). Employment in the Construction industry is 6.6% in Doncaster and 5.8% in Selby, higher than the regional and national averages (both 4.9%).

12.5.23 The Construction broad industrial group comprises 5.1% of employment within the Study Area, slightly higher to that in Yorkshire and the Humber (4.6%) and England (4.9%).

Table 12-14: Employment by Broad Industrial Group

Industry	Economic Study Area (%)	Doncaster (%)	Selby (%)	Yorkshire and the Humber (%)	England (%)
Agriculture, forestry and fishing	0.1	0.7	4.5	1.5	1.3
Mining, quarrying and utilities	1.2	1.3	3.8	1.1	1.1

Industry	Economic Study Area (%)	Doncaster (%)	Selby (%)	Yorkshire and the Humber (%)	England (%)
Manufacturing	11.6	8.1	20.5	11.1	7.4
Construction	5.2	6.6	5.8	4.9	4.9
Motor trades	2.4	2.9	2.1	2.2	1.8
Wholesale	4.2	3.7	2.6	4.0	3.8
Retail	8.7	10.3	6.4	8.9	8.4
Transport and storage (inc. postal)	6.0	13.2	10.3	5.4	5.1
Accommodation and food services	6.9	5.9	5.8	7.2	7.9
Information and communication	2.7	1.8	1.2	2.6	4.7
Financial and insurance	2.6	1.8	0.8	2.9	3.3
Property	1.3	0.9	1.0	1.5	2.0
Professional, scientific and technical	6.5	4.4	7.7	6.5	9.5
Business administration and support services	8.8	7.4	7.7	8.6	9.0
Public administration and defence	4.5	5.1	2.3	4.6	4.2
Education	8.9	7.4	6.4	8.8	8.3
Health	14.9	15.4	7.7	14.5	12.9
Arts, entertainment, recreation and other services	3.5	3.3	2.3	3.6	4.4

Source: BRES (2022). (Ref. 12-20) Please note that totals may not equal 100 due to rounding.

PRoW

12.5.24 In terms of recreational routes, there are 34 PRoW located within 500 m of the Solar PV Site (see **ES Volume II Figure 2-2: Public Rights of Way**). Of these 34 PRoW, 12 PRoW are either located entirely within the Solar PV

Site, or pass through the Solar PV Site and continue outside of it. These are shown below, with their total length indicated:

a. Fenwick 10 Footpath (approximate length of the PRoW 1.4 km);
b. Fenwick 11 Footpath (approximate length of the PRoW 1.1 km);
c. Fenwick 12 Footpath (approximate length of the PRoW 630 m);
d. Fenwick 13 Footpath (approximate length of the PRoW 765 m);
e. Fenwick 14 Footpath (approximate length of the PRoW 830 m);
f. Fenwick 15 Footpath (approximate length of the PRoW 670 m);
g. Fenwick 16 Footpath (approximate length of the PRoW 940 m);
h. Moss 5 Footpath (approximate length of the PRoW 240 m);
i. Moss 6 Footpath (approximate length of the PRoW 480 m);
j. Moss 7 Footpath (approximate length of the PRoW 490 m);
k. Moss 15 Footpath (approximate length of the PRoW 835 m); and
l. Sykehouse 29 Footpath (approximate length of the PRoW 640 m).

12.5.25 The other 22 are either located along or abutting the Solar PV Site, but do not traverse it (the distances are the approximate length of the PRoW):

a. Fenwick 2 Footpath (approximate length of the PRoW 290 m);
b. Fenwick 3 Footpath (approximate length of the PRoW 730 m);
c. Fenwick 4 Footpath (approximate length of the PRoW 535 m);
d. Fenwick 5 Footpath (approximate length of the PRoW 300 m);
e. Fenwick 8 Footpath (approximate length of the PRoW 290 m);
f. Fenwick 17 Footpath (approximate length of the PRoW 100 m);
g. Moss 2 Footpath (approximate length of the PRoW 320 m);
h. Moss 3 Footpath (approximate length of the PRoW 280 m);
i. Moss 4 Footpath (approximate length of the PRoW 200 m);
j. Moss 8 Footpath (approximate length of the PRoW 780 m);
k. Moss 9 Footpath (approximate length of the PRoW 590 m);
l. Moss 11 Footpath (approximate length of the PRoW 190 m);
m. Moss 12 Footpath (approximate length of the PRoW 450 m);
n. Moss 13 Footpath (approximate length of the PRoW 280 m);
o. Moss 14 Footpath (approximate length of the PRoW 200 m);
p. Sel-Balne 35.3/15/1 Footpath (approximate length of the PRoW 2.1 km);
q. Sel-Balne 35.3/15/2 Footpath (approximate length of the PRoW 1 km);
r. Sel-Balne 35.3/17/1 Bridleway (approximate length of the PRoW 1.5 km);
s. Sel-Balne 35.3/8/1 Footpath (approximate length of the PRoW 750 m);
t. Sykehouse 1 Bridleway (approximate length of the PRoW 74 m);
u. Sykehouse 27 Footpath (approximate length of the PRoW 300 m); and

v. Sykehouse 35 Footpath (approximate length of the PRoW 200 m).

12.5.26 PRoW Sykehouse 1 Bridleway forms part of the Trans Pennine Trail, which runs from coast to coast across northern England and is used by walkers, cyclists and equestrian users. As shown above, there are currently no bridleways within the Solar PV site although there are two located along or abutting it.

12.5.27 There are no national trails or national cycle routes within the Solar PV Site. National Cycle Route 62 is the nearest national cycle route, approximately 1.6 km west of the Solar PV Site. The route connects Fleetwood on the Fylde region of Lancashire with Selby in North Yorkshire.

12.5.28 There are approximately 24 PRoW located within the Grid Connection Corridor Study Area. Of these, nine are either located entirely within the Grid Connection Corridor, or pass through it and continue outside of it, as listed below – the other 15 are within 500 m of the draft Order Limits:

a. Moss 6 Footpath (approximate length of the PRoW 480 m);

b. Moss 20 Footpath (approximate length of the PRoW 1.5 km);

c. Moss 21 Footpath (approximate length of the PRoW 170 m);

d. Thorpe in Balne 5 Footpath (approximate length of the PRoW 470 m);

e. Thorpe in Balne 6 Footpath (approximate length of the PRoW 1.1 km);

f. Thorpe in Balne 7 Footpath (approximate length of the PRoW 600 m);

g. Thorpe in Balne 8 Footpath (approximate length of the PRoW 300 m);

h. Thorpe in Balne 11 Bridleway (approximate length of the PRoW 1.1 km); and

i. Thorpe in Balne 13 Footpath (approximate length of the PRoW 940 m);

12.5.29 The Trans Pennine Trail runs through the Grid Connection Corridor by Thorpe in Balne. The trail intersects the Grid Connection Corridor on Thorpe Lane and follows the road network north along Marsh Road and Moss Lane before heading east along Willow Bridge Lane towards the New Junction Canal.

12.5.30 The PRoW within 500 m of the Solar PV Site and Grid Connection Corridor do not connect rural areas to more urban areas or business parks, and are therefore unlikely to be used for commuting. Consultation with the PRoW Officer for the City of Doncaster Council revealed that these PRoW are mainly used by local residents for recreational use, and that some are also used by equestrians.

Solar PV Site – Local Receptors

Residential Properties

12.5.31 There are no residential properties located within the Solar PV Site. As described in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, the area within the Solar PV Site is characterised by agricultural land use (mostly arable with some grazing), and around the Solar PV Site is mostly rural and relatively sparsely populated.

12.5.32 A number of small settlements containing residential properties and farm buildings lie within 500 m of the Solar PV Site and comprise of Fenwick

approximately 100 m to the south west of the Solar PV Site, Topham approximately 455 m to the east and Sykehouse approximately 500 m to the east.

Community Facilities

12.5.33 Table 12-15 illustrates the community and recreational facilities within 2 km of the Solar PV Site and their distances from the Solar PV Site. Moss and Fenwick Village Hall is located adjacent to the Solar PV Site. The hall acts as a setting for Special Educational Needs education provided by Phoenix. Topham Ings East and West are two publicly accessible fields on the River Went, 300 m north east of the Solar PV Site, which are owned and managed by the Burnet Heritage Trust. The two open spaces are located along the Trans Pennine Trail, and a bird hide overlooking the East Ings can be accessed via 50m permissive path. There are no General Practitioner (GP) services located within 2 km of the Solar PV Site. The nearest GP services are the Askern Medical Practice and the Lakeside Practice located approximately 2.5 km west of the Order limits within the White Wings Centre on Spa Pool Road. The nearest hospital (with an accident and emergency department) is the Doncaster Royal Infirmary, which is approximately 10 km to the south of the Solar PV Site.

12.5.34 There are no police or fire stations within 2 km of the Solar PV Site. The nearest are Thorne Police Station approximately 8 km south east of the Solar PV Site and Adwick Le Street Fire Station, approximately 9.2 km south west of the Solar PV Site. There are no open spaces or other community land assets located within 2 km of the Solar PV Site.

Table 12-15: Community and Recreational Facilities Within 2 km of the Solar PV Site

Receptor	Description	Approximate Distance from Solar PV Site
Moss and Fenwick Village Hall	Village hall - includes Pupil Referral Unit	0 m west of the Solar PV Site on Fenwick Common Lane
Topham Ings East and West	Accessible open spaces with bird hide owned by Burnet Heritage Trust	300 m north east of Solar PV Site at Topham Ferry Bridge
The Holy Trinity Church	Religious facility	1.1 km east of the Solar PV Site on Broad Lane
The Park	Grasslands/hay meadows accessible by public footpath, owned by the Burnet Heritage Trust	1.2 km north east of the Solar PV site
Sykehouse Cricket Club	Cricket Club	1.5 km east of the Solar PV Site on Broad Lane

Receptor	Description	Approximate Distance from Solar PV Site
Sykehouse Village Hall	Village hall	1.7 km east of the Solar PV Site on Broad Lane
The Church of St John the Baptist	Religious facility	1.6 km north of the Solar PV Site on Balne Moor Road
Pollington Balne Church of England Primary School	Education facility	1.6 km north of the Solar PV Site on Balne Moor Road
Pollington Preschool	Education facility	1.6 km north of the Solar PV Site on Balne Moor Road
Norbreck Road Communal Hall	Village hall	1.8 km south west of the Solar PV Site on Norbreck Road
Askern Moss Road Infant School	Education facility	1.7 km south west of the Solar PV Site on Moss Road

Business Premises

12.5.35 There are no business premises within the Solar PV Site (noting that farms are covered separately under Agricultural Land Holdings below). The business premises within the 500 m Study Area of the Solar PV Site are presented in Table 12-16.

Table 12-16: Business Premises Within 500 m of the Solar PV Site

Receptor	Description	Approximate Distance from Solar PV Site
Roger Petch Transport Limited	Trucking company	30 m south of the Solar PV Site on West Lane
Iron Horse Equestrian Supplies Ltd	Equestrian shop	210 m south of the Solar PV Site on Moss Road
The Old Hayloft Tea Room	Café	210 m south of the Solar PV Site on Moss Road
Workshop Trading	PPE supplier	325 m south of the Solar PV Site on Moss Road
Moss Farm	Equestrian centre	465 m south of the Solar PV Site on Moss Road
The Baxter Arms	Public House	420 m west of the Solar PV Site on Fenwick Lane
Sykehouse Arena	Equestrian centre	500 m east of the Solar PV Site on Ash Hill Road

Receptor	Description	Approximate Distance from Solar PV Site
Sunway Leisure	Car dealership	500 m east of the Solar PV Site on Moss Road

Visitor Attractions

12.5.36 There are no visitor attractions located within 500 m of the Solar PV Site.

Agricultural Land Holdings

12.5.37 There are multiple agricultural land holdings located within the Solar PV Site. The applicant has reached voluntary land agreements with all the landowners in the Solar PV Site.

12.5.38 Farms with land holdings located within the Solar PV Site include:

a. Riddings Farm;
b. Manor Farm;
c. Tweed Farm;
d. Fenwick Hall Farm;
e. Gate Farm; and
f. Jet Hall Farm.

12.5.39 In addition, the following farms are located within 500 m of the Solar PV Site:

a. Lawn Lane Farm located approximately 145 m away from the Solar PV Site on Lawn Lane;
b. Bate Lane Farm located approximately 365 m east from the Solar PV Site on Bate Lane;
c. East Farm located approximately 110 m east from the Solar PV Site on Topham Ferry Lane;
d. Moss Farm located approximately 430 m south east from the Solar PV Site on Moss Road.

Development Land

12.5.40 There are no allocated development sites, or sites subject to planning applications or permissions within the Solar PV Site. As of August 2024, one planning application has been identified within 500 m of the Solar PV site, the demolition of Grade II listed 'Lily Hall' and erection of one replacement residential farmworker's dwelling and associated works (22/01537/LBC and 22/01746/FULM), as listed in **ES Volume III Chapter 15: Cumulative Effects and Interactions**. The assessment of effects in this section considers the potential for the Scheme to conflict with, hinder or otherwise adversely affect development land. Meanwhile, the cumulative effects section of this chapter (see Section 12.10 Cumulative Effects) considers whether the Scheme and the identified proposed developments and allocations might together cause significant effects.

12.5.41 The demolition of Grade II listed 'Lily Hall' and erection of one replacement residential farmworker's dwelling and associated works (22/01537/LBC and 22/01536/FUL) was approved on 17 November 2023 and located

approximately 140 m away from the Solar PV Site at Riddings Farm, accessed via Lawn Lane.

Mineral Safeguarding Areas

12.5.42 There are no Minerals Safeguarding Areas (MSA) located within 500 m of the Solar PV Site.

BMV Agricultural Land

12.5.43 The mapping of agricultural land and soils within the Solar PV Site has been based on site surveys undertaken between February and May 2023, with additional areas surveyed during June 2024 (see **ES Volume 6.1 Figure 12-5: Agricultural Land Classification for the Solar PV Site**). The surveys covered 403.7 ha of land within the Solar PV Site; Defra Natural England – Provisional ALC (2019) (Ref. 12-33) was used for the remaining 3.6 ha of land within the Solar PV Site.

12.5.44 The ALC soil survey of the Solar PV Site was carried out in accordance with the MAFF guidelines (Ref. 12-25). The survey showed that the Solar PV Site is predominantly located in ALC Grade 3b (moderate quality agricultural land) with some Grade 2 (very good quality agricultural land) and Grade 3a (good quality agricultural land). Under the ALC framework for classifying land, Grade 2 and Subgrade 3a land is BMV land whereas Subgrade 3b is not. No Grade 1 agricultural land was identified within the Solar PV Site.

12.5.45 Grade 2 land comprises 1% of the land surveyed and Subgrade 3a land comprises 6% of the land surveyed to date. This is equivalent to approximately 30.2 ha of the land within the Solar PV Site Order Limits (7%) being classified as BMV land.

12.5.46 The breakdown of ALC grades for the surveyed land within the Solar PV Site is presented in Table 12-17.

Table 12-17: Agricultural Land Classification Based Within the Solar PV Site

Agricultural Land Class	Total Area (Ha)	Percentage of Solar PV Site Total (%)
Grade 2	4.3	1
Subgrade 3a	25.9	6
Subgrade 3b	352.9	87
Grade 4	12.8	3
Non agricultural	11.4	3
Total	**407.3**	**100**

*Source: Land Research Associates Limited (2024) Agricultural Quality of Land at Fenwick (Ref. 12-30) (**ES Volume III Appendix 12-3: Agricultural Land Classification Report**) and Defra Natural England – Provisional ALC (2019) (Ref. 12-33)*

Grid Connection Corridor – Local Receptors

Residential Properties

12.5.47 The dominant land use within the Grid Connection Corridor is agricultural. There are no residential properties within the Grid Connection Corridor.

12.5.48 There are various settlements located within 500 m of the Grid Connection Corridor including Moss approximately 130 m to the west of the Grid Connection Corridor, Hawkhouse Green approximately 400 m to the east, Thorpe in Balne approximately 480 m to the west and Barnby Dun approximately 500 m to the east. Barnby Dun is the largest settlement area within 500 m of the Grid Connection Corridor, containing large concentrations of residential properties.

12.5.49 Moss mainly comprises of residential properties and farms (Moss Farm and Fir Tree Farm), as does Hawkhouse Green. Thorpe in Balne contains residential properties and multiple farms (Sickle Croft Farm, Ash Tree Farm, and Elm Stone Farm are all located on Thorpe Lane). Barnby Dun is a village with local shops, a primary school, golf driving range, and other recreational facilities, such as a village hall and playing fields.

Community Facilities

12.5.50 Table 12-18 illustrates the community and recreational facilities within 2 km of the Grid Connection Corridor and their distances from the Grid Connection Corridor. The facilities comprise of two village halls, four religious facilities, a primary school, community centre and a GP surgery. The nearest hospital (with an accident and emergency department) is the Doncaster Royal Infirmary, which is approximately 5 km to the south of the Grid Connection Corridor.

12.5.51 The latest GP (May 2024) data published by NHS Digital (Ref. 12-31) does not contain information on the number of GPs or number of patients registered at Barnby Dun Surgery. However, AECOM contacted Barnby Dun surgery directly in September 2024 and was informed that the surgery has a maximum of 10,000 patients, and approximately 4 Full Time Equivalent (FTE) GPs, indicating a GP to patient ratio of one FTE GP per 2,500 patients. The average GP to patient ratio for the GP surgeries located within the Doncaster East and Doncaster North Primary Care Networks (PCN) (in which the Solar PV Site and Grid Connection Corridor are located) is 2,337 patients per GP. The Royal College of Practitioners (Ref. 12-32) targets a GP to patient ratio of 1,800 patients per GP.

12.5.52 There are no police or fire stations within 2 km of the Grid Connection Corridor. The nearest are Askern Fire Station, approximately 3.4 km to the east of the Grid Connection Corridor, South Yorkshire Police Station approximately 6.8 km south west of the Grid Connection Corridor and Doncaster Fire Station, approximately 6.2 km south of the Grid Connection Corridor.

Table 12-18: Community and Recreational Facilities Within 2 km of the Grid Connection Corridor

Receptor	Description	Approximate Distance from Grid Connection Corridor
The Church of St Peter and St Paul	Religious facility	570 m east of the Grid Connection Corridor on Church Road
Barnby Dun Primary School	Education facility	800 m east of the Grid Connection Corridor on Church Road
Barnby Dun Methodist Church	Religious facility	840 m east of the Grid Connection Corridor on High Street
Barnby Dun Community Association	Community centre	950 m east of the Grid Connection Corridor on Top Road
Barnby Dun Surgery	Health facility	1 km east of the Grid Connection Corridor on Stainforth Road
Barnby Dun Parish Hall	Village hall	1 km south east of the Grid Connection Corridor on Top Road
Moss and Fenwick Village Hall	Village hall	1.2 km west of the Grid Connection Corridor on Fenwick Common Lane
St Oswald's Church	Religious facility	1.2 km south of the Grid Connection Corridor on Pilkington Road
St Mary's Church	Religious facility	1.3 km east of the Grid Connection Corridor on Top Lane

12.5.53 There are multiple community land assets located within 2 km of the Grid Connection Corridor - these are presented in Table 12-19.

Table 12-19: Community Land Assets Within 2 km of the Grid Connection Corridor

Receptor	Description	Approximate Distance from Grid Connection Corridor
Thorpe Marsh Nature Reserve	Nature reserve	870 m west of the Grid Connection Corridor accessed via Field Station Road

Receptor	Description	Approximate Distance from Grid Connection Corridor
Barnby Dun Colts	Football pitch	900 m east of the Grid Connection Corridor accessed via Top Road
Barnby Dun Play Park	Park and playground	1 km east of the Grid Connection Corridor accessed via Top Road
Barnby Dun with Kirk Sandall Community Allotment	Allotments	1.1 km east of the Grid Connection Corridor accessed via Stainforth Road
Glass Park Millennium Green	Park	1.1 km south of the Grid Connection Corridor accessed via Moor Lane
Barnby Dun and Kirk Sandall Sports Association	Park, garden, sports pitches	1.3 km south of the Grid Connection Corridor accessed via Doncaster Road
Barnby Dun Allotments	Allotments	1.4 km south east of the Grid Connection Corridor accessed via Armthorpe Lane
Pilkington Bowling Club	Bowling pitches	1.6 km south of the Grid Connection Corridor accessed via Doncaster Road
Doncaster Golf Range	Golf club	1.8 km south east of the Grid Connection Corridor accessed via Armthorpe Lane

Business Premises

12.5.54 Aside of the farms which are covered separately under Agricultural Land Holdings below, the only business premises located within the Grid Connection Corridor is the Existing National Grid Thorpe Marsh Substation. Business premise locations within 500 m of the Grid Connection Corridor, along with their main activities, are outlined in Table 12-20.

Table 12-20: Business Premises Within 500 m of the Grid Connection Corridor

Receptor	Description	Approximate Distance from Grid Connection Corridor
Existing National Grid Thorpe Marsh Substation	Electrical substation	Within the Grid Connection Corridor
Glebe Farm Kennels and Cattery	Kennels and cattery	80 m west of the Grid Connection Corridor on Moss Lane
Sunway Leisure	Car dealership	180 m east of the Grid Connection Corridor on Moss Road
Fir Tree Farm Equestrian Centre	Equestrian centre	200m m west of the Grid Connection Corridor on Moss Road
The Orchard Equestrian Centre	Equestrian centre	300 m west of the Grid Connection Corridor
Iron Horse Equestrian Supplies Ltd	Equestrian shop	390 m west of the Grid Connection Corridor on Moss Road
The Old Hayloft Tea Room	Café	390 m west of the Grid Connection Corridor on Moss Road
Work Shop Trading	PPE supplier	500 m west of the Grid Connection Corridor on Moss Road

Visitor Attractions

12.5.55 There are no visitor attractions located within, or within 500 m of, the Grid Connection Corridor.

Agricultural Land Holdings

12.5.56 Land use within the Grid Connection Corridor is dominated by arable agriculture. There are no farm buildings or working farm infrastructure located within it.

12.5.57 The Applicant has identified all landowners located in the Grid Connection Corridor apart from two, and voluntary agreements are being negotiated, should the scheme need to utilise the Grid Connection Corridor for cabling as opposed to an overhead line drop. Landowners have not yet been identified for Plot 9/03 or Plot 9/08, as described within the Schedule of Negotiations and Powers Sought document (**EN010152/APP/4.4)**. The Applicant will continue in its endeavours to identify and seek engagement with any owners of these two plots.

12.5.58 The following farms, which comprise various farm buildings and working infrastructure, are located within 500 m of the Grid Connection Corridor:

a. Fir Tree Farm located approximately 185 m north west from the Grid Connection Corridor on Trumfleet Lane;

b. Hawkhouse Green Lane Farm located approximately 300 m south from the Grid Connection Corridor on Hawkhouse Green Lane;

c. Willowbridge Farm located approximately 310 m east from the Grid Connection Corridor on Willow Bridge Lane;

d. Trumfleet Grange Farm located approximately 80 m west from the Grid Connection Corridor on Trumfleet Lane;

e. Trumfleet Lane Farm (Langfield G P and Son) located approximately 180 m west from the Grid Connection Corridor on Trumfleet Lane;

f. Spring Acre Farm located approximately 270 m west from the Grid Connection Corridor on Thorpe Lane;

g. Elmstone Farm located approximately 280 m west from the Grid Connection Corridor on Thorpe Lane;

h. Sickle Croft Farm located approximately 400 m west from the Grid Connection Corridor on Applehurst Lane; and

i. Bramwith Lane Farm (Parkin Coates A) located approximately 350 m east from the Grid Connection Corridor on Bramwith Lane.

Development Land

12.5.59 As of August 2024, three planning applications have been identified within the Grid Connection Corridor Study Area (Enso Green Holdings; 21/02567/FULM and 23/01241/FULM, and the Thorpe Marsh Green Energy Hub, 23/00537/FULM), as listed in **ES Volume I Chapter 15: Cumulative Effects and Interactions [EN010152/APP/6.1]**.

12.5.60 The Enso Green Holdings planning application (21/02567/FULM) comprises the installation of a solar farm and battery storage facility with associated infrastructure at Warren Farm, located on High Street in Dunsville. Planning permission was granted on 15 March 2022. The second Enso Green Holdings planning application (23/01241/FULM) relates to this solar farm's underground cable route. Both developments would overlap with the Grid Connection Corridor, as the underground cables would be connected to the Point of Connection at the Existing National Grid Thorpe Marsh Substation, where the renewable energy generated by the Scheme would be exported to the grid.

12.5.61 The Thorpe Marsh Green Energy Hub planning application (23/00537/FULM) is for the construction and operation of up to 50MW Battery Energy Storage System (BESS), substation and associated infrastructure at the Existing National Grid Thorpe Marsh Substation on South Road. The planning application is currently awaiting a decision on whether the development can go ahead. The BESS Area, substation and associated infrastructure would overlap with the Grid Connection Corridor as both schemes would be connected to the Point of Connection at the Existing National Grid Thorpe Marsh Substation, where the renewable energy generated by the Scheme would be exported to the grid.

12.5.62 The Nel Nicholson 180 MW battery energy facility and associated works (23/01746/FULM) was approved on 30 April 2024 and is located 0.5 km west of the Grid Connection Corridor, northwest of Almholme and to the south of Forstead Lane.

Mineral Safeguarding Areas

12.5.63 The Minerals Safeguarding Report (**ES Volume III Appendix 12-2: Minerals Safeguarding Report**) identifies one MSA for sand and gravel within the 500 m Study Area for the Grid Connection Corridor Search Area (Land to the east of Doncaster between Thorne and Bawtry). The Grid Connection Cables within the Grid Connection Corridor would enter the sand and gravel MSA and buffer zone near Trumfleet Grange and travel southward in the main MSA to Thorpe in Balne where they would then skirt the edge of the MSA buffer before reaching the Existing National Grid Thorpe Marsh Substation.

12.5.64 The Grid Connection Corridor intersects the Trumfleet gas fields. However, the gas field is not within an existing exploration license area. The gas field is not protected within the Doncaster Local Plan 2015-2035 (2021) (Ref. 12-6).

BMV Agricultural Land

12.5.65 The mapping of agricultural land and soils has been based on the Defra Natural England Provisional ALC dataset (Ref. 12-33, see **ES Volume II Figure 12-4: Predicted Agricultural Land Classification**). As noted above, a more detailed/Site specific investigation has not been undertaken given no permanent impacts on ALC are proposed by the Grid Connection Corridor. The Grid Connection Corridor is predominantly located in ALC Grade 4 (poor quality agricultural land) with some in Grade 3 (good to moderate quality agricultural land).

12.5.66 Grade 3 land comprises 18% or approximately 17.9 ha of the land within the Grid Connection Corridor. The breakdown of ALC grades the Grid Connection Corridor is presented in **Table 12-21**.

Table 12-21: Agricultural Land Classification Within the Grid Connection Corridor

Agricultural Land Class	Total Area (Ha)	Percentage of Grid Connection Corridor Total (%)
Grade 3	17.9	18
Grade 4	82.9	82
Total	**100.8**	**100.0**

Source: Defra Natural England – Provisional ALC (2019) (Ref. 12-33)

Future Baseline

12.5.67 This section considers those changes to the baseline conditions, described above, that might occur in the absence of the Scheme and during the time period over which the Scheme would have been in place.

12.5.68 The future baseline scenarios are set out in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology [EN010152/APP/6.1]** and described for socio-economics and land use below.

12.5.69 A future year of 2043 has been considered in this section, which reflects 15 years post construction (assuming construction commences in 2028 and takes 24 months to complete) in accordance with industry good practice. Data on ONS population projections (Ref. 12-34) is only available up until 2043, therefore 2043 data has been used for the future baseline population projections.

12.5.70 In the absence of the Scheme, the future baseline is anticipated to be largely the same as the existing baseline for socio-economics and land use. However, it would be reasonable to expect that the population would increase. According to ONS population projections (Ref. 12-34), the population of Doncaster is expected to increase from 311,027 in 2022 to 337,850 in 2043, which represents an increase of 8.5%. In addition, the population of Selby is projected to increase from 93,565 to 104,931 which represents a larger increase of 12.1%. In Yorkshire and the Humber and England as a whole, there are expected to be increases of 6.3% and 8.1% respectively.

12.5.71 **Table 12-22** illustrates the population projections broken down by age group at five-year intervals and in 2022 as the baseline reference. It shows that by 2043, the percentage of the working-age population in Doncaster and Selby will fall from 61.7% to 58.9% and 61.4% to 56.7%, respectively. The percentage of the population aged 65 and over will grow from 19.6% in Doncaster in 2022 to 24.3% in 2043, and from 20.6% to 25.8% in Selby. This is indicative of trends in both Yorkshire and the Humber and England more generally.

Table 12-22. Population Projections by Age Breakdown

		2022	2028	2033	2038	2043
Doncaster	Aged 0 to 15 (%)	18.7	17.7	16.9	16.7	16.8
	Aged 16 to 64 (%)	61.7	60.5	59.6	58.8	58.9
	Aged 65+ (%)	19.6	21.8	23.5	24.5	24.3
Selby	Aged 0 to 15 (%)	18.0	17.9	17.4	17.3	17.5
	Aged 16 to 64 (%)	61.4	58.8	57.5	56.6	56.7
	Aged 65+ (%)	20.6	23.3	25.0	26.1	25.8
Yorkshire and the Humber	Aged 0 to 15 (%)	18.5	18.0	17.3	17.2	17.5
	Aged 16 to 64 (%)	62.3	60.9	60.0	59.0	58.8
	Aged 65+	19.2	21.1	22.7	23.9	23.7
England	Aged 0 to 15 (%)	18.5	18.0	17.2	17.1	17.2
	Aged 16 to 64 (%)	62.9	61.3	60.4	59.4	58.9
	Aged 65+ (%)	18.6	20.7	22.4	23.6	23.9

Source: ONS (2022) (Ref. 12-34)

12.5.72 In terms of the local economy, it would be reasonable to expect that employment and GVA would increase, associated with the expected increase in population. When considering effects on the local economy and employment, the assessment therefore uses the current baseline for construction phase effects and the future baseline for operation and maintenance and decommissioning phase effects.

12.5.73 It is expected that PRoW will continue to be used. In May 2024 City of Doncaster Council received applications for Definitive Map Modification Orders to upgrade Sykehouse 29 and Fenwick 12 from footpaths to bridleways. While timescales vary, it will likely take several years for the applications, if accepted, to be implemented. With regard to Sykehouse 29, if the application is accepted and the upgrade is confirmed, the Applicant will ensure that the diverted Sykehouse 29 route meets the requirements for a bridleway. The measures to manage potential effects on PRoW will be secured through a detailed Public Right of Way Management Plan via requirements in the DCO. A **Framework Public Right of Way Management Plan [EN010152/APP/7.13]** has been prepared and submitted as part of the ES.

12.5.74 Businesses and community facilities may open and close, however it is not expected that there will be any perceptible changes to the current baseline conditions and policies affecting them. When considering effects on these socio-economic receptors, the assessment therefore uses the current baseline for construction, operation and maintenance and decommissioning phase effects.

12.6 Embedded Mitigation

12.6.1 The Scheme has been designed, as far as practicable, to avoid and reduce impacts and effects on socio-economics and land use through the process of design development, and by embedding measures into the Scheme design. In addition, how the Scheme is constructed, operated and maintained, and decommissioned would be appropriately controlled in order to manage and minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

12.6.2 The delivery of these embedded mitigation measures will be secured through the detailed Construction Environmental Management Plan (CEMP), detailed Operational Environmental Management Plan (OEMP) and detailed Decommissioning Environmental Management Plan (DEMP) via Requirements in the DCO. A Framework CEMP (**[EN010152/APP/7.7]**), Framework OEMP (**[EN010152/APP/7.8]**) and Framework DEMP (**[EN010152/APP/7.9]**) have been prepared and submitted as part of the ES.

12.6.3 Embedded measures are taken into account prior to the assessment of effects in order to avoid considering assessment scenarios that are unrealistic in practice i.e. effects do not take account of measures even though they are likely to be standard practice and/or form part of the Scheme design. These have been followed through into the assessment to ensure that realistic likely environmental effects have been identified.

Measures Embedded into the Scheme Design

12.6.4 Mitigation measures are embedded within the Scheme to reduce construction and operation and maintenance effects relating to transport,

which in turn will mitigate the effects on the local community and existing facilities from a socio-economic and land use perspective. The relevant mitigation measures are set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.

12.6.5 The Scheme has been designed to take into account the quality of agricultural land, such as positioning the permanent infrastructure to avoid BMV land, and avoiding other socio-economic and other sensitive environmental receptors, where practicable.

12.6.6 The following measures have been included as embedded mitigation within the ES for the construction phase to minimise impacts of the Scheme on PRoW users during construction and decommissioning. The measures will be secured by requirements within the DCO consent, primarily through the **Framework Public Right of Way Management Plan [EN010152/APP/7.13],** the **Framework Construction Traffic Management Plan (FCTMP) [EN010152/APP/7.17],** and **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]** for construction and the **Framework Decommissioning Environmental Management Plan (DEMP) [EN010152/APP/7.9]** for decommissioning.

12.6.7 The embedded mitigation measures include:

a. Maintaining access to/along PRoW during construction, including any minimum legal widths for PRoW users;

b. Providing temporary PRoW diversion routes where necessary to avoid any PRoW closures. Each diversion will be clearly marked out, along with appropriate signage at either end of the diversion. The diversion routes will be agreed with the City of Doncaster Council prior to the commencement of construction;

c. Providing sufficient protection/separation between existing PRoW and the Scheme infrastructure (Solar PV panels, BESS Area and the On-Site Substation) where necessary using perimeter fencing installed at a minimum distance of 20 m on either side of the centre of the PRoW where solar infrastructure lies to both sides or 15 m if solar infrastructure is to one side only (30 m for the BESS). There will be a further 5 m from the perimeter fence to the Solar PV panels. Fencing will be erected from inside of the Solar PV area and as the first stage of construction to ensure PRoW are preserved during construction;

d. Managing areas where internal construction traffic routes cross any existing PRoW (where these are not to be diverted), by maximising visibility between construction vehicles and other users (i.e. pedestrians, cyclists, equestrians), implementing traffic management (e.g. advanced signage to advise other users of the works), as well as manned controls at each crossing point (i.e. marshals or banksmen), with a default priority that construction traffic will give-way to other users;

e. Developing of a communications strategy including regular meetings with contractors to review and address any issues associated with walking, cycling, or equestrian activity to/from/within the Order limits, as well as to relay information including any restrictions and requirements which should be followed; and

f. Ensuring any hazards (e.g. overhanging branches, cables etc) have a suitable clearance above any affected PRoW.

12.6.8 Although it is considered unlikely that construction staff will access the Scheme on foot or bike, all pedestrian, cycle and equestrian routes will be maintained and remain unobstructed when in use, to ensure the continued safe passage of the public including when using the PRoW through the Order Limits and at crossing points.

12.6.9 Three PRoW within the Solar PV Site would be temporarily diverted during the construction phase. These diversions are shown in **ES Volume II Figure 2-2: Public Rights of Way**.

a. PRoW Fenwick 16 footpath, which runs along the length of Haggs Lane, would be temporarily diverted to allow access to a construction compound during the construction phase. The Applicant has confirmed that the temporary diversion will simply involve the PRoW being routed alongside the hedge on the south side of Haggs Lane, up till the point where the inbound construction LGV traffic turns into the construction compound. PRoW users will be separated from the construction traffic by a temporary barrier. This would increase the journey length by a few metres only.

b. Moss 6 will be diverted temporarily from the construction access road, approximately 250 m north of Moss Road where the PRoW dog-legs, so that the route is located to the west of (i.e. parallel to) the construction access road for approximately 220m. This would reduce journey length for users by approximately 20 m.

c. Fenwick 14 will be diverted as it leads north from Moss 6 so that it follows the construction access route, with temporary fencing separating it from the new access track. This would reduce the journey length by approximately 5 m.

12.6.10 Three PRoW would be permanently diverted during construction, and are also shown in **ES Volume II Figure 2-2: Public Rights of Way**.

a. PRoW Sykehouse 29 footpath, which runs south of Bunfold Shaw (the area of ancient woodland in the south east) eastwards to West Lane, would be permanently diverted. The permanent diversion would follow the path residents typically use, according to consultation with the PRoW lead at the City of Doncaster Council and feedback from local residents at the non-statutory consultation events held by the Scheme. The route would be permanently diverted to travel southbound from a point of intersection at the Order limits with Fenwick 10 and Fenwick 12, travelling along the drain and east along Bunfold Shaw Lane towards West Cottage, then rejoining the existing PRoW route heading southeast to Flashey Carr Lane. This diversion would increase the journey length by approximately 40 m. As noted above, in May 2024 City of Doncaster Council received an application for a Definitive Map Modification Order to upgrade Sykehouse 29 from a footpath to a bridleway. If the application is accepted and the upgrade is confirmed, the Applicant will ensure that the diverted Sykehouse 29 route meets the requirements for a bridleway.

b. Moss 6 would be permanently diverted to follow the path of the construction access route. This is also the currently used route of the PRoW, as noted by City of Doncaster Council. This will reduce journey length by approximately 30 m.

c. Fenwick 14 would be permanently diverted running northbound from Moss 6, following the construction access route after construction has finished until the track turns west. This will reduce journey length by approximately 10 m.

Management Measures

Construction Phase

12.6.11 The **Framework CEMP** (**[EN010152/APP/7.7]**) has been prepared as part of the ES and sets out measures to mitigate effects on agricultural land and PRoW, and includes a **Framework Soil Management Plan [EN010152/APP/7.10]** setting out how agricultural soils would be managed, preserved, retained and reinstated.

12.6.12 A **Framework Public Rights of Way Management Plan** (**[EN010152/APP/7.13]**) has been submitted as part of the DCO Application which sets out how PRoW would be managed during the Scheme construction phase to ensure the safety of users and Site staff.

12.6.13 Any direct impacts to land use would be managed and mitigated through negotiations with stakeholders including landowners and owners of businesses.

Operation and Maintenance Phase

12.6.14 The existing PRoW which pass through or run adjacent to the Order Limits are expected to be unaffected during the operation and maintenance phase, apart from the permanent diversion of three PRoW (Sykehouse 29, Moss 6 and Fenwick 14) as noted above.

12.6.15 It is not expected that any temporary traffic management measures or any additional PRoW diversions or closures would be required and the majority of vehicles accessing the Solar PV Site would be maintenance vehicles/Light Goods Vehicles (LGVs) and would be nominal in number.

12.6.16 The **Framework OEMP [EN010152/APP/7.8]** and the **Framework Public Rights of Way Management Plan** (**[EN010152/APP/7.13]**) further detail proposed mitigation relating to PRoW during operation.

Decommissioning Phase

12.6.17 The **Framework DEMP** (**[EN010152/APP/7.9]**) sets out management measures to mitigate the effects on agricultural land. The Framework DEMP also includes measures that will ensure the restoration of agricultural land and soils to its existing use, following decommissioning. This includes guidance on handling of soil material, specific to the soil resource present. This will serve to conserve both soil volume and functional capacity for beneficial reuse.

12.6.18 The **Framework DEMP** (**[EN010152/APP/7.9]**), together with the **Framework Public Rights of Way Management Plan** (**[EN010152/APP/7.13]**), set out proposed mitigation relating to PRoW during decommissioning.

12.7 Assessment of Likely Impacts and Effects

12.7.1 This section sets out the likely impacts and effects of the Scheme on socio-economics and land use, taking account of the embedded mitigation measures as detailed in Section 12.5.69.

12.7.2 All adverse or beneficial effects and the significance of each of these effects are summarised in **Table 12-27**.

Construction Effects

Employment

12.7.3 Subject to being granted consent and following a final investment decision, the earliest construction could start is in 2028. The construction phase is expected to be approximately 24 months in duration. It is noted that the Grid Connection Cables is anticipated to require 12 months to complete which will run concurrently, whereas construction of the solar farm would require an estimated 24 months, with operation therefore anticipated to commence in 2030. Therefore, likely effects would 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 construct the Scheme.

12.7.4 The Applicant estimates that the Scheme would require a peak workforce of 250 full-time equivalent (FTE) staff per day, and an average of 200 gross direct FTE jobs on-site per day during the construction phase, assumed to be equivalent to 200 FTE jobs per annum. The size of the workforce is based on activities required and would fluctuate during the period, therefore, being both higher and lower than average at times. The peak construction workforce (in 2028 when both the solar farm and its grid connection are being constructed) is based on a realistic worst-case assumption for the construction programme (24 months), as it represents the expected minimum build time and therefore the most intense activity onsite (and therefore greatest impacts associated with traffic). For this reason, the estimate of a peak workforce of 250 FTE staff per day may, as noted in Paragraph 12.4.56, represent an overestimate of the maximum number of jobs during peak construction, however, should the construction phase be extended and the peak job numbers be reduced, the amount of construction activity and spending overall and therefore the employment benefits of the Scheme would remain unchanged.

Leakage

12.7.5 Leakage effects are the benefits to those outside the Study Area, defined as a 60-minute travel area in any direction from the Order limits as shown in **Table 12-1**. It is estimated that 45% of construction staff could be sourced from the Study Area. This would be subject to labour availability and take-up at the time of construction, however, it is considered to be a reasonable assumption on which to base this assessment, based on professional experience and benchmarking against other comparable renewable energy projects. As such, 55% of staff would be likely to reside outside of this Study Area. This indicates that although a reasonably high proportion of employment opportunities would be retained in the Study Area, a noticeable number of jobs would be taken up by people living outside of the Study 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 would likely be in more specialised solar PV professions owing to the scarcity of such resources within localised areas compared with less skilled professions.

12.7.6 An adjustment of 55% has therefore been applied to the estimated average 200 gross direct construction jobs on-site during the construction phase to estimate the jobs created within the target area. On this basis, it is estimated that the Scheme would create 90 FTE jobs per annum for residents within the Study Area during the construction phase.

Displacement

12.7.7 Displacement measures the extent to which the benefits of a development are offset 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.

12.7.8 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.

12.7.9 HCA Additionality Guide (Ref. 12-13) provides standards (or 'ready reckoners') for displacement. Within the context of a construction project in the Study Area, a low displacement factor for 25% is considered appropriate according to the HCA Additionality Guide (Section 4.3). This level of displacement reflects that there are expected to be some displacement effects (although only to a limited extent) and has been used in assessments for other comparable renewable energy schemes. Applying this level of displacement to the total gross direct average employment figure results in a total net direct employment figure of 150 FTE jobs per annum during the construction phase.

Multiplier Effect

12.7.10 In addition to the direct employment generated by the construction of the Scheme, there would be an increase in local employment arising from indirect and induced effects of the construction activity. Employment growth would arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, it is assumed that part of the income of the construction workers and suppliers would be spent in the Study Area, generating further employment (in terms of induced or income multipliers).

12.7.11 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 provides 'ready reckoner' composite multipliers (the combined effect of indirect and induced multipliers) to account for this. This is a good practice approach in the absence of specific information that might form the basis for use of another multiplier effect factor, appropriate to the sectors concerned. The Study Area is likely to have 'average' supply linkages and induced effects, based on the scale of its economy compared to other locations. Therefore, a medium multiplier effect

of 1.5 (which the HCA Guidance indicates will be appropriate for the majority of interventions) has been considered appropriate. Applying the 1.5 multiplier to the total net direct employment figure of 150 workers results in net indirect and induced employment of 75 jobs per annum during the construction phase.

Net Construction Employment

12.7.12 **Table 12-23** presents the temporary annual employment generated by the Scheme, accounting for leakage, displacement, and multiplier effects. The Scheme would support, on average, 225 total net jobs per annum during the construction phase. Of these, 102 jobs per annum would be expected to be taken up by residents within the Study Area.

Table 12-23: Net Additional Construction Employment Per Annum from the Scheme

	Study Area (60-minute travel area)	**Outside Study Area**	**Total**
Gross Direct Employment	90	110	200
Displacement	-22	-28	-50
Net Direct Employment	68	82	150
Indirect and Induced Employment	34	41	75
Total Net Employment[1]	**102**	**123**	**225**

Source: AECOM Calculations 2024. Please note that figures have been rounded to the nearest whole number.

12.7.13 The jobs created would be in the renewable energy sector, specifically relating to solar installation, but also electricity transmission. As such, they would contribute to the development of skills needed for the UK's transition to net zero by 2050 (as required by the Climate Change Act 2008 (2050 Target Amendment Order) 2019 (Ref. 12-36), and described within the Net Zero Strategy: Building Back Greener (Ref. 12-37). The indirect jobs include those created within the supply chain and therefore reflect the opportunities for low carbon industries to contribute to the Scheme.

12.7.14 The **Framework Skills Employment and Supply Chain Plan [EN010152/APP/7.15**] sets out a variety of interventions which the Applicant proposes to pursue post-consent to maximise the economic benefits of the scheme, for example promoting local employment, apprenticeships and education. The production of a Final Skills Employment and Supply Chain Plan, which will be subject to approval by the City of Doncaster Council, will be secured through the DCO.

12.7.15 The sensitivity of the local workforce to employment changes has been assessed as medium, given the claimant count and unemployment rates in the area (claimants are those who are unemployed and claiming job seekers

[1] Sum of Net Direct Employment and Indirect & Induced Employment

allowance or other unemployment related benefits). The direct, indirect and induced employment created from the construction of the Scheme must be judged in the context of the labour pool of construction workers in the Study Area (60-minute travel area) (approximately 137,000 according to BRES 2022 data) (Ref. 12-20). As the employment requirements associated with construction are relatively small compared to the labour pool of construction workers in the area, the impact of construction employment generation in the Study Area has been assessed as temporary low beneficial, which results in a short-term temporary **minor beneficial** effect. This is **not considered significant.**

Local Accommodation Services

12.7.16 Analysis of the hotel, bed and breakfast and inns accommodation sector has been undertaken to assess the likely capacity against the demand from the potential peak construction workforce. This assessment considers the potential for adverse impacts due to demand for accommodation exceeding supply during the construction phase.

12.7.17 This analysis demonstrates that at peak workforce employment and typical seasonal occupancy levels, 100% of the Scheme's construction workers could be accommodated within both a 30 and 60-minute drive time of the Order limits. The 30-minute drive-time radius is very much a worst-case scenario, given that approximately 45% of the workforce would likely be living within a 60-minute drive time of the Order limits and therefore be home-based (i.e. would live sufficiently close-by to return home in the evenings rather than needing overnight accommodation).

12.7.18 **Table 12-24** shows existing seasonal demand and typical occupancy for the 30-minute drive time area (2023 levels – which is the latest available data for a full calendar year). In a worst-case scenario where all 250 peak workers need accommodation, there would still be 637 remaining rooms (14% capacity) within a 30-minute drive time radius from the Order limits in the month of peak occupancy (July).

12.7.19 If 55% leakage of the 250 peak workers who are not home-based is assumed, there would at peak be 138 construction workers. If all 138 peak workers from outside the Study Area are required to stay in accommodation at peak occupancy (July), there would be 749 remaining rooms (17% capacity) within a 30-minute drive time radius from the Order limits.

12.7.20 **Table 12-25** identifies accommodation capacity within a 60-minute drive time radius and indicates that there would be a minimum of 6,662 remaining rooms available (17% spare capacity), after taking into account the peak construction workforce (250 workers) in the month of peak occupancy (September).

12.7.21 If 138 peak workers from outside of the Study Area need accommodation, there would likely be 6,774 remaining rooms (17% spare capacity) within a 60-minute radius during peak occupancy (September).

12.7.22 Given this, there would be **no effect** on the hotel, bed and breakfast, and inns accommodation sector arising from the Scheme. It is anticipated that accommodation providers would be able to accommodate employees working at the Scheme without any adverse effects on the sector.

12.7.23 It can also be noted that this analysis only takes into consideration the hotel, bed and breakfast and inns accommodation sector. There are also alternative accommodations (such as Airbnb, serviced apartments, etc.) that could also cater for a portion of any demand generated and therefore mitigate further any impact on accommodation provision.

Table 12-24: Accommodation Capacity Within a 30-Minute Drive Time Radius of the Order limits

Month	Room Occupancy (%)	Rooms Typically Available after Existing Demand	All Construction Workers – Peak and (Workers from Outside Study Area only – Peak)	Remaining Rooms Available	Remaining Rooms Available (%)
January	65	1,530	250 (138)	1,280 (1,392)	29 (32)
February	74	1,164	250 (138)	914 (1,026)	21 (23)
March	74	1,164	250 (138)	914 (1,026)	21 (23)
April	77	997	250 (138)	747 (859)	17 (19)
May	76	1,041	250 (138)	791 (903)	18 (20)
June	78	953	250 (138)	703 (815)	16 (18)
July	80	887	250 (138)	637 (749)	14 (17)
August	75	1,107	250 (138)	857 (969)	19 (22)
September	76	1,054	250 (138)	804 (916)	18 (21)
October	74	1,151	250 (138)	901 (1,013)	20 (23)
November	72	1,244	250 (138)	994 (1,106)	23 (25)
December	66	1,487	250 (138)	1,237 (1,349)	28 (31)

Source: CoStar (2023). Data reflects 2023/24 occupancy for 30-min drive time from the Order limits.

Table 12-25: Accommodation Capacity Within a 60-Minute Drive Time Radius of the Order limits

Month	Room Occupancy (%)	Rooms Typically Available after Existing Demand	All Construction Workers – Peak and (Workers from Outside Study Area only – Peak)	Remaining Rooms Available	Remaining Rooms Available (%)
January	67	13,223	250 (138)	12,973 (13,085)	33 (33)
February	75	9,928	250 (138)	9,678 (9,790)	24 (25)
March	76	9,499	250 (138)	9,249 (9,361)	23 (24)
April	80	8,118	250 (138)	7,868 (7,980)	20 (20)
May	77	9,192	250 (138)	8,942 (9,054)	22 (23)
June	80	8,118	250 (138)	7,868 (7,980)	20 (20)
July	82	7,084	250 (138)	6,834 (6,946)	17 (17)
August	79	8,520	250 (138)	8,270 (8,382)	21 (21)
September	83	6,912	250 (138)	6,662 (6,774)	17 (17)
October	79	8,470	250 (138)	8,220 (8,332)	21 (21)
November	77	9,024	250 (138)	8,774 (8,886)	22 (22)
December	70	11,942	250 (138)	11,692 (11,804)	29 (30)

Source: CoStar (2023). Data reflects 2023/24 occupancy for 60-min drive time from the Order limits.

Gross Value Added

12.7.24 Applying the average gross direct value added per construction worker in Yorkshire and the Humber to the total number of construction workers generated from the Scheme gives the total GVA arising from the construction phase. This is shown in **Table 12-26**. This has been calculated based on the compound average GVA per worker in the construction sector in Yorkshire and the Humber, as data is not published at the more granular, LSOA-derived, Study Area level. In Yorkshire and the Humber, GVA per worker in the construction sector is estimated to be £63,314 per head. By applying this figure to the gross direct construction workers generated by the Scheme, it is estimated that construction would contribute approximately £12.6 million to the national economy, of which £5.7 million would likely be within the Study Area.

Table 12-26: Gross Direct Value Added Per Annum from the Scheme

	Study Area (60-minute travel area)	Outside Study Area	Total
GVA (£m)	5.7	6.9	12.6

Source: ONS, (2017); Regional Gross Value Added (Income Approach) (Ref. 12-17) ONS, (2017); Business Register and Employment Survey (Ref. 12-38).

12.7.25 The sensitivity of the economy within the Study Area has been assessed as medium, due to GVA per head being slightly lower in Doncaster compared to the region, and nation, but slightly higher in Selby. Due to the size of GVA generation associated with the Scheme relative to the Study Area GVA, this impact has been assessed as being of **low magnitude**. This results in a temporary **minor beneficial** effect which is **not considered significant.**

Public Rights of Way

12.7.26 As detailed in Section 12.5.24, there are 34 PRoW located within 500 m of the Solar PV Site, 12 of which are within, or which pass through the Solar PV Site. There are nine PRoW which are located within, or intersect with the Grid Connection Corridor.

12.7.27 The Scheme has been designed to have minimal-to-no impact on PRoW. Within the Solar PV Site, embedded mitigation measures would include perimeter fencing, where necessary to provide sufficient separation between existing PRoW and the Scheme infrastructure, at a minimum distance of 20 m on both sides of the centre of the PRoW where solar infrastructure lies to both sides (creating a 40 m wide corridor between the fence lines), or 15 m if solar infrastructure is to one side only (30 m for the BESS). There will be a further 5 m from the perimeter fence to the Solar PV panels. Fencing will be erected from inside of the Solar PV area and as the first stage of construction. This would ensure that PRoW access is unaffected throughout construction.

12.7.28 A number of temporary and permanent PRoW diversions would be required during the construction phase, as shown in **ES Volume II Figure 2-2: Public Rights of Way** and described below.

Temporary Impacts

12.7.29 The Scheme would require the temporary diversion of PRoW Fenwick 16 footpath during the construction phase to provide access to the Order limits. The footpath runs along the length of Haggs Lane (a gravel track) and consultation with the PRoW lead at City of Doncaster Council confirmed that the footpath is mainly used by local residents for recreational purposes, such as dog walking, rather than for commuting. Consultation with the PRoW lead at City of Doncaster Council confirmed that usage along this PRoW was lighter than PRoW within urban areas. Given the relatively low importance of the PRoW and alternative routes available, the sensitivity of PRoW Fenwick 16 is assessed to be low. It is not possible to confirm with certainty the length of time that any affected route would be diverted for at any one stage, so as a worst-case scenario it is assumed the diversion would be for the entire length of the construction phase. The temporary diversion of the PRoW may cause increased journey length and journey time, and reduce the certainty of the route for users. However, the Applicant has confirmed that the temporary diversion will simply involve the PRoW being routed alongside the hedge on the south side of Haggs Lane, and being separated from the inbound LGV traffic by a temporary barrier, up to the point at which construction traffic turns south into the construction compound. The hedge on the south side of Haggs Lane would be trimmed to always allow the minimum legal width requirement. This diversion would change the journey length by a few metres only. Therefore, the magnitude of impact is assessed to be **very low**, which would result in a **negligible** effect. This is **not considered significant.**

12.7.30 The Scheme would require the temporary diversion of PRoW Moss 6 during construction. The footpath currently runs from Moss Road north for approximately 480 m until the ditch where it meets PRoW Fenwick 14. Consultation with the PRoW lead at the City of Doncaster Council confirmed that the footpath is mainly used by local residents for recreational purposes, and that usage along this PRoW is lighter than PRoW within urban areas. Given this and the alternative routes available, the sensitivity of PRoW Moss 6 is assessed to be low. As a worst-case scenario it is assumed the diversion would be for the entire length of the construction phase. During construction, Moss 6 will be diverted temporarily from the construction access road, approximately 250m north of the junction with Moss Road where the PRoW dog-legs, so that the route is located to the west of (i.e. parallel to rather than directly on) the construction access road for approximately 220m. This would reduce journey length for users by approximately 20 m. Therefore, the magnitude of impact is assessed to be **very low**, which would result in a **negligible** effect. This is **not considered significant.**

The Scheme would require the temporary diversion of PRoW Fenwick 14 during construction. The footpath continues north from PRoW Moss 6. Consultation with the PRoW lead at the City of Doncaster Council confirmed that the footpath is mainly used by local residents for recreational purposes, and that usage along this PRoW was lighter than PRoW within urban areas. Given this and the alternative routes available, the sensitivity of PRoW Fenwick 14 is assessed to be low. As a worst-case scenario it is assumed the diversion would be for the entire length of the construction phase. During construction, Fenwick 14 will be diverted as it leads north from Moss 6 to follow the construction access route. This would reduce the journey length by approximately 5 m. Therefore, the magnitude of impact is assessed to be

very low, which would result in a **negligible** effect. This is **not considered significant.**

Some of the PRoW crossed by the Grid Connection Corridor would be impacted during the short-term trenching and restoration operations. It is proposed to temporarily (and locally) divert these PRoW around each works area, for a short period of approximately 2–3 weeks each, when the cables are installed. It should be noted that not all PRoW that cross the Grid Connection Corridor will need to be diverted. Given the very short duration of any temporary diversions, the magnitude of impact is assessed to be **very low**, which would result in a **negligible** effect. This is **not considered significant.**

Permanent Impacts

12.7.31 The Scheme would require the permanent diversion of PRoW Sykehouse 29 Footpath. The footpath runs south of Bunfold Shaw (the area of ancient woodland in the south east) eastwards to West Lane. Consultation with the PRoW lead at the City of Doncaster Council confirmed that the footpath is mainly used by local residents for recreational purposes. Given the relatively low importance of the PRoW and alternative routes available, the sensitivity is assessed to be low. Consultation with local residents at non-statutory consultation and with the Council confirmed that most users do not follow the existing definitive map route and instead follow the route which is designed as the permanent diversion for the Scheme. **ES Volume II Figure 2-2: Public Rights of Way** shows that the route would be permanently diverted to travel southbound from a point of intersection at the Order limits with Fenwick 10 and Fenwick 12, travelling along the drain and then east along Bunfold Shaw Lane towards West Cottage, and then rejoining the existing PRoW route heading southeast to Flashey Carr Lane. This diversion would increase the journey length by approximately 40 m, which is only a slight increase in journey length for users. Therefore, the magnitude of impact is assessed to be **low** as a result, which would result in a **negligible** effect. This is **not considered significant.** In May 2024 City of Doncaster Council received an application for a Definitive Map Modification Order to upgrade Sykehouse 29 from a footpath to a bridleway. If the application is accepted and the upgrade is confirmed, the Applicant will ensure that the diverted Sykehouse 29 route meets the requirements for a bridleway.

12.7.32 The Scheme would also require the permanent diversion of Moss 6. The proposed diversion route will follow the path of the construction access route from Moss Road for approximately 470m, before rejoining the current PROW. This will reduce journey length by approximately 30 m. This is also the currently used route of the PRoW, as noted by City of Doncaster Council. Therefore the magnitude of impact is assessed as **low**, which would result in a negligible effect (a **not significant** effect).

12.7.33 Additionally, the Scheme would require the permanent diversion of Fenwick 14. Northbound from Moss 6, the route will follow the construction access route after construction has finished, until the access track turns in a westerly direction whereupon Fenwick 14 would continue north unchanged. This will reduce journey length by approximately 10 m. Therefore the magnitude of impact is assessed as **low**, which would result in a negligible effect (a **not significant** effect).

12.7.34 No permanent diversions are anticipated along the Grid Connection, Site Accesses and Ecology Mitigation Area.

12.7.35 There are no national trails or national cycle routes within the Solar PV Site. The Grid Connection Corridor intersects the Trans Pennine Trail. The PRoW in the Study Area do not connect rural areas to more urban areas or business parks and are therefore unlikely to be used for commuting. Given that no national trails or national cycle routes fall within the Solar PV Site, that PRoW are not used to access employment and that there is a network of alternative PRoW within the Study Area that could be used as substitutes, all of the other PRoW within the Solar PV Site and Grid Connection Corridor are assessed to have low sensitivity. Due to the limited scale of impacts, the magnitude of impact upon these PRoW is assessed to be **very low,** which would result in a **negligible** effect. This is **not considered significant.**

Private and Community Assets

Residential Properties, Business Premises, Community Facilities, Open Space, Visitor Attractions and Agricultural Land Holdings

12.7.36 There are no residential properties, local businesses, open spaces, community facilities or visitor attractions within the Solar PV Site and Grid Connection Corridor and therefore no direct land use impacts with regard to these types of receptor are expected.

12.7.37 The Scheme would be located on a number of agricultural land holdings.

12.7.38 Within the Solar PV Site, fields currently used to grow arable crops (with some grazing) would cease to be part of a working farm during construction. However, the Applicant has reached voluntary land agreements with all landowners in the Solar PV reflecting their consent to this land use change. The Applicant has also confirmed that there are no tenant farmers within the Solar PV Site, though it is likely that some contractors will be brought in for some farming activities, and there is one tenant farmer on the Grid Connection Corridor route.

12.7.39 The Grid Connection Corridor, if required, would intersect a number of agricultural land holdings, which (without mitigation) could affect their integrity and utility. However, trenching will occur for a limited time only and there will be no associated impact following construction due to the infrastructure being located below ground. Prior to start of construction, a SMP will be published (as outlined in the Framework CEMP submitted as **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**); this will ensure soils are not degraded by construction works and farming activities can re-commence following completion of the construction works. As noted in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, the Grid Connection Cables will be installed via a shallow and narrow trench (approximately 0.7 m wide and 1.2 m to 1.4 m deep) and the working corridor for the Cable Route Corridor is anticipated to be 30 m wide (this may be widened in some places and narrowed in others).

12.7.40 Activities related to the construction of the Scheme may restrict, or create severance to, the accessibility of residential properties, business premises, community facilities, open space, visitor attractions, agricultural land holdings and development land for residents in the Study Area. **ES Volume I Chapter 13: Transport and Access** identifies that with embedded mitigation

in place, six road links out of the 23 tested would likely experience significant construction traffic and/or severance effects during construction: Moss Road - Askern Village (Link 9), Moss Road - East of Askern (Link 10), Fenwick Common Lane (Access Point 1) (Link 11), Trumfleet Lane (South of Moss) (Link 12), Marsh Road (Link 13), and Thorpe Bank (Link 14). The significant effects experienced at these links are generally driven by low baseline traffic movements experienced at these links such that the relatively low number of additional traffic movements as a consequence of the Scheme results in high percentage increases in traffic.

12.7.41 Overall, sensitivity of private and community assets to socio-economic effects is assessed to be medium, due to the medium importance and rarity of private and community assets within the Study Area. Overall magnitude of impact is assessed to be **low adverse**. This reflects that there are no direct land take impacts apart from those relating to agricultural land holdings which are temporary and reversible, and that there are a limited number of significant adverse traffic and access effects which could imply severance for socio-economic receptors. Overall, this results in a **minor adverse effect**, which is considered to be **not significant**.

Healthcare Infrastructure

12.7.42 Increased numbers of workers in the area for the construction of the Scheme may place pressure on, or create severance to GPs or other healthcare infrastructure for residents in the Study Area.

12.7.43 Baseline analysis shows that there are no GP practices within 2 km of the Solar PV Site and one GP practice (Barnby Dun Surgery) within 2 km of the Grid Connection Corridor. Based on the number of patients (up to 10,000) and FTE GPs (approximately four) at Barnby Dun Surgery, the patient to GP ratio is 2,500 per FTE GP, which is above the national target.

12.7.44 The general population is assessed to be of medium sensitivity. However, the average proportion of the population aged over 65 within the local population (Doncaster and Selby) is higher than in Yorkshire and the Humber and England and is projected to increase as a proportion of the population much faster than in England. In addition, there are likely to be some more vulnerable sub-populations within this; for example those experiencing high deprivation or with pre-existing health conditions, within the small pockets of deprivation identified in the baseline. Therefore, the vulnerable sub-populations are assessed to have a high sensitivity based on the elderly and more vulnerable sub-populations likely having a higher reliance on health services.

12.7.45 If workers reside locally already, they would likely be registered at a local practice currently and would not therefore place additional demand for services on local GPs. It is unlikely that many workers would move to live in the immediate area and access Barnby Dun Surgery, which is the only GP practice within 2 km of the Order limits. However, under a worst-case, it is assumed that all of the 110 gross direct average construction workers who are not likely to live locally would require places at the practice. The additional 110 patients would increase the average ratio to 2,527.5 patients per GP, which is a relatively small increase (an extra 27.5 patients, or 1%, for each FTE GP) over the current position.

12.7.46 Due to the limited scale of impacts upon healthcare services, the short-term duration of effect and reversibility, the magnitude of these adverse impacts is assessed to be **very low**, which results in a **minor adverse** effect for the high sensitivity population and a **negligible** effect for the medium sensitivity population. This is considered **not significant.**

BMV Agricultural Land and Soils

12.7.47 The Scheme would require land take from agricultural land both temporarily and, in some very limited circumstances, permanently. However, as outlined in Section 12.5.46, the majority of the agricultural land within the Study Area comprises Subgrade 3b land or lower quality (which is not defined as BMV land) and only 7% of the Solar PV Site consists of BMV land. Some agricultural land (6%, 25.9ha) is Grade 3a (good quality agricultural land) and very small proportion (1%, 4.3ha) is Grade 2 land (very good quality agricultural land).

12.7.48 The sensitivity of the land is assessed to be medium, given that the sensitivity criteria set out in Table 12-10 define medium sensitivity as 'Agricultural land predominantly in Grades 3a or containing some Grade 1 and 2'. This sensitivity rating is a worst case scenario given that the land within the Order Limits is predominantly Grade 3b or below, and that only 1% (4.3 ha) of land has been identified as Grade 2 with no land identified as Grade 1.

12.7.49 Under the Solar PV panels, land will be planted up as grassland or native scrub and within the ecological mitigation area the existing riparian mosaic will be conserved and enhanced. This temporary planting applies to 363.15 ha of the Solar PV Site. There will be some land take within the Solar PV Site associated with the BESS Containers (4.52 ha), access tracks (5.31 ha), field stations (1.08 ha) and the Operations and Maintenance Hub (0.12 ha) and); however this land take is temporary and reversible as the infrastructure would be removed after operation. 21.1 ha of existing hedgerows will be gapped up, and 2.06 ha of the Order limits will be undeveloped. Overall therefore, 98% of the Solar PV Site will be subject to temporary change or no change in land use due to the Scheme.

12.7.50 As outlined above, DEFRA predictive mapping indicates that 17.9 ha (17.8%) of land within the Grid Connection Corridor is Grade 3, while 82.9 ha (82.2%) is Grade 4. Disturbance arising while the cable is installed via a shallow and narrow trench and the land is restored would be short term, as land could return to agricultural use once construction was complete.

12.7.51 It is noted that even with temporary use the Scheme has the potential to impact soil resources in terms of disturbance and damage. Prior to the start of construction, a SMP will be submitted to be followed by construction practices at the Order limits. Damage to the structure, function and resilience of soil resources (and consequent impacts to its ability to support agriculture) will be mitigated by the use of industry standard good practice measures for the stripping, handling and storage of soil materials, with these measures captured within the SMP. This is included in the Framework CEMP provided as **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**.

12.7.52 Permanent land take will be required within the Solar PV Site for the construction of the On-Site Substation. The 1.99 ha required for the

construction of the On-Site Substation was included within the ALC survey and was identified as Grade 3b (not BMV land). Permanent land take will also be required for structural planting. Based on the landscaping plans and the ALC survey, 7.54 ha of land will be required for new hedgerow planting of which 59.5 sqm will be Grade 2, 7,740.9 sqm will be Grade 3a and the remainder will be Grade 3b or less. This implies permanent land take of BMV land totalling 7,800.5 sq m.

12.7.53 As less than 1 ha (7,800.5 sqm) of the land permanently required is BMV land, the magnitude of impact is assessed to be **very low.** Therefore, the effect of the Scheme on the use of BMV agricultural land is assessed to be **negligible**, which is **not significant.**

Development Land

12.7.54 There is one planning application within 500 m of the Solar PV Site, the demolition of Grade II listed 'Lily Hall' and erection of one replacement residential farm worker's dwelling and associated works (22/01536/FUL).

12.7.55 There are three planning applications located within the Grid Connection Corridor. First, the Enso Green Holdings planning application (21/02567/FULM) comprises the installation of a solar farm and battery storage facility with associated infrastructure at Warren Farm, located on High Street in Dunsville. Secondly, the Enso Green Holdings solar farm's underground cable route (listed under application 213/01241/FULM) would overlap with the Grid Connection Corridor as the underground cable routes for both solar farms would be connected to the Point of Connection at the Existing National Grid Thorpe Marsh Substation. Thirdly, the Thorpe Marsh Green Energy Hub planning application (23/00537/FULM) for the construction and operation of up to 50MW Battery Energy Storage System (BESS), substation and associated infrastructure at the Existing National Grid Thorpe Marsh Substation on South Road is currently awaiting a decision on whether the development can go ahead. The BESS Area, substation and associated infrastructure would overlap with the Grid Connection Corridor as both schemes would be connected to the Point of Connection at the Existing National Grid Thorpe Marsh Substation.

12.7.56 The sensitivity of the development land to socio-economic effects is assessed to be medium, due to the medium importance and rarity of development land within the Study Area. No direct land use impacts with regard to the development land at Lawn Lane are expected. With regard to the three projects which would overlap with the Grid Connection Corridor at the Existing National Grid Thorpe Marsh Substation, the Applicant will engage with scheme promoters to share information on the construction process and timing of the Scheme as required, so that any potential for hinderance of or conflict with other schemes is minimised.

12.7.57 Activities related to the construction of the Scheme may restrict, or create severance to, the accessibility of development land for residents in the Study Area. **ES Volume 6.1 Chapter 13: Transport and Access** identifies that with embedded mitigation in place, six road links would likely experience significant construction traffic and/or severance effects during construction, of which one of the road links (Fenwick Common Lane (Access Point 1) is likely to be the road link used to access Lawn Lane. The significant effect experienced at this road link is caused by a high percentage increase in

traffic and is driven by low baseline peak per hour; the actual predicted increase per hour/minute is relatively small. Therefore, no severance effects to development land are anticipated.

12.7.58 Overall, the magnitude of impact on development land is assessed to be **low**, given the limited connectivity impacts, and potential for interference with the development. This results in a **minor adverse effect**, which is considered to be **not significant**.

Mineral Safeguarding Areas

12.7.59 There is one MSA for sand and gravel within 500 m of and partially located within the Grid Connection Corridor (Land to the east of Doncaster between Thorne and Bawtry). The Grid Connection Corridor enters the sand and gravel MSA and buffer zone near Trumfleet Grange and travels southwards in the main MSA to Thorpe in Balne where both routes then skirt the edge of the MSA buffer before reaching the Existing National Grid Thorpe Marsh Substation. Given the limited potential for substitution or access to alternatives as there are no alternative MSA in proximity to the Study Area, the sensitivity of the MSA is assessed to be high.

12.7.60 Construction of the Scheme at this location would require temporary land take from extraction areas within the safeguarded mineral site. The Minerals Safeguarding Report (**ES Volume III Appendix 12-2: Minerals Safeguarding Report**) assesses the potential impact on this resource by the Grid Connection Cables, as against the relevant policy tests. While the Report identifies that prior extraction of the mineral resource beneath the footprint of the Grid Connection Cables is not feasible prior to construction, the Grid Connection Cables have been designed to minimise the potential impact; the Grid Connection Cables are proposed to be installed approximately 1.2 m below ground level, which is relatively shallow compared to potential mineral extraction depths which could be as deep as 18 m below ground level. Consequently, the land take required from the mineral extraction site for the installation of the grid connection would be very limited.

12.7.61 The Minerals Safeguarding Report (**ES Volume III Appendix 12-2: Minerals Safeguarding Report**) also concludes that if a specific area along the Grid Connection Corridor was deemed to be commercially viable for mineral extraction in the future, it is considered that it would be possible to divert the Grid Connection Cables (subject to the appropriate consents and agreements being in place) in order to allow for mineral extraction to be undertaken. Therefore, it is considered that non-mineral development can potentially take place without preventing the economically viable mineral resource (if present) to be extracted in the future. The report concludes that the need for the development outweighs the need to avoid the area entirely for the safeguarding of future mineral extraction.

12.7.62 The Grid Connection Corridor intersects the Trumfleet gas fields. However, future exploration or production activities in the area is unlikely given the gas field is not within an existing exploration license area (Ref. 12-39). It is therefore unlikely that the Scheme would interfere within this resource.

12.7.63 Overall, on the basis of the above and the conclusion of the Minerals Safeguarding Report, the magnitude of impact on the MSA is assessed to be

very low. Therefore, the overall effect of the Grid Connection Corridor on the MSA is assessed to be **minor adverse**, which is **not significant.**

Summary of Effects

12.7.64 No likely significant socio-economic and land use effects during the construction phase of the Scheme have been identified. A summary of magnitude of impact and significance of effect during Scheme construction is provided in **Table 12-27**.

Table 12-27: Summary of Assessment of Effects – Socio-Economics and Land Use (Construction Phase)

Receptor	Potential Impacts	Duration	Mitigation	Significance of Effect
Local workforce	Employment generation	Temporary	N/A	Minor beneficial (not significant)
Local accommodation	Pressure on local accommodation facilities from construction workers	Temporary	N/A	No effect (not significant)
Local economy	GVA generation	Temporary	N/A	Minor beneficial (not significant)
PRoW (temporary diversions)	Changes to journey times, local travel patterns and certainty of routes	Temporary	Diversions as outlined in Section 12.7.26	Negligible (not significant)
PRoW (permanent diversions)	Changes to journey times, local travel patterns and certainty of routes	Permanent	Diversions as outlined in Section 12.7.26	Negligible (not significant)
Residential properties, business premises, community facilities, visitor attractions and agricultural land holdings	Direct land take impacts and indirect connectivity impacts	Temporary	Follow traffic management measures set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.	Minor adverse (not significant)

Healthcare facilities	Extra demand on healthcare facilities due to construction employment	Temporary	N/A	Minor Adverse/Negligible (not significant)
BMV Agricultural Land and Soils	Temporary loss of BMV resource and degradation to soils for construction of Solar PV panels, BESS Containers and Grid Connection Cables	Temporary	N/A	Negligible (not significant)
	Permanent land take and degradation to soils for construction of the On-Site Substation and hedgerow planting	Permanent		
Development Land – Planning Applications	Land take, connectivity impacts and potential hindrance to other developments	Temporary	The Applicant will engage with scheme promoters to share information on the construction process and timing of the Scheme as required Follow traffic management measures set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.	Minor adverse (not significant)

Development Land – Mineral Safeguarding Areas	Land take and hindrance to future mineral extraction due to construction of the Grid Connection Corridor.	Temporary	N/A	Minor adverse (not significant)

Operation and Maintenance Effects

Employment

12.7.65 The Scheme would 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, as set out in **Table 12-2**.

Existing Employment

12.7.66 The Solar PV Site predominantly consists of agricultural land; there is approximately 536 ha of agricultural land located within the Order Limits (Solar PV Site, Grid Connection Corridor and the Existing National Grid Thorpe Marsh Substation). Land use is predominantly arable with some grazing. The Applicant has estimated (based on previous experience and benchmarking against other comparable solar schemes) that there is one existing FTE job within the Order limits related to agricultural activities.

Total Net Operational Employment

12.7.67 The Applicant has estimated that to operate and manage the solar farm there would be a gross number of one or two permanent jobs generated by the Scheme. For the purposes of this assessment one job is assumed as a worst case scenario. It is noted that there would be additional ad hoc staffing for maintenance operations and deliveries but these would be temporary in nature. The job created would be in the renewable energy sector, assisting in the UK's transition to net zero.

12.7.68 As presented in **Table 12-28**, it is estimated that there would be no net change in the employment supported by activities within the Order limits as a result of the Scheme.

Table 12-28: Total Net Employment during Operation of the Scheme

	Study Area (60-minute travel area)	**Outside Study Area**	**Total**
Existing Employment			
Gross Direct Employment	0	1	1
Displacement	0	0	0
Net Direct Employment	0	1	1
Indirect and Induced Employment	0	1	1
Total	0	2	2
New Employment	0	1	1
Gross Direct Employment	0	1	1

	Study Area (60-minute travel area)	Outside Study Area	Total
Displacement	0	1	0
Net Direct Employment	0	1	1
Indirect and Induced Employment	0	1	1
Total	0	2	2
Total Net Employment[2] (Existing Employment – New Employment)	**0**	**0**	**0**

Source: AECOM Calculations 2024. Please note that figures have been rounded to the nearest whole number.

12.7.69 The sensitivity of the local workforce to employment changes has been assessed as medium, given the claimant count and unemployment rates in the area (claimants are those who are unemployed and claiming job seekers allowance or other unemployment related benefits). Given that there would be no net change in the employment supported by activities within the Order limits, there would be no impact. There would therefore be **no effect** on employment during the operation of the scheme.

Public Rights of Way

12.7.70 The temporary diversion of PRoW Fenwick 16 footpath would be reinstated to the original route during the operation and maintenance phase. The permanent diversion of Moss 6, Fenwick 14 and Sykehouse 29 would remain during the operation and maintenance phase. As outlined during the construction phase, the permanent diversion of all three PRoW would result in a **negligible** effect. This is **not considered significant.** There would be no additional effects on PRoW. Therefore, there would be a **negligible effect** on local community severance or users of PRoW arising from the Scheme.

Private and Community Assets

Residential Properties, Business Premises, Community Facilities, Open Space, Visitor Attractions and Agricultural Land Holdings

12.7.71 With regard to community connectivity, **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**, states that as predicted traffic levels owing to the operation and maintenance phase are so low, consideration of the transport and access effects within the operation and maintenance phase have been scoped out of the assessment in agreement with the Planning Inspectorate. It is not therefore anticipated that there would be any adverse impacts on community connectivity due to traffic generation during the operation and maintenance phase.

[2] Sum of Net Direct Employment and Indirect & Induced Employment

12.7.72 There may be impacts on agricultural land holdings in the Grid Connection Corridor due to access required to the Grid Connection Cables for maintenance during the operation and maintenance phase. This would consist of routine inspections and any reactive maintenance, such as where a cable is damaged. However, any such arrangement is unlikely to hinder the associated farming activities located onsite as it would be carried out over a very limited time period and be of a limited spatial extent.

12.7.73 To minimise any potential hindrances or adverse impacts on other proposed developments which overlap geographically with the Scheme, the Applicant will engage with scheme promoters and operators if and as required, in the framework of the consenting process, so that any potential for hinderance of or conflict with other schemes is minimised.

12.7.74 Overall, it is assessed that there will be likely **no effect** on private and community assets in the operation and maintenance phase of the Scheme.

Healthcare Infrastructure

12.7.75 As outlined for the construction phase, the sensitivity of the local population is assessed to be medium. The vulnerable sub-populations are assessed to have a high sensitivity based on the elderly and more vulnerable sub-populations likely having a higher reliance on health services.

12.7.76 During the operation and maintenance phase, the Applicant has estimated that there are expected to be approximately one to two full-time staff working on the Scheme per day (based on previous experience and benchmarking against other solar farm schemes, taking into account size and scale). Assuming a worst-case scenario whereby the employee moves to the area and require places at local surgeries, the impact of additional demand places on healthcare services in the area would be very low.

12.7.77 Due to the low number of operational staff, the Scheme is likely to only generate very low levels of traffic and would not impact on local residents' ability to access healthcare facilities. It is assessed that the magnitude of impact would be **very low.**

12.7.78 The impact on the local population's ability to access health services (high sensitivity) is assessed to be a **negligible effect**, which is considered **not significant.**

BMV Agricultural Land and Soils

12.7.79 The agricultural land located within the Solar PV Site which is required for the duration of the Scheme will be unavailable for farming activities, although there is potential for grazing by sheep for management of the grassland. However, as outlined in Paragraph 12.7.47, only 7% of the Solar PV Site is classified as BMV land, comprising 4.3 ha (1%) Grade 2 and 25.9 ha (6%) Grade 3a, with all other land being of lower grade. Impacts are primarily temporary and reversible given that after operation farming land uses can resume, apart from the land permanently required to accommodate the On-Site Substation and planting (see Paragraph 12.7.52).

12.7.80 The Framework OEMP that is included in the DCO Application sets out measures to ensure the protection and conservation of soil resources onsite during operation and maintenance, and will identify good practice to maintain the physical properties of the soils on site, including the management of

trafficking onsite to reduce the risk of compaction. The SMP will be published which will follow industry standard good practice measures for the operation and maintenance of soils, as outlined in the Framework CEMP submitted as **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**. Soil handling operations will be appropriately supervised to ensure compliance with the SMP to ensure soils are suitable for reuse within the Scheme.

12.7.81 All of the land within the Grid Connection Corridor is assumed to be available for farming during operation and maintenance. As part of the SMP, the Grid Connection Cables would be installed at a depth between 1.2 to 1.4 m below ground level. This would allow typical farming operations to continue (including ploughing) and so the Scheme would not affect the agricultural use of the land during operation and maintenance.

12.7.82 As outlined in Paragraph 12.7.47, the sensitivity of the agricultural land within the Order Limits is assessed to be medium. This sensitivity rating is a worst case scenario given that only 1% (4.3 ha) of land within the Order Limits has been identified as Grade 2 with no land identified as Grade 1. Given that the loss of BMV agricultural land is almost entirely temporary and reversible, the magnitude of impact is assessed to be **very low.** Therefore, the effect of the Scheme on the use of BMV agricultural land during the operational phase is assessed to be **negligible**, which is **not significant.**

Development Land

12.7.83 With regard to community connectivity**, ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**, states that as predicted traffic levels owing to the operation and maintenance phase are so low, consideration of the transport and access effects within the operation and maintenance phase have been scoped out of the assessment in agreement with the Planning Inspectorate. It is not therefore anticipated that there would be any adverse impacts on development land due to traffic generation during the operation and maintenance phase.

12.7.84 To minimise any potential hindrances or adverse impacts on other proposed developments which overlap geographically with the Scheme, the Applicant will engage with scheme promoters and operators if and as required, in the framework of the consenting process.

12.7.85 Overall, it is assessed that there will be likely **no effect** on development land in the operation and maintenance phase of the Scheme.

Mineral Safeguarding Areas

12.7.86 As outlined in the construction phase assessment, the sensitivity of the MSA is assessed to be high. To access the extraction areas which overlap with the Grid Connection Corridor, during the operation of the Scheme, further construction work would be required. However, the Minerals Safeguarding Report (**ES Volume III Appendix 12-2: Minerals Safeguarding Report**) concludes that if a specific area along the Grid Connection Corridor was deemed to be commercially viable for mineral extraction in the future, it is considered that it would be possible to divert the cable (subject to the appropriate consents and agreements being in place) in order to allow for mineral extraction to be undertaken. Therefore, it is considered that non-mineral development can potentially take place without preventing the

economically viable mineral resource (if present) to be extracted in the future. On this basis, the magnitude of impact on the MSA is assessed to be **very low.** Therefore, the overall effect of the Grid Connection Corridor on the MSA is assessed to be **minor adverse**, which is **not significant.**

Summary of Effects

12.7.87 There are no significant socio-economic and land use effects expected during the operation and maintenance phase of the Scheme. A summary of magnitude of impact and significance of effect during operation and maintenance is provided in **Table 12-29**.

Table 12-29: Summary of Assessment of Effects – Socio-Economics and Land Use (Operation and Maintenance Phase)

Receptor	Potential Impacts	Duration	Mitigation	Significance of Effect
Local workforce	Employment generation	Permanent	N/A	No effect (not significant)
PRoW	Changes to journey times, local travel patterns and certainty of routes	Permanent	N/A	Negligible (not significant)
Residential properties, business premises, community facilities, visitor attractions and agricultural land holdings	Land take and connectivity impacts	Permanent	Follow traffic management measures set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.	No effect (not significant)
Healthcare facilities	Extra demand on healthcare facilities due to operational employment	Permanent	N/A	Negligible (not significant)
BMV Agricultural Land	Land take and soil impacts	Temporary	Measures set out in the OEMP	Negligible (not significant)
Development Land – Planning Applications	Land take, connectivity impacts and potential hindrance to other developments	Permanent	Follow traffic management measures set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.	No effect (not significant)
Development Land - Mineral Safeguarding Areas	Land take and hindrance to future mineral extraction	Permanent	N/A	Minor adverse (not significant)

Decommissioning Effects

Employment

12.7.88 At the end of its operational life, the likely scenario is that the Scheme would be decommissioned and all above-ground infrastructure removed. As set out in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, the future of the Grid Connection Cables, Grid Connection Line Drop and On-Site Substation (i.e. whether these would also be removed, or remain in situ) would be agreed with National Grid Electricity Transmission (NGET) and/or the asset owners prior to the commencement of decommissioning. It can be expected that employment would be generated to carry out the removal of the infrastructure from the Order limits. All Solar PV Panels, Solar PV Mounting Structure, Field Stations and associated cabling, inverters, transformers, and switchgear, BESS Containers and the containerised unit of the Operations and Maintenance Hub would be removed from the Solar PV Site and recycled or disposed of in accordance with good practice and market conditions at that time.

12.7.89 Although jobs generated by the decommissioning phase are temporary, they represent a positive economic effect for a substantial period, given the scale and nature of the decommissioning activities.

12.7.90 It is assumed based on the activities taking place that the same number of jobs required for constructing the Scheme would be needed to carry out the activities required to remove the infrastructure from the Order limits. Therefore, an average of 200 gross FTE jobs would be on-site per day during this decommissioning phase. Taking account of leakage, displacement, and multiplier effects, the Scheme would support, on average, 225 total net jobs per annum during the decommissioning phase. Of these, 102 jobs per annum would be expected to be taken up by residents within the economic Study Area (60 minute drive time). The likely temporary impact of decommissioning employment generation is assessed as a **minor beneficial** effect, which is **not considered significant**.

Employment Loss following Decommissioning

12.7.91 It can be expected when the Scheme is decommissioned, the employment required to operate the solar farm (two jobs), along with additional ad hoc staffing for maintenance operations etc, will no longer be generated. However, if the land returns to farming once more, it is likely that agricultural employment will be supported (as at present) and therefore the net change in employment can be assumed to be zero. Therefore, there will be **no effect** on employment following decommissioning. This is considered **not significant**.

Public Rights of Way

12.7.92 During decommissioning it is anticipated that the PRoW will be managed in a similar way to construction. There are not expected to be any PRoW closures, although some minor diversions are likely to be required to provide safe access across the Solar PV Site whilst decommissioning activities are taking place. These diversions will be temporary and are expected to be similar in nature and duration to those during construction. PRoW have been assessed to have low sensitivity, due to the alternative recreational routes

available in the area, the lack of national trails and the likely low use of PRoW for commuting purposes. Due to the limited scale of impacts upon PRoW, these impacts are assessed to be very low, which results in a **negligible effect**. This is considered **not significant**.

Private and Community Assets

Residential Properties, Business Premises, Community Facilities, Open Space, Visitor Attractions and Agricultural Land Holdings

12.7.93 The fields within the Solar PV Site would be available to be returned to arable use following completion of the decommissioning. Ground physical infrastructure would be removed and the Solar PV Site returned to landowners in the same condition as at the end of operation. As set out in Paragraph 12.7.88, the future of the Grid Connection Cables, Grid Connection Line Drop and On-Site Substation would be agreed with NGET and/or the asset owners prior to the commencement of decommissioning. Additionally, as set out in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]** all Solar PV Panels, Solar PV Mounting Structure, Field Stations and associated cabling, inverters, transformers, and switchgear, BESS Containers and the containerised unit of the Operations and Maintenance Hub would be removed from the Solar PV Site and recycled or disposed of in accordance with good practice and market conditions at that time. The only permanent features remaining on the Solar PV Site would be the On-Site Substation (assuming that NGET and the asset owners decide not to decommission it) and any structural planting. The Solar PV Site would not be available for farming during decommissioning activities, while works are taking place onsite. However, as long as it is safe to do so, farming would be allowed in fields cleared of Solar PV Panels and associated infrastructure while decommissioning activities occur in other fields.

12.7.94 The decommissioning phase is expected to commence 40 years after final commissioning and is expected to cause less traffic than the construction phase, and over a shorter period. As set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]** construction traffic modelling undertaken can be relied on as a worst case scenario for the construction phase, hence the decommissioning phase, which would generate less traffic, has not been specifically modelled.

12.7.95 Overall, sensitivity of private and community assets to socio-economic effects is assessed to be medium, due to the medium importance and rarity of private and community assets within the Study Area. Overall magnitude of impact is assessed to be low, given no direct land take, and some connectivity effects. This results in a **minor adverse** effect, which is considered to be **not significant**.

Healthcare Infrastructure

12.7.96 Similar to the construction phase, decommissioning workers could place additional demand on local healthcare services. The sensitivity of the local population is assessed to be medium. However, the vulnerable sub-populations are assessed to have a high sensitivity based on the elderly and more vulnerable sub-populations likely having a higher reliance on health services.

12.7.97 It is very likely that the patient per GP provision will have changed over the operation and maintenance phase following the population increases outlined in **Table 12-22**, and given that there is potential for additional GPs to open in the area to accommodate for population increase in this period of time. Therefore, the future patient per GP provision is not known, however even if the additional 110 patients (workers) register at local GP practices, the impact on the healthcare services is anticipated to be limited. Furthermore, the short-term duration and reversibility of the effect has resulted in the magnitude of impact to be assessed very low, which results in a **minor adverse** effect. This is **not considered significant**.

BMV Agricultural Land

12.7.98 An increase in soil organic matter content may occur during the lifetime of the Solar PV Site. In addition, the removal of tillage during the operation and maintenance phase will lead to improved soil function and increased carbon sequestration during the lifetime of the Solar PV Site. The land would therefore be in the same or better condition than it currently is, as a result of the expected natural enhancement through being set aside for a long period of time. However, this benefit is likely to be temporary once the agricultural uses recommence on the land, and would then be subject to good agricultural land management practices being adopted after decommissioning.

12.7.99 As set out in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, all Solar PV Panels, Solar PV Mounting Structure, cabling, inverters, transformers, switchgear, BESS Containers and the containerised unit of the Operations and Maintenance Hub would be removed from the Solar PV Site and recycled or disposed of in accordance with good practice and market conditions at that time. The only permanent features remaining on the Solar PV Site will be the On-Site Substation (assuming that NGET and the asset owners decide not to decommission it) and any structural planting. The future of the Grid Connection Cables, Grid Connection Line Drop and On-Site Substation would be agreed with NGET and/or the asset owners prior to the commencement of decommissioning. The Solar PV Site would be returned to landowners in the same or better condition as at the point of taking the lease, including seeded and grassed land. Drainage systems will be reinstated if grass/drainage is disturbed during decommissioning works.

12.7.100 Overall, given the short time frame of any disruption to farming activities during decommissioning activities and the return of the Solar PV Site as available for farming practices following completion of the decommissioning, the magnitude of change during the decommissioning phase is considered to be low, which results in a **negligible effect**. This is considered **not significant**.

Development Land

12.7.101 The impacts on development land during the decommissioning phase would be expected to be in line with the impacts assessed during the construction phase. As set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**, it is considered reasonable to assume that decommissioning impacts will be the same as, or less than, the construction phase. This may overestimate the actual impacts slightly, for example owing to the fact many access tracks would already be in place, but it is considered

broadly accurate. The construction phase assessment finds that there would be minor adverse (not significant) effects on access to development land sites.

12.7.102 It is not known what if any other developments which overlap geographically with the Scheme would be forthcoming during the decommissioning phase. It is assumed that the Applicant would continue to work with other scheme promoters as required and as relevant within the framework of the consenting process to minimise any hindrances or adverse effects which the decommissioning of the Scheme may have on other developments.

12.7.103 Overall, the sensitivity of development land to socio-economic effects is assessed to be medium, due to the medium importance and rarity of development land assets within the Study Area. Overall magnitude of impact is assessed to be low, given no direct land take, some connectivity effects, and limited potential for hindrance of other developments. This results in a **minor adverse** effect, which is considered to be **not significant**.

Mineral Safeguarding Areas

12.7.104 The future of the Grid Connection Cables would be agreed with NGET and/or the asset owners prior to the commencement of decommissioning.

12.7.105 If the Grid Connection Cables are removed, the impacts on the MSA during the decommissioning phase would be expected to be in line with, or less than, the impacts assessed during the construction phase.

12.7.106 If the Grid Connection Cables are not removed, the impacts on the MSA during the decommissioning phase would be in line with those identified for the operation and maintenance phase.

12.7.107 Therefore, in line with the effects assessed for the above two scenarios in Paragraphs 12.7.59 to 12.7.62 for the construction phase and Paragraph 12.7.86 for the operational phase above, the overall effect of the Scheme on the MSA is assessed to be **minor adverse**, which is **not significant**.

Summary of Effects

12.7.108 There are no significant socio-economic and land use effects expected during the decommissioning phase of the Scheme. A summary of effects including magnitude of impact and significance of effect during decommissioning is provided in Table 12-30 .

Table 12-30: Summary of Assessment of Effects – Socio-Economics and Land Use - Decommissioning Phase

Receptor	Potential Impacts	Duration	Mitigation	Significance of Effect
Local workforce	Employment generation	Temporary	N/A	Minor beneficial (not significant)
PRoW	Changes to journey times, local travel patterns and certainty of routes	Temporary	Temporary traffic management or diversions, to be confirmed at the time of decommissioning.	Negligible (not significant)
Residential properties, business premises, community facilities, visitor attractions and agricultural land holdings	Land take, impact on farming activities connectivity impacts and potential hindrance to other developments	Temporary	Site returned to landowners in condition at the end of operation as outlined in Section 12.5.69.	Minor adverse (not significant)
Healthcare facilities	Extra demand on healthcare facilities due to decommissioning employment	Temporary	N/A	Minor Adverse (not significant)
BMV Agricultural Land	Land take and soil impacts	Temporary	Measures set out in the DEMP	Negligible (not significant)
Development Land – Planning Applications	Land take, connectivity impacts and potential hindrance to other developments	Temporary	Follow traffic management measures set out in **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.	Minor adverse (not significant)

Receptor	Potential Impacts	Duration	Mitigation	Significance of Effect
Development Land - Mineral Safeguarding Areas	Land take and hindrance to future mineral extraction	Temporary	N/A	Minor adverse (not significant)

12.8 Additional Mitigation and Enhancement Measures

12.8.1 No additional mitigation measures are required, due to no significant adverse effects associated with Socio-Economics and Land Use being identified.

12.8.2 No additional enhancements are required with respect to socio-economic and land use effects arising from the Scheme.

12.9 Residual Effects

12.9.1 Given no further mitigation or enhancement measures have been proposed, the potential effects identified in Section 12.7 remain valid.

12.9.2 The residual effects therefore remain the same as reported in Section 12.8, with no significant effects identified on socio-economics and land use.

12.10 Cumulative Effects

12.10.1 This section assesses the potential effects of the Scheme in combination with the potential effects of other proposed and committed plans and projects including other developments (referred to as 'cumulative developments') within the surrounding area.

12.10.2 The cumulative developments to be considered in combination with the Scheme were prepared and agreed by the City of Doncaster Council, North Yorkshire Council and East Riding of Yorkshire Council and are listed in **ES Volume I Chapter 15: Cumulative Effects and Interactions** and presented in **ES Volume II Figure 15-3: Location of Short List Schemes**. The assessment has been made with reference to the methodology and guidance set out in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology**.

12.10.3 This cumulative effect assessment identified, for each receptor, the areas where the predicted effects of the Scheme could interact with effects arising from other plans and/or projects on the same receptor based on a spatial and/or temporal basis.

12.10.4 There are three cumulative developments that have been identified as coinciding with the Order Limits, which are included on the short list of developments presented in **ES Volume I Chapter 15: Cumulative Effects and Interactions**. Enso Green Holdings Solar Farm and Battery Storage scheme, a 49.9 MW facility with associated infrastructure on a 133.52 ha site (21/02567/FULM)) and underground cable (23/01241/FULM) have approval status. The Thorpe Marsh Green Energy Hub Battery Energy Storage Facility (23/00537/FULM) is awaiting decision.

12.10.5 A further five other developments are located within 2 km of the Scheme, which is the ZoI for Socio-Economics and Land Use. These are: 22/01536/FUL and 22/01537/LBC (Demolition of Grade II Listed Lily Hall), 23/01746/FULM (Installation of a 180 MW battery energy facility and associated works), 19/03034/FULM (excavation of approximately 4 million tonnes of by-product material and reinstatement of the floodplain), 20/01774/TIPA (construction of an energy recovery facility), and 23/01082/SCRE (a joint solar farm and energy storage development).

Construction and Decommissioning

Employment

12.10.6 In combination with the employment impacts identified in this assessment, all cumulative developments will generate additional construction related employment within the Study Area and/or in the surrounding areas to the Study Area if they were to go ahead.

12.10.7 In the instance where there is an overlap in construction activities between the schemes, the combined effect of the cumulative developments will lead to additional employment in the Study Area. It is likely that while there may be an increase in construction and decommissioning employment, the incremental change will be minor compared to the size of the construction workforce therefore the overall cumulative effect on the Study Area from the

generation of workers during construction and decommissioning will remain as temporary **minor beneficial** effect which is considered **not significant.**

Temporary Accommodation

12.10.8 There is a possibility that the construction phases of multiple schemes may overlap (Ref. 22/01536/FUL and 22/01537/LBC, Ref. 21/02567/FULM, Ref. 23/01746/FULM and Ref. 19/03034/FULM). If the construction phases of multiple schemes were to overlap, this would in turn increase demand in the accommodation sector from the increased workforce at a peak construction or decommissioning phase. However, within the assessment for this Scheme it was anticipated that there would be no effect (i.e. not even a negligible or a minor effect) on the hotel, bed and breakfast, and inns accommodation sector arising from the Scheme. In line with the methodology presented in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology**, effects to temporary accommodation are therefore not considered within the cumulative assessment as the Scheme would not make a meaningful contribution to any cumulative effect which may occur from the other developments in the area.

GVA

12.10.9 The only other development for which details are available on GVA generated during the construction phase is the planning application for the installation of Nel Nicholson's 180MW battery energy facility and associated works (23/01746/FULM), located within 500m of the Grid Connection Corridor. Based on the number of construction jobs created by the development and the average GVA per job in all sectors in Yorkshire and the Humber, it is anticipated that the development would generate £3.5 million in GVA during the construction phase. Therefore, the overall cumulative effect on the economy of the Study Area owing to generation of GVA from construction is likely to remain temporary medium beneficial, resulting in a temporary **minor beneficial** effect, which is considered **not significant**.

PRoW

12.10.10 This chapter has found potential effects on PRoW during construction and decommissioning to be negligible **(not significant),** and there is no overlap in other projects impacting the same PRoW as are impacted by this Scheme. Therefore, effects to PRoW during construction and decommissioning are not considered within the cumulative assessment as the Scheme would not make a meaningful contribution to any cumulative effect which may occur from other developments in the area.

Residential Properties, Business Premises, and Community Facilities

12.10.11 This chapter has identified that during the construction and the decommissioning phase, there is potential for minor adverse effects **(not significant)** on residential properties, business premises, community facilities and development land associated with land take and connectivity impacts. There is limited information available on how the cumulative developments might affect such assets during the construction and decommissioning phase, however based on the assumption that each scheme will be designed to minimise such impacts wherever possible, it is

considered that the cumulative effect is likely to remain **minor adverse** (**not significant**).

BMV Agricultural Land and Soils

12.10.12 This chapter has found effects on BMV agricultural land during construction and decommissioning to be negligible **(not significant)**. Therefore, in line with the methodology presented in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology**, effects to BMV during construction and decommissioning are not considered within the cumulative assessment as the Scheme would not make a meaningful contribution to any cumulative effect which may occur from the other developments in the area.

Mineral Safeguarding Areas

12.10.13 This chapter has identified that during the construction and the decommissioning phase, there is potential for minor adverse effects on the MSA for sand and gravel (Land to the east of Doncaster between Thorne and Bawtry). The only development which has the potential to impact MSAs is the planning application (19/03034/FULM) for the excavation of approximately 4 million tonnes of by-product material comprising mostly silica sand and also soda lime glass and iron oxides (also known as burgy) from previous glass manufacturing and the reinstatement of the flood plain, creating new habitats. The rest of the planning applications are not located within an MSA. The developer for the planning application (19/03034/FULM) is a member of the Mineral Products Association and is committed to minimising the impacts on MSAs. Therefore, it is considered that the cumulative effect is likely to remain **minor adverse** (**not significant**).

Operation and Maintenance

Employment

12.10.14 If all the cumulative developments are realised there is potential for additional employment to be generated within the local area. However, there would be no net change in the employment supported by activities on the Solar PV Site during the operation and maintenance phase of the Scheme, and so the Scheme would not make a meaningful contribution to any cumulative effect which may occur from other developments in the area. Cumulative effects between the Scheme and other developments on operation and maintenance employment are therefore not assessed.

PRoW

12.10.15 The permanent diversion of PRoW Sykehouse 29, Moss 6 and Fenwick 14 footpaths would remain during the operation and maintenance phase, however this would result in a **negligible (not significant)** effect. No additional effects on PRoW are anticipated during the operation and maintenance phase. In line with the methodology presented in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology**, effects to PRoW during operation and maintenance are not considered within the cumulative assessment as the Scheme would not make a meaningful contribution to any cumulative effect which may occur from the other developments in the area.

Residential Properties, Business Premises, and Community Facilities

12.10.16 No plans or projects identified as a part of the schemes listed in this Cumulative Effects section are considered in combination to impact residential properties, business premises, and community facilities identified within this assessment. Other schemes are not likely to contribute to the effects on these receptors. For example, the Transport Statement for the planning application (23/01746/FULM) assesses the operational impact of the scheme as negligible. Therefore, the cumulative operational effect on residential properties, business premises, and community facilities is expected to remain as not significant.

BMV Agricultural Land and Soils

12.10.17 This chapter found effects on BMV agricultural land, associated with land take, during the operation and maintenance phase to be **negligible (not significant)**. Therefore, in line with the methodology presented in **ES Volume 6.I Chapter 5: Environmental Impact Assessment Methodology**, effects on BMV agricultural land during construction and decommissioning are not considered within the cumulative assessment as the Scheme would not make a meaningful contribution to any cumulative effect which may occur.

Mineral Safeguarding Areas

12.10.18 This chapter has identified that during the operation and maintenance phase, there is potential for minor adverse effects on the MSA for sand and gravel (Land to the east of Doncaster between Thorne and Bawtry). As outlined above in Paragraph 12.10.13, the developer for the planning application (19/03034/FULM) is a member of the Mineral Products Association and is committed to minimising the impacts on MSAs. Therefore, it is considered that the cumulative effect is likely to remain **minor adverse** (**not significant**).

12.11 Summary and Conclusions

12.11.1 No significant residual socio-economics and land use effects are anticipated.

12.11.2 The construction phase would include employment and GVA generation effects which would create minor beneficial effects within the local economy. The employment generated would cause additional demand for hotel and bed and breakfast accommodation but this would have a minimal impact on local accommodation capacity. The Scheme would generate construction job opportunities for workers outside the Study Area which may increase the demand for healthcare services local to the Solar PV Site. However, it is anticipated that the additional demand would only marginally increase the ratio of patients to GP provision and therefore this was assessed to be a minor adverse effect (not significant). Given that the loss of BMV agricultural land (which comprises 7% of the Solar PV Site) would be almost entirely temporary and reversible, the Scheme is assessed to have a negligible effect on BMV agricultural land during construction. The Scheme would require minimal land take from the MSA and future mineral extraction would still be possible, therefore, effects are assessed to be minor adverse (not significant).

12.11.3 The employment generated during the operation and maintenance phase is considered to have no effect because there would be no net change in the employment supported by activities on the Solar PV Site as a result of the Scheme. One FTE job would be created to manage the Scheme which is anticipated to have a negligible impact on local healthcare facilities. Agricultural land within the Solar PV Site would be required for the duration of the Scheme, including a small amount of BMV land; however effects would be temporary and reversible on most of the Solar PV Site. Therefore, the impact on agricultural land is expected to be negligible. No new effects on the MSA are anticipated during the operational phase. During the operation of the Scheme, if a specific area along the Grid Connection Corridor was deemed to be commercially viable for mineral extraction in the future, mineral extraction would still be possible (even though diversion of the Grid Connection Cables would be required to access the extraction areas), therefore effects are assessed to be a minor adverse effect.

12.11.4 The decommissioning phase effects are expected to be similar to those during the construction phase whereby temporary employment is generated, which would generate a marginal increase in demand for local healthcare services (minor adverse effect). There would be negligible effects on PRoW. The Solar PV Site would not be available for farming during decommissioning activities, while works are taking place on site. However, this would only be for a short timeframe and the Solar PV Site would be returned to farming practices following completion of the decommissioning phase. This is expected to result in a negligible effect on agricultural land. The impacts on MSA during the decommissioning phase would be expected to be in line with the impacts assessed during the construction phase.

12.11.5 Assuming the implementation of all appropriate mitigation during construction, operation and maintenance, and decommissioning phases, no significant residual effects are identified.

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