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# **EAST YORKSHIRE SOLAR FARM**

**East Yorkshire Solar Farm  
EN010143**

## **Environmental Statement**

**Volume 1, Chapter 12: Socio-Economics and Land Use  
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Prepared for:

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## 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 East Yorkshire Solar Farm (hereafter referred to as the Scheme). For a description of the Scheme, refer to **Chapter 2: The Scheme, ES Volume 1 [EN010143/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 decommissioning phases.
- 12.1.3 This chapter is supported by the following appendices in **ES Volume 2 [EN010143/APP/6.2]**:
- Appendix 12-1: Legislation, Policy and Guidance (Socio-Economics and Land Use);** and
  - Appendix 12-2: Communications with Minerals Planning Authorities.**
- 12.1.4 This chapter is supported by the following figures in **ES Volume 3 [EN010143/APP/6.3]**:
- Figure 12-1: Study Area and Socio-economic Receptor Map;**
  - Figure 12-2: 60-minute Drive Time from the Order limits;**
  - Figure 12-3: 30-minute Drive Time from the Order limits;**
  - Figure 1-1: Scheme Location;**
  - Figure 2-3: Indicative Site Layout;** and
  - Figure 2-2: Public Rights of Way.**
- 12.1.5 A glossary and list of abbreviations are defined in **Chapter 0: Table of Contents, Glossary and Abbreviations, ES Volume 1 [EN010131/APP/6.1]**.
- 12.1.6 A Non-Technical Summary of the ES is presented in **ES Volume 4 [EN010143/APP/6.4]**.

### 12.2 Legislation, Policy and Guidance

- 12.2.1 Legislation, planning policy, and guidance relating to Socio-Economics and Land Use and pertinent to the Scheme comprises of the documents listed below. More detailed information can be found in **Appendix 12-1, ES Volume 2 [EN010143/APP/6.2]**.

#### Legislation

- 12.2.2 There is no applicable legislation specific to the assessment of Socio-Economics and Land Use.

## **National Policy**

- 12.2.3 National planning policy that has been considered includes:
- a. Overarching National Policy Statement (NPS) for Energy (EN-1) (2011) (Ref. 12-1);
  - b. Draft Overarching NPS for Energy (EN-1) (2023) (Ref. 12-2);
  - c. NPS for Renewable Energy Infrastructure (EN-3) (2011) (Ref. 12-3);
  - d. Draft NPS for Renewable Energy Infrastructure (EN-3) (2023) (Ref. 12-4);
  - e. NPS for Electricity Networks Infrastructure (EN-5) (2011) (Ref. 12-5);
  - f. Draft NPS for Electricity Networks Infrastructure (EN-5) (2023) (Ref. 12-6)
  - g. National Planning Policy Framework (NPPF) (2023) (Ref. 12-7); and
  - h. Industrial Strategy: Building a Britain Fit for the Future (2017) (Ref. 12-8).

## **Regional and Local Policy**

- 12.2.4 Regional and local planning policy that has been considered includes:
- a. East Riding Local Plan Strategy 2012–2029 adopted April 2016 (Ref. 12-9);
  - b. East Riding of Yorkshire Local Plan Strategy Document Update (2021) (Ref. 12-10);
  - c. East Riding of Yorkshire Council and Kingston upon Hull Joint Minerals Local Plan 2016–2033 (2019) (Ref. 12-11);
  - d. North Yorkshire County Council Minerals and Waste Joint Plan (2022) (Ref. 12-12);
  - e. Adopted Selby District Publication Consultation Local Plan (2013) (Ref. 12-13)
  - f. Selby District Local Plan (2005) – Saved Policies (Ref. 12-14); and
  - g. Selby District Publication Consultation Local Plan (2022) (Ref. 12-15).

## **National Guidance**

- 12.2.5 National guidance that has been considered includes:
- a. National Planning Practice Guidance (PPG) (2023) (Ref. 12-16).

## **Local and Regional Guidance**

- 12.2.6 Local and regional guidance that has been considered includes:
- a. Yorkshire and the Humber Climate Action Plan (2021) (Ref. 12-17);
  - b. East Riding of Yorkshire Economic Strategy 2018–2022 (2021) (Ref. 12-18);

- c. Selby District Economic Development Framework: 2017–2022 (2021) (Ref. 12-19); and
- d. North Yorkshire County Council Plan for Economic Growth 2021–2024 (Ref. 12-19).

## 12.3 Consultation

- 12.3.1 A scoping exercise was undertaken in September 2022 to establish the content of the assessment and the approach and methods to be followed.
- 12.3.2 The Scoping Report (**Appendix 1-1, ES Volume 2 [EN010143/APP/6.2]**) was issued on 9 September 2022 and records the findings of the scoping exercise and details the technical guidance, standards, best 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 The Scoping Opinion was received on 20 October 2022 (**Appendix 1-2, ES Volume 2 [EN010143/APP/6.2]**). The feedback received from stakeholders at scoping in relation to Socio-Economics and Land Use and the Applicant's responses are presented in **Appendix 1-3, ES Volume 2 [EN010143/APP/6.2]**. This is also summarised in **Table 12-1**.

**Table 12-1. Scoping opinion responses (Socio-Economics and Land Use)**

Consultee	Summary of comment	How matter has been addressed	Location of response
<p><b>Planning Inspectorate</b></p>	<p>PINs ID 3.7.1: The Inspectorate is satisfied that minerals safeguarding assessment may be scoped out subject to confirmation that the Minerals Planning Authority (MPA) agree to the suggested approach and that there would not be a Likely Significant Effect (LSE) on minerals resources. A copy of the Minerals Safeguarding Report should be appended to the ES. The ES should identify the measures required to protect the material resources within the Minerals safeguarding Area (MSA) during construction operation and decommissioning and confirm how these would be secured in</p>	<p><b>Appendix 12-2, ES Report Volume 2 [EN010143/APP/6.2]</b> contains correspondence with North Yorkshire County Council and East Riding of Yorkshire Council (as the relevant MPAs) confirming that impacts to minerals safeguarding can be scoped out of the impact assessment as no LSE will occur.</p> <p>The <b>Planning Statement [EN010143/APP/7.2]</b> sets out how the Scheme complies with relevant mineral planning policy and will not result in the sterilisation of mineral resources.</p> <p>A <b>Framework Construction Environmental Management Plan (CEMP) [EN010143/APP/7.7]</b> and <b>Framework Decommissioning Environmental Management Plan (DEMP) [EN010143/APP/7.9]</b> identify measures to protect material resources during construction and decommissioning. Production of detailed versions of these documents are proposed requirements in the draft DCO <b>[EN010143/APP/3.1]</b>. No impacts to material resources are predicted to occur during the operation of the Scheme.</p>	<p><b>Appendix 12-2, ES Report Volume 2 [EN010143/APP/6.2]</b></p> <p><b>Framework Construction Environmental Management Plan (CEMP) [EN010143/APP/7.7]</b></p> <p><b>Framework Decommissioning Environmental Management Plan (DEMP) [EN010143/APP/7.9]</b></p>



Consultee	Summary of comment	How matter has been addressed	Location of response
<b>Planning Inspectorate</b>	<p>the Development Consent Order (DCO).</p> <p>PINs ID 3.7.2: The Inspectorate advises that estimates should be provided in the ES of the number and types of jobs created and they should be considered in the context of the available workforce in the area.</p>	<p>Estimates of the number and type of jobs provided by the Scheme, including in the context of the available workforce in the area, is presented in section 12.7 Assessment of Likely Impacts and Effects.</p>	<p>This chapter, section 12.7 Assessment of Likely Impacts and Effects</p>
<b>Planning Inspectorate</b>	<p>PINs ID 3.7.3: The ES should clearly set out the Study Areas relevant to the socio-economic and land use assessments. To aid understanding the ES should include a plan that depicts the extent of the Study Areas and the receptors.</p>	<p><b>Figure 12-1 ES Volume 3 [EN010143/APP/6.3]</b> shows the Study Areas for the assessment and relevant receptors. Socio-economic and land use impacts by geographical scale are described in <b>Table 12-3</b>.</p>	<p><b>Figure 12-1 Study Area and Socio-economic Receptor Map, ES Volume 3 [EN010143/APP/6.3]</b></p> <p>This chapter, <b>Table 12-3 Socio-Economic and Land Use Impacts by Geographical Scale</b></p>
<b>Foggathorpe Parish Council</b>	<p>The EIA should estimate how many agricultural workers and farm contractor jobs will be lost and</p>	<p>The impact on existing employment is described in greater depth in section 12.7 Assessment of Likely Impacts and Effects. It is estimated that the current agricultural activities on the Site support three existing jobs and that these will be lost as a result of the</p>	<p>This chapter, section 12.7 Assessment of Likely Impacts and Effects, including <b>Table 12-22</b>. Total</p>

Consultee	Summary of comment	How matter has been addressed	Location of response
	<p>what impact this will have on local agriculture and crop production.</p>	<p>Scheme. The Applicant has estimated that to operate and manage the solar farm there will be a gross number of three permanent jobs generated by the Scheme in addition to employment opportunities generated by the construction of the Scheme. Therefore, overall, there will be no net loss to employment because of the Scheme.</p>	<p>Net Employment during Operation of the Scheme</p>
<p><b>Spaldington Parish Council</b></p>	<p>The production may have a severe negative impact on the local community through loss of farmland, increased traffic as well as other issues caused by the running of the equipment linked to the solar panels.</p>	<p>Potential adverse effects on the local community are assessed in the section 12.7 Assessment of Likely Impacts and Effects. The assessment has found no significant adverse effects. Apart from two instances where potential effects are found to be minor adverse, effects are found to be negligible, minor beneficial or no effect.</p> <p>Loss of farmland is covered in <b>Chapter 15: Soils and Agricultural Land, ES Volume 1 [EN010143/APP/6.1]</b> wherein it is assessed that following construction, the majority of the current agricultural land within the Solar PV Site will remain in agricultural production.</p> <p>Traffic impacts are covered in <b>Chapter 13: Transport and Access, ES Volume 1 [EN010143/APP/6.1]</b> wherein it is assessed that with embedded mitigation in place, there is just one road link that would experience moderate adverse (significant) traffic effects during construction and decommissioning phases only. On this link the actual predicted increase per hour/minute is relatively small.</p> <p>Potential impacts caused by the running of the equipment linked to solar panels are covered within the</p>	<p>This chapter, section 12.7 Assessment of Likely Impacts and Effects</p>

Consultee	Summary of comment	How matter has been addressed	Location of response
		<p>appropriate topic assessments as relevant, for example <b>Chapter 11: Noise and Vibration, ES Volume 1 [EN010143/APP/6.1]</b> wherein it is assessed that all operational noise effects are localised and not significant.</p> <p>Effective stakeholder engagement and consultation is intrinsic to the Planning Act 2008 and fundamental to the success of the Scheme. <b>The Consultation Report [EN010143/APP/5.1]</b> details the consultation undertaken to date including a project update briefing/meeting with Parish Councils (including Spaldington) in December 2022.</p>	

- 12.3.4 Further consultation in response to statutory pre-application engagement was undertaken through the Preliminary Environmental Information Report (PEI Report), issued in May 2023. Responses to this statutory consultation are presented in the **Consultation Report [EN010143/APP/5.1]. Table 12-2** summarises the section 42 statutory consultation responses relating to Socio-Economics and Land Use and how these have been addressed through the ES.
- 12.3.5 Further detail on the due regard given to consultation responses can also be found in **The Consultation Report [EN010143/APP/5.1]**.

**Table 12-2. Statutory consultation responses (Socio-Economics and Land Use)**

<b>Consultee</b>	<b>Summary of comment</b>	<b>How matter has been addressed</b>	<b>Location of response</b>
<b>Foggathorpe Parish Council</b>	<p>The vast majority of parishioners are against the proposal. The main reasons given for these views were:</p> <p>The way of life of the residents would completely change.</p> <p>The effect on recreation in the area walking, riding and cycling down corridors of 2.2m high fencing with cameras like a prison.</p> <p>The loss on jobs in the agricultural sector as the landowners would not need their services as employees or subcontractors.</p>	<p>Section 12.7 assesses effects on private and community assets, Public Rights of Way (PROWs) and the economy.</p> <p>Fencing, landscaping, and security measures such as cameras have been designed to minimise adverse effects and maximise benefits for local people, taking on-board comments received from local stakeholders during consultation. More information is provided in <b>Chapter 10: Landscape and Visual Amenity, ES Volume 1 [EN010143/APP/6.1]</b>.</p> <p>The Scheme also includes enhancements relating to Permissive Paths and biodiversity. See <b>Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]</b>.</p> <p>Impacts on jobs are assessed in section 12.7 of this ES chapter.</p>	<p>Section 12.7 of this ES chapter</p> <p><b>Chapter 10: Landscape and Visual Amenity, ES Volume 1 [EN010143/APP/6.1]</b></p> <p><b>Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]</b></p>

<b>Consultee</b>	<b>Summary of comment</b>	<b>How matter has been addressed</b>	<b>Location of response</b>
<b>North Yorkshire Council</b>	The Applicant will be aware that it is an offence to disturb or obstruct a Public Right of Way; if any works undertaken adjacent to, or on a PRoW, will disturb the surface or create an obstruction, either permanent or temporary, permission needs to be obtained from North Yorkshire Council prior to these works being undertaken. If as a result of the works, public access cannot be maintained, an application for a temporary closure order would need to be made. Likewise if there is any potential health and safety risks to the public using a route while works are being undertaken, an application to temporarily close the footpath would need to be made.	The draft DCO makes provision for the temporary closure and diversion of PRoWs. Impacts on PRoWs are assessed in Section 12.7 of this ES chapter. The Scheme has been designed to minimise impacts on PRoWs, and PRoWs will be managed in accordance with the detailed <b>Public Rights of Way Management Plan (PRoW PM)</b> [EN010143/APP/7.13]	Section 12.7 of this ES chapter
<b>North Yorkshire Council</b>	Please note that there is also a 'claimed' PRoW (SEL/2020/01/DMMO). The route is subject of a formal application to be added to the Definitive Map as a public bridleway. This route should be considered as being a PRoW and be protected in the same way as a PRoW, although it is not (yet) currently formally recorded. We are	Reference to this 'claimed' PRoW has been added to Section 12.5 of this ES chapter. Should this 'claimed' PRoW be adopted, it will be managed in accordance with the detailed <b>PRoW MP</b> [EN010143/APP/7.13]	Section 12.5 of this ES chapter.

Consultee	Summary of comment	How matter has been addressed	Location of response
	<p>advised that this route is currently in use by pedestrians and horse riders. This route crosses the Grid Connection Corridor. Please can we have assurance that the public will not be prevented from using this route, or that a Temporary Traffic Regulation Order will be arranged.</p>		

- 12.3.6 In addition, a meeting with East Riding of Yorkshire Council's PRow team was held on 28 February 2023 which discussed the Scheme's approach to PRow during construction, operation and decommissioning including the provision of Permissive Paths. The Council welcomed that all of the PRow within the Solar PV Site (as listed in paragraph 12.5.22) will remain open throughout operation. The extent of the proposed buffers either side of PRow's within the Solar PV Site was also considered to be positive. The PRow will be buffered from the perimeter fencing with 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. It was considered that the buffer zones, combined with the open mesh style of perimeter fencing, will mitigate negative changes to the nature and enjoyment of a route and offer routes with an open green lane feel. The Council noted that this approach, along with the delivery of greenspaces and areas of habitat (even if fenced from the footpaths), could potentially improve some routes and increase footfall, changing the priorities the Council may place on specific routes.
- 12.3.7 The indicative routing of Permissive Paths as shown on **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]**, aligned with the Council's views regarding Permissive Path provision for the Scheme and would reinforce the existing network. The provision of a bird hide (or similar) as a destination for the indicative Permissive Paths was welcomed.
- 12.3.8 It was noted that direct impacts to PRow along the Rivers Derwent and Ouse would be avoided using horizontal directional drilling (HDD) and this was welcomed. Any direct impacts to PRow crossed by the Interconnecting or Grid Connection Cables would only be during the short-term trenching and restoration operations; and affected PRow would remain open although may be temporarily slightly diverted. The Council noted that each case where a PRow is affected would need to be discussed individually with the Council.
- 12.3.9 Communication between the Applicant and the Council's PRow team has continued since the above-mentioned meeting via email, as set out below.

- 12.3.10 On 28 June 2023 (further to the submission of the PEI Report in May 2023), the Council asked for more information regarding fencing adjacent to PRoWs, access track crossings or use of PRoWs including any proposed gates or barriers, cross-sections of proposed buffer areas along PRoWs, and the permissive footpath discussed at the meeting on 28 February 2023.
- 12.3.11 On 5 July 2023, AECOM responded to the above-mentioned queries, and requested additional information regarding the Definitive Map, given that at the Statutory Consultation events some members of the public had commented that there were errors with the alignment of some of the PRoWs shown outside of the Scheme boundary in the PEI Report.
- 12.3.12 In August 2023, AECOM received an informal response from the Council's PRoW team to the Statutory Consultation on the PEI Report. In an email dated 12 July 2023, the Council outlined its preference for the proposed fencing type (mesh) due to the height of the fencing. The Council considers this proposed fencing type to be the most effective in retaining maximum openness along PRoW. The Council also welcomed the 15 m–20 m buffer area between the centre line of each PRoW and the fencing of any adjacent solar fields. The Council further noted that the Applicant should be aware that the maintenance of any planted boundary along a PRoW is the responsibility of the landowner/tenant, and that regular vegetation cutting would need to be undertaken to prevent trees/hedgerows encroaching into any PRoW. The Council also stated that maintenance vehicles used along or across PRoW of a similar level to existing farm traffic is acceptable, and to be expected, but that consideration should be given to ensuring the safety of PRoW users during the construction period.
- 12.3.13 On 24 August 2023, AECOM requested advice on the routing of PRoW within the Solar PV Site, given that at certain locations the line of the Definitive PRoW mapping does not match up with the aerial imaging of track / path positions.
- 12.3.14 On the 25 August 2023, the Council confirmed that the Definitive map is up to date, having last been updated 7 August 2023 (noting no changes were made in the area of the Solar Farm on that date). It was advised that the Applicant should use the definitive lines in Scheme plans, though if using the unofficial, walked line is preferable in specific locations then this could be discussed with the Council.
- 12.3.15 On 12 September 2023, AECOM confirmed to the Council that based on the advice previously received, the indicative layout for solar PV infrastructure is based upon the routing shown on the Definitive Map rather than the unofficial, walked line routes.
- 12.3.16 The Applicant will continue to work with the Council's PRoW team post-application, including regarding authorisation of any temporary PRoW management measures which may be required during construction. A **Framework Public Rights of Way Management Plan [EN010143/APP/7.13]** is submitted as part of this DCO application which sets out how PRoW will be managed during the construction phase to ensure the safety of users and site staff.

## 12.4 Assessment Methodology

### Assumptions, Limitations and Uncertainties

- 12.4.1 There is currently no statutory guidance on the methodology for undertaking assessments of Socio-Economic and Land Use effects. The assessment follows professional judgements and best practice methodology from other assessments undertaken on comparable energy infrastructure schemes.
- 12.4.2 The assessment of the significance of effects has been carried out against a benchmark of current socio-economic baseline conditions prevailing around the Scheme, as far as is possible within the limitations of such a dataset. 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.
- 12.4.3 Currently, only certain datasets, such as population statistics, of the 2021 Census relevant to the assessment are available. The assessment uses 2021 Census data where available, and only uses 2011 Census data where no other more recent data is available. Where 2011 Census data has had to be used this is indicated.
- 12.4.4 Effects on local assets and land use during the construction, operation and decommissioning take into consideration the results from the relevant environmental studies that can act in combination to cause effects to occur. These studies comprise the transport and access, noise and vibration, landscape and visual amenity, and air quality assessments. Where any two or more of these topics each record a significant effect on a receptor or group of receptors, it will be assumed as a worst-case that the effect could occur at the same time.
- 12.4.5 The construction period of the Scheme is expected to be approximately 24 months in duration. It is noted that the Grid Connection Corridor is expected to take approximately 12 months to complete, whereas the works within the Solar PV Site are 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 period. This is expected to be a realistic worst-case assumption for the consideration of amenity and 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, noise, dust, visual amenity, etc.). 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 period and therefore the associated employment and spending benefits of the Scheme overall would remain unchanged. In relation to PRowS, a longer construction period could be the most appropriate worst-case assumption, however, this is accounted for as the Scheme has been designed to have minimal-to-no impact on PRow and will not require any PRow closures.



## Matters Scoped In/Scoped Out

- 12.4.6 This section sets out the scope and methodology for the Socio-Economics and Land Use assessment of the Scheme.
- 12.4.7 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 will not provide educational or visitor facilities, though potential impacts on existing education and visitor facilities are covered under point (e) below);
  - c. Gross Value Added (GVA), including multiplier effects (i.e., indirect benefits for the region);
  - d. PRow; and
  - e. Other private and community assets (including residential properties, business premises, community facilities, visitor attractions and development land), in terms of any change of land use within the Order limits and any changes to accessibility and amenity for receptors beyond the Order limits.

## Study Area

- 12.4.8 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. 12-30).
- 12.4.9 The Site (comprising the Solar PV Site, the Interconnecting Cable Corridor, the Grid Connection Corridor and Site Accesses) as shown in **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]** is located within the administrative areas of East Riding of Yorkshire Council and North Yorkshire Council. It should be noted that prior to 1 April 2023, the part of the Site 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 presenting baseline data. **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]** provides a description of the Site and its surroundings, which mainly consists of agricultural fields under arable production.

- 12.4.10 The landscape features immediately surrounding the Solar PV Site comprise a number of villages and settlements, including Spaldington, Gribthorpe, Newsholme, Willitof and Brind. Furthermore, the landscape features immediately surrounding the Grid Connection Corridor similarly include several villages and settlements, namely Wressle, Brackenhholme, Barmby on the Marsh, and Drax. These settlements are shown on the Scheme location plan **Figure 1-1, ES Volume 3 [EN010143/APP/6.3]**.
- 12.4.11 **Table 12-3** 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.
- 12.4.12 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 **Figure 12-2, ES Volume 3 [EN010143/APP/6.3]**), as this represents the principal labour market catchment area for the Scheme (Travel to Work Area).
- 12.4.13 The potential impacts on local hotel, bed and breakfast and inns accommodation sector as a result of 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 the construction workers require accommodation within a 30-minute radius of the Order limits.
- 12.4.14 The assessment of effects on Public Rights of Way (PRoW) users considers resources which could be affected by closures and diversions of routes. The Study Area therefore comprises all PRoW located within the Site (including along the Grid Connection Corridor) or likely to be impacted by the work within the Site (within 500 m).
- 12.4.15 The principal impacts on private and community assets have been considered on a geographical scale based on the findings of other assessments presented in the following chapters of the ES:
- a. **Chapter 10: Landscape and Visual Amenity, ES Volume 1 [EN010143/APP/6.1];**
  - b. **Chapter 11: Noise and Vibration, ES Volume 1 [EN010143/APP/6.1];**
  - c. **Chapter 13: Transport and Access, ES Volume 1 [EN010143/APP/6.1];** and
  - d. **Chapter 16: Other Environmental Topics, ES Volume 1 [EN010143/APP/6.1],** section 16.2 Air Quality.
- 12.4.16 Effects on development land within and up to 500 m radius from the Order limits have also been assessed. Development land refers to sites on which there are planning applications, planning permissions and local plan allocations. The assessment has considered the potential for the Scheme to conflict with, hinder or otherwise adversely affect development land within or nearby to the Order limits.

**Table 12-3. Socio-Economic and Land Use Impacts by Geographical Scale**

<b>Impact</b>	<b>Geographical Area of Impact</b>	<b>Rationale for Impact Area</b>
Employment generation during construction, operational and decommissioning phases (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 locations).	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. 12-31).
Gross Value Added (GVA) during construction phase	60-minute travel area (though GVA per worker assumption is based on Yorkshire and the Humber region).	GVA generation relates directly to employment generation.
Public Rights of Way	Within, and up to 500 m radius from the Order limits and beyond this where routes extend outside this radius.	Professional judgement and experience from other schemes in England.
Residential Properties, business premises and visitor attractions	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, owing to a tendency for provision to be sparse. A 2 km radius has been considered for this receptor in order to fully consider the effect of

Impact	Geographical Area of Impact	Rationale for Impact Area
		severance on access to these facilities.
Accommodation Services	30- and 60-minute travel area (drive time estimated using GIS data, based on the Order limits and indicative site access locations).	Professional judgment and experience from other schemes in England.

## Methodology

### Additionality Assumptions

- 12.4.17 As mentioned previously, 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 Order limits in any direction. In accordance with research, this is considered a reasonable timeframe to use as a baseline within which workers would commute to the Scheme.
- 12.4.18 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. 12-30).
- 12.4.19 **Table 12-4** 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 12-4. Construction, Operational, and Decommissioning Phases Economic Additionality Assumptions**

Additionality Factor	Value	Justification
<b>Leakage</b> (% 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%.
<b>Displacement</b> (% 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. 12-30). This level of displacement reflects that there are expected to be some displacement effects,

Additionality Factor	Value	Justification
		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.
<b>Multiplier</b> (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. 12-30) 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.

### Methodology for Determining Effects Including Significance Criteria

- 12.4.20 The assessment of potential socio-economic effects uses the effect significance terms and definitions described within **Chapter 5: EIA Methodology, ES Volume 1 [EN010143/APP/6.1]**. Where possible, socio-economic impacts have been appraised against relevant national standards, such as those issued by Department for Energy Security and Net Zero including Draft NPS EN-1 (Ref. 12-2), Draft NPS EN-3 (Ref. 12-4) and Draft NPS EN-5 (Ref. 12-6) and HCA (now renamed Homes England), such as the HCA Additionality Guide (Ref. 12-30). 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.
- 12.4.21 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. **Negligible** classifications of significance indicate imperceptible effects on an area;
  - c. **Adverse** classifications of significance indicate a disadvantageous effect on an area, which may be minor, moderate or major in effect; and
  - d. **No effect** classifications of significance indicate that there are no effects on an area.
- 12.4.22 The geographical scales considered to assess significance are described in **Table 12-3**.

- 12.4.23 Duration of effect is also considered, with more weight given to permanent changes than to temporary ones. As defined in **Chapter 5: Environmental Impact Assessment Methodology, ES Volume 1 [EN010143/APP/6.1]**, permanent effects are those effects which cannot be reversed following decommissioning.
- 12.4.24 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.
- 12.4.25 For socio-economics, there is no accepted definition of what constitutes a significant (or not significant) socio-economic effect. It is however recognised that ‘significance’ reflects the relationship between the scale of effect (magnitude) and the sensitivity (or value) of the affected resource or receptor. As such the significance criteria of socio-economic effects has been assessed based on expert judgment and professional experience of the author, and relies on the following considerations:
- 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 effect on people or business in the context of the area in which effects will 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.
- 12.4.26 Criteria for receptor sensitivity and impact magnitude have been set out below (although specific sensitivity values are not attributed to socio-economic receptors as explained above), which have been grouped as follows: economic impacts (covering employment effects and GVA effects); PRow; and private and community assets (including impacts on local accommodation services). The significance of effect matrix has been provided following the receptor sensitivity and impact magnitude criteria.
- 12.4.27 Principal amenity impacts on residential properties, business premises and community facilities have been informed by other assessments and assessed against the significance criteria using these assessments and professional judgement.

### **Economic Impacts**

- 12.4.28 The following criteria have been set to assess effects relating to employment and GVA (grouped together as economic impacts).
- 12.4.29 **Table 12-5** identifies the sensitivity criteria that have been used to inform the assessment on socio-economic receptors relating to employment and GVA.

**Table 12-5. Economic Impact Sensitivity Criteria**

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

12.4.30 **Table 12-6** identifies the magnitude of impact criteria which have been used to assess the socio-economic receptors relating to employment and GVA.

**Table 12-6. Economic Impact Magnitude Criteria**

<b>Magnitude</b>	<b>Description</b>
<b>High</b>	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.
<b>Medium</b>	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.
<b>Low</b>	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.
<b>Negligible</b>	An impact which has very little change from baseline conditions where the change is barely distinguishable, approximating to a “no change” situation.

**Public Rights of Way (PRoW)**

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

12.4.32 **Table 12-7** identifies the sensitivity criteria that have been used to inform the assessment on PRoW.

**Table 12-7. Public Rights of Way Impact Sensitivity Criteria**

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

12.4.33 **Table 12-8** identifies the magnitude of impact criteria which have been used to assess the impacts on PRoW.

**Table 12-8. Public Rights of Way Impact Magnitude Criteria**

<b>Magnitude</b>	<b>Description</b>
<b>High</b>	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.
<b>Medium</b>	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.
<b>Low</b>	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.
<b>Very Low</b>	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**

12.4.34 The following criteria have been set to assess the effects on other private and community assets which comprise residential properties, business premises, community facilities, visitor attractions, local accommodation services, and development land. Development land is defined as planning applications or 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).

12.4.35 **Table 12-9** identifies the sensitivity criteria for private and community assets.

**Table 12-9. Private and Community Assets Sensitivity Criteria**

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

12.4.36 The magnitude of change to local assets (residential properties, business premises, community facilities, visitor attractions and 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 12-10** identifies the magnitude of impact criteria.

**Table 12-10. Private and Community Assets Magnitude Criteria**

<b>Magnitude</b>	<b>Description</b>
<b>High</b>	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.
<b>Medium</b>	An impact that negatively affects the utility of an asset, but a recovery is possible with no permanent impacts; or an impact that improves key characteristics and features of the asset or land use.
<b>Low</b>	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.
<b>Very Low</b>	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.

12.4.37 An assessment has been undertaken of the effects on development land within the Study Area. This assessment will consider 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 12-11** identifies the magnitude of impact criteria which will be used to assess the impacts on development land within the ES.

**Table 12-11. Development Land Magnitude Criteria**

<b>Magnitude</b>	<b>Description</b>
<b>High</b>	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.
<b>Medium</b>	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.
<b>Low</b>	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
<b>Very Low</b>	An impact which is a very minor loss or benefit from baseline conditions where the change is barely distinguishable, approximating to a “no change” situation.

### Significance of Effects

12.4.38 Socio-economic and land use effects reflect the relationship between the sensitivity of the affected receptor and the magnitude of the impact. **Table 12-12** below shows how the assessment of the significance of effects is arrived upon.

**Table 12-12. Impact Assessment and Significance**

<b>Magnitude of Impact</b>	<b>Sensitivity of Receptor</b>			
	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Very Low</b>
<b>High</b>	Major	Major	Moderate	Minor
<b>Medium</b>	Major	Moderate	Minor	Negligible
<b>Low</b>	Moderate	Minor	Negligible	Negligible
<b>Very low</b>	Minor	Negligible	Negligible	Negligible

12.4.39 In accordance with the methodology set out within **Chapter 5: EIA Methodology, ES Volume 1 [EN010143/APP/6.1]**, 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.

## 12.5 Baseline Conditions

- 12.5.1 This section describes the baseline environmental characteristics of the Study Area with specific reference to Socio-Economics and Land Use.
- 12.5.2 The potential impacts arising from the Scheme are assessed relative to the baseline conditions and benchmarked against regional and national standards where appropriate. These include:
- a. Existing site and land use;
  - b. Population and deprivation;
  - c. Employment;
  - d. Local economy and labour market; and
  - e. Local receptors.

### Data Sources

- 12.5.3 In preparation of this chapter, the following sources of published information have been used to establish the baseline conditions:
- a. English Indices of Deprivation (2019) (Ref. 12-21);
  - b. Office for National Statistics (ONS) (2011) 2011 Census Data (Ref. 12-22);
  - c. ONS (2021) 2021 Census Data (Ref. 12-23);
  - d. ONS (2017) Gross Value Added (Income Approach) (Ref. 12-24);
  - e. ONS (2022) Claimant Count (Ref. 12-25);
  - f. ONS (2021) UK Business Register and Employment Survey (Ref. 12-26);
  - g. Annual Population Survey (2021) (Ref. 12-27); and
  - h. ONS Mid-year Population Estimates 2020 (2021) (Ref. 12-29).

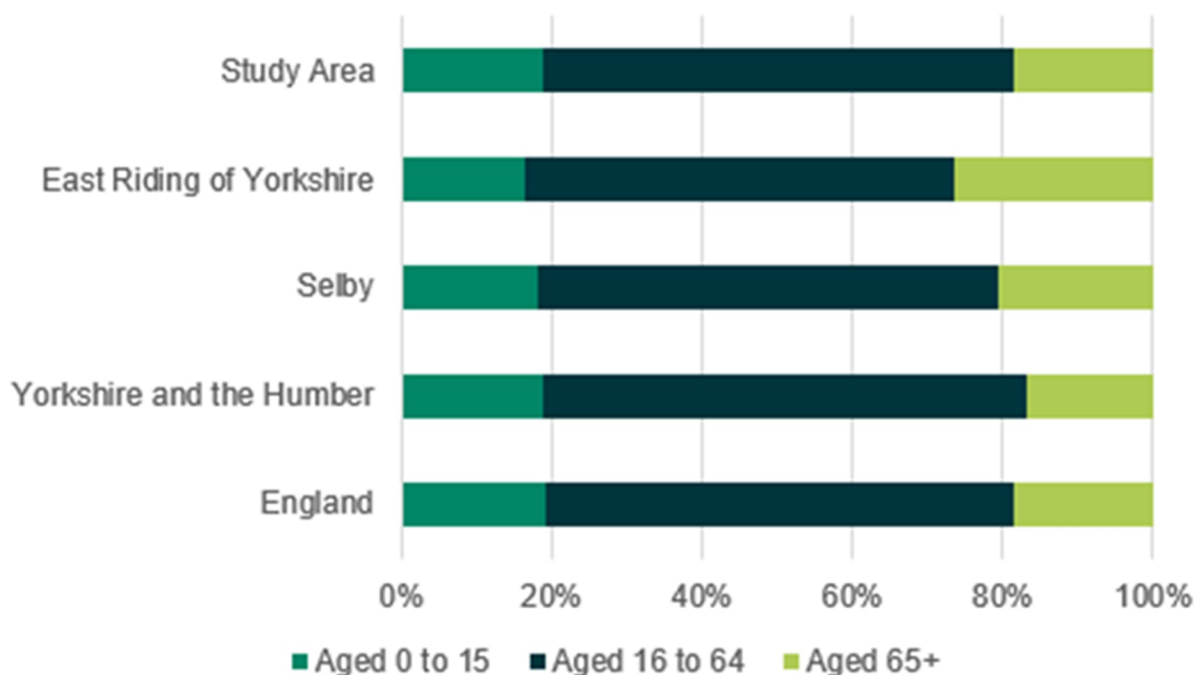
### Existing Baseline

#### Existing Site and Land Use

- 12.5.4 **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]** contains a detailed description of existing conditions within and surrounding the Order limits.
- 12.5.5 Within the Order limits and the immediately adjacent area, the area is mostly used for agricultural purposes, characterised by large-scale regular arable fields across several land-holdings.
- 12.5.6 Other existing energy infrastructure within the surrounding area includes overhead powerlines carried by pylons which extend from Drax Power Station and cross the Grid Connection Corridor and Solar PV Areas 1a and 3a. There is also the Spaldington Airfield Wind Farm and Anaerobic Digestion Plant, located to the south east of Solar PV Area 2b (see **Figure 1-2, ES Volume 3 [EN010143/APP/6.3]**).

## Population and Deprivation

- 12.5.7 According to the 2011 and 2021 Censuses (Ref. 12-22, Ref. 12-23), the residential population of East Riding of Yorkshire has increased from 334,673 in 2011 to 342,217 in 2021, representing a 2.4% increase over 10 years. This growth is lower than that in Yorkshire and the Humber (3.7%) and England (6.6%) over the same period. Data for Selby District is not available for the 2021 Census, due to it becoming part of North Yorkshire Council, meaning that comparison between the 2011 and 2021 Census data is not possible. According to ONS Mid-Year Population Estimates (Ref. 12-29), the population increased by 9.8% from 83,547 in 2011 to 91,697 in 2020, which is the most recent data available.
- 12.5.8 According to the ONS Mid-Year Population Estimates (Ref. 12-29) (the most recent data available at Lower Layer Super Output Area (LSOA) level, the residential population of the economic Study Area (the 60-minute drive time radius) has increased from 4,812,251 in 2011 to 5,051,069 in 2020, representing a 4.9% increase over 9 years.
- 12.5.9 In 2021, 197,646 (57.8%) of residents in East Riding of Yorkshire and 362,349 (58.9%) of residents in North Yorkshire were of working age (defined by the ONS as men and women aged 16 to 64). These are similar to the rates recorded for Yorkshire and the Humber (62.4%) and England as a whole (63.0%).
- 12.5.10 In 2020 (the most recent data available at LSOA level), there were 3,154,772 (62.5%) residents of working age within the Study Area. This is slightly higher than or in line with the percentages in East Riding of Yorkshire (57.2%), Selby District (61.1%), Yorkshire and the Humber (62.1%) and England (62.3%). This comparison is shown in **Plate 12-1**.



Source: ONS Mid-Year Population Estimates.

**Plate 12-1. Age Breakdown by Geography**

- 12.5.11 In 2021, the Annual Population Survey (Ref. 12-27) showed that 39.7% of working age residents in East Riding of Yorkshire and 44.5% of working age residents in Selby District have a degree level qualification or higher (National Vocational Qualification (NVQ) Level 4+). This is above the average for Yorkshire and the Humber (38.0%) and England more widely (43.2%). The proportion of residents in East Riding with no qualifications is 7.5% which is higher than the rates recorded in England (6.4%), but slightly lower than that recorded in Yorkshire and the Humber (7.8%). The proportion of residents in Selby District with no qualifications (10.0%) is higher than that in both Yorkshire and the Humber (7.8%) and England (6.4%). The survey does not produce findings at the Lower Layer Super Output Areas (LSOA) level.
- 12.5.12 Based on the 2019 Indices of Multiple Deprivation (IMD) (Ref. 12-21), which is measured at local authority level, East Riding of Yorkshire is the 217th most deprived local authority of 317 districts in England (where 1 is the most deprived). Within East Riding, 13 of the LSOAs are within the top 10% most deprived LSOAs in England. When comparing performance in the seven different domains of deprivation, East Riding performs worst for income deprivation affecting older people (for which it is the 122nd most deprived local authority) and best for crime deprivation (for which it is the 233rd most deprived).
- 12.5.13 In terms of IMD, Selby District is the 252nd most deprived local authority in England. Within the local authority, 13 LSOAs are within the top 10% most deprived in England. The worst performing domain in Selby District is income deprivation affecting older people, for which the local authority is the 120th 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. 12-26), the number of employees (amongst 16- to 64-year-olds) in East Riding of Yorkshire reached 129,800 and 35,900 in Selby District in 2021. The number of employees in the Study Area in 2021 was 2,324,500.
- 12.5.15 According to the Annual Population Survey (Ref. 12-28), in 2022 the economic activity rate (amongst 16- to 64-year-olds) was 79.7% in East Riding and 80.0% in North Yorkshire, which is comparable to that in both Yorkshire and the Humber (77.4%) and England (78.7%).
- 12.5.16 The claimant count records those individuals who are unemployed and claiming job seekers allowance or other unemployment related benefits. The July 2023 claimant count for residents as a proportion of residents aged 16-64 was 2.4% in East Riding and 1.9% in North Yorkshire. This is below the rates in Yorkshire and the Humber (4.1%) and England (3.8%) (Ref. 12-25). Data is not available at the LSOA level.

### **Local Economy and Labour Market**

- 12.5.17 GVA per head (Ref. 12-24) is slightly lower in East Riding of Yorkshire (£20,533) compared to the average for Yorkshire and the Humber (£21,250) and for England (£27,717). GVA per head is slightly higher in Selby District (£23,752) compared to East Riding of Yorkshire (£20,533) and Yorkshire and the Humber (£21,250) and England (£27,717).

- 12.5.18 The average GVA per head across East Riding of Yorkshire and Selby District is £22,143.
- 12.5.19 **Table 12-13** presents a detailed breakdown of employment by broad industrial group across the Study Area and its comparators. Based on the most recently available data (2021) (Ref. 12-26), the highest levels of employment in the Study Area are recorded in Health (14.5%), Manufacturing (12.0%) and Education (9.2%). Health (13.3%), Manufacturing (11.6%) and Education (9.4%) also make up the three largest industries by employment in Yorkshire and the Humber.
- 12.5.20 The Construction broad industrial group comprises 4.8% of employment within the Study Area, comparable to that in Yorkshire and the Humber (4.6%) and England (4.9%).
- 12.5.21 The Mining, Quarrying and Utilities broad industrial group (which includes employment from the generation of energy) comprises 1.1% of employment within the Study Area. This is comparable with that in Yorkshire and the Humber (1.0%) and England (1.1%).

**Table 12-13. Employment by Broad Industrial Group**

Industry	Study Area (%)	Yorkshire and the Humber (%)	England (%)
<b>Agriculture, forestry &amp; fishing</b>	0.1	1.5	1.3
<b>Mining quarrying &amp; utilities</b>	1.1	1.0	1.1
<b>Manufacturing</b>	12.0	11.5	7.3
<b>Construction</b>	4.8	4.6	4.9
<b>Motor trades</b>	2.0	1.8	1.7
<b>Wholesale</b>	3.7	3.5	3.6
<b>Retail</b>	8.3	8.2	9.0
<b>Transport &amp; Storage (inc. postal)</b>	6.3	5.6	5.3
<b>Accommodation &amp; food services</b>	6.7	7.2	7.4
<b>Information &amp; communication</b>	3.1	3.1	4.5
<b>Financial &amp; insurance</b>	2.7	2.7	3.6
<b>Property</b>	1.5	1.6	2.0
<b>Profession, scientific &amp; technical</b>	6.6	6.5	9.3
<b>Business administration &amp; support services</b>	8.8	8.7	8.9
<b>Public administration &amp; defence</b>	4.6	4.5	4.1
<b>Education</b>	9.2	9.4	8.5
<b>Health</b>	14.5	14.4	13.1
<b>Arts, entertainment, recreation &amp; other services</b>	4.1	4.2	4.3

Source: BRES (2021). Please note that totals may not equal 100 due to rounding.

### Public Rights of Way (PRoW)

- 12.5.22 There are 17 PRoWs either located entirely within the Solar PV Site, or which pass through the Solar PV Site and continue outside of it (see **Figure 2-2, ES Volume 3 [EN010143/APP/6.3]**):
- a. Approximately 550 m of BUBWF17 lies within Solar PV Area 1a;
  - b. Approximately 1 m of FOGGF09 lies within Solar PV Area 1a;
  - c. Approximately 950 m of FOGGF13 lies within Solar PV Area 1a (this footpath joins Bell Lane, along which an interconnecting cable corridor will run);
  - d. Approximately 400 m of FOGGF05 is within Solar PV Area 1e;
  - e. Approximately 700 m of SPALB08 is within Solar PV Area 1e;
  - f. Approximately 500 m of SPALF14 is within Solar PV Area 1e;
  - g. Approximately 600 m of SPALF15 is within Solar PV Area 1e;
  - h. Approximately 200 m of SPALF19 is within Solar PV Area 1f;
  - i. Approximately 600 m of BUBWF10 passes through Solar PV Area 2a;
  - j. Approximately 50 m of BUBWS11 passes through Solar PV Area 2a;
  - k. Approximately 250 m of SPALF17 passes through Solar PV Area 2e;
  - l. Approximately 750 m of SPALF18 passes through Solar PV Area 2f
  - m. Approximately 1.8 km of WRESF06 is within Solar PV Area 3c;
  - n. Approximately 1 km of WRESF07 is within Solar PV Area 3c;
  - o. Approximately 300 m of WRESF08 is within Solar PV Area 3c;
  - p. Approximately 300 m of WRESF09 is within Solar PV Area 3c; and
  - q. Approximately 1150 m of WRESF10 is within Solar PV Area 3c.
- 12.5.23 There are seven PRoWs which are within, or which intersect the Interconnecting Cable Corridor, or which run between Interconnecting Cable Corridor areas:
- a. FOGGF13 within Solar PV Area 1a joins Bell Lane, along which the Interconnecting Cable Corridor runs between Solar PV Areas 1a and 1e;
  - b. SPALB08 within Solar PV Area 1e intersects the end of the Interconnecting Cable Corridor for 10 m between Solar PV Areas 1e and 1f;
  - c. Approximately 400 m of BUBWF10 runs along the Interconnecting Cable Corridor between Solar PV Areas 1a and 2b;
  - d. SPALF19 along the boundary of Solar PV Area 1e ends where the Interconnecting Cable Corridor runs between Solar PV Areas 1e and 1f;
  - e. SPALF18 along the boundary of Solar PV Area 2f runs between Spaldington Lane and Commonend Drain, between the

Interconnecting Cable Corridor area between Solar PV Areas 2g and 2f and the Interconnecting Cable Corridor between Solar PV Areas 2f and 2e, intersecting for 9 m;

- f. SPALF17 along the boundary of Solar PV Area 2e intersects the Interconnecting Cable Corridor between Solar PV Areas 2b and 2e for 50 m; and
- g. Approximately 650 m of EASTB17 runs along the Interconnecting Cable Corridor between Solar PV Areas 2f and 2g. This route is known as Featherbed Lane and has been identified as a trenchless cable crossing location due to the adjacent drain and associated tree belts, as further described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**.

12.5.24 There are seven PRowS which are within the 20 m buffer but do not cross the Order Limits, they are all footpaths:

- a. 35.47/2/1 which runs between the River Ouse and Pear Tree Avenue;
- b. 35.47/6/1 which runs along the northern edge of Drax Power Station;
- c. BUBWF15 which lies west of Solar PV Area 1a;
- d. SPALF02 which lies east of Solar PV Area 2e;
- e. SPALF06 which lies southeast of Solar PV Area 1f ;
- f. SPALF07 which lies southeast of Solar PV Area 1f, adjacent to SPALF06; and
- g. WRESF03 which lies west of Solar PV Area 3b and connects with Rowlandhall Lane.

12.5.25 There are no national trails or national cycle routes within the Solar PV Site or Interconnecting Cable Corridor. However, the 'Howden 20' is a 20 mile (approximately 32 km) named 'challenge walk'. This circular recreational route passes along PRowS through the Solar PV Site and the Interconnecting Cable Corridor at various locations, as shown on **Figures 2-2 and 2-3, ES Volume 3 [EN010143/APP/6.3]**.

12.5.26 The Grid Connection Corridor intersects the following six footpaths:

- a. WRESF07 for 400 m which runs along the boundary of Solar PV Area 3c;
- b. WRESF12 for 90 m which runs along the eastern edge of the River Derwent, south of Wressle;
- c. 35.35/6/1 for 120 m which runs along the western edge of the River Derwent, south of Wressle;
- d. 35.35/9/1 for 90 m which also runs along the western edge of the River Derwent, south of Wressle;
- e. 35.47/1/1 for 400 m which runs between fields to the north-east of Drax power station; and
- f. 35.47/1/2 for 60 m which runs along the field surrounding Drax Power Station.

12.5.27 Footpath 35.47/6/1 joins footpath 35.47/1/1 at the edge of the Grid Connection Corridor.



- 12.5.28 A 'claimed' PRoW (SEL/2020/01/DMMO), which is subject of an application to be added to the Definitive Map as a public bridleway, crosses the Grid Connection Corridor. This claimed PRoW runs from Hemingbrough to join PRoW 35.35/6/1 which runs along the northern bank of the River Derwent. Should this claimed PRoW be formally adopted, it will be managed in accordance with the detailed **PRoW MP [EN010143/APP/7.13]**.
- 12.5.29 The PRoWs in the 500 m Study Area do not connect rural areas to more urban areas or business parks, and are therefore unlikely to be used for commuting.
- 12.5.30 National Cycle Route 65, which runs from Hornsea to Middlesborough and forms part of the Trans Pennine Trail (east) cycle route between Selby and Hornsea, intersects the Grid Connection Corridor at to the north of the River Ouse crossing point, however there will be no direct impact to this route as this section of cable will be installed via HDD.

### **Local Receptors**

#### **Residential Properties**

- 12.5.31 As described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**, the area around the Order limits is mostly rural and relatively sparsely populated.
- 12.5.32 There are no residential properties within the Order limits, apart from a small area of grass verge and hardstanding in front of Newsholme House near Willitoft, which sits within the Grid Connection Corridor and has been included in the Order limits to facilitate access for abnormal load construction vehicles transporting the proposed Grid Connection Substations equipment. Johnson's Farm farmhouse was once a residential building but is now dilapidated and unoccupied. At the closest point, the boundary of the Solar PV Site is located 1.1 km north-west of new residential developments in Howden and approximately 1.3 km east of the villages of Brighton and Wressle. The closest properties in Gribthorpe, Spaldington and Brind are approximately 20 metres (m) from Order limits, whilst the closest properties in Willitoft are approximately 120 m from the Order limits. However, due to the provision of buffers, and land for landscaping and habitat enhancement, the actual distance of separation between residences and solar PV infrastructure will be greater, as shown in the indicative layout presented in **Figure 2-3, ES Report Volume 3 [EN010143/APP/6.3]**.
- 12.5.33 There are residential properties within 800 m of the Grid Connection Corridor at Wressle, and 100 m at Barmby on the Marsh. The closest properties at Babthorpe are located approximately 600 m from the Grid Connection Corridor.
- 12.5.34 There are residential properties located within 50 m of the Order limits at Highfield (this area is included in the Order limits due to the abnormal load movements and potential associated temporary works).

#### **Business Premises**

- 12.5.35 **Table 12-14** below provides a list of business premises within 500 m and their approximate distance from the Site. These can also be found on **Figure 12-1 Study Area and Socio-economic Receptor Map, ES Volume 3 [EN010143/APP/6.3]**. Business premises in this context are

defined as commercial (non-residential) properties in relation to which business rates are paid.

- 12.5.36 At Highfield, a small portion of the forecourt of Highfield Garage falls within the Order limits. In addition, a mobile truck serving food and drink operates out of a layby on the A63 near Brackenholme; it is understood that this truck operates Monday to Saturday from this location. There are no other business premises within the Order limits.

**Table 12-14. Business Premises within 500 m of the Site**

<b>Business Premises</b>	<b>Approximate Distance from Site</b>	<b>Business Activity</b>
<b>JM Commercials Hull Ltd</b>	100 m west of Solar PV Area 1f	Vehicle repair shop
<b>Islands &amp; Oceans</b>	450 m south of Solar PV Area 1e	Internet shop
<b>Salko (UK)</b>	350 m south of Solar PV Area 1e	Electrical engineering
<b>Wildlife Photography Hides Yorkshire</b>	400 m east of Ecology Mitigation Area 1h	Photography business
<b>R100 Energy Ltd</b>	350 m north-east of Solar PV Area 2d	Green energy supplier
<b>Inglis Transport &amp; Storage</b>	250 m north-east of Solar PV Area 2e	Farm transport and storage
<b>BioteCH4</b>	100 m north-east of Solar PV Area 2e	Waste management services
<b>Filstorage</b>	50 m south of Solar PV Area 2e	Warehouse
<b>Field and Garden Machinery</b>	50 m north of Solar PV Area 2f	Lawn mower repair service
<b>Timcad Ltd (York Timber)</b>	450 m north-west of Solar PV Area 2a	Shed builder
<b>Fine Country Lodges, Holiday Homes North Yorkshire</b>	150 m east of Solar PV Area 2a	Holiday lets
<b>Mobile snack wagon in layby on A63</b>	Within Grid Connection Corridor Order, near Brackenholme	Serves drivers / travellers Monday to Friday
<b>Drax Power Station</b>	10 m west of Grid Connection Corridor	Biomass and coal-fired power station
<b>Pinfold Pharmacy Ltd</b>	50 m south of Grid Connection Corridor	Pharmacy
<b>Independent Tax</b>	50 m south of Grid Connection Corridor	Tax service

<b>Business Premises</b>	<b>Approximate Distance from Site</b>	<b>Business Activity</b>
<b>UK Hire Jobs</b>	50 m south of Grid Connection Corridor	Recruitment
<b>Forevermore UK</b>	50 m south of Grid Connection Corridor	Bridal shop
<b>Phosys</b>	50 m south of Grid Connection Corridor	Software company
<b>Rural Supplies</b>	50 m west of Grid Connection Corridor	Agricultural supplies
<b>Lorenzo's Italian</b>	300 m south of the Grid Connection Corridor	Italian restaurant
<b>Gas Corner</b>	350 m south of Grid Connection Corridor	Central heating services
<b>JD's Pawfect Services</b>	400 m south of Grid Connection Corridor	Pet boarding and training
<b>AD Howard Building Contractors</b>	200 m south of Grid Connection Corridor	Commercial construction company
<b>Dog Home Boarding</b>	450 m south of Grid Connection Corridor	Pet boarding
<b>Highfield Garage</b>	0 m north of the Site Access element of the Order limits	Vehicle repair shop, petrol station
<b>Howden Caravan Sales</b>	100 m west of the Order limits	Caravan Dealership

### **Education**

12.5.37 There are no schools located within 500 m of the Order limits.

12.5.38 **Table 12-15** below provides a list of educational facilities within 2 km of the Solar PV Site and Grid Connection Corridor and their approximate distance from the Site.

**Table 12-15. Educational Facilities within 2 km of the Solar PV Site and Grid Connection Corridor**

<b>Educational Facility</b>	<b>Approximate Distance from Site</b>
<b>Howden School</b>	1.8 km south-east of Solar PV Area 3c
<b>Barmby on the Marsh County Primary School</b>	800 m south-east of the Grid Connection Corridor
<b>Camblesforth Community Primary Academy</b>	1.7km west of the Grid Connection Corridor in Camblesforth
<b>The Read School</b>	1 km south of the Grid Connection Corridor in Drax Village

## Community Facilities

12.5.39 Table 12-16 illustrates the community and recreational facilities within 2 km of the Site and their distances from the Site. There are no police or fire stations within 2 km of the Site. The nearest are Howden Police Station and Howden Fire Station, both approximately 2.5 km south-east of the Site.

**Table 12-16. Community and recreational facilities nearby to the Site**

<b>Receptor</b>	<b>Description</b>	<b>Approximate Distance from Site</b>
<b>Boothferry Golf Club &amp; Spaldington Golf Range</b>	Footgolf and golf club	300 m west of Solar PV 2d
<b>Howden Footgolf and Golf</b>	Footgolf and golf club	300 m west of Solar PV 2d
<b>Howden Station</b>	Train Station	700 m east of Solar PV Area 3c and 850 m west of Solar PV Area 2g
<b>Bubwith Surgery (part of the Ridings Medical Group)</b>	GP Surgery	1.3 km north-east of Solar PV Area 1a
<b>Wressle Village Hall</b>	Village Hall	500 m north of the Grid Connection Corridor
<b>Wressle Train Station</b>	Train Station	500 m north of the Grid Connection Corridor
<b>Drax Village Hall</b>	Village hall	1.5 km south of the Grid Connection Corridor
<b>Drax Golf Club</b>	Golf club	1.3 km south of the Grid Connection Corridor
<b>Fir Trees Spiritualist Church, Spaldington</b>	Church	750 m south-east of Solar PV Area 1e
<b>Winfield Lakes</b>	Fishing Lake	350 m west of Solar PV Area 2b and 350 m south of Solar PV Area 1d
<b>Howden Equestrian Centre Riding School</b>	Equestrian school	600 m south of Solar PV Area 1e

## Visitor Attractions

12.5.40 There are no visitor attractions within 500 m of the Order limits.

12.5.41 The nearest visitor attraction is Howden Windmill, which is approximately 3.4 km west of Solar PV Area 2g and 3 km north-west of Solar PV Area 3c.

## Development Land

- 12.5.42 As of August 2023, six planning applications have been identified which coincide within the Order limits, as listed in **Chapter 17: Cumulative Effects and Interactions, ES Volume 1 [EN010143/APP/6.1]**.
- 12.5.43 The six planning applications that have been identified as coinciding with the Order limits are as follows. The National Grid's Scotland to England Green Link 2 (SEGL2) electricity transmission cables (22/01990/STPLFE and 2022/0711/EIA) will cross the Grid Connection Corridor by the National Grid Drax Substation (**Figure 2-3, ES Volume 3 [EN010143/APP/6.3]**). The boundaries of four other projects also coincide with the Grid Connection Corridor near Drax; these are National Grid Carbon's Humber Low Carbon Pipeline (EN070006), Drax Power Limited's Drax Bioenergy with Carbon Capture and Storage (EN010120), Drax Power Limited's Drax Re-Power project (EN010091), and Enso Green Holdings D Limited's Helios Renewable Energy project (EN010140). The Grid Connection Corridor also overlaps with the boundary of the energy storage project by Lakeside Energy Storage Limited (2020/1357/FULM and 2022/0397/S73).
- 12.5.44 There are also other proposed developments within 500 m of the Order limits and several development land allocations, again these are presented in **Chapter 17: Cumulative Effects and Interactions, ES Volume 1 [EN010143/APP/6.1]**. An assessment of cumulative effects between the Scheme and other proposed and committed plans and projects that fall within the Order limits is presented in section 12.10 of this chapter.
- 12.5.45 There are no development allocations within the Order limits relating to minerals, waste, or transport. The Scheme lies within East Riding of Yorkshire's Minerals Safeguarding Area EC6 and an area of safeguarded surface mineral resource in North Yorkshire (the minerals being described as Brick Clay and Sand and Gravel). However as noted in Table 12-1, impacts to MSAs have been scoped out of the impact assessment.
- 12.5.46 For the avoidance of doubt, the six planning applications identified above which overlap with the Order limits are the same as those presented in **Chapter 17: Cumulative Effects and Interactions, ES Volume 1 [EN010143/APP/6.1]**. The assessment of effects in this chapter 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) considers whether the Scheme and the identified proposed developments and allocations might together cause significant effects.

## Future Baseline

- 12.5.47 The future baseline scenarios are set out in **Chapter 5: EIA Methodology, ES Volume 1 [EN010143/APP/6.1]**. A future baseline year of 2042 has been considered in this chapter, which reflects 15 years post construction, in accordance with industry good practice. The construction effects are assessed against the present-day baseline (set out above) while the operational and decommissioning effects are assessed against the future baseline (set out below). Projections in population change relevant to the future baseline are outlined in Table 12-17. Future potential changes in the local economy are described in paragraph 12.5.50. However, there is a high level of uncertainty with respect to the future baseline of existing local

land uses, other than where future planned uses are known (such as future developments, where planning applications, permissions and local plan allocations have been considered). Therefore, for the purposes of this assessment, the future baseline with respect to local land uses (including agricultural land, residential properties, local businesses, open space, community facilities, visitor attractions and development land) is expected to be in line with the existing baseline conditions set out above.

12.5.48 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. 12-32), the population of East Riding of Yorkshire is expected to increase from 342,195 in 2020 to 359,474 in 2042 which represents an increase of 5.0%. In addition, the population of Selby District is projected to increase from 91,149 to 104,506 which represents a larger increase of 14.7%. In Yorkshire and the Humber and England as a whole, there are expected to be increases of 6.3% and 8.5% respectively.

12.5.49 **Table 12-17** illustrates the population projections broken down by age group at five-year intervals and in 2042. It shows that by 2042, the percentage of the working-age population in East Riding of Yorkshire and Selby District will fall from 57.2% to 51.5% and 60.8% to 56.6%, respectively. The percentage of the population aged 65 and over will grow from 26.5% in East Riding of Yorkshire in 2020 to 34.1% in 2042, and from 20.7% to 25.9% in Selby District. This is indicative of trends in both Yorkshire and the Humber and England more generally.

**Table 12-17. Population Projections by Age Breakdown**

		2020	2025	2030	2035	2040	2042
East Riding of Yorkshire	Aged 0 to 15 (%)	16.4	15.7	14.8	14.3	14.3	14.4
	Aged 16 to 64 (%)	57.2	55.9	54.1	52.5	51.5	51.5
	Aged 65+ (%)	26.5	28.4	31.1	33.2	34.2	34.1
Selby District	Aged 0 to 15 (%)	18.5	18.2	17.7	17.3	17.4	17.4
	Aged 16 to 64 (%)	60.8	59.7	58.2	57.1	56.6	56.6
	Aged 65+ (%)	20.7	22.1	24.1	25.6	26.1	25.9
Yorkshire and the Humber	Aged 0 to 15 (%)	19.1	18.5	17.6	17.2	17.3	17.4
	Aged 16 to 64 (%)	62.0	61.3	60.5	59.6	58.8	58.8
	Aged 65+	18.9	20.2	21.8	23.2	23.8	23.8
England	Aged 0 to 15 (%)	19.2	18.6	17.6	17.1	17.1	17.2
	Aged 16 to 64 (%)	62.3	61.7	60.9	59.9	59.1	59.0
	Aged 65+ (%)	18.5	19.7	21.5	23.0	23.8	23.8

Source: ONS (2022) (Ref. 12-32)

- 12.5.50 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. It is expected that PRowS will continue to be used. Businesses and community facilities may open and close, however it is not expected that there will be any perceptible changes to the local economic baseline assessment and the Scheme should be assessed against current baseline conditions and policies.

## 12.6 Embedded Mitigation

### Construction and Decommissioning

- 12.6.1 Mitigation measures are embedded within the Scheme to reduce other construction and operational effects (relating to noise, air quality, transport and landscape), which in turn will mitigate the effects on the local community and existing facilities from a Socio-Economic and Land Use perspective. The relevant mitigation measures are set out in the respective chapters.
- 12.6.2 The Scheme has been designed to avoid any requirement for PRowS to be closed during any phase (construction, operation or decommissioning), with additional Permissive Paths provided within the Solar PV Site.
- 12.6.3 As described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**, where PRowS cross or are adjacent to Solar PV Areas, fencing will be erected from the inside of the Site without impacting the PRowS or preventing their use. Fencing is the first stage of construction and with this in place construction activities can operate without impacts to PRow. The PRow will also be buffered from the perimeter fencing with 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.
- 12.6.4 It is expected that under a worst-case scenario, any PRowS that are crossed by the Interconnecting Cable Corridor would only be impacted during the short-term trenching and restoration operations. These PRow will remain open (anticipated to be managed through traffic measurement measures), although routes may be slightly diverted temporarily, for example moving from one side of the road to another. Along the Grid Connection Corridor, the PRow associated with the crossing points of the Rivers Ouse and Derwent will not be impacted by construction activities because the river crossings will be trenchless, most likely achieved via horizontal directional drilling (HDD). A single PRow (35.47/1/1) is located within the Grid Connection Corridor north of the Drax Substation, and, as for the Interconnecting Cable Corridor, it is expected that this will remain open with a slight temporary diversion (managed through traffic management measures).
- 12.6.5 A **Framework Public Rights of Way Management Plan [EN010143/APP/7.13]** is submitted as part of this DCO application which sets out how PRow will be managed during the construction phase to ensure the safety of users and site staff.

## Operation

- 12.6.6 The existing PRow which pass through or run adjacent to the Order limits are expected to be unaffected during the operational phase.
- 12.6.7 It is not expected that any Temporary Traffic Management (TTM), PRow diversions or closures will be required and the majority of vehicles accessing the Site will be maintenance vehicles/Light Goods Vehicles (LGV) and will be nominal in number.
- 12.6.8 The Scheme will retain the existing links to adjacent PRow routes and highways as at present. The operational phase of the Scheme will include the following mitigation measures:
- Maintaining access to all existing PRow within the Site, with no diversions or closures (any PRow temporarily diverted during the construction phase will be reinstated during the operational phase); and
  - Controlling areas where the internal maintenance route crosses any existing PRow (such as by providing gates), permitting only operational traffic to utilise these internal routes within the Solar PV Areas. Operational traffic would give-way to other users when utilising the crossing points. Visibility will be maximised between operational vehicles and other users, with warning signage provided if required.
- 12.6.9 A minimum width has been incorporated into the Scheme design for PRow within or directly adjacent to the Solar PV Site. The PRow will also be buffered from the perimeter fencing, with fencing being installed a minimum distance of 20 m either side 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. There will be a further 5 m from the perimeter fence to the Solar PV Panels. This will avoid the perception of being channelled into narrow passages between solar PV panels.
- 12.6.10 Permissive Paths to enhance the current PRow network will be provided as part of the Scheme, which have been included as embedded mitigation. Two indicative routes are shown on **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]** and are further described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**. The first proposed Permissive Path is a continuation of Bridleway SPALB08 which currently terminates at Johnson's Farm (the site of the Operations and Maintenance Hub), and from discussions with East Riding of Yorkshire Council's PRow Team (28 February 2023) it is proposed that this will be a Permissive Path allowing travel on horses. The proposed Permissive Path runs northwards for approximately 340 m until it connects with the second proposed Permissive Path. This runs eastwards from footpath SPALF14, connecting with the first Permissive Path and continuing eastwards to the edge of the grassland habitat created in the east of Solar PV Area 1e. The path would be approximately 1.4 km in length. From discussions with East Riding of Yorkshire Council's PRow Team it is anticipated that the section from SPALF14 to the connection with the first Permissive Path will be a Permissive Path allowing travel on horses, helping to reinforce the Council's aspirations for the provision of recreational routes for equestrian users. From the point where the two Permissive Paths meet, heading



westwards it is anticipated that the route (approximately 250 m in length) will be an ordinary Permissive Path (i.e. a footpath).

## 12.7 Assessment of Likely Impacts and Effects

12.7.1 The Scheme has the potential to affect Socio-Economics and Land Use (positively or negatively), during construction, operation and during decommissioning, in the following ways:

- 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 will not provide educational or visitor facilities, though potential impacts on existing education and visitor facilities are covered under bullet (e) below);
- c. Gross Value Added (GVA), including multiplier effects (i.e. indirect benefits for the region);
- d. PRow; and
- e. Other private and community assets (including residential properties, business premises, community facilities, visitor attractions and development land), in terms of any change of land use within the Order limits and any changes to accessibility and amenity for receptors beyond the Order limits.

12.7.2 The assessments have been undertaken following consideration of the embedded mitigation measures as described in section 12.6.

### Construction Effects

#### Employment

12.7.3 Subject to being granted consent and following a final investment decision, the earliest construction could start is in 2025. The construction period of the Scheme is expected to be approximately 24 months in duration. It is noted that the Grid Connection Corridor is expected to take approximately 12 months to complete, whereas the works within the Solar PV Site are 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 period. The construction period could be of longer duration, however 24 months is a realistic worst-case assumption for the consideration of amenity and 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, noise, dust, visual amenity, etc.). 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 period and therefore the associated employment and spending benefits of the Scheme overall

would remain unchanged. A higher maximum peak jobs figure also reflects a worst case scenario for the assessment of effects on local accommodation availability (see paragraph 12.7.17 onwards). In relation to PRowS, a longer construction period is the most appropriate worst-case assumption. However, this is accounted for as the Scheme has been designed to have minimal to no impact on PRow and will not require any PRow closures.

- 12.7.4 According to this timeframe, operation is therefore anticipated to commence in 2027. Therefore, the likely effects of construction will be of a medium-term temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period that can be estimated as the function of the scale and type of activities required to construct the Scheme.
- 12.7.5 The Applicant estimates that the Scheme will require a peak workforce of 400 full-time equivalent (FTE) staff per day, and an average of 356 gross direct FTE jobs on-site per day during the construction period, assumed to be equivalent to 356 FTE jobs per annum. The size of the workforce is based on activities required and will fluctuate during the period, therefore, being both higher and lower than average at times. The peak construction workforce (in 2025 when both the solar farm and its grid connection are being constructed) is based upon the most rapid possible construction programme.12-37 For this reason, the estimate of a peak workforce of 400 FTE staff per day may, as noted in paragraph 12.4.5 and paragraph 12.7.3 represent an overestimate of the maximum number of jobs during peak construction however, should the construction period 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

- 12.7.6 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 **Figure 12-2, ES Volume 3 [EN010143/APP/6.3]**. It is estimated that 45% of construction staff could be sourced from the Study Area. This will 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 the Study Area. This indicates that although a reasonably high proportion of employment opportunities will be retained in the Study Area, a noticeable number of jobs will 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 will likely be in more specialised solar PV professions owing to the scarcity of such resources within localised areas compared with less skilled professions.
- 12.7.7 An adjustment of 55% has therefore been applied to the estimated average 356 gross direct construction jobs on-site during the construction period to estimate the jobs created within the target area. On this basis, it is estimated that the Scheme will create 160 FTE jobs per annum for residents within the Study Area during the construction period.

## Displacement

- 12.7.8 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.
- 12.7.9 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.
- 12.7.10 HCA Additionality Guide (Ref. 12-30) provides standards (or 'ready reckoners') for displacement. Within the context of a construction project in the Study Area, a low displacement factor of 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 these are only to a limited extent. This displacement level is assessed as appropriate for a construction project, as used in other comparable renewable energy schemes. This factor is a best practice approach in the absence of specific local information that might justify a different level of displacement being used. Applying this level of displacement to the total gross direct average employment figure results in a total net direct employment figure of 267 FTE jobs per annum during the construction period.

## Multiplier Effect

- 12.7.11 In addition to the direct employment generated by the construction of the Scheme, there will be an increase in local employment arising from indirect and induced effects of the construction activity. Employment growth will arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, it is assumed that part of the income of the construction workers and suppliers will be spent in the Study Area, generating further employment (in terms of induced or income multipliers).
- 12.7.12 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 best practice approach in the absence of specific information that might justify another multiplier effect factor being used, 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 267 workers results in net indirect and induced employment of 134 jobs per annum during the construction period.

## Net Construction Employment

- 12.7.13 **Table 12-18** presents the temporary annual employment generated by the Scheme, accounting for leakage, displacement, and multiplier effects. The

Scheme will support, on average, 401 total net jobs per annum during the construction period. Of these, 181 jobs per annum will be expected to be taken up by residents within the Study Area.

**Table 12-18. Net Additional Construction Employment per annum from the Scheme**

	<b>Study Area (60-minute travel area)</b>	<b>Outside Study Area</b>	<b>Total</b>
<b>Gross Direct Employment</b>	160	196	356
<b>Displacement</b>	-40	-49	-89
<b>Net Direct Employment</b>	120	147	267
<b>Indirect &amp; Induced Employment</b>	61	73	134
<b>Total Net Employment<sup>1</sup></b>	181	220	401

*Source: AECOM Calculations 2023. Please note that figures have been rounded to the nearest whole number.*

12.7.14 The jobs created will be in the renewable energy sector, specifically relating to solar installation, but also electricity transmission. As such, they will 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. 12-33) and described within the Net Zero Strategy: Building Back Greener (Ref. 12-34). The indirect jobs include those created within the supply chain and therefore reflect the opportunities for low carbon industries to contribute to the Scheme.

12.7.15 **A Framework Skills, Supply Chain and Employment Plan (FSSCEP) [EN010143/APP/7.15]** has been prepared to maximise and pro-actively expand the economic benefits of the Scheme for the local community. There will be a Requirement in the DCO for the FSSCEP to be developed into a full SSCE plan once the DCO is granted. The FSSCEP identifies a range of potential opportunities or work areas, across the broad areas of skills, supply chain employment, that the Applicant could take forward. These include the following:

- a. The Applicant will consider requiring contractors to provide opportunities for the creation of apprenticeships and training places during construction and decommissioning as part of its procurement process;
- b. The Applicant will investigate the potential for a programme of activities which promote science, technology, engineering, and mathematics (STEM) education and careers;
- c. The Applicant will investigate measures to promote take up of jobs generated by the Scheme by local people, including requiring

<sup>1</sup> Sum of Net Direct Employment and Indirect and Induced Employment

contractors to promote local employment during construction and decommissioning; and

- d. The Applicant will work with local partners to communicate purchasing and contracting opportunities arising from the Scheme to local businesses.

12.7.16 The sensitivity of the local workforce to employment changes has been assessed as low, due to the low claimant count in the area (claimants are those who are unemployed and claiming job seekers allowance or other unemployment related benefits). The direct, indirect, and induced employment, expenditure and upskilling created from the construction of the Scheme must be judged in the context of the labour pool of construction workers in the Study Area (60-minute travel area) (approximately 108,000 according to BRES 2021 data) (Ref. 12-26). 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** (for the duration of construction stage only). This is not considered significant.

#### **Local Accommodation Facilities**

12.7.17 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. Economic impacts which could arise from construction worker spending on accommodation is covered separately within the assessment of employment effects (paragraph 12.7.11 onwards).

12.7.18 This analysis indicates that, considering existing seasonal demand and typical occupancy (2022 levels), the peak workforce (400 workers) could be accommodated within existing provision within a 30-minute drive time radius of the Site. This is shown in **Table 12-19**. This 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 Site and therefore be home-based (i.e., would live sufficiently close-by to return home in the evenings rather than needing overnight accommodation).

12.7.19 Further analysis to identify accommodation within a 60-minute drive time radius (as shown in **Table 12-20**) indicates that there would be a minimum of 5,006 remaining rooms available, after taking into account the peak construction workforce (400 workers) and typical seasonal occupancy levels.

12.7.20 If 220 peak workers from outside of the Study Area need accommodation (assuming 55% leakage and 45% home-based workers), there will likely be 15.2% spare capacity within a 60-minute radius during peak occupancy (July). If all 220 peak workers from outside the Study Area are required to stay in accommodation at peak occupancy (July), there would be 215 remaining rooms within a 30-minute drive time radius from the Site and 5,186 remaining rooms within a 60-minute drive from Site.

- 12.7.21 In a worst-case scenario where all 400 peak workers need accommodation, there is still approximately 15.2% spare capacity within a 60-minute drive from Site at peak occupancy (July). There would still be 35 remaining rooms within a 30-minute drive time radius from the Site, and 5,006 remaining rooms within a 60-minute drive from Site.
- 12.7.22 In summary, 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 Site.
- 12.7.23 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.
- 12.7.24 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 12-19. Accommodation Capacity within 30-minute drive time radius of the Site**

<b>Month</b>	<b>Room Occupancy (%)</b>	<b>Rooms Typically Available after Existing Demand</b>	<b>All Construction Workers – Peak and (Workers from Outside Study Area only – Peak)</b>	<b>Remaining Rooms Available</b>	<b>Remaining Rooms Available (%)</b>
<b>January</b>	52.4	1,337	400 (220)	937 (1,117)	33.4 (39.8)
<b>February</b>	72.7	767	400 (220)	367 (547)	13.1 (19.5)
<b>March</b>	69.3	863	400 (220)	462 (642)	16.4 (22.9)
<b>April</b>	76.2	668	400 (220)	268 (448)	9.6 (16.0)
<b>May</b>	77.9	621	400 (220)	221 (401)	7.9 (14.3)
<b>June</b>	79.3	581	400 (220)	181 (361)	6.5 (12.9)
<b>July</b>	84.5	435	400 (220)	35 (215)	1.3 (7.7)
<b>August</b>	83.5	463	400 (220)	63 (243)	2.3 (8.7)

<b>Month</b>	<b>Room Occupancy (%)</b>	<b>Rooms Typically Available after Existing Demand</b>	<b>All Construction Workers – Peak and (Workers from Outside Study Area only – Peak)</b>	<b>Remaining Rooms Available</b>	<b>Remaining Rooms Available (%)</b>
<b>September</b>	82.5	491	400 (220)	91 (271)	3.3 (9.7)
<b>October</b>	81.9	508	400 (220)	108 (288)	3.9 (10.3)
<b>November</b>	78.7	598	400 (220)	198 (378)	7.1 (13.5)
<b>December</b>	73.1	755	400 (220)	355 (535)	12.7 (19.1)

Source: CoStar (2023) (Ref. 12-35)

**Table 12-20. Accommodation Capacity within a 60-minute drive time radius of the Site**

<b>Month</b>	<b>Room Occupancy (%)</b>	<b>Rooms Typically Available after Existing Demand</b>	<b>All Construction Workers - Peak and (Workers from Outside Study Area only – Peak)</b>	<b>Remaining Rooms Available</b>	<b>Remaining Rooms Available (%)</b>
<b>January</b>	53.9	15,196	400 (220)	14,796 (14,976)	44.9 (45.4)
<b>February</b>	72.0	9,230	400 (220)	8,830 (9,010)	26.8 (27.3)
<b>March</b>	73.3	8,801	400 (220)	8,401 (8,581)	25.5 (26.0)
<b>April</b>	76.4	7,780	400 (220)	7,380 (7,560)	22.4 (22.9)
<b>May</b>	78.0	7,252	400 (220)	6,852 (7,032)	20.8 (21.3)
<b>June</b>	79.1	6,889	400 (220)	6,489 (6,669)	19.7 (20.2)

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 (%)
<b>July</b>	83.6	5,406	400 (220)	5,006 (5,186)	15.2 (15.7)
<b>August</b>	79.8	6,659	400 (220)	6,259 (6,439)	19.0 (19.5)
<b>September</b>	80.5	6,428	400 (220)	6,028 (6,208)	18.3 (18.8)
<b>October</b>	82.4	5,802	400 (220)	5,402 (5,582)	16.4 (16.9)
<b>November</b>	79.3	6,824	400 (220)	6,424 (6,424)	19.5 (20.0)
<b>December</b>	70.9	9,593	400 (220)	9,193 (9,373)	27.9 (28.4)

Source: CoStar (2023) (Ref. 12-35)

### Gross Value Added

12.7.25 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 period. This is shown in **Table 12-21**. 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 total direct construction workers generated by the Scheme, it is estimated that construction will contribute approximately £22.5 million to the national economy, of which £10.1m would likely be within the Study Area.

**Table 12-21. Gross Direct Value Added per annum from the Scheme during the Construction Phase**

	Study Area (60-minute travel area)	Outside Study Area	Total
<b>GVA (£m)</b>	10.1	12.4	22.5



*Source: ONS, (2017); Regional Gross Value Added (Income Approach) (Ref. 12-36)  
ONS, (2017); Business Register and Employment Survey (Ref. 12-37).*

- 12.7.26 The sensitivity of the economy within the Study Area has been assessed as medium, due to GVA per head being slightly lower in East Riding of Yorkshire compared to the region, and nation, but slightly higher in Selby District. 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.
- 12.7.27 The impact on the national economy as represented by the total GVA generated has been assessed as being of low magnitude. This results in a temporary **minor beneficial effect** which, again is not considered significant.

### **Public Rights of Way**

- 12.7.28 Effects during construction on relevant routes are set out in the following paragraphs. There are 10 PRoW located within the Solar PV Site boundary, seven of which are within, or which intersect or run between, the Interconnecting Cable Corridor Areas. There are also 10 PRoW which are located along or abutting the Solar PV Site boundary, but not traversing it. The Grid Connection Corridor intersects with three footpaths.
- 12.7.29 The Scheme has been designed to have minimal-to-no impact on PRoWs and will not require any PRoW closures. Within the Solar PV Site, mitigation measures including fencing and a minimum 15 m buffer from the path centreline will be implemented to ensure that PRoW access is unaffected throughout construction.
- 12.7.30 Those footpaths which are intersected by the Grid Connection Corridor (WRESF12, 35.35/9/1 and 35.47/1) are associated with the Corridor's crossing points over the Rivers Ouse and Derwent. These will not be impacted by the Grid Connection Corridor as river crossings will be installed via HDD.
- 12.7.31 The other PRoW crossed by the Grid Connection Corridor and all PRoW which are crossed by the Interconnecting Cable Corridor would only be impacted during the short-term trenching and restoration operations. These PRoW would remain open (likely managed through traffic management measures) although routes may be slightly diverted temporarily for a short period, for example moving from one side of a road to the other.
- 12.7.32 The 'Howden 20' recreational route along PRoW passes through the Solar PV Site at various locations, but there are no national trails or national cycle routes within the Solar PV Site. The Grid Connection Corridor intersects National Cycle Route 65. 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.
- 12.7.33 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, PRoW are assessed to have low sensitivity. Due to the limited scale of impacts, the impacts upon PRoWs are assessed to be very low

adverse, which results in a **negligible** effect. This is not considered significant.

### **Private and Community Assets**

#### **Residential Properties, Business Premises, Community Facilities and Development Land**

- 12.7.34 Temporary access will be required to a small portion of the forecourt of Highfield Garage, a vehicle repair business and petrol station at Highfield, to facilitate a limited number of abnormal load manoeuvres from the A163 onto the B1228 Street Lane during substation construction. Vehicles transporting substation components to the Site will need to mount the raised upstand which separates the garage forecourt from the A163. During these manoeuvres, a portion of the access will be temporarily blocked, however these vehicles movements will be limited in number and this obstruction will be momentary. To minimise disruption, the manoeuvre will be undertaken under escort and outside of peak traffic periods. Any damage to this raised upstand will be repaired following the completion of the substation delivery.
- 12.7.35 Temporary access will also be required to a small area of verge and hardstanding forming part of Newsholme House in Willitoft, to facilitate a limited number of abnormal load manoeuvres required during construction. Vehicles transporting substation components will need to cross over this land to successfully undertake a left turn manoeuvre off the B1228 Street Lane. Measures would be taken to limit any disturbance caused by vehicle overrun, but in the event of any damage caused, this would be made good to the satisfaction of the landowner.
- 12.7.36 A mobile food truck operates regularly in the layby on the A63 near Brackenholme; it is understood that this truck serves travellers from Monday to Saturday. Construction vehicles may need to utilise the layby for parking or as a holding area. The impact on the operation of the mobile food truck would be limited. If under a worst case scenario, the layby was required for construction operations then traffic management measures would be employed so that the general public could still use part of the layby. Given that this is a mobile business, it may be able to operate from other laybys and similar alternative locations in the local area.
- 12.7.37 There are no other residential properties, business premises or community facilities within the Order limits which would be directly affected during construction.
- 12.7.38 There is potential for noise, air quality, visual and traffic elements arising from construction of the Scheme to impact on the amenity of residents, businesses and users of community facilities. Taking into account the results of the noise, traffic, visual and air quality assessments, there are no residents, businesses or community facilities that would likely experience a significant effect during construction in relation to more than one of these topics. Therefore, at this stage there are expected to be no amenity impacts arising from the Scheme on these local assets during construction.
- 12.7.39 As set out in **Chapter 13: Transport and Access, ES Report Volume 1 [EN010143/APP/6.1]**, with embedded mitigation in place, there is one road link that would experience significant traffic effects: Link 15 between B1230 and Brind Lane junctions. The significant effect experienced at this 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.

- 12.7.40 The construction phase of the Scheme could coincide with that of other developments which overlap the Grid Connection Corridor. The Applicant has met with National Grid and Drax Power to liaise on construction timings and minimise potential disruption to their schemes. Going forward, the Applicant will continue to work 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.
- 12.7.41 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, given no direct land take aside from potential temporary impacts on two businesses and one residential premises with the Order limits, no amenity impacts, some connectivity impacts, and limited potential for interference with overlapping developments. This results in a **minor adverse effect**, which is considered to be not significant.

### **Summary of Effects**

- 12.7.42 There are no significant effects expected during the construction phase of the Scheme. A summary of magnitude of impact and significance of effect during construction is provided in **Table 12-24**.

### **Operational Effects**

#### **Employment**

- 12.7.43 The Scheme will generate long-term jobs once it is complete and operational. In estimating operational employment generation, it is important to consider not just the gross effects of the Scheme, but also net effects considering leakage, displacement, and multiplier effects, as set out in **Table 12-22**.

#### **Existing Employment**

- 12.7.44 The Site predominantly consists of agricultural land, the Applicant has estimated (based on previous experience and benchmarking against other comparable solar schemes) that there are three existing jobs on the Site related to agricultural activities. It is noted that increasingly the physical farming of land is undertaken by whole-farm contractors and arable farming is seasonal in nature.
- 12.7.45 There is expected to be an employment loss of three jobs as a result of the Scheme.

#### **Total Net Operational Employment**

- 12.7.46 The Applicant has estimated that to operate and manage the solar farm there will be a gross number of three permanent jobs generated by the Scheme.
- 12.7.47 As presented in **Table 12-22**, it is estimated that there will be no net change in the employment supported by activities on the Site as a result of the Scheme.

**Table 12-22. Total Net Employment during Operation of the Scheme**

	Study Area	Outside Study Area	Total
<b>Existing Employment</b>			
Gross Direct Employment	1	2	3
Net Direct Employment	1	1	2
Indirect & Induced Employment	1	2	3
<b>Total</b>	<b>2</b>	<b>3</b>	<b>5</b>
<b>New Employment</b>			
Gross Direct Employment	1	2	3
Net Direct	1	1	2
Indirect & Induced Employment	1	2	3
<b>Total</b>	<b>2</b>	<b>3</b>	<b>5</b>
<b>Total Net Employment (Existing Employment – New Employment)</b>	<b>0</b>	<b>0</b>	<b>0</b>

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

12.7.48 Given this, there will be **no effect** with regard to operational employment.

12.7.49 The jobs created will be in the renewable energy sector, assisting in the UK's transition to net zero.

**Public Rights of Way (PRoW)**

12.7.50 There are 10 PRoW located within the Solar PV Site boundary, of which seven are within, intersect or run between the Interconnecting Cable Corridor Areas. The Grid Connection Corridor intersects with three footpaths. No PRoW are expected to be affected during operation. The sensitivity of PRoW users is low, due to it being unlikely that these PRoW are used for commuting purposes, and there being no national trails within the Study Area.

12.7.51 Permissive Paths to enhance the current PRoW network will be provided as part of the Scheme. These will be available during the operational stage of the Scheme. Two indicative routes are shown on **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]**. The routes are described in paragraph 12.6.6.

12.7.52 Given that there are no expected closures or diversions, and that new Permissive Paths will be available, the impact on users of PRoW is assessed to be medium beneficial, resulting in a **minor beneficial effect**. This is not significant. The effect would be reversible given that it cannot be

guaranteed that the Permissive Paths would be retained after decommissioning when the land is no longer in the control of the Applicant.

### **Private and Community Assets and Land Use**

#### **Residential Properties, Business Premises, Community Facilities and Development Land**

- 12.7.53 There is potential for noise, air quality, visual and traffic effects arising from the operation of the Scheme to impact on the amenity of residents, businesses and users of community facilities. Taking into account the results of the noise, traffic, visual and air quality preliminary assessments, there are no residents, businesses or community facilities that would likely experience a significant effect on their amenity during operation from effects acting in combination. Therefore, at this stage there are expected to be no amenity impacts arising from the Scheme on these private and community assets.
- 12.7.54 With regard to community connectivity, **Chapter 13: Transport and Access, ES Volume 1 [EN010143/APP/6.1]**, states that as predicted traffic levels owing to the operational phase are so low, consideration of the transport and access effects within the operational 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 operational phase.
- 12.7.55 To minimise any potential hindrances or adverse impacts on other proposed developments which overlap geographically with the Scheme, the Applicant will continue to work with National Grid, Drax Power and other scheme promoters if and as required, in the framework of the consenting process.
- 12.7.56 Overall it is assessed that there will likely be **no effect** on private and community assets in the operation phase of the Scheme.

#### **Summary of Effects**

- 12.7.57 There are no significant effects expected during the operational phase of the Scheme. A summary of magnitude of impact and significance of effect during operation is provided in **Table 12-25**.

#### **Decommissioning Effects**

##### **Employment**

- 12.7.58 For purposes of the assessment the year of decommissioning of the Scheme is assumed to be approximately 2067, reflecting an operational period of 40-years, as noted in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**.
- 12.7.59 At the end of its operational life, the most likely scenario is that the Scheme would be shut down and infrastructure within the Solar PV Site such as panel arrays and Field Stations removed, noting that the future of the 132 kV/33 kV Grid Connection Substations and associated control buildings will be agreed with National Grid Electricity Transmission (NGET) prior to commencement of decommissioning and may remain under NGET operation. The mode of cable decommissioning for the Grid Connection

and Interconnecting Cables (removal or leaving in situ) will be dependent upon government policy and best practice at that time. The decommissioning of the Scheme is further described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**. It can be expected that employment will be generated to carry out the removal of the infrastructure from the Site.

- 12.7.60 The estimated duration of the decommissioning period is expected to be less than or similar to that of the construction period, being between 12 and 24 months, and could be undertaken sequentially. Therefore, the likely effects will be of a short-term temporary nature (for the duration of decommissioning activities only). Although these jobs are temporary, they represent a positive economic effect that can be estimated as the function of the scale and type of activities required to decommission the Scheme.
- 12.7.61 It is assumed based on the activities taking place that the same number of jobs required for constructing the Scheme will be needed to carry out the activities required to remove the infrastructure from the Site. Therefore, an average of 356 gross FTE jobs will be on-site per day during this decommissioning period.

### Net Decommissioning Employment

- 12.7.62 **Table 12-23** presents the temporary decommissioning employment generated by the Scheme, accounting for leakage, displacement and multiplier effects, as identified in the above section on the construction period. The Scheme will support, on average, 401 total net jobs per annum during the decommissioning period. Of these, 181 jobs per annum will be expected to be taken-up by residents within the Study Area, whilst 220 jobs will likely be taken-up by workers living outside the area.

**Table 12-23. Net Additional Decommissioning Employment per annum from the Scheme**

	Study Area (60-minute travel area)	Outside Study Area	Total
<b>Gross Direct Employment</b>	160	196	356
<b>Displacement</b>	-40	-49	-89
<b>Net Direct Employment</b>	120	147	267
<b>Indirect &amp; Induced Employment</b>	61	73	134
<b>Total Net Employment<sup>2</sup></b>	181	220	401

*Source: AECOM Calculations 2023. Please note that figures have been rounded to the nearest whole number.*

- 12.7.63 The sensitivity of the local workforce to employment changes has been assessed as low, due to the low claimant count in the area. The direct, indirect and induced employment, expenditure and upskilling created from the decommissioning of the Scheme must be judged in the context of the

<sup>2</sup> Sum of Net Direct Employment and Indirect and Induced Employment.

labour pool of construction workers in the Study Area. The Study Area currently has around 108,000 workers in its construction sector (Ref. 12-26). The impact of decommissioning employment generation in the local economy has been assessed as temporary medium beneficial, which results in a medium-term temporary **minor beneficial effect**. This is considered not significant.

### **Employment Loss following Decommissioning**

12.7.64 It can be expected when the Scheme is decommissioned, the employment required to operate the solar farm (three jobs), along with additional ad hoc staffing for maintenance operations etc (assumed as four days of additional worker time per month) 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.

### **Public Rights of Way**

12.7.65 Changes to journey times, local travel patterns, and certainty of routes for users could arise from any disruptions to PRoW. There should be no need for any closures of PRoW during decommissioning. In a worst-case scenario, PRoW crossing the Grid Connection or Interconnecting Cable Corridor may be disrupted by traffic management or temporary diversions, but these will be short-term in duration. PRoW have been assessed to have low sensitivity, due to the low number of recreational routes 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 adverse, which results in a **negligible effect**. This is considered not significant.

12.7.66 It cannot be guaranteed that the Permissive Paths established during the operational phase will be retained by landowners after decommissioning. The negligible beneficial effect which they are assessed to generate during in operation therefore ceases.

### **Private and Community Assets and Land Use**

#### **Residential Properties, Business Premises, and Community Facilities**

12.7.67 There is potential for noise, traffic, air quality, and visual effects arising from the decommissioning phase of the Scheme to impact on the amenity of residents, businesses and users of community facilities. Taking into account the results of the noise, traffic, visual and air quality assessments, there are no residents, businesses or community facilities that would likely experience a significant effect on their amenity during decommissioning from more than one of these topics. Therefore, at this stage there are expected to be no amenity impacts arising from the Scheme on these private and community assets.

12.7.68 Roads bordering the Site may be used by decommissioning related traffic which could impact on travel between settlements and cause community severance. As set out in **Chapter 13: Transport and Access, ES Report Volume 1 [EN010143/APP/6.1]**, it is considered reasonable to assume that decommissioning impacts will be the same as, or not greater than, the construction phase. This may overestimate the actual impacts slightly, but it

is considered broadly accurate. The construction phase assessment finds that, with embedded mitigation in place, there is one road link that would experience significant traffic effects: Link 15 between B1230 and Brind Lane junctions. The significant effect experienced at this link is caused by a high percentage increase in traffic and is due to a low baseline peak flow per hour; the actual predicted increase is relatively small.

- 12.7.69 It is not known what if any other developments which overlap geographically with the Scheme will be forthcoming during the decommissioning phase. It is assumed that the Applicant will 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.
- 12.7.70 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, no amenity impacts, 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.

### **Summary of Effects**

- 12.7.71 There are no significant effects expected during the decommissioning phase of the Scheme. A summary of magnitude of impact and significance of effect during decommissioning is provided in **Table 12-26**.



**Table 12-24. Summary of magnitude of impact and significance of effect (Socio-Economics and Land Use – Construction)**

<b>Receptor</b>	<b>Sensitivity (Value)</b>	<b>Description of Impact</b>	<b>Magnitude of Impact</b>	<b>Effect Category</b>	<b>Significant effect (Yes / No)</b>
<b>Local workforce</b>	Low	Employment generation	Temporary low beneficial	Minor beneficial	No
<b>Local accommodation</b>	Low	Pressure on local accommodation facilities from inflows of construction workers	Temporary very low adverse	Negligible	No
<b>Local economy</b>	Medium	GVA generation	Temporary low beneficial	Minor beneficial	No
<b>PRoW</b>	Low	Changes to journey times, local travel patterns and certainty of routes	Temporary very low adverse	Negligible	No
<b>Residential properties, business premises, community facilities and development land</b>	Medium	Land take, amenity impacts, connectivity impacts and potential hindrance to other developments	Temporary low adverse	Minor adverse	No

**Table 12-25. Summary of magnitude of impact and significance of effect (Socio-Economics and Land Use – Operation)**

<b>Receptor</b>	<b>Sensitivity (Value)</b>	<b>Description of Impact</b>	<b>Magnitude of Impact</b>	<b>Effect Category</b>	<b>Significant effect (Yes / No)</b>
<b>Local workforce</b>	Very low	Employment generation	Very low adverse	Negligible	No

<b>Receptor</b>	<b>Sensitivity (Value)</b>	<b>Description of Impact</b>	<b>Magnitude of Impact</b>	<b>Effect Category</b>	<b>Significant effect (Yes / No)</b>
<b>PRoW</b>	Low	Changes to journey times, local travel patterns and certainty of routes	Medium beneficial	Minor beneficial	No
<b>Residential properties, business properties and development land</b>	Low	Land take, amenity impacts, connectivity impacts and potential hindrance to other developments	No impact	No effect	No

**Table 12-26. Summary of magnitude of impact and significance of effect (Socio-Economics and Land Use – Decommissioning)**

<b>Receptor</b>	<b>Sensitivity (Value)</b>	<b>Description of Impact</b>	<b>Magnitude of Impact</b>	<b>Effect Category</b>	<b>Significant effect (Yes / No)</b>
<b>Local workforce</b>	Low	Employment generation	Temporary medium beneficial	Minor beneficial	No
<b>PRoW</b>	Low	Changes to journey times, local travel patterns and certainty of routes	Very low adverse	Negligible	No
<b>Residential properties, business properties, community facilities and development land</b>	Medium	Land take, amenity impacts, connectivity impacts, potential hindrance to other developments	Low adverse	Minor adverse	No

## 12.8 Additional Mitigation, Enhancement, and Monitoring

- 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 However, as described in section 12.7, Permissive Paths to enhance the current PRoW network will be provided as part of the Scheme. These have been included as embedded mitigation (but are not essential mitigation).
- 12.8.3 In addition, the Applicant has developed a **Framework Skills, Supply Chain and Employment Plan (FSSCEP) [EN010143/APP/7.15]** accompanying the DCO Application which aims to enhance and proactively expand the economic benefits of the Scheme for the local community. The FSSCEP identifies activities relating to skills, supply chain and employment which the Applicant will take forward post-consent, in partnership with local stakeholders.

## 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 stated in **Table 12-27**, **Table 12-28** and **Table 12-29** with no significant effects identified on socio-economics and land use.

**Table 12-27. Residual effects – Socio-Economics and Land Use (construction)**

<b>Receptor</b>	<b>Description of impacts including duration</b>	<b>Embedded mitigation</b>	<b>Significance of effect with embedded mitigation</b>	<b>Additional mitigation/enhancement measures</b>	<b>Residual effect</b>
<b>Local workforce</b>	Employment generation (short-term, temporary)	N/A	Minor beneficial – not significant	N/A	Minor beneficial – not significant
<b>Local accommodation</b>	Pressure on local accommodation facilities from inflows of construction workers (short term, temporary)	N/A	Negligible – Not significant	N/A	Negligible – Not significant
<b>Local Economy</b>	GVA generation (short term, temporary)	N/A	Minor beneficial – not significant	N/A	Minor beneficial – not significant
<b>PRoW</b>	Changes to journey times, local travel patterns and certainty of routes (short term, temporary)	There will be no requirement for PRoW closures. In a worst-case scenario, if PRoW diversions were required, these would be short-term in duration and limited in length. A minimum buffer of	Negligible – not significant	N/A	Negligible – not significant

<b>Receptor</b>	<b>Description of impacts including duration</b>	<b>Embedded mitigation</b>	<b>Significance of effect with embedded mitigation</b>	<b>Additional mitigation/enhancement measures</b>	<b>Residual effect</b>
		15 m from the centreline of the PRow to the perimeter fence of the solar farm will be maintained.			
<b>Residential properties, business premises, community facilities and development land</b>	Land take, amenity impacts, connectivity impacts, hindrance to other developments.	N/A	Minor adverse – not significant	N/A	Minor adverse – not significant

**Table 12-28. Residual effects – Socio-Economics and Land Use (operation)**

<b>Receptor</b>	<b>Description of impacts including duration</b>	<b>Embedded mitigation</b>	<b>Significance of effect with embedded mitigation</b>	<b>Additional mitigation/enhancement measures</b>	<b>Residual effect</b>
<b>Local workforce</b>	Employment generation (long term, reversible)	N/A	Negligible – not significant	N/A	Negligible – not significant

<b>Receptor</b>	<b>Description of impacts including duration</b>	<b>Embedded mitigation</b>	<b>Significance of effect with embedded mitigation</b>	<b>Additional mitigation/enhancement measures</b>	<b>Residual effect</b>
<b>PRoW</b>	Changes to journey times, local travel patterns and certainty of routes (long term, reversible)	N/A	Minor beneficial – not significant	N/A.	Minor beneficial – not significant
<b>Residential properties, business premises, community facilities and development land</b>	Land take, amenity impacts, connectivity impacts, hindrance to other developments (long term, reversible)	N/A	No effect – not significant	N/A	No effect – not significant

**Table 12-29. Residual effects – Socio-Economics and Land Use (decommissioning)**

<b>Receptor</b>	<b>Description of impacts including duration</b>	<b>Embedded mitigation</b>	<b>Significance of effect with embedded mitigation</b>	<b>Additional mitigation/enhancement measures</b>	<b>Residual effect</b>
<b>Local workforce</b>	Employment generation (short term, temporary)	N/A	Minor beneficial – not significant	N/A	Minor beneficial – not significant

<b>Receptor</b>	<b>Description of impacts including duration</b>	<b>Embedded mitigation</b>	<b>Significance of effect with embedded mitigation</b>	<b>Additional mitigation/enhancement measures</b>	<b>Residual effect</b>
<b>PRoW</b>	Changes to journey times, local travel patterns and certainty of routes (short term, temporary)	There will be no requirement for PRoW closures. In a worst-case scenario, if PRoW diversions were required, these would be short-term in duration and limited in length	Negligible – not significant	N/A	Negligible – not significant
<b>Residential properties, business premises, community facilities and development land</b>	Land take, amenity impacts, connectivity impacts, hindrance to other developments (long term, reversible)	N/A	Minor adverse – not significant	N/A	Minor adverse – not significant

## 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 schemes') within the surrounding area.
- 12.10.2 The cumulative schemes to be considered in combination with the Scheme have been agreed in consultation with relevant Local Planning Authorities and are listed in **Appendix 17-1, ES Volume 2 [EN010143/APP/6.2]**. The cumulative assessment methodology is presented within **Chapter 5: EIA Methodology, ES Volume 1 [EN010106/APP/6.1]**.
- 12.10.3 There are six proposed developments that have been identified which coincide with the Order limits, which are included on the short list of developments presented in **Appendix 17-1, ES Volume 2 [EN010143/APP/6.2]**. In all instances, the overlap occurs between the Grid Connection Corridor of the Scheme and the other developments (the Solar PV Site does not overlap with any other developments). A further 17 other developments are located within 2 km of the Scheme, which is the Zone of Influence for Socio-Economics and Land Use.
- 12.10.4 Of the six proposed developments that have been identified as potentially coinciding with the Order limits, three are at approval status. These are Scotland to England Green Link (SEGL2) (22/01990/STPLFE and 2022/07/11/EIA), Drax Re-Power project (EN010091) and Lakeside Energy Storage project (2020/1357/FULM and 2022/0397/S73). The other proposed developments are either at Pre-application EIA scoping stage or DCO Examination stage, and it is therefore not possible to entirely quantify their future impact due to there not being readily available information. Information which is available has been reviewed and Socio-economic effects are all considered either minor or negligible, making them not significant cumulative effects for the purposes of this assessment.

### Construction and Decommissioning

#### Employment

- 12.10.5 In combination with the employment impacts identified in this assessment, all cumulative schemes will generate additional construction related employment in the Study Area and / or in the surrounding areas to the Study Area if they were to go ahead.
- 12.10.6 In the instance where there is an overlap in construction activities between the schemes, which it is likely there will be, the combined effect of the cumulative schemes 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 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

- 12.10.7 If the construction phases of multiple schemes were to overlap, then this would in turn increase demand in the accommodation sector from the increased workforce at a peak construction or decommissioning period.



However, within this assessment the potential effects on the hotel, bed and breakfast, and inns accommodation sector due the Scheme were assessed as negligible. Therefore, in line with the methodology presented in **Chapter 5: EIA Methodology, ES Volume 1 [EN010143/APP/6.1]**, effects to temporary accommodation are not considered within the cumulative assessment as the Scheme would not make a meaningful contribution to any cumulative effect which may occur.

### **GVA**

- 12.10.8 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**

- 12.10.9 This chapter has found potential effects on PRoW during construction, and decommissioning to be negligible. Therefore, in line with the methodology presented in **Chapter 5: EIA Methodology, ES Volume 1 [EN010143/APP/6.1]**, 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..

## **Operation**

### **Employment**

- 12.10.10 If all the cumulative schemes are to be realised there is potential for additional employment to be generated within the local area. However, the level of employment generated during the operational phase of the Scheme was assessed as being negligible meaning that the Scheme would not make a meaningful contribution to any cumulative effect which may occur. Cumulative effects between the Scheme and other developments on operational employment are therefore not assessed.

### **PRoW**

- 12.10.11 No PRoW that intersect the Order limits of the Scheme are expected to be affected during the operation of the cumulative schemes. Therefore, cumulative impacts on existing PRoW are not predicted to occur.
- 12.10.12 Due to the provision of Permissive Paths the effect of the Scheme on public accessibility during operation was assessed as minor beneficial. However, given the nature of the cumulative schemes, although they will be expected to maintain, or mitigate changes to, existing PRoW (negligible effect), it is unlikely that they will include additional Permissive Paths. Therefore, it is unlikely that cumulative effects would occur, but should this happen, the cumulative effects would likely be no greater than minor beneficial as assessed for the Scheme and are therefore not significant.

### **Residential Properties, Business Premises, and Community Facilities**

- 12.10.13 No plans or projects identified as a part of the above listed schemes 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 and therefore the effect is expected to remain as not significant.

### **Summary of Cumulative Effects**

- 12.10.14 This chapter has identified that during the construction and the decommissioning phase, there is potential for minor adverse effects on residential properties, business premises, community facilities and development land associated with land take, amenity, and connectivity impacts. There is limited information available on how the cumulative schemes might affect such assets during the construction and decommissioning stage, 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). If cumulative schemes are built at the same time as the Scheme, it is proposed that the Contractor for the Scheme liaises with the other projects to minimise cumulative issues as far as practical.
- 12.10.15 There are no significant adverse cumulative effects therefore predicted when taking into account these other projects along with the Scheme.

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