

Gate Burton Energy Park Environmental Statement

Volume 1, Chapter 14: Human Health and Wellbeing
Document Reference: EN010131/APP/3.1
January 2023

APFP Regulation 5(2)(a)
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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14. Human Health and Wellbeing

14.1 Introduction

- 14.1.1 This chapter of the Environmental Statement (ES) presents the findings of an assessment of likely significant effects on Human Health and Wellbeing as a result of the Scheme. For a description of the Scheme, refer to **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]**.
- 14.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects of the Scheme on Human Health and Wellbeing, during the construction, operation, and decommissioning phases of the Scheme. This chapter presents a summary of the information on health and wellbeing provided in **ES Volume 1, Chapter 11: Noise and Vibration, Chapter 12: Socio-economics and Land Use, Chapter 13: Transport and Access and Chapter 15: Other Environmental Topics (including Air Quality) [EN010131/APP/3.1]**.
- 14.1.3 This chapter is supported by the following appendix in **ES Volume 3 [EN010131/APP/3.3]**:
- **Appendix 14-A:** Human Health and Wellbeing Legislation and Policy.

14.2 Consultation

- 14.2.1 A request for an EIA Scoping Opinion was sought from the Secretary of State through the Planning Inspectorate in 2021 as part of the EIA Scoping Process. Further consultation in response to formal pre-application engagement was carried out through the Preliminary Environmental Information (PEI) Report, in June 2022. Consultation responses in relation to Human Health and Wellbeing are presented in **ES Volume 3: Appendix 1-C [EN010131/APP/3.3]** and the **Consultation Report [EN010131/APP/4.1]**.
- 14.2.2 Consultation has been undertaken with key stakeholders including Bassetlaw District Council, West Lindsey District Council and UK Health Security Agency. The following matters have been discussed:
- To consider temporary minor adverse impacts during the construction period, particular on Public Rights of Way;
 - To consider if there are any residual effects related to Human Health and Wellbeing;
 - Provide details on the impact of Electro-magnetic fields on Human Health;
 - Suggested that significant effects should be identified within the Human Health and Wellbeing assessment; and
 - A more detailed baseline assessment should be provided.

14.3 Legislation and Planning Policy

14.3.1 Relevant policy documents are listed below. More detailed information regarding these policies can be found in **ES Volume 3: Appendix 14-A [EN010131/APP/3.3]**.

14.3.2 National planning policy and guidance to be considered includes:

- National Policy Statement EN-1 (Ref 14-1);
- National Policy Statement EN-3 (Ref 14-2);
- National Policy Statement EN-5 (Ref 14-3);
- National Planning Policy Framework (2021) (Ref 14-4);
- NHS Long Term Plan (2019) (Ref 14-5);
- Spatial Planning for Health: An evidence resource for planning and designing healthier places (2017) (Ref 14-6);
- Public Health Strategy 2020 to 2025 (Ref 14-7); and
- National Planning Practice Guidance (Ref 14-9).

14.3.3 Local planning policy and guidance to be considered includes:

- Central Lincolnshire Local Plan (2017) (Ref 14-10);
- Bassetlaw Core Strategy and Development Management Policies (2011) (Ref 14-11);
- Joint Health and Wellbeing Strategy for Lincolnshire (2018) (Ref 14-12);
- Nottinghamshire Health and Wellbeing Strategy (2018) (Ref 14-13);
- Nottinghamshire Joint Strategic Needs Assessment (Ref 14-14); and
- Nottinghamshire Spatial Planning and Health Framework (2019) (Ref 14-15)

14.3.4 Key Legislation to be considered includes:

- Health and Social Care Act (2022); and
- Countryside and Rights of Way Act (2000).

14.4 Assumptions and Limitations

14.4.1 This assessment is based on baseline and design information available at the time of writing this ES chapter. The assessment of the significance of effects has been carried out against a benchmark of current Human Health and Wellbeing baseline conditions prevailing around the Scheme, as far as is possible within the limitations of such a dataset.

14.4.2 Baseline data is also subject to a time lag between collection and publication. As with any dataset, these conditions may be subject to change over time which may influence the findings of the assessment. Baseline Conditions reported in Section 14.7 regarding Human Health and Wellbeing are therefore based on latest data available at the time of writing, however, it should be noted that it is likely that current conditions may have changed owing to the recent effects of the Covid-19 pandemic. The assessment of effects reported in Section 14.10 are based on the conditions as reported wherever relevant and it is not expected that the assessment of significance would change if they were based on current conditions.

- 14.4.3 Effects on Human Health and Wellbeing during the construction, operation and decommissioning phases are based on a range of related assessments taking into consideration the results from the relevant environmental studies. These studies comprise **ES Volume 1, Chapter 11: Noise and Vibration, Chapter 12: Socio-economics and Land Use, Chapter 13: Transport and Access and Chapter 15: Other Environmental Topics** (including Air Quality) [EN010131/APP/3.1].
- 14.4.4 In terms of the transport assessment (as set out in **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**), the traffic flows and non-road mobile machinery during the construction period are based on a worst-case scenario of all infrastructure being built to its maximum **Design Principles [EN010131/APP/2.3]**, which may slightly overestimate the number of vehicles and equipment. A Framework Construction Traffic Management Plan (CTMP) has been prepared and is provided in **ES Volume 3: Appendix 13-E [EN010131/APP/3.3]**. The CTMP contains mitigation measures to avoid and/or reduce impacts relating to construction traffic, including the delivery of materials and transport of staff during the construction phase. During the operational phase, the Scheme will be manned by a nominal amount of people across the Site. Therefore, due to the low level of trips likely to be generated within network peak hours, an assessment of the operational phase has been excluded from this ES chapter. Operational phase effects have also been excluded from the EIA and this has been agreed in the Scoping Opinion ref ID 3.8.1 (see **ES Volume 3: Appendix 1-C [EN010131/APP 3.3]**). Further details of the operational stage transport arrangements are set out in the Transport Assessment (TA) **Appendix 1-C [EN010131/APP 3.3]** to support this approach.
- 14.4.5 The noise methodology (as set out in **ES Volume 1, Chapter 11: Noise and Vibration [EN010131/APP/3.1]**) requires specific locations to be modelled for operational phase noise sources, which has been achieved by modelling the parameters set out in **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]** and compiling data
- Sound level data, which is based on industry sound pressure level measurement data;
 - Surrounding ground conditions, which have been modelled as soft;
 - Air temperature, which is assumed to be 10 degrees and humidity 70%;
 - One order of reflection;
 - Land topography; and
 - All receptor points have set a standard height of 1.5m above local ground levels.
- 14.4.6 As set out in **ES Volume 1, Chapter 11: Noise and Vibration [EN010131/APP/3.1]**, the assessment of construction noise (and vibration) has considered construction activities that have the potential to result in significant effects on identified receptors based on information presented in **Chapter 2: The Scheme [EN010131/APP/3.1]**, previous experience of construction sites and professional judgement. Construction noise predictions have been undertaken using computer modelling software (CadnaA® 2019).

Noise predictions were carried out to represent a conservative scenario where construction plant is operational nearest to the identified receptors and does not take into account quieter periods when limited activities take place or at further distances. Therefore, noise predictions may overestimate construction noise levels and be considered to be a reasonable likely worst case.

- 14.4.7 Operational noise has been predicted with all plant being in maximum operation. This is likely to overestimate the actual effects from operational noise as typically, the transformers will not be operational or operating at maximum capacity during night-time, early morning or evening hours. BESS cooling fans would also operate dependent on ambient temperatures and would not be in full mode of operation during cooler temperatures.
- 14.4.8 The air quality methodology (as set out in **ES Volume 1, Chapter 15: Other Environmental Topics [EN010131/APP/3.1]**) is based on baseline environmental conditions and Scheme design information available at the time of writing. The traffic flows and non-road mobile machinery are based on worst-case scenario of all infrastructure being built to its maximum parameters (associated with the **Outline Design Principles [EN010131/APP/2.3]**), which may in reality slightly overestimate the number of vehicles and equipment. The dust assessment is based on the area of construction and the types of activity is not reliant on a specific design. It has been assumed for the purpose of the assessment that the Scheme will be built out in a single phase, which is considered the worst-case in terms of road traffic numbers and exposure to sensitive receptors to elevated levels of dust.
- 14.4.9 This assessment has also considered the socio-economic assessment (**ES Volume 1, Chapter 12: Socio-economics and Land Use [EN010131/APP/3.1]**), which presents population, labour force and local economy information which is based on the latest data available at the time of writing. It is likely that the current conditions are greatly changed owing to the ongoing effect of the Covid-19 pandemic on the labour market, businesses and the economy. Effects on local amenities and land use during the construction, operation and decommissioning phases are based on assessments taking into consideration the results from the relevant environmental studies that can act in-combination to cause effects to occur. These studies comprise of: Transport and Access; Noise and Vibration; Landscape and Visual Amenity; and Air Quality assessments. Where any two of these topics or more 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.
- 14.4.10 In advance of a detailed construction programme, which will be prepared following the granting of the DCO, all temporary effects during construction are assessed as occurring simultaneously and for the entire 24-month programme. The same is assumed for decommissioning. Whilst a phased construction or decommissioning programme may be possible, the approach taken to assuming a 24-month duration means that the likely 'worst case' is assessed. This may result in the overestimation of predicted adverse health effects but is considered a robust approach to the assessment. Should the construction phase be extended or delivered in phases, the predicted effects would be the same or less than those outlined in this chapter.

14.4.11 As noted in **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]**, the construction period is expected to be a minimum of 24 months for the Scheme. This is expected to be a realistic worst-case assumption for this 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, etc). Should the build period be a longer duration, the intensity would be less and the impact on the community therefore the same or lower. This approach may mean the maximum number of jobs during peak construction has been overestimated, it should not affect the average number presented in this chapter or the associated spending benefits attributed to this phase of the Scheme.

14.4.12 Decommissioning is assessed as occurring after 60 years of operation and for the purposes of this assessment is treated as taking place no earlier than 2088, based on a 60-year design life. It is possible that the Scheme will be operational for a longer period of time, and it is also possible that certain elements of the Scheme may be decommissioned prior to the end of the 60-year period. Should parts of the Scheme be decommissioned in advance of the main decommissioning phase, the predicted effects would be the same or less than those outlined in this chapter. Similar to the construction period, the assessment of a 24-month decommissioning period therefore represents a realistic worst case.

14.5 Study Area

14.5.1 The study area was defined to include Human Health and Wellbeing features likely to be at risk from possible direct and indirect impacts that might arise from the Scheme. The study area for Human Health is based on the extent and characteristics of the Scheme and the communities/wards directly and indirectly affected by the Scheme. Based on this, it is determined that Human Health impacts are likely to occur in an area which is composed of the following five wards:

- Rampton and Sturton wards in Bassetlaw District; and
- Lea, Stow and Torksey wards in the West Lindsey District.

14.5.2 Dependent on the Human Health indicator being analysed; ward level data is available from the 2011 Census (Ref 14-16) or 2018 electoral wards. Whilst the geographic extents of the 2011 Census and 2018 electoral wards differ, both types of wards provide an indication of local health in proximity to the Scheme and are therefore considered suitable for assessing the existing baseline conditions for Human Health. Where ward level data is not available, the local authorities of West Lindsey and Bassetlaw have been used as the study area as referenced in the text.

14.6 Assessment Methodology

Sources of Information

14.6.1 The following assessment seeks to establish the potential Human Health effects and assesses these against the current baseline conditions at the Site and in the surrounding area.

14.6.2 Baseline data illustrating the existing conditions surrounding the Site has been collected through a desk-based research exercise using publicly available sources, documents, and web-based applications. The results of the 2021 Census were released in June 2022 which includes a limited number of datasets. In the absence of more current information, 2011 Census data has been used. These sources include:

- ONS Census 2011 (Ref 14-16);
- ONS Census 2021 (Ref 14-24);
- Mid-Year Population Estimates 2020 (Ref 14-17);
- Annual Population Survey 2021 (Ref 14-18); Indices of Multiple Deprivation 2019 (Ref 14-19);
- Public Health England; Health Profiles (Ref 14-20); and
- Claimant Count 2022 (Ref 14-25).

Impact Assessment Methodology

14.6.3 There is no consolidated methodology or practice for the assessment of effects on Human Health. Best practice principles are provided in NHS England's Healthy Urban Development Unit's (HUDU) Rapid Health Impact Assessment (HIA) Toolkit 2019 (Ref 14-22) and forms the basis of the approach adopted to assess impacts on health and wellbeing in this chapter. In addition, consideration has been given to the Health and Wellbeing checklist of the Wales Health Impact Assessment Support Unit (WHIASU) (2020) (Ref 14-23) to help with the identification of which health determinants are relevant. Based on this, the impacts of the Scheme on Human Health are assessed qualitatively using professional judgement, best practice, and draw upon other assessments within the ES Report and therefore, the assessment does not follow the methodology outlined in **ES Volume 1, Chapter 5: EIA Methodology [EN010131/APP/3.1]**. The methodology for the assessment is outlined below.

14.6.4 This qualitative assessment of Human Health effects considers the following health and well-being determinants of relevance:

- Access to healthcare services and other social infrastructure;
- Air quality, noise and neighbourhood amenity;
- Accessibility and active travel;
- Access to work and training; and
- Social cohesion and neighbourhoods.

14.6.5 The assessment has considered the potential consequences for Health and wellbeing from construction, operation, and decommissioning phases of the Scheme and draws upon the information and conclusions reported within **ES Volume 1 [EN010131/APP/3.1]**: Transport and Access assessment (**Chapter 13: Transport and Access**), the Noise and Vibration assessment (**Chapter 11: Noise and Vibration**), the Air Quality assessment (**Chapter 15: Other Environmental Topics**) and the Socio-Economics assessment (**Chapter: 12: Socio-Economics and Land Use**).

14.6.6 A qualitative assessment of Human Health has been undertaken, with evidence provided to support the conclusions. The assessment of Human Health effects describes the likely qualitative health outcomes. When

describing the impact on each health determinant, where possible, we identify the duration of the change and the population exposed to this.

- 14.6.7 There is no published definition of significance for health effects. The description of the changes to health determinants, the characteristics and sensitivity of the receptor population, and the likelihood of negative or positive health effects has been undertaken in accordance with HUDU and WHIASU guidance. The description provides information to inform stakeholders and decision makers of the likely direction of change in terms of health and wellbeing outcomes. Therefore, in line with current knowledge and methods of assessment, the consideration of health outcomes reports effects as being positive, negative, or neutral, rather than indicating a level of significance.
- 14.6.8 The potential health effects during construction, operation, and decommissioning are described using the criteria as outlined in Table 14-1. Where an impact is identified, actions have been proposed to mitigate any negative impact on health, or to realise opportunities to create health benefits. It should be noted that in many cases, mitigation is embedded within the Scheme and the implementation of this is an underlying assumption of the assessment (see Section 14.9).

Table 14-1 Human health impact categories

Impact Category	Impact Symbol	Description
Positive	+	A beneficial impact is identified
Neutral	0	No discernible health impact is identified
Negative	-	An adverse impact is identified
Uncertain	?	Where uncertainty exists as to the overall impact

14.7 Baseline Conditions

Existing Baseline

- 14.7.1 This section describes the baseline environmental characteristics for the Scheme and surrounding areas with specific reference to Human Health and Wellbeing.
- 14.7.2 This section is split into two parts. The first section of this baseline analysis draws upon information provided within **ES Volume 1, Chapter 12: Socio Economics and Land Use [EN010131/APP/3.1]** of this ES, which provides a review of the local area, including local residential properties, community resources and recreational routes such as Public Rights of Way (PRoW) as part of the baseline analysis. This is provided in Section 14.7.3 to 14.7.23. It then presents a Human Health profile of the local population, using data from Public Health England and other relevant sources. This is provided in Section 14.7.24 to 14.7.39.

Order limits

- 14.7.3 **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]** provides a detailed description of the Site and its surroundings and provides an analysis of the existing conditions within and surrounding the Site. This states that the landscape features within the Site consist of agricultural fields interspersed with individual trees, woodlands, hedgerows, linear tree belts, farm access tracks, and local transport roads. The figures contained within **Chapters 6 to 16** of this Environmental Statement [EN010131/APP/3.1] show the location of existing baseline features in relation to the Site. The land is predominantly Grade 3b (moderate quality agricultural land) with some 3a (good quality agricultural land).
- 14.7.4 The location of surrounding villages is described within **ES Volume 1, Chapter 12: Socio-Economics and Land-Use [EN010131/APP/3.1]**. Protected areas are discussed in **Chapter 7: Cultural Heritage** and **Chapter 8: Ecology and Nature Conservation** and **Chapter 10: Landscape and Visual Amenity [EN010131/APP/3.1]**. Flood Zones are covered within **Chapter 9: Water Environment [EN010131/APP/3.1]**.

Residential Properties

- 14.7.5 The area around the Site is mostly rural and relatively sparsely populated. There are two residential properties within the Site on Clay Lane to the south of the Solar and Energy Storage Park. Larger groups of residential properties are located to the west of the Site in Knaith, to the south west of the Site in Gate Burton and to the north of the Site in Knaith Park

Community and Recreational Facilities

- 14.7.6 According to **ES Volume 1, Chapter 12: Socio-economics and Land Use [EN010131/APP/3.1]**, there is a range of community and recreational facilities within 4km of the Site.
- 14.7.7 Table 14-2 illustrates these facilities and their distances from the Order limits.
- 14.7.8 The nearby village of Willingham is host to a church and public house and the village of Marton is also host to a village hall and accommodation facilities. Gainsborough town also has a community centre and a model railway tourist attraction. There is also a church located close by in Gate Burton, a Public House in Upton and a golf course in Torksey.

Table 14-2 Community and Recreational Facilities nearby the Site

Receptor	Description	Approximate distance from the Site
St Mary Church	Church in the village of Knaith	0.5km
Church of St Helen	Church in the village of Gate Burton	0.5km
St Helen's Church	Church in the village of Willingham	0.5km
Marton and Gate Burton Village Hall	Village Hall in the village of Marton	0.5km
Fox and Hounds Pub	Public house in the village of Willingham	0.5km
Black Swan Guest House	Accommodation in the village of Marton	0.5km

Receptor	Description	Approximate distance from the Site
Rose and Crown Pub	Public house in the village of Upton	1km
Park Springs Community Centre	Community centre in the town of Gainsborough	2km
Lincoln Golf Club	Golf Club in the village of Torksey	2km
Gainsborough Model Railway	Tourist attraction in the town of Gainsborough	4km

Healthcare Facilities

- 14.7.9 The nearest hospital (with an accident and emergency department) to the Site is Lincoln County Hospital which is approximately 18km to the south east of the Site.
- 14.7.10 There are two GP surgeries within close proximity of the Site. These are Marton Branch Surgery and Willingham-by-Stow Surgery both approximately 1km away from the Site.
- 14.7.11 The latest General Practice (August 2022) (Ref 14-21) data published by NHS digital indicates that the two branches, both attached to the Willingham Surgery have a total of 2.4 FTE GPs and provide care to 4,322 registered patients. This corresponds to 1,800 patients per GP, which reflects the target set by the Royal College of General Practitioners (RCGP) of 1,800 patients per GP.
- 14.7.12 More widely, there is a total of 14 practices within the relevant Primary Care Networks (PCN), which consists of IMP PCN (9 GP practices) and Trent Care PCN (5 GP practices). This makes up a total of 58.3 FTE GPs, consisting of (41.6 FTE in IMP PCN and 16.7 FTE in Trent Care PCN), with a total of 110,027 patients registered (69,700 at IMP PCN and 40,327 at Trent Care PCN). This corresponds to 1,887 patients per FTE GP, which only slightly exceeds the RCGP target of 1,800 patients per GP.

Education

- 14.7.13 There are four schools located near to the Site. These are Frances Olive Anderson Church of England Primary School, The Marton Academy Primary School, Sturton by Stow Primary School and Sturton Cygnets Pre School.
- 14.7.14 There are no police or fire stations in direct proximity of the Site. The nearest are Gainsborough Police Station and Gainsborough Fire Station both located approximately 5km north of the Site.

Public Rights of Way (PRoW)

- 14.7.15 A map of PRoW in close proximity of the Order limits can be found in **ES Volume 2: Figure 2-2 [EN010131/APP/3.2]**. PRoWs are primarily located west of the River Trent, outside the Solar and Energy Storage Park. A description of PRoWs which are located within the Order limits is provided within **Chapter 12: Socio-economics and Land Use [EN010131/APP/3.1]**.

Health Profile

14.7.16 This section provides a Human Health profile of the study area, focusing on key determinants of health relevant to the assessment criteria provided within the Healthy Urban Development Unit (HUDU)/NHS England Guidance (Ref 14-22).

14.7.17 As described in **ES Volume 1, Chapter 2: The Scheme [EN010131/APP/3.1]**, **Figure 2-1 [EN010131/APP/3.2]** demonstrates that the Site straddles the boundary between the counties of Nottinghamshire and Lincolnshire, within the districts of Bassetlaw and West Lindsey. At a ward level, it is determined that impacts are likely to occur in an area which is composed of the following five wards:

- Rampton and Sturton wards in Bassetlaw District; and
- Lea, Stow and Torksey wards in the West Lindsey District.

14.7.18 This section presents the data for the five wards and compares them to the wider counties (Nottinghamshire and Lincolnshire), the region (East Midlands) and England as a whole (or England and Wales where appropriate). Where data is not available at a ward level, it is indicated in the text which areas represent the study area.

Population

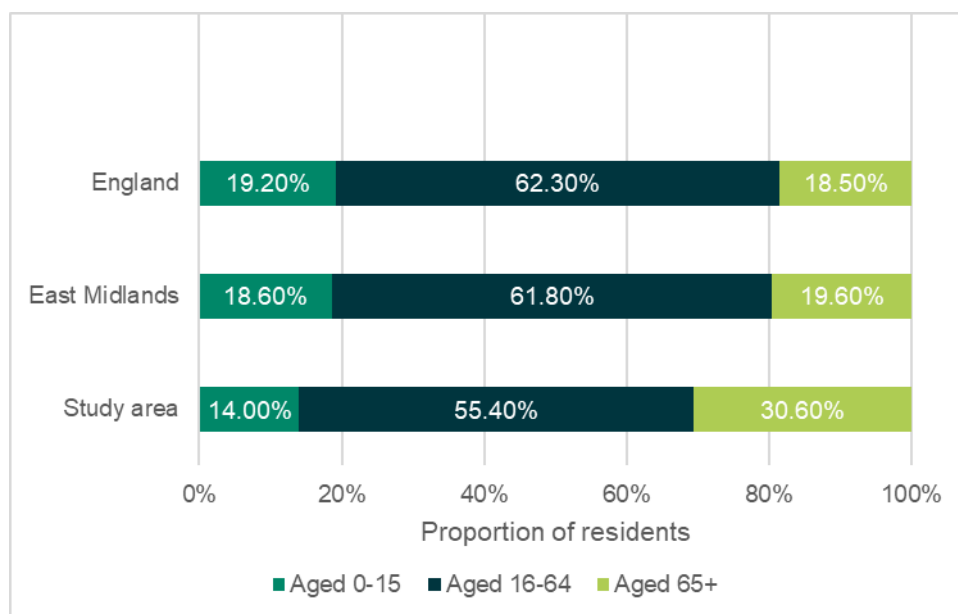
14.7.19 According to the 2021 Census (Ref 14-24), the residential population of Bassetlaw and West Lindsey has increased from 202,113 in 2011 to 213,000 in 2021, representing a 5.4% increase over 10 years. This population growth rate is slightly lower than the overall rates recorded for the East Midlands and England during the same time period (7.7.% and 6.6% respectively).

14.7.20 According to the Office for National Statistics, Population estimates (Ref 14-18) there were approximately 12,058 people living in the study area in 2020. At this time, 2,273 people were recorded living in Rampton and 2,370 were in Sturton. This compares to 2,106 in Lea, 2,379 in Stow and 2,930 in Torksey.

14.7.21 The population of the study area is slightly older when compared to the wider region and the rest of the country. In the five wards, the proportion of people aged 65 and over in 2020 was 30.6%, which is higher than both districts in Bassetlaw (22.3%) and West Lindsey (25.2%) and the county level in Lincolnshire (23.8%) and Nottinghamshire (21.0%). It is also higher than the regional average for the East Midlands (19.6%) and for England as a whole (18.5%).

14.7.22 The share of people of working age (defined by the ONS as people aged between 16 and 64) in the study area is approximately 55.4%. This is lower than the average across both districts (59.7% in Bassetlaw and 57.7% in West Lindsey) and across both counties (59.0% in Lincolnshire and 60.9% in Nottinghamshire). It is also lower than the regional average for East Midlands (61.8%) and the national average for England (62.3%).

Figure 14-1 Age Breakdown by Geography



Source: ONS (2020) (Ref 14-13)

Ethnicity

14.7.23 As shown in Table 14-3, the proportion of living in the study area who identify ethnically as white is 98.5%, a higher share than in the East Midlands (89.3%) and England more widely (85.4%) (Ref 14-16).

14.7.24 Conversely, there are proportionally fewer residents of each ethnic minority group living in the study area compared to both the East Midlands or England. For example, Asian and Asian British residents make up 0.3% of the population of the study area whereas this group accounts for 6.5% and 7.8% of the population in the East Midlands and England respectively.

Table 14-3 Ethnic Group by Geography

Ethnic Group	Study Area	Bassetlaw	West Lindsey	Nottinghamshire	Lincolnshire	East Midlands	England
White (%)	98.5	97.4	98.2	95.5	97.6	89.3	85.4
Mixed/multiple ethnic groups (%)	0.6	0.9	0.7	1.4	0.9	1.9	2.3
Asian/Asian British (%)	0.3	1.1	0.8	2.2	1.0	6.5	7.8
Black/African/Caribbean/Black British (%)	0.4	0.5	0.3	0.6	0.4	1.8	3.5
Other ethnic group (%)	0.1	0.2	0.1	0.3	0.2	0.6	1.0

Source: Census (2011) (Ref. 14-16)

Qualifications

14.7.25 Approximately 26.8% of residents aged 16 and above in the study area hold a degree level qualification (NVQ Level 4+). This compares to 20.2% in Bassetlaw and 25.3% in West Lindsey. At a county level, 21.3% are qualified

to this level in Lincolnshire and 24.0% in Nottinghamshire and at a regional level, 23.6% hold a degree level qualification across the East Midlands (Ref 14-18).

14.7.26 Within the study area, 23.5% of residents over 16 do not have any qualifications. This compares to 28.5% within Bassetlaw and 23.0% in West Lindsey. 26.1% of residents do not have any qualifications in Lincolnshire and 25.5% within Nottinghamshire. At a regional level, 24.7% of residents have not got any qualifications and this compares to 22.5% across England.

Economic Activity

14.7.27 The wider area has a comparatively high level of economic activity, with 70.6% of residents aged 16-64 economically active across Bassetlaw and 73.6% of residents across West Lindsey between January and December 2021. At a county level, this compares to 76.6% across Lincolnshire and 76.7% in Nottinghamshire and 77.6% across the East Midlands as a whole. This compares to a slighter higher rate across England and Wales as a whole, at 78.7% (Ref 14-18).

14.7.28 According to the Claimant Count, the number of residents aged 16-64 who are currently claiming Job Seekers Allowance in Bassetlaw and West Lindsey in August 2022 is 3.1% and 3.2% respectively. This is similar to the averages across both Nottinghamshire and Lincolnshire (3.0% and 3.2%) and is also similar to the East Midlands (3.3%). It is however slightly lower than the national average across England (3.8%) (Ref 14-25).

Deprivation

14.7.29 The 2019 Indices of Multiple Deprivation (Ref 14-19) provides a set of relative measures of deprivation for Local Authorities and Lower Super Output Areas (LSOAs)¹ across England. Out of the Local Authorities which the Site falls within, West Lindsey ranks as the 146th most deprived Local Authority of 317 districts in England (where 1 is most deprived). Within West Lindsey, four of the LSOAs are within the top 10% most deprived LSOAs in England. When comparing the health deprivation domain in particular, West Lindsey ranks as the 143rd most deprived local authority in the country.

14.7.30 In comparison, Bassetlaw is the 108th most deprived local authority in England. Within the local authority, five LSOAs are within the top 10% most deprived in England. For health deprivation, Bassetlaw is ranked as the 68th most deprived local authority in England.

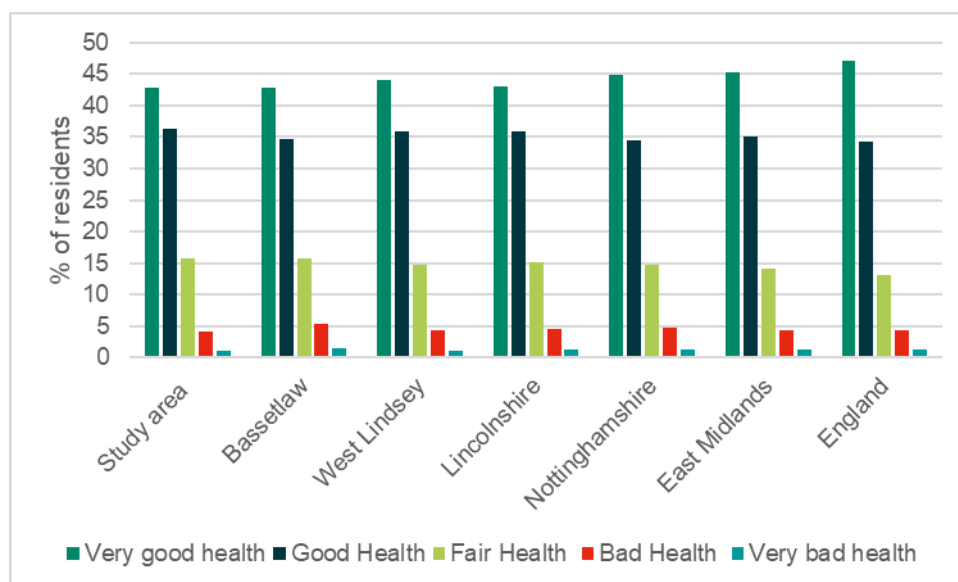
Health and Wellbeing

14.7.31 Based on 2011 Census data (Ref 14-16), which is the latest dataset available for self-assessment of health, 5.2% of residents in the study area believed that they were living in 'bad' or 'very bad' health. This rate is broadly similar at a district level within Bassetlaw (6.7%) and within West Lindsey (5.4%). It is also similar to the county level, within Lincolnshire (5.9%) and Nottinghamshire (6.0%). It is also representative of the regional average across the East Midlands (5.2%) and England as a whole (5.5%).

¹ Lower Layer Super Output Areas are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. Lower Layer Super Output Areas are built from groups of contiguous Output Areas and have been automatically generated to be as consistent in population size as possible, and typically contain from four to six 'Output Areas'.

14.7.32 The proportion of residents who identify as having very good health is the highest category across all geographies and are all broadly similar. This ranges from 42.8% in Bassetlaw to 47.2% of residents across England. This is shown below in Figure 14-2.

Figure 14-2 Self-Assessment of Health

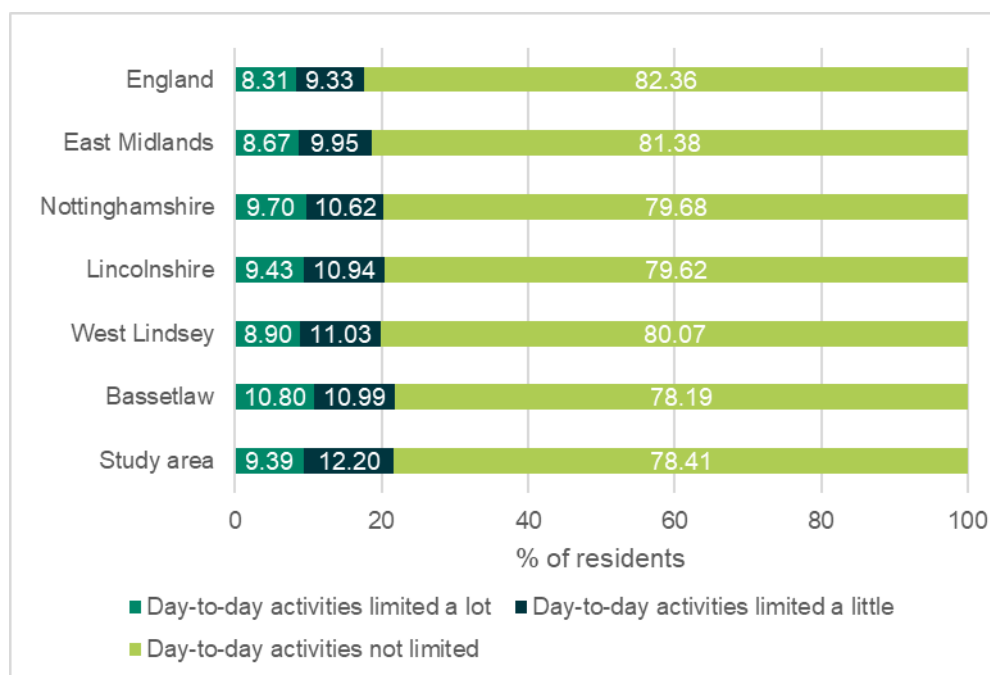


Source: Census (2011) (Ref. 14-12)

14.7.33 In addition, Figure 14-3 illustrates a self-assessment of long-term health or disability. This is a problem that limits a person’s daily activities and has lasted at least 12 months. The proportion of residents within the study that experience limitations to their daily activities a little or a lot is 21.6%. This compares to 21.8% in Bassetlaw, 19.9% in West Lindsey, 20.4% in Lincolnshire and 20.3% in Nottinghamshire. These averages are slightly higher than the regional average for the East Midlands (18.6%) and for England as a whole (17.6%).

14.7.34 The proportion of residents who state that their day to day activities are not limited is the highest category across all geographies and are all broadly similar. This ranges from 78.2% in Bassetlaw to 82.4% across England.

Figure 14-3 Self-Assessment of Long-Term Health or Disability



Source: Census (2011) (Ref. 14-12)

14.7.35 Indicators deemed relevant to likely Human Health impacts of the Scheme have been identified from Public Health England data (Ref 14-20). They are shown in Table 14-4.

Table 14-4 Human Health profile of local authorities, county, region and England

Indicator	Bassetlaw	West Lindsey	Nottinghamshire	Lincolnshire	East Midlands	England
Life expectancy at birth	80.5	81.5	81.1	80.9	80.9	81.3
Under 75 mortality rates (per 100,000)	359.6	309.1	332.6	343.3	342	336.5
Suicide Rate (per 100,000)	14.6	14.3	8.6	12.6	9.9	10.4
Year 6: Prevalence of obesity	23.7%	16.0%	19.2%	22.2%	20.8%	21.0%
Adulthood Obesity	67.4%	67.1%	64.9%	67.6%	66.6%	63.5%
Emergency Hospital Admissions for intentional self-harm (per 100,000)	162.8	156.4	191.8	166.4	189.6	181.2
Smoking status at time of delivery	13.1%	15.8%	13.8%	15.8%	12.6%	9.6%

- 14.7.36 This data shows that within Bassetlaw and West Lindsey in particular, the suicide rate (per 100,000) is higher than when compared to the county, regional and national averages. There is also a higher than average prevalence of child obesity within Bassetlaw, but a lower than average instance of this within West Lindsey. The highest under 75 mortality rate was also recorded in Bassetlaw, but the lowest was recorded in West Lindsey. Across all geographies in the East Midlands region there is also a higher prevalence of adult obesity rates, when compared to the national average.
- 14.7.37 According to the Nottinghamshire Joint Strategic Needs Assessment (JSNA) (Ref 14-14), Bassetlaw is one of three areas in the county where life expectancy is significantly lower than the national average. The broad causes of premature deaths (those under 75 years) which contribute the greatest proportion to the gap in life expectancy are circulatory, cancer, respiratory, digestive and external causes.
- 14.7.38 The Nottinghamshire JSNA also states, which is supported by the figures presented above, that Public Health Outcomes indicate that Nottinghamshire may have higher rates of hospital admissions relating to self-harm compared to England in 2016/17 to 10-14 year olds and similar rates to the national average for those aged 15-24. However, it is mentioned that these rates should be treated with caution as a result of some hospital coding issues. The current picture may also be underestimated in these statistics due to data issues and also the largely unreported nature of self-harm in the community.

Future Baseline

- 14.7.39 The future baseline is anticipated to be the same as the existing baseline for Human Health impacts. Community facilities may open and close; however, the exact details of this cannot be known in advance. Therefore, it is not expected that there will be any perceptible changes to the local Human Health baseline assessment and the Scheme has therefore been assessed against current baseline conditions.

14.8 Potential Impacts

- 14.8.1 Mitigation measures being incorporated in the design and construction of the Scheme are set out below. Prior to the implementation of embedded mitigation measures, the Scheme has the potential to affect Human Health and Wellbeing (positively or negatively), during construction, operation and during decommissioning, in the following ways:
- Access to Healthcare Services and Other Social Infrastructure;
 - Air Quality, Noise and Neighbourhood Amenity;
 - Accessibility and Active Travel;
 - Access to Work and Training; and
 - Social Cohesion and Lifetime Neighbourhoods.
- 14.8.2 The impact of Electromagnetic Fields (EMF) generated by the cable route on local receptors has been considered but scoped out given that only 400kV cable circuit will run underground. Whilst it is recognised that underground

cables eliminate electric fields but still produce magnetic fields, it is unlikely that cables will be installed close to any residential or commercial properties due to difficulties with access. It is assumed that cables will be at least 10 metres away from any property. The EMF reduces rapidly with distance, and a maximum 4% of the permitted levels at 5 metres will be experienced. Some Public Right of Ways do cross the proposed cable route, although the users would be transient and present for short periods of time. For individuals exposed to EMF for short periods of time, the exposure is similar to that associated with general household appliances.

14.9 Mitigation Measures

- 14.9.1 Embedded mitigation measures are incorporated and secured into the Scheme as set out in the respective chapters to reduce other construction, operational and decommissioning effects (such as noise and vibration, air quality, transport and access and socio-economics and land use) which in turn will mitigate the effects on the local community and existing facilities from a Human Health and Wellbeing perspective.
- 14.9.2 The health assessment is presented in Table 14-5 to Table 14-9. Where there are assessed to be negative health impacts in the assessment, the implementation of additional mitigation measures has been considered in order to avoid or minimise the Human Health impact.

14.10 Assessment of Likely Impacts and Effects

- 14.10.1 Table 14-5 to Table 14-9 below sets out the potential health and wellbeing impacts associated with the Scheme during construction, operation, and decommissioning. The potential health and wellbeing impacts are described in accordance with the methodology as set out in Section 14.6.
- 14.10.2 In the below table, the term 'n/a' indicates that an assessment of the health criteria was not applicable to a particular phase.

Table 14-5 Access to Healthcare Services and Other Social Infrastructure

Assessment Criteria	Relevant to the scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal assess the impact on healthcare services?	Yes	<p>During construction</p> <p>As identified in the baseline, there are two GPs located within 1 km of the Scheme (Marton Branch Surgery in Stow ward, within West Lindsey and Willingham-by-Stow surgery in Torksey ward also within West Lindsey). The nearest hospital (Lincoln County hospital) is in the ward of Abbey, Lincoln which is 18km southeast of the Scheme. According to ES Volume 1, Chapter 12: Socio-Economics and Land Use [EN010131/APP/3.1], it is anticipated that there will be approximately 363 construction workers each day on Site required to build the Scheme (approximately 207 are expected to reside within a 60 minute travel area and 156 outside of this). The number of construction workers on site may rise to 400 at peak. Those that do not reside in the local area may place some demand on healthcare services if they move to the area or if emergency treatment is required. Approximately 60% of the workers are anticipated to reside locally already and will be registered at a practice currently and will not therefore place additional demand for services on these GPs.</p> <p>The current level of patients per GP at the two surgeries located within 1km of the Scheme exceeds the recommended level and is therefore worse than the national average. However, given the sparsely populated and limited accommodation facilities, it is unlikely that many workers would move to live in the immediate area and access these two surgeries. Assuming a worst-case whereby all of the 156 construction workers who do not live locally require places at surgeries within the wider PCN areas (in IMP PCN and Trent Care PCN) where there is more accommodation available, this would increase the patients per GP provision across both geographies from 1,887 patients per GP to 1,889 patients per GP, which although slightly exceeds the recommended ratio set by the Royal College of General Practitioners (Ref 14-22), does not worsen the current situation to a large extent.</p> <p>According to the Framework CTMP, construction staff are expected to avoid the network peak hours and so minimise additional trips at the busiest hours. Construction workers will also be directed to routes to Site by A631, A57 and A156 to provide direct access to the Site. A shuttle service will also be used to transport 55% of construction staff (220 persons) staying with local accommodation in the four main centres close by to the Site.</p> <p>As referred to in ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1], there is forecast to be a maximum of 546 movements (from both the Solar and Energy Storage Park and Grid Connection) as a worst case scenario during the peak construction period. However, staff arrivals are anticipated outside of peak network hours and Heavy Goods Vehicles (HGV) and Light Good</p>	<p>0 during construction</p> <p>0 during operation</p> <p>0 during decommissioning</p>	<p>During construction: No additional mitigation measures other than those identified in the CTMP [EN010131/APP/3.3].</p> <p>During operation: None proposed</p> <p>During decommissioning: No additional mitigation measures other than those identified in the Framework Decommissioning Environmental Management Plan (DEMP) [EN010131/APP/7.5].</p>

Assessment Criteria	Relevant to the scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		<p>Vehicles (LGV) arrivals will avoid weekday peak hours. It is anticipated that A156 Gainsborough Road will have the largest increase in traffic, comprising of 70% of construction staff and 62% of HGVs/LGVs. A HGV routing plan has also been produced (ES Volume 2: Figure 13-3 [EN010131/APP/3.2]) to identify the key routes which are likely to be used. There have been no significant effects identified as a result of the Scheme on transport and access during any phase. Therefore, the potential health impact on access to healthcare services during the construction period is assessed to be neutral.</p> <p>During operation</p> <p>During the operational phase, there are expected to be 14 full time staff working within the Site per day. Therefore, the Scheme will generate very low levels of traffic and it will not impact local residents' ability to access healthcare facilities.</p> <p>Therefore, the potential health impact on access to healthcare facilities during operation is assessed to be neutral.</p> <p>During decommissioning</p> <p>Traffic flow cannot be accurately forecasted for over 60 years into the future, however the Scheme's impact on local residents' ability to access healthcare facilities in the decommissioning phase is expected to be the same or less as during construction, based on the expected similar number of trips and duration of these phases. The Framework DEMP [EN010131/APP/7.5] provides details of the outline mitigation measures which will need to be adhered to during decommissioning. This will be updated and finalised prior to the decommissioning phase. The potential health effect on access to healthcare facilities during the decommissioning period is assessed to be neutral.</p>		
Does the proposal assess the capacity, location and accessibility of other social infrastructure, e.g. schools, social care and	Yes	<p>During construction</p> <p>According to ES Volume 1, Chapter 12: Socio-economics and Land Use [EN010131/APP/3.1], there are four schools located in close proximity to the Site (within 2km). These are: Frances Olive Anderson C of E Primary School, The Marton Academy, Sturton by Stow Primary School and Sturton Cygnets Pre School. Local residents are likely to travel to Gainsborough town to access the vast majority of services, which is located approximately 9km to the North. Public Houses are located in the villages of Willingham and Upton (which are located 0.5km and 1.0km away respectively) and accommodation is available within Marton (0.5km away). It is anticipated that workers will either already live within the local area or will live temporarily within the area in temporary accommodation such as hotels (likely within Gainsborough town centre or Lincoln city centre). Therefore, they will likely not move to the local area with their families for the duration of the 24-month construction</p>	0 during construction 0 during operation 0 during decommissioning	<p>During construction:</p> <p>No additional mitigation measures proposed other than those identified in the CTMP [EN010131/APP/3.3].</p> <p>During operation:</p> <p>None proposed</p>

Assessment Criteria	Relevant to the scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
community facilities?		<p>period, and that the capacity of social infrastructure will not be impacted. Chapter 12: Socio-economics and Land Use also assesses the impact upon local accommodation facilities, which found that there is sufficient capacity to accommodate the construction workers who are not anticipated to reside within the local area, even in a worst case scenario.</p> <p>As mentioned above, local residential properties will likely use the same strategic roads as construction traffic accessing the Site. As the majority of construction traffic is anticipated to occur outside of peak times, no significant effects have been identified.</p> <p>A CTMP (ES Volume 3: Appendix 13-E [EN010131/APP/3.3]) has been produced. This has considered measures to manage construction traffic resulting from the Scheme at peak hours in order to limit any potential disruptions and implications on the wider transport network for existing road users, which includes providing a shuttle bus for at least 55% of construction staff and encouraging HGVs to access to site outside of peak hours.</p> <p>Therefore, at this stage, the potential health impact on access to social infrastructure during the construction period is assessed to be neutral.</p> <p>During operation</p> <p>During the operational phase, there are expected to be 13 full time staff working within the Site per day. Therefore, the Scheme will generate very low levels of traffic and it will not impact local residents' ability to access social infrastructure.</p> <p>Therefore, the potential health impact on access to social infrastructure during operation is assessed to be neutral.</p> <p>During decommissioning</p> <p>Traffic flow cannot be accurately forecasted for over 60 years into the future, however the Scheme's impact on local residents' ability to access social infrastructure in the decommissioning phase is expected to be the same as during construction, based on the expected similar number of trips and duration of these phases. A Framework DEMP [EN010131/APP/7.5] has also been produced, which provides details of the outline mitigation measures which will need to be adhered to during decommissioning to mitigate any negative implications as far as possible, which should be adhered to. The potential health effect on access to healthcare facilities during the decommissioning period is assessed to be neutral.</p>		<p>During decommissioning:</p> <p>No additional mitigation measures proposed other than those identified in the DEMP [EN010131/APP/7.5].</p>

Table 14-6 Air Quality, Noise and Neighbourhood Amenity

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal minimise construction impacts such as dust, noise, vibration and odours?	Yes	<p>During construction</p> <p>An assessment of the risk of dust and particulate matter impacts during the construction stage is provided in ES Volume 1, Chapter 15: Other Environmental Topics [EN010131/APP/3.1]. This includes a section on Air Quality.</p> <p>The assessment considers dust risk emitted across pre-defined zones up to 350m from the Site. These zones are presented in ES Volume 2: Figure 15-1 [EN010131/APP/3.2]. Air pollution resulting from earthworks, construction and trackout activities are considered (demolition assessment is scoped out as this is not required and no residential, community or commercial receptors within the Site require relocation).</p> <p>According to Chapter 15: Other Environmental Topics, the sensitivity of the area is low for the earthworks, construction and trackout activities. This is due to the low background particulate matter concentrations (less than 24 µg/m³). The implementation of mitigation is expected to prevent the occurrence of significant impacts arising from dust generation during the construction phase. Residual effects are therefore not expected to be significant.</p> <p>An assessment of the impact of construction of the Scheme on noise and vibration is provided in ES Volume 1, Chapter 11: Noise and Vibration [EN010131/APP/3.1]. The assessment states that there will be no significant construction noise, traffic noise or vibration arising from the construction of the Scheme. There may be potential to exceed the Significant Observed Adverse Effect Level (SOAEL) in some locations, however, the communications strategy secured through the Framework Construction Environmental Management Plan (CEMP) [EN010131/APP/7.3] and DEMP [EN010131/APP/7.5] will seek to ensure that occupants of affected properties will be notified of the timings and duration of works. As these works are unlikely to occur for a period of more than 10 days in close proximity to sensitive receptors, noise effects due to construction and decommissioning activities are considered to be not significant. A Section 61 process will also sought to be secured, to demonstrate that noise and vibration has been minimised as far as reasonably practicable.</p> <p>In terms of vibration effects, ES Volume 1, Chapter 11: Noise and Vibration [EN010131/APP/3.1] states that the highest levels of noise would be generated by cable laying activities, however, the duration of exposure would be short term (less than a day) and prior warning to those anticipated to be affected would be secured through the CEMP [EN010131/APP/7.3] and DEMP</p>	<p>- during construction</p> <p>Not applicable (N/A) during operation</p> <p>- during decommissioning</p>	<p>During construction:</p> <p>No additional mitigation is deemed necessary, beyond the measures in the CEMP [EN010131/APP/7.3]. Ensure that a Section 61 process is secured to demonstrate noise and vibration is minimised as far as reasonably practicable.</p> <p>During operation:</p> <p>N/A.</p> <p>During decommissioning:</p> <p>No additional mitigation beyond the measures in the DEMP [EN010131/APP/7.5].</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		<p>[EN010131/APP/7.5]. As vibration at sensitive receptors would be below the SOAEL and mitigation measures would be put into place, the overall effect is judged to be not significant.</p> <p>The traffic noise associated with the Scheme is also assessed. This found that noise calculations indicate construction traffic will result in negligible noise effect on all road links except Marton Road, B1241 High Street and Headstead Bank. At Headstead Bank, traffic noise are equivalent to a moderate adverse effect, however, there are no sensitive receptors along this road to be affected by changes in noise. Impacts upon Marton Road and B1241 High Street are anticipated to be minor adverse on noise as a result of construction traffic. Therefore in summary, the changes in noise due to construction traffic on all assessed road links are not significant. However, the overall impact on Health is judged to negative due to the impact on the Marton Road and B1241 High Street receptors.</p> <p>During Operation</p> <p>Not applicable as assessment criteria refers to construction impacts and no effects are anticipated during the operational phase.</p> <p>During decommissioning</p> <p>Assessments of the impact of decommissioning of the Scheme on air quality and noise is provided in ES Volume 1, Chapter 15: Other Environmental Topics (including Air Quality) and Chapter 11: Noise and Vibration [EN010131/APP/3.1], respectively. In both of these assessments, it is assumed that the decommissioning period will generate similar effects to those anticipated during the construction phase and appropriate mitigation measures would be identified in the DEMP [EN010131/APP/7.5] to limit this as far as possible. Therefore, on the basis that effects would be in a worst-case the same as during construction, the overall impact on Health during decommissioning is also judged to be negative.</p>		
Does the proposal minimise air pollution caused by traffic during the	Yes	<p>During construction</p> <p>Not applicable as assessment criteria refers to operational impacts. Air pollution impacts related to the construction phase are analysed above.</p> <p>During operation</p> <p>An assessment of the risk of dust and particulate matter impacts during the operation stage is provided in ES Volume 1, Chapter 15: Other Environmental Topics [EN010131/APP/3.1]. It is anticipated that there will be a maximum of thirteen permanent (on-site) operational jobs and a maximum of three to four visitors per week (equating to one visitor per day), for the purposes of</p>	N/A during construction 0 during operation	<p>During construction: N/A.</p> <p>During operation: None proposed.</p> <p>During decommissioning: N/A.</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
operational phase?		<p>deliveries and replacement of any components that fail. Staff vehicles and those used for maintenance will primarily be four wheeled drive vehicles, with HGVs rarely accessing the site. Therefore, the Air Quality Assessment has concluded that the effect of operation of the Scheme on local air quality is therefore not significant. Overall, there is likely to be no discernible health impacts on the surrounding receptors from air pollution during the operational phase.</p> <p>The potential health impact during operation is therefore assessed to be neutral.</p> <p>During decommissioning Not applicable as assessment criteria refers to operation impacts. Air pollution impacts related to the decommissioning phase are analysed above.</p>	N/A during decommissioning	
Does the proposal minimise noise pollution caused by traffic and commercial uses during the operational phase?		<p>During construction Not applicable as assessment criteria refers to operation impacts. Noise pollution impacts related to the construction phase are considered above.</p> <p>During operation An assessment of the impact of operation of the Scheme on noise levels is provided in ES Volume 1, Chapter 11: Noise and Vibration [EN010131/APP/3.1]. The assessment states that the typical background level of noise has been defined from a Sunday daytime period, with lower noise levels compared to the rest of the week and to provide a worst-case assessment scenario. Plant will operate continuously, so there will not be any noticeable impulsive or intermittent characteristics from plant noise at the surrounding receptors. At all receptors, the LOAEL is exceeded, but the SOAEL is not (even during the night). A variety of mitigation measures have been identified to minimise the operational noise associated with commercial uses.</p> <p>Embedded mitigation measures within Chapter 11: Noise and Vibration include:</p> <ul style="list-style-type: none"> Plant selection: design layout to minimise noise at receptors, including locating the BESS compound in an area away from large concentrations of receptors such that noise emissions from the BESS are less impactful and locating and orientating invertors and transformers; and Transformers will be housed in cabins, which will attenuate noise emissions. <p>As mentioned above, it is anticipated that there will be a maximum of 13 permanent (on-site) operational jobs and a maximum of three to four visitors per week. It is also anticipated that HGVs will only occasionally need to access site and so there will be minimal noise impacts associated with traffic during the operational phase.</p>	N/A during construction 0 during operation N/A during decommissioning	<p>During construction: N/A.</p> <p>During operation: Adhering to embedded mitigation measures proposed in Chapter 11: Noise and Vibration [EN010131/APP/3.1] through careful selection of plant and housing transformers in cabins.</p> <p>During decommissioning: N/A.</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		<p>The overall potential health impact during operation is therefore assessed to be neutral.</p> <p>During decommissioning Not applicable as assessment criteria refers to operation impacts. Noise pollution impacts related to the decommissioning phase are considered above.</p>		

Table 14-7 Accessibility and Active Travel

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal prioritise and encourage walking (such as through shared spaces)?	Yes	<p>During construction</p> <p>Within the CTMP (ES Volume 3: Appendix 13-E [EN010131/APP/3.3]), it states that access to all existing PRow will be retained during the construction phase, with no PRow closures. However, there will be a limited number of temporary PRow diversions around the Grid Connection Corridor works when the cabling is installed. Further details are set out in the PRow Management Plan [EN010131/APP/7.8], which identified nine PRow routes which are expected to be temporarily (and locally) diverted when cables are installed. The temporary PRow diversions are expected to be a maximum of 50m in length, allowing a 5m buffer from the edge of each works area and will be clearly marked out, to limit the impact on walking as much as possible. If there are instances where internal construction route crosses any existing PRow, these areas will be managed to maximise visibility between construction vehicles, pedestrians and cyclists. Pedestrian and cycle routes will also be maintained and remain unobstructed to ensure continued safe passage of the public when using PRow routes through Site and at crossing points.</p> <p>As set out in Chapter 12: Socio-Economics and Land Use, these PRow are predominantly used for recreational purposes and form part of a wide network of PRow routes, which provides a number of alternatives. Therefore, due to the limited scale of impacts upon PRow, these effects are assessed to be very low adverse, resulting in a not significant negligible effect.</p> <p>The impact of severance and pedestrian delay on road link receptors has also been assessed in Chapter 13: Traffic and Transport as minor adverse (Kexby Lane) or negligible (all other receptors) and so considered not significant.</p> <p>There will be minor temporary impacts on pedestrian and cyclist facilities during construction, with a limited number of temporary PRow diversions around the Grid Connection Corridor. As a result of these temporary diversions, this will result in a potential health and wellbeing impact which is assessed to be negative.</p> <p>During operation</p> <p>According to ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1], access to all existing PRow within the Scheme will be maintained and any PRow temporarily diverted will be reinstated during the operational phase.</p> <p>The Scheme is expected to attract low level of vehicle trips during operational phase (i.e. up to 15 vehicle arrivals and 15 vehicle departures daily). As stated in Chapter 13: Transport and</p>	<ul style="list-style-type: none"> - during construction 0 during operation - during decommissioning 	<p>During construction:</p> <p>Adhere to any mitigation measures proposed in the Outline PRow Management Plan [EN010131/APP/7.8], and CTMP [EN010131/APP/3.3].</p> <p>During operation:</p> <p>None proposed.</p> <p>During decommissioning:</p> <p>Adhere to any mitigation measures proposed in the DEMP [EN010131/APP/7.5] and in the Outline PRow Management Plan [EN010131/APP/7.8].</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
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Access, a detailed assessment of this scenario has therefore been excluded from this ES chapter.

Therefore, at this stage, the potential health and wellbeing impact during the operational phase is assessed to be **neutral**.

During decommissioning

During the decommissioning phase, the Scheme would be dismantled, and the infrastructure will be removed. The **Framework DEMP [EN010131/APP/7.5]** provides the outline mitigation measures to be adhered to during decommissioning. This will be updated and finalised prior to the decommissioning phase.

As set out in the **PRoW Management Plan [EN010131/APP/7.8]**, it is expected that there will be similar implications on the PRoW links and pedestrian and cyclist facilities as in the construction period, with minor delays and temporary impacts on pedestrian and cyclist facilities during the decommissioning period. There are not anticipated to be any permanent PRoW closures although some minor diversions are likely to be required, to provide safe access across the Site. These diversions will be temporary and expected to be similar in nature and duration to those during the construction phase. In line with the impact during the construction period, the impact on health and wellbeing during decommissioning is assessed to be **negative**.

Table 14-8 Access to Work and Training

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal provide access to local employment and training opportunities, including temporary construction and permanent end-use jobs?	Yes	<p>During construction</p> <p>An assessment of the number of jobs created during the construction phase is provided in ES Volume 1, Chapter 12: Socio-Economics and Land Use [EN010131/APP/3.1]. The Applicant estimates that the Scheme will support, on average, approximately 323 full-time employment construction jobs per annum. Once leakage, displacement and multiplier effects have been accounted for, this number rises to 363 total net jobs per annum during the construction period of the Scheme. Of these, 207 jobs per annum will be expected to be taken up by residents within a 60-minutes travel area of the Site and creating 156 jobs for those outside of the study area.</p> <p>As set out in the Outline Skills, Supply Chain and Employment Plan (OSSCEP) [EN010131/APP/7.7], the Applicant will also be encouraged to consider a provision of an apprenticeship programme, training placements and develop a school/ college engagement programme to promote science, technology, engineering and mathematics (STEM) education and careers. The Applicant will also investigate measures to promote take up of jobs locally, through engagement with Local Authorities and Job Centre Plus.</p> <p>Therefore, due to this increase in temporary employment and training opportunities both for those in the local study area and beyond, the health impact is assessed to be positive.</p> <p>During operation</p> <p>There are currently 1.5 existing jobs within the Site, all relating to agricultural activities, which is anticipated to be lost as a result of the Scheme. The Applicant has estimated that 13 jobs will be directly generated by the Scheme when operational, which will potentially provide some local employment opportunities in the form of permanent jobs. When existing employment activity is accounted for, the total net employment generated would be slightly increased (11.5 FTEs) although overall based on the scale of this, the health impact from improved access to local employment and training opportunities is assessed to be neutral.</p> <p>During decommissioning</p>	<p>+during construction 0 during operation + during decommissioning</p>	<p>During construction: Adherence to measures proposed suggested in the OSSCEP. [EN010131/APP/7.7].</p> <p>During operation: None proposed.</p> <p>During decommissioning: Adhere to any mitigation measures proposed in the DEMP [EN010131/APP/7.5].</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal include opportunities for work for local people via local procurement arrangements?	Yes	<p>A Framework DEMP [EN010131/APP/3.1] outlines mitigation measures to be adhered to during decommissioning. This will be updated and finalised prior to the decommissioning phase. An assessment of the number of jobs created during the decommissioning period is provided in ES Volume 1, Chapter 12: Socio-Economics and Land Use [EN010131/APP/3.1]. The assessment concludes that this will reflect the number of employment opportunities created during the construction phase, with approximately 323 full-time employment decommissioning jobs per annum. Once leakage, displacement and multiplier effects have been accounted for, this number rises to 363 total net jobs per annum during the decommissioning period of the Scheme. Of these, 207 jobs per annum will be expected to be taken up by residents within a 60-minute travel area of the Site limits.</p> <p>As the decommissioning phase is also likely to provide access to temporary employment and training opportunities for local residents, the potential health and wellbeing impact during decommissioning is assessed to be positive.</p> <p>During construction As above, an assessment of the number of jobs created during the construction phase is provided in ES Volume 1, Chapter 12: Socio-Economics and Land Use [EN010131/APP/3.1]. The applicant has estimated that 207 jobs per annum will be expected to be taken up by residents within 60-minute travel area of the Site, including in the supply chain (provision of aggregates, fencing, landscaping, etc).</p> <p>An Outline Skills, Supply Chain and Employment Plan (OSSCEP) [EN010131/APP/7.7] has been prepared as part of the scheme. This will set out a number of different opportunity areas in terms of maximising the diversity of the workforce, providing a range of different career pathways and providing opportunities for the local community. Part of the Procurement Strategy will also include working with local partners (such as Chambers of Commerce) to organise and hold “meet the buyer” events so that local suppliers can offer goods and services to the Applicant. Further details of other measure are included within the OSSCEP. Therefore, the potential health and wellbeing impact in terms of accessing local work opportunities during construction is assessed to be positive.</p> <p>During operation</p>	+ during construction 0 during operation + during decommissioning	<p>During construction: No other mitigation measures other than adhering to policies suggested in the OSSCEP. [EN010131/APP/7.7]</p> <p>During operation: No other mitigation measures other than adhering to policies suggested in the OSSCEP.</p> <p>During decommissioning:</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		<p>There are currently 1.5 existing jobs within the Site, all relating to agricultural activities. There is expected to be some employment loss as a result of the Scheme. The Applicant has estimated that 13 jobs will be directly generated by the Scheme when operational, which will potentially provide some local employment opportunities in permanent jobs.</p> <p>When existing employment activity is accounted for, the total net employment generated would be slightly increased (net +11.5 FTE roles) and the health impact is assessed to be neutral.</p> <p>During decommissioning</p> <p>A Framework DEMP [EN010131/APP/7.5] provides the outline mitigation measures to be adhered to during decommissioning. This will be updated and finalised prior to the decommissioning phase.</p> <p>An assessment of the number of jobs created during the decommissioning period is provided in ES Volume 1, Chapter 12: Socio-Economics and Land Use [EN010131/APP/3.1]. The assessment concludes that the impact of decommissioning of the Scheme is likely to be similar to the construction period. Therefore, the Scheme is expected to support, on average, 363 total net jobs per annum during the decommissioning period (once leakage, displacement and other multiplier effects are accounted for). Of these 207 jobs per annum will be expected to be taken-up by residents within 60-minute travel area of the Scheme. Therefore the potential health and wellbeing impact on local work opportunities during decommissioning is assessed to be positive.</p>		<p>Adhering to policies suggested in the OSSCEP and any mitigation measures proposed in the DEMP [EN010131/APP/7.5].</p>

Table 14-9 Social Cohesion and Lifetime Neighbourhoods

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal connect with existing communities, i.e., layout and movement which avoids physical barriers and severance, and land uses and spaces which encourage social interaction?	Yes	<p>During construction</p> <p>As set out in the Outline PRow Management Plan [EN010131/APP/7.8] [access to existing PRow within the Solar and Energy Storage Park will be retained during the construction phase, with no PRow closures. However, there will be a limited number of temporary PRow diversions around the Grid Connection Corridor works are when the cabling is installed (nine routes to be affected), which as stated in ES Volume 1, Chapter 12: Socio-economics and Land Use [EN010131/APP/3.1], are predominantly used for recreational purposes. As set out within the Outline PRow Management Plan [EN010131/APP/7.8], where necessary, temporary PRow diversions will be provided where necessary to avoid any PRow closures. There are four PRow which may be diverted, impacting upon social cohesion. These are: NT Rampton BOAT13 (connecting Rampton and Torksey villages), NT Rampton FP5 (connecting Rampton and Cottam village) and NT Cottam FP1 (part of a longer route connecting Torksey to West Burton) (as set out in ES Volume 2: Figure 13-8 [EN010131/APP/3.7]). However, each diversion will be clearly marked out and agreed with the relevant local authority, prior to construction and the links form part of a wider network in the surrounding area, so it is anticipated that there would be adequate alternatives in the surrounding area. A minibus to transfer construction staff to/from the Grid Connection Corridor will also be provided to reduce traffic to this portion of the Scheme and the number of potential PRow interactions. A new communications strategy will also be developed, including regular meetings with contractors to address local issues around walking and cycling and to relay information on restrictions and requirements to be followed.</p> <p>The impact of severance on PRow receptors has been assessed within Chapter 13: Transport and Access [EN010131/APP/3.1] as minor adverse (only PRow NT/South Leverton/BOAT 16), given its medium sensitivity as a byway open to all traffic, or negligible (all other receptors).</p> <p>Roads bordering the Site may also be used to travel between small settlements. There is expected to be a less than 30% increase in traffic flows across the majority of the road link receptors within the study area except for B1241 Kexby Lane, which will see the biggest increase. This is forecast to experience a 60% increase in traffic during the AM and PM peak (41 additional vehicles). The impact of severance and pedestrian delay on road link receptors has been assessed in Chapter 13 as minor adverse (Kexby Lane) or negligible (all other receptors) and so considered not significant.</p> <p>Therefore, as a worst case scenario, there are some roads (Kexby Lane) and PRow links (PRow NT/South Leverton/BOAT 16) which are anticipated to experience minor adverse effects. These</p>	0 during construction 0 during operation 0 during decommissioning	<p>During construction: Adhere to any mitigation measures proposed in the Outline PRow Management Plan [EN010131/APP/7.8].</p> <p>During operation: None proposed.</p> <p>During decommissioning: Adhering to mitigation measures proposed in the DEMP [EN010131/APP/7.5] and the PRow Management Plan [EN010131/APP/7.8].</p>

Assessment Criteria	Relevant to the Scheme?	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		<p>effects will not lead to the severance of communities and there are a number of alternative routes available. This will result in a potential health and wellbeing impact which is assessed to be neutral.</p> <p>During operation</p> <p>According to Chapter 13: Transport and Access, access to all existing PRow within the Scheme will be maintained and any PRow temporarily diverted will be reinstated during the operational phase.</p> <p>The Scheme is expected to attract low level of vehicle trips during operational phase (i.e. up to 15 vehicle arrivals and 15 vehicle departures daily). As stated in Chapter 13: Transport and Access, a detailed assessment of this scenario has therefore been excluded from this ES chapter.</p> <p>Therefore, at this stage, the potential health and wellbeing impact during the operational phase is assessed to be neutral.</p> <p>During decommissioning</p> <p>During the decommissioning phase, the Scheme would be dismantled, and the infrastructure will be removed. The Framework DEMP [EN010131/APP/7.5], provides the outline mitigation measures to be adhered to during decommissioning. This will be updated and finalised prior to the decommissioning phase.</p> <p>It is again expected that there will be similar implications on the PRow links and pedestrian and cyclist facilities as in the construction period, as set out in the PRow Management Plan [EN010131/APP/7.8]. There are not anticipated to be any PRow closures although some minor diversions are likely to be required, to provide safe access across the Site. These diversions are however expected to be temporary and alternative routes will be available (as in the construction phase). These effects will not lead to the severance of communities. Therefore, the impact on health and wellbeing during decommissioning is assessed to be neutral.</p>		

14.11 Summary of Effects

14.11.1 This assessment has followed the 'HUDU Rapid Health Impact Assessment Matrix' and has assessed the principal health benefits and disbenefits to residents of the local community, including:

- a) **Access to healthcare services and other social infrastructure-** it is unlikely that there will be any severance between local residents and the healthcare facilities or other social infrastructure which they use during the construction, operation or decommissioning phase. This is because neither the additional construction/decommissioning traffic flow nor the traffic flow generated during the operational phase will exceed the future baseline traffic flows (without the Scheme). No road closures are anticipated at any point during the Scheme.
- During construction, the impact on Human Health and Wellbeing is assessed as: neutral
 - During operation, the impact on Human Health and Wellbeing is assessed as: neutral
 - During decommissioning, the impact on Human Health and Wellbeing is assessed as: neutral
- b) **Air quality, noise and neighbourhood amenity** – The implementation of mitigation is expected to prevent the occurrence of significant impacts arising from dust generation during the construction phase, however, there are assessed to be negative impacts on some residents during the construction phase as a result of traffic noise in some locations (Marton Road, B1241 High Street and Headstead Bank). Noise and Vibration levels may also exceed LOAEL levels in some locations during the construction and decommissioning phase. During the operational phase, due to the low levels of employment and selection of and location of plant, there is anticipated to be minimal implications on air quality, noise and neighbourhood amenity.
- During construction, the impact on Human Health and Wellbeing is assessed as: negative.
 - During operation, the impact on Human Health and Wellbeing is assessed as neutral.
 - During decommissioning, the impact on Human Health and Wellbeing is assessed as: negative.
- c) **Accessibility and active travel-** all existing PRoW will be retained during the construction phase with no PRoW closures. However, there may be a limited number of temporary diversions around the Grid Connection Corridor during cabling installation. This is projected to be similar during the decommissioning phase. As there are no permanent closures during the construction phase, these links will not need to be reopened during the operational phase.

- During construction, the impact on Human Health and Wellbeing is assessed as: negative.
 - During operation, the impact on Human Health and Wellbeing is assessed as: neutral.
 - During decommissioning, the impact on Human Health and Wellbeing is assessed as: negative.
- d) **Access to work and training:** the construction phase of the Scheme will support 363 net jobs per annum, with 207 per annum being taken up by residents within 60 minutes of the Site. The decommissioning phase is expected to support the same number of jobs and local jobs as the construction phase. During these periods, the Scheme is therefore expected to lead to a positive health and wellbeing impact on access to work and training. As set out in the **OSSCEP [EN010131/APP/7.7]**, the Applicant will be encouraged to provide a range of apprenticeships, training placements and deliver an education programme centred around STEM and careers based topics. Part of the Procurement Strategy will also encourage partnership working with local partners (such as Chambers of Commerce) to organise and hold “meet the buyer” events for the local supply chain. During the operation phase, the Scheme is assessed to have a positive impact as there is assessed to be provision of 14 jobs as a result of the Scheme.
- During construction, the impact on Human Health and Wellbeing is assessed as: positive.
 - During operation, the impact on Human Health and Wellbeing is assessed as: neutral.
 - During decommissioning, the impact on Human Health and Wellbeing is assessed as: positive.
- e) **Social cohesion and lifetime neighbourhoods:** as a result of the construction of the scheme, nine PRoW routes may be temporarily diverted, however, this is not anticipated to result in severance of communities. The impact on the existing community will also sought be limited as far as possible through provision of a minibus service to transfer construction workers to and from Site and development of a local communications strategy to address any issues and relay information. The Scheme is therefore expected to result in a neutral health and wellbeing impact.
- During construction, the impact on Human Health and Wellbeing is assessed as: neutral.
 - During operation, the impact on Human Health and Wellbeing is assessed as: neutral.
 - During decommissioning, the impact on Human Health and Wellbeing is assessed as: neutral.

Additional Mitigation

14.11.2 No additional mitigation was deemed necessary, above the embedded mitigation.

14.12 Cumulative Assessment

14.12.1 This section presents an assessment of cumulative effects between the Scheme and other proposed and committed plans and projects including other developments.

14.12.2 This assessment has been made with reference to the methodology and guidance set out in **ES Volume 1, Chapter 5: EIA Methodology [EN010131/APP/3.1]**.

14.12.3 All cumulative schemes and submitted applications listed in **ES Volume 1, Chapter 16: Cumulative Effects and Interactions [EN010131/APP/3.1]** will generate additional effects (both positive and negative) on Human Health and Wellbeing either in the study area or in the surrounding areas to the Study Area if they were to go ahead.

14.12.4 The assessment of 'Access to Healthcare Services and other Social Infrastructure' is inherently cumulative as the traffic data which the assessment is based on already includes the change in traffic generated by other cumulative developments. As presented in **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**, at this stage, it is proposed to consider the potential impact of the West Burton Solar Project and the Cottam Solar Project. Discussions have been held with the developer for the West Burton and Cottam solar projects to review how both projects could potentially work together to minimise any cumulative effects where viable. It is considered that a joint CTMP could be prepared between the Scheme and West Burton Solar Project post-consent to manage and mitigate cumulative effects if necessary. The shared Grid Connection Corridor and the location of West Burton Solar Project are shown in **ES Volume 2: Figure 5-1 [EN10118/APP/3.2]**.

14.12.5 According to **ES Volume 1, Chapter 12: Socio-economics and Land Use [EN010131/APP/3.1]**, these three developments could create a peak of 1,886 workers, which could have implications on access to healthcare services. As explained in the Section 14.7, currently, the GP:Patient ratio is 1:1,880, which is also the recommended ratio set by the Royal College of General Practitioners (1:1,800). However, it is assumed that West Burton 2 and 3 together will have a peak construction workforce of 654 FTE and Cottam 1 will have a peak construction workforce of 832 FTE, in addition to the 363 FTE from Gate Burton. Taking into account these other developments, this could as a worst case scenario, potentially increase this ratio to 1:1905 which greatly exceeds the recommended ratio as set by the Royal College of General Practitioners.

14.12.6 The assessment of potential effects on 'Accessibility and Active Travel' considers both physical changes to pedestrian and cyclist infrastructure in the vicinity of the Site as well as changes to the environment that these road

users are exposed to. According to **Chapter 12: Socio-economics and Land-Use [EN010131/APP/3.1]**, it is expected the overall cumulative effect on PRow during construction and decommissioning has the potential to have a greater effect, due to the cumulative scheme of West Burton Solar Park adjacent to the Scheme. If constructed, West Burton 3 could intersect LL|Mton|68/1 (footpath- c.700m), south of the Site, on the north border of the Grid Connection Corridor, connecting the High Street to Stow Park Road. No other PRow affected by West Burton or Cottam Solar Projects intersect the Order limits of the Scheme. It is therefore expected that the effect will remain temporary minor adverse, not considered significant.

14.12.7 For 'Access to Work and Training', **Chapter 12: Socio-economics and Land- Use [EN010131/APP/3.1]** states that the construction phases of the Scheme and the other cumulative developments would both be expected to generate employment. As mentioned above, West Burton Solar Project and Cottam Solar Project (both located within 5km of the Order limits) expect to commence construction in Q1 2024 until Q4 2025. This would create an overlap in construction with the Scheme for approximately 12 months in 2025. Despite this increase in employment opportunities, as this is anticipated to be in the construction and decommissioning phase, the overall cumulative effect is assessed to remain at temporary minor beneficial effect (not significant).

14.12.8 During operation, there is predicted to be negligible effect on additional employment from the cumulative Schemes, as well as the effect on the PRow. There is considered to be no effect on residential properties, business premises and community facilities.

14.12.9 Within **ES Volume 1, Chapter 15: 'Other Environmental Topics' (Air Quality) [EN010131/APP/3.1]**, it states that the three sites managed by the applicant for the West Burton and Cottam solar projects will need to prepare a joint CEMP in order to manage construction traffic and another air quality assessment will need to be produced. Other schemes are not likely to contribute to the effects on air quality receptors identified in this chapter and therefore are not significant.

14.12.10 **ES Volume 1, Chapter 11: Noise and Vibration [EN010131/APP/3.1]** states that cumulative noise effects during construction and operation phases may occur if developments are located near to a common receptor. However, based on professional judgement, at distances of greater than 500m, any interaction of noise emissions from multiple developments would be attenuated and so normally no combined effected. The precise scale of noise effects will depend on works taking place at any one time, however, mitigation measures presented in the **Framework CEMP [EN010131/APP/7.3]** and **DEMP [EN010131/APP/7.5]** seek to minimise this as far as possible. It is also assumed that the other developments will be required to adopt standard working practices and noise and vibration levels will comply with set limits. Based on the distance and industry requirements, it is not considered that any in-combination cumulative effects at common noise-sensitive receptors would occur. This is also anticipated to be the case during the operational phase.

14.13 References

- Ref 14-1 Department of Energy and Climate Change (2011); Overarching National Policy Statement for Energy (EN-1).
- Ref 14-2 Department of Energy and Climate Change (2011); National Policy Statement for Renewable Infrastructure (EN-3).
- Ref 14-3 Department of Energy and Climate Change (2011); National Policy Statement for Electricity Networks Infrastructure (EN-5).
- Ref 14-4 Ministry of Housing, Communities and Local Government (2021); National Planning Policy Framework.
- Ref 14-5 NHS (2019); The NHS Long Term Plan.
- Ref 14-6 Public Health England (2017); Spatial Planning for Health: An evidence resource for planning and designing healthier place. Available at: [Spatial Planning for Health: an evidence resource for planning and designing healthier places \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/628222/spatial-planning-for-health-an-evidence-resource-for-planning-and-designing-healthier-places.pdf)
- Ref 14-7 Public Health England (2019); PHE Strategy 2020 to 2025
- Ref 14-8 Countryside and Rights of Way Act (2000). Available at: [Countryside and Rights of Way Act 2000 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2000/8/section/1)
- Ref 14-9 Planning Practice Guidance (2019); Health and Safe Communities: Guidance on promoting healthy and safe communities. Available at: [Healthy and safe communities - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/healthy-and-safe-communities)
- Ref 14-10 Central Lincolnshire Joint Strategic Planning Committee (2017); Central Lincolnshire Local Plan. Available at: [Local Plan | Central Lincolnshire \(n-kesteven.gov.uk\)](https://www.central-lincolnshire.gov.uk/local-plan)
- Ref 14-11 Bassetlaw District Council (2011); Core Strategy and Development Management Policies. Available at: [Core strategy and development policies | Bassetlaw District Council](https://www.bassetlaw.gov.uk/core-strategy-and-development-policies)
- Ref 14-12 Lincolnshire County Council (2018); Joint Health and Wellbeing Strategy and Lincolnshire. Available at: [Joint Health and Wellbeing Strategy for Lincolnshire](https://www.lincolnshire.gov.uk/joint-health-and-wellbeing-strategy)
- Ref 14-13 Nottinghamshire County Council (2018); Nottinghamshire Health and Wellbeing Board: Joint Health and Wellbeing Strategy. Available at: [the-joint-health-and-wellbeing-strategy-2018-2022.pdf \(nottinghamshire.gov.uk\)](https://www.nottinghamshire.gov.uk/joint-health-and-wellbeing-strategy-2018-2022.pdf)
- Ref 14-14 Nottinghamshire Health and Wellbeing Board (2021); Nottinghamshire County Joint Strategic Needs Assessment: Evidence Summary 2021.
- Ref 14-15 Nottinghamshire County Council (2019); Nottinghamshire Spatial Planning and Health Framework. Available at: [notts-spatial-planning-health-framework.pdf \(nottinghamshire.gov.uk\)](https://www.nottinghamshire.gov.uk/notts-spatial-planning-health-framework.pdf)
- Ref 14-16 Office for National Statistics (2011); 2011 Census. Available at: [2011 Census - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/census)
- Ref 14-17 Office for National Statistics (2020); Mid-Year Population Estimates 2020. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/timeseries/ukpop/pop>
- Ref 14-18 Office for National Statistics ONS (2021); Annual Population Survey (January 2020-December 2020). Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates>
- Ref 14-19 Ministry of Housing, Communities and Local Government (2019); English indices of deprivation 2019. Available at: [English indices of deprivation 2019 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/424222/english-indices-of-deprivation-2019.pdf)
- Ref 14-20 Health England; Local Authority Health Profiles.
- Ref 14-21 General Practice Workforce, August 2022.
- Ref 14-22 NHS London Healthy Urban Development Unit (HUDU) (2019); HUDU Planning for Health: Rapid Health Impact Assessment Tool.
- Ref 14-23 Wales Health Impact Assessment Support Unit (WHIASU); (2020) Health Impact Assessment (HIA) Overview.
- Ref 14-24 Office for National Statistics (2021); 2021 Census. Available here: [Population and household estimates, England and Wales: Census 2021 - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/census)
- Ref 14-25 Office for National Statistics (2022); Claimant Count by Sex and Age, August 2022.