



BEACON FEN ENERGY PARK

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Chapter 15 – Socio-economics

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Quality information

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This Chapter 15 has been prepared by Wardell Armstrong LLP (part of SLR) ('WA') on behalf of Beacon Fen Energy Park Ltd (the 'Applicant') in support of an application for a Development Consent Order (DCO) for Beacon Fen Energy Park (the 'Proposed Development').

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15. Socio-economics

15.1 Introduction

- 15.1.1 This Chapter reports the assessment of the likely significant effects of the Proposed Development on Socio-economics. In particular it considers the potential for likely significant effects of the Proposed Development on residential properties within the immediate area of the Proposed Development and settlements in the wider surrounding area (e.g., in terms of employment, local procurement, increased exposure to noise, air pollution and traffic, tourism, livelihoods, recreation, influx of workers, physical resettlement and wellbeing) during the construction, operation and decommissioning phases of the Proposed Development.
- 15.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this Environmental Statement (ES) (Chapters 1 – 5) and particularly to the description of the Proposed Development in Chapter 2 which includes details about the location, construction schedule, labour requirements, land take and methodology, as well as the final chapter, Chapter 17 Summary of Environmental Effects
- 15.1.3 This chapter is accompanied by the following Appendices and Figures:
- Appendix 15.1: Legislation, Policy and Guidance (Document Ref: 6.3 ES Vol. 2, 6.3.96)
 - Appendix 15.2 : Consultation (Document Ref: 6.3 ES Vol. 2, 6.3.97)
 - Appendix 15.3: Outline Skills, Supply Chain, Employment Plan (OSSCEP) (Document Ref: 6.3 ES Vol. 2, 6.3.98)
 - Figure 15.1: Direct Area of Influence (Document Ref: 6.4 ES Vol. 3, 6.4.77)
 - Figure 15.2: Indirect Area of Influence (Document Ref : 6.4 ES Vol. 3, 6.4.78)
 - Figure 15.3: Public Rights of Way (Document Ref : 6.4 ES Vol. 3, 6.4.79)

15.2 Legislation and Policy

- 15.2.1 The legislation and policy considered relevant to the assessment of Socio-economics are listed below, with details provided in **Appendix 15.1: Legislation, Policy and Guidance (Document Ref: 6.3 ES Vol. 2, 6.3.96)**.

Legislative Framework

- 15.2.2 The applicable legislation includes:
- The Planning Act 2008; and

- The Infrastructure Planning (Environmental Impact Assessment (EIA) Regulations 2017.

Planning Policy

15.2.3 The applicable planning policy includes:

- Overarching National Policy Statement for Energy (EN-1) (Published November 2023);
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (Published November 2023);
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (Published November 2023);
- National Planning Policy Framework (NPPF) (2024).

15.2.4 Applicable local planning policy includes:

- Central Lincolnshire Local Plan (adopted April 2023); and
- Southeast Lincolnshire Local Plan 2011-2036 (Adopted March 2019).

15.3 Consultation & Scope of Assessment

Consultation Undertaken to Date

15.3.1 Consultation has been ongoing throughout the preparation of the DCO application; it can broadly be divided into the following key stages:

- EIA Scoping;
- Early Non-Statutory Consultation;
- Direct Topic-Specific Consultation; and
- Preliminary Environmental Information Report (PEIR) Consultation.

15.3.2 Table 15.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter. Table 1, including Scoping Opinion and PEIR comments is included in **Appendix 15.2: Consultation (Document Ref: 6.3 ES Vol. 2, 6.3.97)**.

Table 15.1 – Summary of Consultation Undertaken to Date

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY OF OUTCOME	HOW THIS IS ADDRESSED
EIA Scoping				
Planning Inspectorate (PINS) on behalf of SoS	26/05/2023	Scoping Opinion	Negative side effects of local economic growth remain scoped out.	Confirmed that the negative side effects of local economic growth can be scoped out of the ES.
			Pressure on local services and infrastructure from population immigration are now scoped in and assumptions on	Effects from worker influx are considered in the construction phase. Estimate of direct and indirect

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY OF OUTCOME	HOW THIS IS ADDRESSED
			<p>workforce numbers are presented.</p> <p>Physical displacement scoped in due to partial information on the cable route and access route location.</p> <p>Cross-referencing provided for environmental mitigation measures where such measures avoid what would otherwise be significant socioeconomic effects.</p>	<p>employment has been undertaken.</p> <p>An assessment of potential physical displacement is included for construction phase.</p> <p>Air Quality, Noise, Landscape and Traffic mitigation measures are cross-referenced where applicable.</p>
			<p>Qualitative baseline surveys are to be undertaken of PRowS for including in the ES, in Chapter 15: Socio-economics (Document Ref : 6.2 ES Vol. 1, 6.2.15). These surveys will include site walkovers and engagement with local walking groups to determine a better understanding of use of PRowS.</p>	<p>A site walkover was carried out for the Solar Array Area (PRow Ewer/12/1) and adjacent footpaths (Ewer/9/1) and (Skym/8/1). 15.1.1 Three separate onsite high-level studies of potentially affected PRowS showed general low use of PRow in the area. The assessment of PRow use was initially planned to be complemented for the ES with qualitative interviews with landowners whose land is crossed by the footpaths. Nonetheless, due to limited impact on the PRowS and limited use found during site visits, site observations were sufficient to inform this ES.</p>
(Lincolnshire County Council (LCC)	16/05/2023	Scoping Opinion	No action needed.	N/A

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY OF OUTCOME	HOW THIS IS ADDRESSED
North Kesteven District Council (NKDC)	18/05/2023	Scoping Opinion	<p>The following aspects have been added to this assessment:</p> <ul style="list-style-type: none"> • Net gain of jobs following HCA Additionality guidance to account for loss of agricultural jobs; • Quantification, to the extent possible, of the number of affected farms; • Quantification of local economic opportunities for local businesses, construction workforce and accommodation providers; • Outline of future opportunities in the Appendix 15.3: Outline Skills, Supply Chain and Employment Plan (Document Ref: 6.3 ES Vol. 2, 6.3.98).; • Assessment for the possibility of continued grazing; <p>Quantification of socio-economic benefits, to the extent possible, from the change from agricultural use to solar panels.</p>	As required, effects during construction, operation and closure have taken account of land use change, direct and indirect employment, and impacts to local businesses and service providers. Where possible, these impacts have been assessed quantitatively using estimates and best practice guidance.
NKDC			After removing Beacon Fen South, comparing the Anglian Water Reservoir and the Proposed Development is no longer necessary. Nonetheless, Chapter 15: Socio-	An assessment of effects to tourism and recreation is included.

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY OF OUTCOME	HOW THIS IS ADDRESSED
			<p>economics (Document Ref : 6.2 ES Vol. 1, 6.2.15) includes an assessment of potential beneficial and adverse impact on tourism, recognising NKDC's key priority to enhance visitor economy.</p>	
<p>UK Health Security Agency (HSA)</p>	<p>12/05/2023</p>	<p>Scoping Opinion</p>	<p>No major change required in terms of including the determinants of health, Chapter 15: Socio-economics (Document Ref : 6.2 ES Vol. 1, 6.2.15) already scoped in the increased exposure of communities to noise and traffic, as well as the influx of workers causing stress on local services, and restricted access to recreation places. Following draft NPS EN-1 2023, assessing health impacts on identified vulnerable groups will be described in the ES and appropriate mitigation measure proposed.</p> <p>Potential risks in relation to accidents and disasters are considered within the following chapters and reports, which did not identify likely effects of the Proposed Development which could result in an accident or disaster:</p> <ul style="list-style-type: none"> • Chapter 9: Access & Traffic 	<p>This Chapter presents baseline data on community health and wellbeing, and further considers impacts such as: restricted access to recreation, increased exposure to noise and traffic and influx of workers causing stress on local shops and hospitality services. Following NPS EN-1 2023, vulnerable groups are considered within this Chapter.</p> <p>Considered in Chapter 9: Access & Traffic (Document Ref: 6.2 ES Vol.1, 6.2.9), Chapter 11: Water Resources & Flood Risk (Document Ref: 6.2 ES Vol.1, 6.2.11), Chapter 12: Climate Change (Document Ref: 6.2 ES Vol.1, 6.2.12)</p>

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY OF OUTCOME	HOW THIS IS ADDRESSED
			<p>(Document Ref: 6.2 ES Vol.1, 6.2.9)</p> <ul style="list-style-type: none"> • Chapter 11: Water Resources & Flood Risk (Document Ref: 6.2 ES Vol.1, 6.2.11) • Chapter 12: Climate Change (Document Ref: 6.2 ES Vol.1, 6.2.12) • Chapter 13: Glint and Glare (Document Ref: 6.2 ES Vol.1, 6.2.13) • Appendix 1.4: Ground Conditions Desk Study (Document Ref: 6.3 ES Vol.2, 6.3.102) 	<p>) and Chapter 13: Glint and Glare (Document Ref: 6.2 ES Vol.1, 6.2.13) as stated in the scoping reply.</p> <hr/> <p>Assessment of effect on recreation / PRow users considered more vulnerable social receptors like non-motorised road users (pedestrians, cyclists and horse-riders). The role of the Community Liaison Officer described in Outline Construction Environmental Management Plan (OCEMP) (Document Ref: 6.2 ES Vol.1, 6.3.7) seeks to tailor engagement to vulnerable groups.</p>
Direct Topic-Specific Consultation				
Solar Array Area Landowner	22/06/2023	In-person meeting on site	Baseline data collection	Consultation used to inform baseline.

ORGANISATION	DATE	FORM OF CONSULTATION	SUMMARY OF OUTCOME	HOW THIS IS ADDRESSED
Ewerby and Evedon Parish Council	22/06/2023	In-person meeting on site with Parish Chairman.	The aim of this meeting was primarily to inform the socio-economics baseline. The meeting also suggested the Ewerby and Evedon Parish Council is concerned about local traffic impacts during construction and overall visual impacts.	Consultation used to inform baseline.
North Kesteven District Council (NKDC)	28/06/2023	Online meeting with Alan Gray and Michelle Tasker.	NKDC is concerned about accommodation availability due to construction workforce influx, especially in terms of cumulative impacts. NKDC is interested in making the Proposed Development an asset for tourism (e.g. guided renewable energy tours). NKDC is interested in securing community benefits from the Development.	An assessment of the cumulative effects of accommodation pressures during construction was considered.
Stepping Out Walks	13/03/2023	E-mail exchange	N/A	This consultation provided baseline data for the use of PRow in and around the Beacon Fen Energy Park boundary.

Scope of the Assessment

15.3.3 This chapter of the ES describes the socio-economic baseline conditions in the Proposed Development's Area of Influence (AoI) and identifies environmental and social effects resulting from the Proposed Development in relation to the following:

- Population and demography;
- Community health and wellbeing;
- Indices of deprivation;
- Economic activity;
- Local businesses and livelihoods;

- Tourism and recreation; and
- Access to public services.

15.3.4 In response to the 2023 Scoping Opinion, this chapter scopes-in effects from pressure on local services and infrastructure from population immigration and physical displacement.

Effects not considered within the Scope

15.3.5 The socio-economic chapter of the Scoping Report outlined matters to be scoped-out from the assessment. Following a review of the subsequent Scoping Opinion comments, one matter remains scoped-out. This is:

- Negative side-effects of local economic growth (price inflation, economic dependence) on the Proposed Development.

Limitations & Exclusions

15.3.6 At the current stage of the planning process, all pending matters from the PEIR have been resolved.

15.3.7 Three separate onsite high-level studies of potentially affected PRoWs showed general low use of PRoW in the area. The assessment of PRoW use was initially planned to be complemented for the ES with qualitative interviews with landowners whose land is crossed by the footpaths. Nonetheless, due to limited impact on the PRoWs and limited use found during site visits, site observations were sufficient to inform this ES.

15.3.8 Other limitations, outside the control of the Applicant and reliant upon third parties, include the following:

- Accuracy of ONS 2021 data was affected by the Covid-19 pandemic;
- ONS 2021 census was the most recent and reliable source of data, which might however not fully reflect the socio-economic baseline conditions at present;
- Workforce estimates of similar developments in the area used for cumulative impact assessment; and
- Lack of precise information on the location of worker's accommodation.

15.3.9 It should be noted that the above limitations do not compromise the assessment of the effects or outcomes.

15.4 Assessment Methodology & Significance Criteria

Extent of the Study Area

15.4.1 The Proposed Development is located in the North Kesteven District and Boston Borough within the Lincolnshire County, approximately 6.5 km northeast from the Town of Sleaford, and 2.5 km north of Heckington and approximately 30km south from the City of Lincoln. The Bespoke Access Road is located approximately 3km west from Heckington and around 0.5km west from Asgarby. The Cable Route Corridor reaches the northern border of the Boston Borough. The Proposed Development's Area of Influence (AoI) is defined at two levels: the Direct AoI and the Indirect AoI, as described below.

- 15.4.2 The Direct Aol is limited mostly to the North Kesteven District, although the southern part of the Cable Route Corridor reaches the Boston Borough, and comprises the communities located within the Proposed Development area (i.e., Solar Array Area footprints, Bespoke Access Corridor and the Cable Route Corridor), including a 500m buffer zone, as well as communities that may be affected by land use changes, access to recreation, impact on tourism and any other economic displacement. The Direct Aol is presented in **Figure 15.1 Direct Area of Influence (Document Ref: 6.4 ES Vol. 3, 6.4.77)**.
- 15.4.3 The Indirect Aol comprises communities potentially impacted by labour requirements for the Proposed Development, economic benefits and supply chain impacts, as well as traffic on roads connecting to the Proposed Development. Employment impacts were limited to a 60-minute travel area and the bigger settlements that are well-connected to the Proposed Development area mark an approximate border of the Indirect Aol, as presented in **Figure 15.2 Indirect Area of Influence (Document Ref : 6.4 ES Vol. 3, 6.4.78)**.
- 15.4.4 Effects on Public Rights of Way (PRoW) users will consider footpaths affected by temporary closure within the boundary and adjacent to the Beacon Fen Energy Park. The study area includes all PRoWs located within the boundary of and adjacent to the DCO Order Limits (likely to be impacted by construction). PRoWs are presented in **Figure 15.3 Public Rights of Way (Document Ref : 6.4 ES Vol. 3, 6.4.79)**.

Assessment Methodology

- 15.4.5 This section presents the scope and methodology for the socio-economics assessment of the Proposed Development. Currently, there is no established methodology or guidance for Socio-economics in the UK, hence the method of baseline data collection and assessment has been carried out in accordance with global industry best practice and guidance, comprising the following:
- IAIA, Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Project (2015); and
 - The additionality assessment followed the Homes & Community Agency (HCA) Additionality Guide Fourth Edition (2014).
- 15.4.6 The level of effect has been determined via social receptor sensitivity and impact magnitude (see Tables 15.3 to 15.6, below). An effect that is assessed as moderate or above is considered to be 'Significant' (in EIA terms). Following the initial assessment of effects (including any embedded mitigation), the implementation of additional mitigation measures are considered and residual impacts re-assessed.
- 15.4.7 The assessment was informed by publicly available data and complimented by a data collection visit that took place on the 22nd and 23rd of June 2023. Additionally, a high-level onsite assessment of PRoWs within the Cable Route Corridor was undertaken in February 2023 and March 2024. The Cable Route Corridor option at the time was larger than the current design, with some PRoWs overlapping both options; therefore, some of the data collected in February was applicable for this assessment. The aim of the June visit was to collect data on local livelihoods, services, tourist attractions and recreational

facilities (including PRowWs). The visit involved a walkover of the Solar Array Area, a general reconnaissance of both the Direct Aol and Indirect Aol, PRow surveys, a meeting with a landowner and a meeting with the chairman of the Ewerby and Evedon Parish Council. On the 28th of June 2023, an online meeting was held with the Economic Development Manager and Economic Development Project Manager from North Kesteven District Council (NKDC), with discussions focussing mainly on recreation and tourism and the Council's priorities in the area. Finally, conversations were held with the Solar Array Area landowners to collect baseline data.

15.4.8 The desk-based research sources included:

- 2021 Census data;
- Office of National Statistics (ONS) Gross Value Added (GVA) Annual Statistics (2021);
- ONS Labour Force Survey;
- Sustrans National Cycle Network data;
- Natural England data (to confirm absence of nationally designated areas);
- Destination Lincolnshire and Cycle Lincolnshire websites; and
- Public Rights of Way public data.

15.4.9 The economic impact of the Proposed Development has been studied within a 60-minute travel area and measured by considering the net gain of jobs in the area, the level of leakage, job displacements and multiplier effects (supply chain and worker spending). These assumptions are guided by the Homes & Communities Agency (HCA) Additionality Guide 4th Edition.

15.4.10 Table 15.2 summarises the values used to calculate additionality during all phases of development and provides reasoning behind the values presented.

Table 15.2 – Values to calculate additionality.

ADDITIONALITY FACTOR	VALUE	JUSTIFICATION
Leakage outside Direct Aol	70%	<p>Analysis of ONS 2021 Census data showed that 55% of North Kesteven workers commute to work more than 10km. This can suggest that around 55% of jobs might be taken by people outside of the direct area of influence and not directly benefit local workforce. According to the HCA guide, leakage value also depends on the availability of skilled workers in the study area.</p> <p>A qualitative study undertaken for this chapter showed that, according to the Economic Development Manager from the NKDC, a majority of construction workers would have to come from outside the study area (mainly Boston and Lincoln). Taking this into account, leakage could increase to a value of approximately 70%.</p>
Leakage outside Indirect Aol	15%	<p>According to ONS 2021 Census data, 23% of workers in North Kesteven commute to work more than 30km. Some places within the Indirect Aol identified as cities with good transport links to project sites, such as Skegness, are beyond the 30km limit (53km in straight line, as measured in the ONS Statistics), but still considered to be within the Indirect Aol.</p>

ADDITIONALITY FACTOR	VALUE	JUSTIFICATION
		Therefore, with the informed professional judgement from the visit to Site and interviews with local authorities, this adaptation reduces the leakage beyond the Indirect AoI to 15% as it is assumed that some of that 23% leakage workers come from cities beyond the 30km limit, still within the Indirect AoI.
Displacement	50%	Following the HCA Guide, displacement value is estimated to be medium (50%) due to a number of similar developments planned in the Indirect AoI.
Economic multiplier (further economic activity (jobs, expenditure or income) associated with additional local income and local supplier purchases)	1.5	The HCA Guide provides approximate indicators for composite multipliers (combining effects from indirect jobs creation and jobs created through increased spending). The area of influence is assessed to have average supply linkages.

15.4.11 In contrast with environmental receptors, the degree of sensitivity of social receptors is based on an individual or group’s abilities and capacity to adapt to changes and maintain their quality of life, livelihood and health conditions. Sensitivity can be understood in terms of resilience to change (e.g., capacity to cope with socio-economic changes) and the individual’s access to resources to adapt to them. Sensitivity can be further determined by several factors, such as a receptor’s age, gender, ethnicity, access to employment opportunities, livelihood, education, health, level of marginalisation / deprivation and dependence on natural or common resources. A qualitative definition of these is presented in Table 15.3, below.

Table 15.3 – Social Receptor sensitivity Scale (also applied to businesses and workers).

SENSITIVITY OF RECEPTOR	DESCRIPTION OF RECEPTOR
Negligible	A receptor with no need to adapt to change or has a high capacity to adapt completely and almost immediately. Receptor has no shortage of access to adequate resources (material, financial, social) and will have no difficulty adapting to changes.
Low	A receptor with capacity and means to adapt to change and maintain/improve current conditions on its own after a certain time. Receptor has a high level of access to resources and has a high capacity to adapt to changes.
Medium	A receptor with limited capacity and means to adapt to change and maintain/improve current conditions. Adaptation may take time and/or may only be partial and can require support from mitigation measures. Receptor has some access to resources and retains capacity to partially adapt to changes.
High	An already vulnerable receptor with very little capacity and means to adapt to change and maintain/improve current conditions. Receptor has very limited access to resources, resulting in multiple levels of vulnerability that limits capacity to adapt to changes.

15.4.12 Magnitude elements and criteria are outlined in Table 15.4.

Table 15.4 – Elements of Impact Magnitude.

ELEMENT	DESCRIPTION
Type	Beneficial (positive): An impact that is considered to represent an improvement to socio-economic baseline conditions or the introduction of a new desirable factor. Adverse (negative): An impact that is considered to represent an adverse change from socio-economic baseline conditions or the introduction of a new undesirable factor.
Duration	Short term: Impacts that are predicted to last for a limited period (construction) or will cease within less than a year. Medium-term: Impacts that are predicted to last through construction and the beginning part of operations or for a period of one to five years. Long-term: Impacts that are estimated to occur throughout construction and operations or from six years to the end of operations stage. Very long-term: Impacts that affect a receptor during the development lifecycle and will remain post-decommissioning.
Reversibility	Reversible: Impacts are predicted to be reversed after the end of the operation of the development or on application of mitigation. Irreversible: Impacts that cause a permanent change in the affected receptor or resource that endures substantially beyond the development lifetime.
Spatial Extent	Local: Includes the Direct Aol and Indirect Aol. Regional: Includes counties in East Midlands. National: The effect extends to the entire country.

15.4.13 Following this step, a definition of the overall magnitude level is made considering the combination of elements presented in Table 15.5, below.

Table 15.5 – Magnitude of Change Scale (Social).

MAGNITUDE LEVEL	DESCRIPTION
Negligible	Potential impact will not result in any measurable or perceivable changes to baseline conditions.
Low	A potential impact that is unlikely to have a measurable effect on the wellbeing of people so that the baseline conditions will not be considerably affected.
Medium	A potential impact that is likely to be short or medium- term (less than one year), spatially localised (likely to affect a small number of social receptors) and reversible.
High	Potential impact will result in measurable change on baseline conditions and is likely to affect a moderate number of social receptors, causing livelihood change on a moderate scale. May or may not be reversible depending on specific conditions.

Significance Criteria

15.4.14 The level of significance is defined through the matrix in Table 15.6, below. An effect that is moderate or higher is considered to be ‘Significant’ (in EIA terms).

Table 15.6 – Significance Criteria.

RECEPTOR SENSITIVITY	MAGNITUDE OF CHANGE			
	Negligible	Low	Medium	High
Negligible	Negligible	Negligible	Minor	Moderate
Low	Negligible	Minor	Minor	Moderate
Medium	Negligible	Minor	Moderate	Major
High	Minor	Moderate	Major	Major

15.5 Baseline Conditions

Current Baseline Conditions

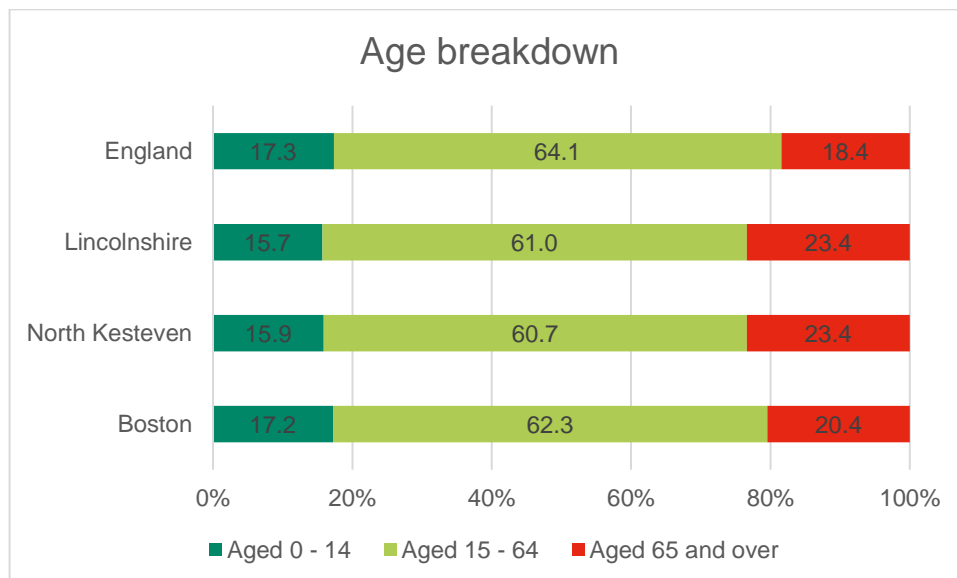
15.5.1 This section presents the baseline conditions in both the Direct Aol and the Indirect Aol. Socio-economic data primarily focuses on North Kesteven District where the majority of the Proposed Development is proposed to be located. Complementary data on the Boston Borough where the NGET Bicker Fen substation (to which the Proposed Development connects) is located is also included. Tourism and recreation data was compiled primarily for the Direct Aol.

Socio-economic baseline conditions

15.5.2 Between 2011 and 2021¹ the population of North Kesteven increased by 9.6%, from around 107,800 in 2011 to around 118,100 in 2021. The population of Boston Borough has risen by 9.1% over the same time period and was 70,500 in 2021.

15.5.3 Between the last two censuses, the average (median) age of North Kesteven increased by two years, from 44 to 46 years of age. Age breakdown of the population is shown in Graph 15.1.

15.5.4 Working age population (age 15 to 64) in North Kesteven accounts for 60.7% of the total population, which is lower than the national population (64.1%) and Boston Borough population (62.3%). North Kesteven has a considerably higher population of residents aged 65 and over (23.4%) than the national population percentage (18.4%). This can suggest a considerable share of vulnerable population in terms of age and health in North Kesteven.

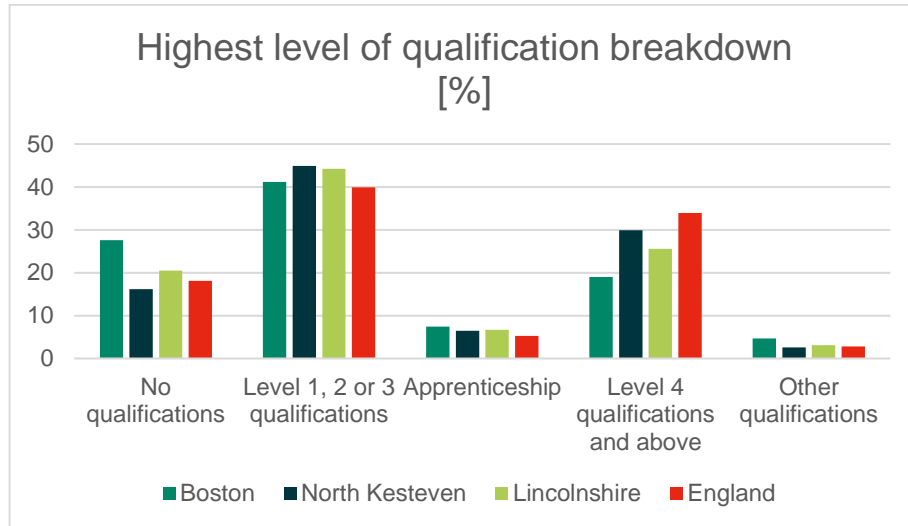


Graph 15.1 – Age breakdown of residents in the Aol compared to England.

15.5.5 The highest level of qualification data for people aged 16 years and over showed 27.6% of the population of Boston Borough as having ‘no

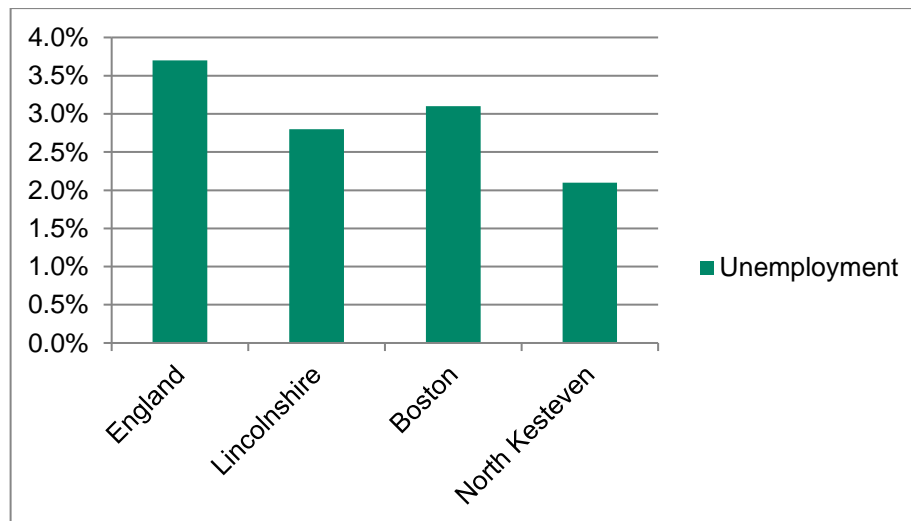
¹ This paragraph compares data from 2011 and 2021, as these are the years when two most recent ONS censuses were completed. Most of this baseline is based on the 2021 census as the most recent and reliable source of socio-economic baseline data.

qualifications², which makes Boston Borough the second highest population percentage declaring no qualifications in England³, compared to 16.2% in North Kesteven, 20.5% in Lincolnshire and 18.1% in England. Conversely, Boston Borough had the highest percentage of population with ‘Other qualifications’⁴ compared to Lincolnshire, North Kesteven and England⁵. Full details can be found on Graph 15.2.



Graph 15.2 – Highest level of qualification in the Aol statistics.

15.5.6 Unemployment in both the Direct Aol and Indirect Aol is lower than the national average (3.7%) as seen on Graph 15.3, with Boston Borough having higher unemployment levels (3.1%) than the Lincolnshire County average (2.8%). The lowest unemployment levels in the Aol were observed in North Kesteven (2.1%).



² *No qualifications refers to anyone who did not attain the following as a minimum - Level 1 and entry level qualifications: 1 to 4 GCSEs grade A* to C, Any GCSEs at other grades, O levels or CSEs (any grades), 1 AS level, NVQ level 1, Foundation GNVQ, Basic or Essential Skills.

³<https://www.ons.gov.uk/peoplepopulationandcommunity/educationandchildcare/bulletins/educationenglandandwales/census2021>.

⁴ Other qualification’ is defined by the ONS as: *vocational or work-related qualifications, other qualifications achieved in England or Wales, qualifications achieved outside England or Wales (equivalent not stated or unknown).*

⁵ <https://www.ons.gov.uk/datasets/TS067/editions/2021/versions/1>.

Graph 15.3 – Unemployment in the Aol compared to national average.

15.5.7 The deprivation indicators for North Kesteven are equal or below the national average and significantly lower than the county deprivation indicators. In Lincolnshire, 35.3% of households are deprived in one dimension⁶, 14.7% in two, 3.7% in three and 0.2% in four dimensions of deprivation. This means that 53.9% are potentially vulnerable households in terms of their access to resources or services that would enable them to adapt to external changes. The numbers for North Kesteven are 33.5%, 11.9%, 2.1% and 0.1%, respectively. This data shows that North Kesteven could be facing less deprivation challenges than an average household in the Lincolnshire County. Boston Borough's indicators of deprivation are higher than the country average and North Kesteven, with 38.8%, 16.2%, 4.2% and 0.4%, respectively. The comparison is shown in Graph 15.4. Presented data suggest a higher percentage of vulnerable population in the Boston Borough than in North Kesteven.



Graph 15.4 – Levels of deprivation in the Aol compared to national levels of deprivation.

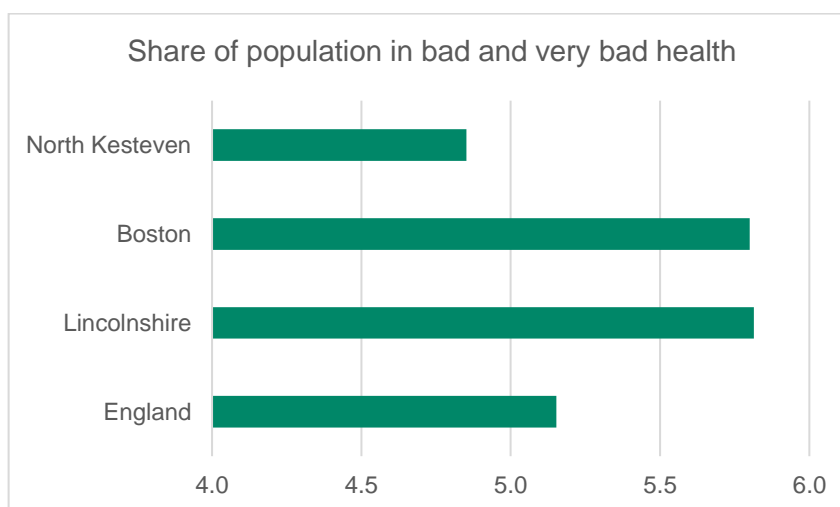
15.5.8 The indicators of deprivation and educational attainment showed that Boston Borough residents have higher levels of deprivation and lower levels of education when compared to North Kesteven and England. It is, therefore, assumed its residents will be less adaptable to external impacts. Conversely, Boston Borough has a slightly bigger percentage of working age population than North Kesteven and higher levels of apprenticeship qualifications, which suggest Boston Borough can also be more susceptible to beneficial economic outcomes.

Community health and wellbeing

15.5.9 According to ONS 2021 Census data on health, especially declared health (possible answers range from very good to very bad), North Kesteven's population is below the national average and Boston Borough's is above the

⁶ The dimensions of deprivation, according to ONS statistics, refer to the following high-level summaries of deprivation dimensions (for full details see ONS statistics): 1) unemployment or economically inactive, 2) not holding specific education qualifications, 3) adverse health conditions or persons with disabilities, 4) overcrowded or underheated household conditions.

national average when comparing declared bad and very bad health. An exact comparison is showed on Graph 15.5, below.



Graph 15.4 – Population health in the Aol (Share of population in bad and very bad health).

15.5.10 These health statistics suggest higher percentages of vulnerable population in the Boston Borough, compared to a relatively low percentage of vulnerable population in North Kesteven.

Local economy

15.5.11 Gross Value Added (GVA) is the “value generated by any unit engaged in the production of goods and services”⁷ and can help in understanding overall economic performance of a region. GVA per head enables the comparison of economic activity between regions more easily.

15.5.12 In 2021⁸, GVA per head in North Kesteven (£22,498) was above the regional GVA (£21,285) in Lincolnshire County and local GVA in Boston Borough (£18,667), but lower than average GVA per head in England (£31,138). Of note, GVA per head in North Kesteven rose from £16,528 in 2017 to £22,498 in 2021, but in the same period lowered in Boston Borough from £20,377 to £18,667.

15.5.13 The biggest contributors to local GVA in North Kesteven are Manufacturing; Public Administration and Defence; and Real Estate. In Boston they are Manufacturing; Wholesale and Retail Trade; Repair of Motor Vehicles; and Human Health and Social Work Activities.

15.5.14 During the meeting with the NKDC, it was confirmed that the food processing industry is an important employer and contributor to GVA, locally. In 2021, the total GVA from manufacture of food, beverages, textiles and clothing was £241 million, which makes up around 9% of all industries' GVA.⁹

15.5.15 Relevant to the assessment, GVA from construction per construction worker in 2021 was £48,228 in North Kesteven and £26,427 in Boston, giving an

⁷ <https://www.ons.gov.uk/economy/grossvalueaddedgva>.

⁸ ONS Statistics 2021, Regional gross value added (balanced) per head and income components.

⁹ ONS Statistics, 2023: Regional gross value added (balanced) by industry: local authorities by International Territorial Level (ITL) 1 region: TLF East Midlands.

average of £37,327, significantly lower than the national average of £83,705 and regional average of £85,372 in East Midlands.

- 15.5.16 In North Kesteven, industries which are the biggest employers are: Human health and social work activities (14.8% of residents aged 16 and over in employment), Public administration and defence (14.3%) and wholesale and retail trade (13.7%). In Boston Borough, 20.2% of residents in employment work in Wholesale and retail trade, 16% in manufacturing and 15.4% in Human health and social work activities. In terms of employment in the construction industry, 7% of Boston residents (2,346 people) and 8.9% of North Kesteven (5,080 people) residents in employment work in the construction industry. Nationally, in 2021, 7% of all people in employment worked in the construction industry, which shows that North Kesteven employment in the construction industry is already above the national level. In 2021, there were 2,100 people working in Crop and animal production, hunting and related activities in Boston Borough (5% of people in employment) and 1,781 in North Kesteven (2.6% of people in employment).
- 15.5.17 During the meeting held with NKDC on the 28th of June 2023, it was confirmed that manufacturing is a big provider of livelihoods, locally, especially engineering (Siemens: Turbine manufacturing).
- 15.5.18 Food manufacturing also represents an important sector. For example, 'Moy Park' located in Anwick employs around 2,000 people.
- 15.5.19 Retail is also significant and concentrated in Sleaford.
- 15.5.20 The Ewerby and Evedon Parish Chairman provided details of livelihoods close to the Solar Array Area. Firstly, the interviewee pointed out that there are many retired people moving from the south of England, but later mentioned around 4 farmers in the parish, a vibrant pub in Ewerby with events (The Finch Hatton), weddings and around 13 guest rooms, food processing in Anwick and some people from Ewerby working for NKDC.
- 15.5.21 Apart from the Finch Hatton pub, there is a pub and restaurant in Kirkby la Thorpe (The Queens Head Pub and Restaurant), a popular pub and café in the Heckington Windmill.
- 15.5.22 Conversations with the Solar Array Area landowners confirmed employment of around 6 temporary workers during harvest within the Solar Panel Array boundary.

Tourism and recreation baseline conditions

- 15.5.23 There are no accessible PRoW within the Solar Array Area, but there are PRoWs crossing the Cable Route Corridor and the Bespoke Access Corridor. The locations of these PRoWs are illustrated on Figure 15.3.
- 15.5.24 There is one inaccessible footpath crossing the Solar Array Area (LL|Ewer|12/1); the visit to Site in June 2023 confirmed the lack of access. Photo 15.1, below, shows that there is no bridge present that would make it possible to cross the dyke to the east of the footpath and access the LL|Ewer|12/1 footpath, beyond.

15.5.25 A qualitative survey¹⁰ of the bridleway to the west of the Solar Array Area LL|Ewer|10/1 leading to Ewerby, confirmed occasional use by dog walkers.



Photo 15.1 – View of LL|Ewer|12/1 from across the dyke.

15.5.26 The PRowS present within or adjacent to the Cable Route Corridor are illustrated upon **Figure 15.3 Public Rights of Way (Document Ref: 6.4 ES Vol. 3, 6.4.79)** and include the following:

- LL|Heck|12/1;
- LL|Heck|14/1, connecting Courtrow Farm and Star Fen Farm;
- LL|Heck|2/4, connecting Heckington with Heckington Fen;
- LL|GtHa|3/1, connecting Poplar Farm with Great Hale Drove, adjacent but not crossing the Cable Corridor;
- LL|GtHa|2/1, connecting Great Hale with White House and White House Farm through Great Hale Drove, adjacent but not crossing the Cable Route Corridor;
- LL|GtHa|1/1, circa 30 m from cable corridor border and unlikely to be affected;
- LL|GtHa|1/2, connecting Great Hale with Broadhurst Farm;
- LL|LHa|4/1, sharing 1120 m of a similar connection with LL|GtHa|1/2, but south of river Beck and continuing till the Old Forty Foot Bank (Track), c.2180 m in total;
- LL|Bick|1/1, bridleway, connecting Ferry Farm with Swineshead Bridge and Eau End Farm and River Farm; and
- LL|Swhd|13/1, a bridleway connecting Swineshead Bridge and Helpringham Fen.

15.5.27 The PRowS present within or adjacent to the Bespoke Access Corridor are as follows:

- LL|KkLT|5/1 connecting two agricultural fields;

¹⁰ During a June 2023 site visit and meeting with one of the landowners.

- LL|KkLT|4/2 running between Asgarby and Kirkby la Thorpe; and
- LL|KkLT|6/1 connecting Asgarby and A17, adjacent to the Access Route Corridor, but not within the redline boundary.

15.5.28 LL|Heck|12/1, LL|Heck|2/4, LL|Swhd|13/1, LL|GtHa|1/1, LL|LHa|4/1, LL|KkLT|5/1, LL|KkLT|4/2 and LL|KkLT|6/1 have been surveyed onsite. It was observed that LL|Heck|12/1 and LL|Heck|2/4 were both accessible from the beginning to the end of the path crossing with the Cable Route Corridor. A dogwalker was observed to the south of LL|Heck|2/4. LL|GtHa|1/1 was accessible from Great Hale and a dogwalker was observed. However, LL|LHa|4/1, which runs to the south of the Beck stopped by Broadhurst Farm even though the official records show it should continue south-east for another circa 990m; this was confirmed during the February 2023 survey on site. In general, no other users apart from the two dogwalkers were observed on the aforementioned footpaths during what was a sunny Friday in February. In March 2024, mostly elderly users and some young joggers were observed on LL|Swhd|13/1. LL|Heck|2/4 was surveyed again and, although not as popular as LL|Swhd|13/1, a number of dog walkers, joggers and regular walkers were observed. No users were observed on LL|KkLT|5/1, LL|KkLT|4/2 and LL|KkLT|6/1 during the visit to site in March 2024. LL|KkLT|6/1 was difficult to access due to vegetation, suggesting infrequent use.

15.5.29 PRoW use may differ seasonally, with more users expected in the summer than in the winter. However, given the remote nature of the area, the seasonal difference in PRoW users is not expected to be substantial; and has been confirmed onsite.

15.5.30 There are at least two local recreation initiatives promoting walks, comprising of: Stepping Out Walks and Co-op Wellbeing Walks. The Stepping Out initiative organises a walk (called the Heckington Walk) using LL|Heck|12/1 and LL|Heck|2/4, which lie within the Cable Route Corridor. Stepping Out organisers shared that there is no regular walking group on that walk, but footfall counters on that walk counted 13,902 walkers in 2023 (equating to 38 walkers per day).

15.5.31 Reportedly¹¹, walking is quite popular to the north of the Solar Array Area, in Haverholme, due to a well-developed network of footpaths.

15.5.32 Other recreational amenities within the Solar Panel Array boundary include a reservoir where fishing takes place. It was confirmed by the landowner that the reservoir is let on an annual basis to a syndicate with about a dozen members.

15.5.33 According to the Ewerby and Evedon Parish Council chairman, cycling is popular in the area. There are two National Cycle Network Routes¹² of relevance to this assessment. One is a traffic-free, on-road route going north of Sleaford to Leasingham through Holdingham, circa 6,800 m west of the Solar Array Area boundary. The second one is a National Cycle Network route located circa 10,000 m in a straight-line east from the Solar Array Area boundary.

¹¹ As confirmed by the Ewerby and Evedon Parish Council Chairman

¹² Sustrans National Cycle Network data

- 15.5.34 Lincolnshire County Council promotes cycling through the Cycle Lincolnshire initiative, which includes promoting cycling routes and loops around Lincolnshire. There is one route relevant to this assessment, which is the Sleaford Spires and Sails route, running parallel to the Solar Array Area's western boundary, through Ewerby, Howell, Heckington, Great Hale, Helpringham, Burton Gorse and Sleaford.¹³ The visit to Site in June 2023 confirmed cycling to be quite popular in the area.
- 15.5.35 In addition, there is an equine facility on the southern border of the Solar Array Area (next to Howell Fen Drove), and occasional horse riders were reported, locally. There is also a golf club in South Kyme that is reportedly popular, a golf society in Ewerby and a golf club in Sleaford.¹⁴
- 15.5.36 It was confirmed during the (28th of June 2023) online meeting with the Economic Development Manager of NKDC that visitor economy is an important Council priority for the economic development of the District. NKDC is now in the process of developing a tourism strategy for the District and is supporting bed and breakfast businesses.
- 15.5.37 Tourism and visitor attractions saw 2.9 million visitors come into or move within North Kesteven for days out or holidays in 2023, generating a total value of £201 million for the local economy and directly supporting the full-time equivalent of more than 2,000 jobs across the year¹⁵.
- 15.5.38 It was understood during the online meeting with NKDC that the council is interested in exploring visitor economy opportunities that could evolve around the Proposed Development, which could include promotion of renewable energy, guided walks and school visits.
- 15.5.39 Important tourist and recreational attractions in the area include: the Heckington Village Trust Railway & Heritage Museum, the Heckington Windmill (including a working windmill, tearoom, shop, 8 Sail Brewery and a bakehouse) and the Heckington Parish Church.
- 15.5.40 To the south of the Solar Array Area, a Swaton Vintage Day and World Egg Throwing Championships is organised every year in the summer. The Heckington Show, which takes place at the end of July every year, is reportedly the largest village show in England¹⁶, attracting around 30k spectators; reportedly a major event of the year¹⁷.
- 15.5.41 The Heckington Windmill shop assistant confirmed (onsite) that locals, mostly the elderly, are coming for lunch on Fridays to the tearoom and it is usually busy. The Windmill is open Thursday to Monday during summer school holidays and Friday to Sunday outside of the season. Reportedly, some visitors come to the tearoom as a break when passing through the area on the A17 road. It was reported by the NKDC Economic Development Manager that the Windmill has around 10k visitors annually and is run by volunteers.
- 15.5.42 Interviews with local residents (onsite) and NKDC, as well as communication with the Applicant, confirmed other tourist amenities and attractions, including:

¹³ [REDACTED]

¹⁴ As reported by the Ewerby and Evedon Parish Council chairman

¹⁵ North Kesteven Council, Tourism Strategy, 2024

¹⁶ [REDACTED]

¹⁷ As reported by the NKDC Economic Development Manager

- A holiday lodge in Howell, Tythe Lodge, south of the Beacon Fen Energy Park, reportedly a very popular lodge;
- Howell Hall Barn and The Ostlers Cottage;
- The South Kyme Tower;
- The Royal Air Force base in Cranwell; and
- The village of Threekingham, which is outside of the Direct AoI, 10km south from Sleaford in a straight line, is reportedly attracting tourists, even international, with fishing lakes operating year-round.

15.5.43 Within a 5km radius of the of the Proposed Development, there are a number of different types of serviced and non-serviced accommodation available for tourists and visitors. In total, 585 rooms with capacity for 1,173 people have been identified. The full breakdown of types of accommodation are shown in Table 15.7 below. It should be noted that this may not account for all accommodation available.

Table 15.7 – Local Accommodation

LOCATION	ACCOMMODATION TYPE AND ROOMS AVAILABLE				
	SERVICED			NON-SERVICED	
	HOTEL	PUB/ INN	B&B/ GUEST HOUSE	HOLIDAY LET/ AIR B&B	CARAVAN SITE
Bicker Bar	55	0	0	0	0
Burton Pedwardine	0	0	0	4	0
Donnington	0	0	0	5	0
East Heckingham	0	0	10	0	0
Ewerby	8	0	0	4	0
Great Hale	0	0	0	1	0
Heckingham	0	3	0	10	0
Helpringham	0	0	0	1	0
Hubbert's Bridge	38	0	0	0	300
North Kyme	0	0	27	0	3
Ruskington	0	0	0	14	0
Sleaford	63	13	6	17	0
Swineshead	0	0	0	3	0
TOTAL	156	16	43	59	303

15.5.44 Table 15.8 below shows the number of total available serviced and non-serviced accommodation available in 2020 in NKDC, compared to those identified in Table 15.7 above. In total, NKDC has 3,679 beds. Whilst this is the latest data available, it is likely to now be outdated, particularly with the increase in popularity in the Air B&B market. It shows that just under a quarter (22%) of the total serviced accommodation beds in NKDC are available within 5km of the Proposed Development. In particular, six out of the nine 11-50 room hotels are available.

15.5.45 As stated above, the number of self-catering options may have increased considerably since 2020, and information gathered on accommodation supply has included searches on Air B&B. Table 15.8 shows that 34 of the total 51 establishments are located within 5km of the Proposed Development. Since

2020, Appletree Holiday Park has also opened (in 2022), which has 100 static caravans/ chalets available to let for holidays and longer periods.

Table 15.8 – Total Accommodation in NKDC, 2020

ACCOMMODATION TYPE	TOTAL ESTABLISHMENTS	TOTAL BEDS AVAILABLE	TOTAL AVAILABLE ESTABLISHMENTS 5KM OF RLB	TOTAL AVAILABLE BEDS IN 5KM OF RLB*
Serviced Accommodation	67	1,335	15 (22%)	223 (34%)
+50 Rooms	3	456	1 (33%)	55 (12%)
11-50 Rooms	9	461	6 (67%)	122 (26%)
<10 Rooms	55	417	8 (15%)	46 (11%)
Non Serviced Accommodation	85	2,344	36 (42%)	362 (15%)
Self Catering	51	468	34 (67%)	59 (13%)
Static Caravans/ Chalets	0	337	2	303 (90%)
Touring Caravans/ Camping	34	1,539	Not Considered	

*Counted as rooms, assumed as single occupancy

15.5.46 Touring caravan and camping sites have not been considered as this is not considered to be appropriate accommodation for workers.

Local receptors

15.5.47 Local receptors in immediate proximity to the Proposed Development are Ewerby Thorpe and Howell. There is one property that, whilst being outside the DCO Order Limits, is within the Solar Array Area. Access to this property will be maintained during all stages of the Proposed Development. The Westmorelands farm lies south of the Solar Array Area, Waithe Farm House lies north of the Solar Array Area and Austhorpe Farm lies west of the Solar Array Area. There are 4 adjacent farms to the Cable Route Corridor. There is 1 farm (i.e. Orchard Farm), located approximately 370 m from the Bespoke Access Corridor. All farms and communities can be seen on **Figure 15.1 Direct Area of Influence (Document Ref: 6.4 ES Vol. 3, 6.4.77)**.

15.5.48 According to information shared by the Ewerby and Evedon Parish Council Chairman, there are 8 properties in Ewerby Thorpe and 6 to 7 properties in Howell. Other approximate statistics shared by the Council Chairman are shown in Table 15.9, below.

Table 15.9 – Population statistics for Ewerby and Evedon Parish council.

VILLAGE	HOUSES	PEOPLE
Evedon	-	40

Ewerby	-	171
Of which 28 residents in Ewerby are at the St. Andrew's Care Home		
Ewerby Thorpe	8	15
Ewerby Waithe	5	10
Haverholme	5	8
Ewerby extension	15	-
Howell	6-7	-
Total	39-40	244

15.5.49 In terms of local services, the Parish Council Chairman reported these were limited within the area. Buses have been introduced recently, although the use was reportedly minimal since people without a car rely on neighbours. There is no village shop in Ewerby and there is one Co-op shop in Heckington. The nearest school is in Kirkby la Thorpe and, although there is no school in Ewerby, there is a school bus to Sleaford present. The closest health centre is located in Sleaford, though there is the Millview Medical Centre¹⁸ and dentist present in Heckington.

Sensitive Receptors

15.5.50 A summary of the key sensitive receptors within the study area and their sensitivity is presented in Table 15.10, below.

Table 15.10 – Receptor sensitivity summary.

RECEPTOR	SENSITIVITY	JUSTIFICATION
Local workforce: North Kesteven	Low	Relatively low levels of unemployment and deprivation, good level of education and skills, below average percentage of working population. Relatively high GVA.
Local workforce: Boston	Medium	High levels of unemployment, relatively low levels of high education attainment, high levels of deprivation and relatively high percentage of working population. Low GVA number suggesting lack of many economic opportunities.
Local workforce: Temporary agricultural workers (harvest)	Low	Whilst temporary workers are assumed to have lower job and financial stability, the very nature of the work in which they undertake means they are likely able to easily adapt to change, particularly due to the anticipated availability of alternative agricultural work.
Local businesses and economy: North Kesteven	Low	Relatively high GVA and low unemployment.
Local businesses and economy: Boston	Medium	Relatively low GVA and high unemployment.
Farmers and landowners	Low	Agricultural sector is a relatively good employer, which suggests availability of alternative agricultural work.
Local residents: North Kesteven	Low	Relatively low level of deprivation, however a considerable percentage of elderly population makes the receptor less adaptive to changes.

¹⁸ <https://millviewmedicalcentre.co.uk/>.

RECEPTOR	SENSITIVITY	JUSTIFICATION
Local residents: Boston	Medium	High level of deprivation point to scarcity of resources making the receptor less capable to adapt to changes.
Tourist attractions	Medium	Limited offer of alternative local attractions and relatively low number of visitors resulting in limited resources to adapt to change.
Recreation facilities users (inc. cycle routes and reservoir users)	Low	Good availability of recreation facilities and cycling routes in the AoI.
PRoW users	Low	Large number of footpaths in the region. However, lack of well-developed public transport could limit accessibility to alternative PRoWs.
Vulnerable population	High	Vulnerable members of the local communities include the elderly (mostly concentrated in North Kesteven and the Direct AoI), especially with preexisting health conditions. Highly deprived households (found mainly in the Boston Borough) are also considered as a vulnerable population. Vulnerable social receptors have very limited access to resources which makes them less adaptable to change.

Future Baseline Conditions

15.5.51 In the absence of the Proposed Development, the future baseline is likely to remain similar to the existing socio-economic baseline. Population projections for local authorities have been published by the ONS, those relevant to this study are summarised below.

15.5.52 It can be anticipated that the population in the study area would see a degree of increase and a small shift in the demographic structure. According to ONS statistics¹⁹, the population in Boston is predicted to increase from 73,517 in 2023 to 82,615 in 2043, an increase of 12.4%. The population in North Kesteven is anticipated to increase from 121,529 in 2023 to 133,700 in 2043, a 10.0% increase. For comparison, within the same time period, population increase is predicted to be 8.6% for Lincolnshire and 7.3% for England.

15.5.53 Population projections by age group can be seen in Table 15.11. For both the Boston and North Kesteven, the share of 65 and over residents will increase, suggesting a larger population of potentially vulnerable residents in the study area in the future. At the same time, the 0-14 and 15-64 age groups will make up a lower proportion of the total population in Boston and North Kesteven.

Table 15.11 – Population projections.

AREA	AGE GROUP	2023	2028	2033	2038	2043
England	0-14	17.7%	16.7%	16.1%	16.0%	16.2%
	15-64	63.1%	62.5%	61.5%	60.4%	60.0%
	65+	19.2%	20.7%	22.4%	23.6%	23.9%

¹⁹ Population projections for local authorities: Table 2
(<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandtable2>)

Lincolnshire	0-14	16.1%	15.2%	14.4%	14.2%	14.4%
	15-64	59.3%	58.3%	57.1%	55.8%	55.7%
	65+	24.6%	26.4%	28.5%	29.9%	30.0%
Boston	0-14	18.4%	17.4%	16.5%	16.3%	16.4%
	15-64	60.5%	60.5%	59.9%	59.1%	58.9%
	65+	21.1%	22.1%	23.6%	24.6%	24.7%
North Kesteven	0-14	16.7%	16.0%	15.4%	15.2%	15.3%
	15-64	59.0%	58.0%	56.6%	55.5%	55.6%
	65+	24.3%	26.0%	28.0%	29.3%	29.1%

15.5.54 In terms of local economy, it can be expected that GVA and job opportunities will continue growing together with the population. NKDC's priorities suggest there will be growth in the visitor economy. The use of recreational facilities and PRoWs is not expected to change significantly.

15.5.55 None of the outlined anticipated changes to the baseline conditions are considered material for this assessment.

15.6 Assessment of Effects

Embedded Mitigation

Table 15.12 – Embedded Mitigation.

EMBEDDED MITIGATION CHAPTERS	PARAGRAPH REFERENCE	SUMMARY
Chapter 3: Alternatives and Design Evolution (Document Ref: 6.2 ES Vol.1, 6.2.3)	Paragraph 3.6.2	The layout of the Energy Park evolved through systematically incorporating the buffers and offsets required for residential properties and footpaths. The Proposed Development has been carefully designed to avoid or minimise adverse effects in relation to these features.
Chapter 2: Proposed Development (Document Ref: 6.2 ES Vol. 1, 6.2.2) and Chapter 3: Alternatives and Design Evolution (Document Ref: 6.2 ES Vol.1, 6.2.3)	N/A	In the final design no residential properties will require acquisition for the development of the Proposed Development. Buffers have been included to residential properties adjacent to the Solar Array Area.
Chapter 2: Proposed Development	3.5.11 and 2.15.11	The cabling will be installed below ground, minimising the effect on land use within the Cable Route

<p>(Document Ref: 6.2 ES Vol. 1)</p>		<p>Corridor (connecting the Solar Array Area to Bicker Fen Substation).</p>
	<p>2.12.7</p>	<p>PRoW Ewer/12/1 is being extended in a south and westerly direction as a permissive path terminating in the vicinity of Ewerby Thorpe, and will be in place for the operational duration of the project, on a route to be determined via discharge of requirement, but approximately running in a south easterly direction along Car Dyke then heading south west on the north side of Hodge Dike. An undetermined number of footbridges (unlikely to be more than eight in number) to cross existing watercourses, will be required. The permissive path is illustrated in Figure 6.31 Landscape Strategy Plan (Document Ref: 6.4 ES Vol. 3, 6.4.42).</p>
<p>Appendix 9.3: Outline Construction Traffic Management Plan (Document Ref: 6.3 ES Vol.2, 6.3.78)</p>	<p>4.7.1</p>	<p>Traffic mitigation aims to minimise the vehicular impact of construction on local roads, through measures such as providing staff minibuses for travel to/from construction compounds. Additionally, thanks to a phased construction schedule and construction compounds placed along the Cable Route Corridor, traffic impacts will be dispersed. Changes to traffic flows will therefore be negligible.</p> <p>The Construction Staff Travel Plan will encourage sustainable travel through provision of minibuses from local pick-up points for construction workers to maximise use of shared transport.</p>
	<p>4.6.2</p>	<p>Traffic marshals will be responsible, where necessary, for managing interactions between site traffic and vulnerable road users passing the site. Where necessary, marshals will stop site traffic to allow slow moving vulnerable users, such as equestrians, to pass before releasing traffic.</p>
<p>Appendix 2.2: Bespoke Access Road Construction Method</p>	<p>3.2.1</p>	<p>As part of the Bespoke Access Road design, once operational, permissive crossing points will be</p>

Statement (Document Ref: 6.3 ES Vol. 2, 6.3.5).		created along the Bespoke Access Corridor for any PRoWs that cross the Bespoke Access Road.
Appendix 2.5: Outline Decommissioning Environmental Management Plan (Document Ref: 6.3 ES Vol. 2, 6.3.8).	2.5.2	Decommissioning Traffic Management Plan (DTMP) will provide mitigation and monitoring of traffic during decommissioning.
Chapter 6: Landscape and Visual (Document Ref: 6.2 ES Vol.1, 6.2.6)	6.6.2	Construction: Loss of existing vegetation will be limited through design refinements, the use of hoarding will be considered where visual screening is required for residential properties, the PRoW network and recreational areas
	6.6.3	Operations: Enhancement to the existing perimeter vegetation planting, aimed at comprehensive screening of the Proposed Development by year 15 of operation.
Chapter 10: Noise and Vibration (Document Ref: 6.2 ES Vol.1, 6.2.10)	10.6.3	Proposed core construction working hours are as follows: 07:00 – 19:00 Mondays – Fridays; 08:00 – 17:00 Saturdays, Sundays, and bank holidays; No piling works on Sundays or bank holidays, and restricted to 09:00 – 14:00 on Saturdays; and these core working hours referred to above exclude start up and close down activities of up to one hour either side of the core working hours
	10.6.5	The BESS and Super Grid Transformers are located within the centre of the Solar Array Area to maximise the distance from sensitive receptors.
	10.6.5	Additionally, it is proposed that 23 Solar Transformers and 45 PCS + Transformer units incorporate silencers which reduce the sound level by 9 dB for the Solar Transformers and 6 dB for the PCS Transformers.

<p>Appendix 2.4: Outline Construction Environmental Management Plan (OCEMP) (Document Ref: 6.2 ES Vol.1, 6.3.7)</p>	<p>3.6.2</p>	<p>The Principal Contractor will establish and oversee a Community Engagement Plan, which will outline the approach to engaging with the local community. This plan will be managed by an appointed Community Liaison Officer (CLO), who will be responsible for addressing concerns and resolving complaints. Steps will be taken to inform neighbouring property occupiers and businesses in advance of construction activities. The CLO will be responsible for designing tailored engagement with vulnerable groups in the engagement plan.</p>
	<p>3.6.2</p>	<p>A formal complaints procedure will be developed as part of the Community Engagement Plan, ensuring complaints are received, recorded, and responded to in a timely manner under the supervision of the Community Liaison Officer.</p>
	<p>5.7.6</p>	<p>Complaints related to noise and vibration will immediately be reported and necessary actions will be taken in accordance with the complaint management procedure outlined in this document.</p>
<p>N/A</p>	<p>N/A</p>	<p>Economic displacement is managed through commercial arrangements entered into with the landowner to secure the necessary land interests and which address any economic displacement as a consequence.</p>
<p>Outline Construction Environmental Management Plan (OCEMP) (Document Ref: 6.2 ES Vol.1, 6.3.7) and Appendix 9.3: Outline Construction Traffic Management Plan (CTMP) (Document Ref: 6.3 ES Vol.2, 6.3.78)</p>	<p>N/A</p>	<p>For temporary closures of PRowS, signs or posters will be installed on relevant PRowS, and local walking groups, as well as relevant parish councils and district councils will be notified as soon as possible about any temporary footpath closures through the Community Liaison Officer.</p>

Assessment of Effects

Construction Phase

Generation of local employment, procurement of goods and services and contribution to economy

- 15.6.1 The Bespoke Access Road and Cable Route can commence construction at the same time and are anticipated to last between: 6 to 12 months for Bespoke Access Road and 12 to 24 months for the Cable Connection. Construction of the Solar Array Area will follow the completion of the Bespoke Access Road and last between 24 to 36 months, which makes the duration of the effect as short-term.
- 15.6.2 The Proposed Development will require 556 FTE jobs for the 24-36 months of construction. This is a total number and will fluctuate during the construction period.
- 15.6.3 Leakage outside of the Direct AoI was estimated to be 70% and 15% outside of the Indirect AoI (justification can be found in Table 15.1).
- 15.6.4 Displacement is used to estimate the extent to which the benefits of a development are offset by reductions in output elsewhere. Following the HCA Guide, displacement value is estimated to be medium (50%) as explained in Table 15.1.
- 15.6.5 In addition to the direct employment generated by the construction of the Proposed Development, there will be an increase in indirect local employment from indirect effects of these works. Indirect employment will likely come from supply chain opportunities and increased spending from part of the income of the construction workers and suppliers in the AoI, generating further employment (in terms of induced or income multipliers).
- 15.6.6 The HCA Guide provides approximate indicators for composite multipliers (combining effects from indirect job creation and jobs created through increased spending). The AoI was assessed to have average supply linkages and induced effects based on the scale of the local economy. The multiplier value for this assessment is 1.5.
- 15.6.7 Table 15.13 presents calculations of the net construction employment from the Proposed Development.

Table 15.13 – Net construction employment (per year) from the Proposed Development.

EMPLOYMENT	DIRECT AOI	INDIRECT AOI	OUTSIDE AOI	TOTAL
Gross direct employment	167	331	58	556
Net direct employment (-displacement)	83	165	29	277
Indirect employment	42	83	15	140
Total net employment	125	248	44	417

- 15.6.8 Estimated total net employment gained from the Proposed Development amounts to 417 jobs, with approximately 373 jobs likely kept within the AoI. As this number includes indirect employment, comparing it with the number of construction workers in the AoI is an estimate. There were around 11,086

people working in construction in the Aol during 2021. Nonetheless, for the purpose of this assessment, it can be assumed that the number was lower than now due to the effects of the Covid pandemic. Employing around 373 workers in the Aol would change the number of construction workers locally by circa 3%.

15.6.9 The local workforce of North Kesteven and Boston have a low and medium sensitivity respectively. The magnitude level is medium (short-term, spatially localised and likely to affect a small number of receptors), resulting in a minor beneficial impact for North Kesteven workforce and moderate beneficial impact for Boston Borough workforce. The effect will be Not Significant for North Kesteven workforce and Significant for Boston Borough workforce.

Gross Value Added (GVA)

15.6.10 GVA can be calculated by multiplying the average GVA per construction worker by the total number of construction workers for the Proposed Development (See Table 15.14, below). For this assessment, indirect employment will not be included as it is unlikely that all indirect employment will create construction jobs. An estimate of net direct employment numbers will be used for this assessment.

15.6.11 The average GVA per construction worker for North Kesteven and Boston Borough²⁰ is £37,328 GVA, per construction worker. Therefore, total net direct construction workers should generate approximately £10.4m GVA to the national economy. The breakdown per Aol can be seen in Table 15.14.

15.6.12 The area outside the Aol is not precisely defined and, therefore, the numbers of construction workers are not available. For Indirect Aol, it was assumed 70% of jobs outside of Direct Aol will be taken by Boston Borough workers²¹, which gives a significant change in GVA per head of 6.97%. In other scenarios, this would be reduced to 4.89% if 50% of workers were from Boston Borough and 2.99% if 30%.

Table 15.14 – Calculations of GVA from construction workers per Aol.

	DIRECT AOI	INDIRECT AOI		ALL AOI	OUTSIDE AOI	TOTAL (NATIONAL)
		BOROUGH OF BOSTON	REST OF INDIRECT AOI ²²			
Net direct Employment	83	116	50	249	29	278
Existing average GVA per worker in AOI (£)	37,328.0					
GVA (£) from construction	3,113,168.1	4,322,115.0	1,852,335.0	9,287,618.1	-	10,377,226.9
Construction workers	5080	2346	3660	11086	-	1255697
GVA added per worker (£)	613	1842	506	838	-	8

²⁰ By taking an average of the two local authorities' construction GVA per worker

²¹ It is assumed that 70% of workers outside the direct AOI will come from the Borough of Boston, as also suggested in an interview with the NKDC that workers will likely come from the Borough of Boston

²² Indirect Aol GVA estimations used an approximate population percentage of the Indirect Aol (11.8% of East Midlands population), using the Build a Custom Area Profile tool from ONS and East Midlands GVA averages and construction numbers

	DIRECT AOI	INDIRECT AOI		ALL AOI	OUTSIDE AOI	TOTAL (NATIONAL)
		BOROUGH OF BOSTON	REST OF INDIRECT AOI ²²			
GVA per worker (combined existing + gained) (£)	48,841.2	28,270.3	85,878.5	86,210.2	-	83,713.2
% change	1.27%	6.97%	0.59%	0.98%	-	0.01%

15.6.13 The Aoi will see an average total rise of £838 per construction worker, which is a 0.98% rise of total GVA per worker. Boston will see the biggest rise of GVA per worker (6.97%) in the Aoi in the most beneficial scenario (70% of workers outside Aoi coming from Boston), compared to only 1.27% in North Kesteven. If indirect employment were taken into account, this change would be of a slightly larger magnitude.

15.6.14 The local residents and businesses from North Kesteven and Boston have a low and medium sensitivity respectively. As a beneficial, short-term, and reversible impact, its magnitude level is medium (unlikely to have measurable effect on the wellbeing of people). This results in a minor beneficial impact for North Kesteven businesses and residents (Not Significant) and moderate beneficial for Boston Borough businesses and residents (Significant).

Restricted access to recreation (access to PRowS and cycle routes)

15.6.15 Construction will most likely affect accessibility because of temporary closures of the PRowS (presented in pink in **Figure 15.3 Public Rights of Way (Document Ref : 6.4 ES Vol. 3, 6.4.79)**). The only PRow within the Solar Array Area, LL|Ewer|12/1, is currently inaccessible and, as such, not in use. The impact on this footpath is Negligible during construction. The effect is Not Significant.

15.6.16 Depending on the final design of the Cable Route and Access Road within their respective corridors, the following PRowS may be temporarily affected during construction:

- LL|Heck|12/1;
- LL|Heck|14/1, connecting Courtrow Farm and Star Fen Farm;
- LL|Heck|2/4, connecting Heckington with Heckington Fen;
- LL|GtHa|3/1, connecting Poplar Farm with Great Hale Drove;
- LL|GtHa|2/1, connecting Great Hale with White House and White House Farm through Great Hale Drove;
- LL|GtHa|1/1, circa 30 m from cable corridor border and unlikely to be affected;
- LL|GtHa|1/2, connecting Great Hale with Broadhurst Farm;
- LL|LHal|4/1, sharing 1120 m of a similar connection with LL|GtHa|1/2, but south of river Beck and continuing till the Old Forty Foot Bank (Track), c.2180 m in total;
- LL|Bick|1/1, bridleway, connecting Ferry Farm with Swineshead Bridge and Eau End Farm and River Farm;

- LL|Bick|2/1, connecting Northorpe Farm with Cowbridge Road and Londhedge Drove leading to Bicker Gauntlet, to the south of the Substation and unlikely to be affected by the final cable route design;
- LL|Ewer|10/1;
- LL|KkLT|5/1 connecting two agricultural fields; and
- LL|KkLT|4/2 running between Asgarby and Kirkby la Thorpe.

15.6.17 There are three PRowWs that will be impacted by land take for the Bespoke Access Corridor. These are LL|KkLT|5/1, LL|KkLT|4/2 and LL|KkLT|6/1 (adjacent). They will be affected by temporary closures during construction of the Bespoke Access Road. During construction of the Cable Route, temporary closures are expected on PRowWs crossing the Cable Route. The survey recorded relatively low usage (slightly higher for LL|Heck|2/4) of the footpaths and a network of alternative routes. The impact will be short-term, reversible, and local. This results in medium magnitude with low receptor sensitivity, resulting in a minor adverse impact. In this sense, the effect is Not Significant.

15.6.18 For temporary closures of PRowWs, signs or posters will be installed on relevant PRowWs, and local walking groups, as well as relevant parish councils and district councils will be notified about any temporary footpath closures through the Community Liaison Officer.

15.6.19 Access to the fishing reservoir within the Solar Array Area will not be maintained. This will affect about a dozen of users. There is, however, an alternative popular fishing site in the village of Threekingham, around 10km south of Sleaford.

15.6.20 In terms of an impact on cyclists and horse-riders, the A17 is generally not an attractive cycle or horse-riding route due to very high existing traffic flows and high speeds. It is therefore assumed that the majority of cycling and horse-riding in the vicinity of the DCO Order Limits is on low traffic local roads. The construction phase access strategy requires the majority of development traffic to utilise the A17 and Bespoke Access Road to access the main solar array and Cable Route Compound 1, therefore avoiding local roads. Cable Route compounds 2, 5, and 6 are also accessed via private access roads directly from the A17. Therefore, the only local roads that will be used to access construction sites are Carterplot Road/Great Hale Drove for access to the Cable Route Compounds 3 and 4, and Bicker Drove/Vicarage Drove for access to Bicker Fen substation. As set out in **Chapter 9: Access & Traffic (Document Ref: 6.2 ES Vol.1, 6.2.9)**, the construction traffic impact on these local roads is not significant, and construction traffic flows will therefore have no significant effect on non-motorised road users amenity or safety.

15.6.21 Embedded mitigation is provided in the form of an **Appendix 9.3: Outline Construction Traffic Management Plan (Document Ref: 6.3 ES Vol.2, 6.3.78)** which aims to minimise the vehicular impact of construction on local roads, through measures such as providing staff minibuses for travel to/from construction compounds. Additionally, thanks to a phased construction schedule and construction compounds placed along the Cable Route Corridor, traffic impacts will be dispersed, reducing impact on non-motorised road users. Changes to traffic flows will therefore be negligible, meaning there will be no perceptible change for non-motorised road users. Finally, traffic marshals will be responsible, where necessary, for managing interactions between site traffic and vulnerable road users passing the site. Where

necessary, marshals will stop site traffic to allow slow moving vulnerable users, such as equestrians, to pass before releasing traffic.

15.6.22 The impact is unlikely to have a measurable effect on the wellbeing of people, resulting in low magnitude, receptor (recreation facilities users) sensitivity is low, resulting in a minor adverse impact. The effect is Not Significant.

Increased exposure to noise and traffic

15.6.23 The increase of traffic in the Aol could potentially disturb the lives of the social receptors, causing stress or relevant changes in their daily activities, such as longer commute to work. However, **Chapter 9: Access & Traffic (Document Ref: 6.2 ES Vol.1, 6.2.9)** does not identify any significant residual effects.

15.6.24 The WHO recognises 'noise' as the second most harmful environmental stressor²³. The stress reactions caused in the human body can lead to an increased heart rate, high blood pressure, cardiovascular disease, premature deaths, sleep disturbance, hypertension, among others²⁴.

15.6.25 **Chapter 10: Noise and Vibration (Document Ref: 6.2 ES Vol.1, 6.2.10)** identifies the potential for significant effects on existing sensitive receptors during construction and decommissioning, with mitigation measures in place, the residual effects are Not Significant. The impact on sensitive receptors of the Bicker Fen substation expansion was scoped out in **Chapter 10: Noise and Vibration (Document Ref: 6.2 ES Vol.1, 6.2.10)**, as the closest buildings are farm buildings or derelict, the closest sensitive receptors are outside of the proposed study area of 300m, with the nearest receptor approximately 750m from the Bicker Fen substation. Therefore, no noise impact on sensitive receptors is expected from the Bicker Fen substation expansion.

15.6.26 The socio-economic impact from noise and traffic is unlikely to have a measurable effect on social receptors (low magnitude), the sensitivity of North Kesteven population is low. This results in a minor adverse effect, Not Significant.

Physical displacement

15.6.27 The residential receptor Gashes Barn is within the Solar Array Area; however, it is not within the DCO Order Limits. Therefore, no physical displacement will occur.

15.6.28 The Cable Route Corridor and Bespoke Access Corridor land take will not cause any physical resettlement of farm buildings or residential properties. Their final design avoids farms and residential buildings, therefore there will be no physical displacement.

15.6.29 As physical displacement will not take place, no impact is expected.

²³ WHO (2018). 'Environmental Noise Guidelines for the European Region'. WHO Regional Office for Europe. Available at:

²⁴ Environment Agency, UK GOV (2022). 'Guidance on Noise and vibration management: environmental permits'. Available at: <https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits/noise-and-vibration-management-environmental-permits>

Restricted access to land and economic displacement of farming activities

- 15.6.30 Any potential impact on agricultural land of the Solar Array Area, the Bespoke Access Corridor and the Cable Route Corridor is assessed separately in **Chapter 14: Soils and Agricultural Land (Document Ref: 6.2 ES Vol.1, 6.2.14)** of this ES.
- 15.6.31 Access to the property (Gashes Barn) within the Solar Array Area will be maintained and residential buffers provided so that the property can be kept as residential.
- 15.6.32 Access to the reservoir for fishing will not be maintained.
- 15.6.33 Reservoir user sensitivity is low, and the loss of access to the fishing pond is considered a medium magnitude, giving a minor adverse impact. This effect is Not Significant.
- 15.6.34 Within the Solar Array Area, it was reported by the three landowners that they mostly work by themselves. One works with the help of two full-time employees and the land for acquisition is only a fraction of the total land, which gives an approximate employment of 1FTE worker (including temporary works during harvest). The other two landowners also require additional temporary help during harvest, which amounts to 0.3 FTE workers. This amounts to a total economic displacement of 1.3 FTE jobs due to land acquisition. While this might be a negligible impact to full-time workers and landowners who will receive payments for the use of their land for the Proposed Development, temporary workers might have lower level of resources and job stability, at the same time, the very nature of their work means that they are likely to be able to easily adapt to change. It is assumed that the situation of farmers affected by land acquisition of the Bespoke Access Corridor is similar to the above, with very limited seasonal workers potentially affected by long-term economic displacement. Landowners will be compensated for economic displacement (including severed land) from land take for the Bespoke Access Road.
- 15.6.35 The impact will be long-term, reaching only local levels (around 1.3 FTE employees) resulting in medium magnitude of change for full-time and temporary agricultural workers. There will be no economic displacement impact for the landowners due to the change in livelihood and income giving a negligible magnitude of change. The effect is assessed to be Negligible (neutral) and Not Significant for landowners and Minor Not Significant for full-time and seasonal agricultural workers.
- 15.6.36 Impact coming from economic displacement of farmers working within the Cable Route Corridor will be short-term, reversible and local, resulting in low to medium magnitude of change. Land taken for the Cable Route Corridor is in majority arable land, which requires limited number of seasonal workers. The impact will be Negligible for landowners (who are also farmers) thanks to commercial arrangements entered into with the landowner to secure the necessary land interests, and which address any economic displacement as a consequence, and Minor adverse for temporary agricultural workers. The effect is Not Significant.

Influx of workers causing stress on local shops and hospitality services.

15.6.37 As reported in the baseline section, access to services in the immediate proximity to the Solar Array Area is limited. There is one restaurant with a bar in Ewerby (The Finch Hatton), a pub in Kirkby la Thorpe (The Queens Head Pub and Restaurant), a popular pub and café in the Heckington Windmill, which is a limited number of local bars and restaurants. Apart from Sleaford, there is only one shop in Heckington, there are no shops in the villages around the Solar Array Area. It is assumed that 556 FTE jobs will be created during construction. The community of Ewerby and Evedon, including Howell, in the immediate proximity to the Solar Array Area has around 244 members²⁵. During the peak construction month, the number of workers could even reach 433 workers per month, which, combined with local residents, increases the number of potential customers by around 177%. Peak construction numbers (over 300 per month) are planned for 5 months, but it is estimated that overall, there will be over 100 workers per month for 18 months²⁶. Whilst it is assumed construction workers will be accommodated in larger towns and (with the exception of senior management) transported to the Proposed Development via minibus, and it is unlikely they will often use village shops or go to village pubs, the presence of this many workers (especially during peak months) in a small community in local shops and hospitality services may be noticed by the local community.

15.6.38 As embedded mitigation, minibuses will be used for worker transport, limiting worker's mobility around the Site, consequently limiting the use local services. Moreover, the Community Liaison Officer will facilitate to manage expectations, address concerns and resolve complaints relating to potential impact from worker presence in the Direct Aol. Engagement will be inclusive, aiming to reach the most vulnerable members of the local community, especially villages closest to the Solar Array Area, where most workers will be concentrated (Ewerby, Howell, Boughton, Asgarby and Kirkby la Thorpe). The Applicant will seek to communicate with local parish councils and associations for the elderly to reach the views of the vulnerable population, where feasible.

15.6.39 The magnitude of change will be low (very short-term, spatially localised and reversible), resulting in a minor adverse impact for local residents, with the exception of moderate adverse impact on vulnerable groups (especially the elderly) in the area. Pre-mitigation, the effect on local vulnerable groups will be Significant and other local residents - Not Significant.

Proposed Development - population immigration

15.6.40 GVA was not assessed to be significant for the Proposed Development (See Construction impact Gross Value Added (GVA), which can suggest a low level of project-induced immigration coming from people seeking economic opportunities in the Aol. It can be expected that workers in Boston Borough will be attracted to direct and indirect employment created by the Proposed Development because of higher levels of deprivation and unemployment in Boston Borough. An influx of 556 FTE construction workers will be temporary. It was estimated that around 42 jobs will be created indirectly in the Direct Aol

²⁵ Please note this is an approximate value shared by the Ewerby and Evedon Parish Council.

²⁶ With a 3-month gap of reduced number of workers

and 83 in the Indirect Aol. The population of Sleaford is 18,033²⁷ and North Kesteven is 118,100. The low number of potential indirect jobs created, and an insignificant rise of GVA locally (in EIA terms) makes it highly unlikely that the Proposed Development will attract people other than construction workers directly employed to the area.

- 15.6.41 Table 15.15 overleaf, sets out the planned personal working on site during the 34-month construction period and the demands on accommodation. Expected demand on accommodation have been taken from the STEAM final Trend Report for 2009-2020²⁸ and are for NKDC as a whole. The application of the 70% leakage factor has been applied, to account for those employees who will come from outside of the Aol and will therefore, be more likely to require accommodation. This is to demonstrate a worst-case scenario. As identified in the baseline, there are 585 beds available within the 5km study area.
- 15.6.42 It should be noted that the whilst the data used for NKDC may be the most recent available it may not provide the most accurate picture of the current accommodation available. It is anticipated that since 2020, more accommodation has become available in the district, therefore this assessment further demonstrates a worst-case scenario on accommodation supply and demand.
- 15.6.43 Table 15.15 shows that the peak months for construction fall over November 2027 (433 – 303 requiring accommodation), December 2027 (384 – 269 requiring accommodation), April 2028 (346 – 242 requiring accommodation) and May 2028 (363 – 254 requiring accommodation). However, due to the demand on accommodation from tourism, April 2028 and May 2028 are likely to have the greatest demand on supply of accommodation in the NKD, leaving a capacity of 67.6% and 78.4% respectively.
- 15.6.44 Looking at the Aol, where existing accommodation demand cannot be determined, the impact is greater in October, November and December 2027, where overall capacity drops to 55.9%, 48.2% and 54.0% respectively.
- 15.6.45 The data does show that whilst there will be an increased demand for accommodation, the existing supply on bedspaces in both the Aol and the wider Aol, will be sufficient to accommodate construction employees.
- 15.6.46 The overall magnitude of change is assessed to be low (unlikely to result in any measurable change to baseline conditions), which results in minor adverse impact on North Kesteven residents. The effect is Not Significant.

²⁷ ONS Census 2021

²⁸ Global Tourism Solutions UK, STEAM Final Trend Report for 2009 – 2020, North Kesteven District Council

Table 15.15 – Accommodation Demands

MONT H	EMPLOYEE S ON SITE	EMPLOYEES REQUIRING ACCOMMODATIO N	BEDS AVAILABLE IN NKDC (WIDER AOI)	REMAINING BEDS IN AOI (BEDS)	REMAINING BEDS IN AOI %	REMAINING BEDS IN WIDER AOI	REMAINING BEDS IN AOI %
Jan-27	48	34	3,155	551	94.3%	3,121	98.9%
Feb-27	71	50	3,307	535	91.5%	3,257	98.5%
Mar-27	75	52	2,991	533	91.1%	2,939	98.2%
Apr-27	79	55	989	530	90.5%	934	94.1%
May-27	80	56	1,431	529	90.4%	1,375	95.9%
Jun-27	49	34	1,384	551	94.2%	1,350	97.5%
Jul-27	49	34	2,656	551	94.1%	2,622	98.7%
Aug-27	112	79	3,141	506	86.6%	3,062	97.4%
Sep-27	205	143	3,274	442	75.5%	3,131	95.4%
Oct-27	369	258	3,267	327	55.9%	3,009	91.4%
Nov-27	433	303	1,839	282	48.2%	1,536	80.3%
Dec-27	384	269	1,826	316	54.0%	1,557	82.7%
Jan-28	289	202	3,155	383	65.5%	2,953	93.2%
Feb-28	254	178	3,307	407	69.6%	3,129	94.3%
Mar-28	284	199	2,991	386	66.0%	2,792	92.9%
Apr-28	346	242	989	343	58.6%	747	67.6%
May-28	363	254	1,431	331	56.6%	1,177	78.4%
Jun-28	257	180	1,384	405	69.2%	1,204	85.0%
Jul-28	185	129	2,656	456	77.9%	2,527	94.9%
Aug-28	157	110	3,141	475	81.2%	3,031	96.4%
Sep-28	196	138	3,274	447	76.5%	3,136	95.6%
Oct-28	186	130	3,267	455	77.8%	3,137	95.9%
Nov-28	135	94	1,839	491	83.9%	1,745	94.6%
Dec-28	69	48	1,826	537	91.8%	1,778	97.3%

MONT H	EMPLOYEE S ON SITE	EMPLOYEES REQUIRING ACCOMMODATIO N	BEDS AVAILABLE IN NKDC (WIDER AOI)	REMAINING BEDS IN AOI (BEDS)	REMAINING BEDS IN AOI %	REMAINING BEDS IN WIDER AOI	REMAINING BEDS IN AOI %
Jan-29	74	52	3,155	533	91.2%	3,103	98.3%
Feb-29	91	64	3,307	521	89.1%	3,243	98.0%
Mar-29	128	90	2,991	495	84.7%	2,901	96.9%
Apr-29	129	90	989	495	84.6%	899	90.0%
May-29	63	44	1,431	541	92.4%	1,387	96.8%
Jun-29	20	14	1,384	571	97.6%	1,370	99.0%
Jul-29	18	12	2,656	573	97.9%	2,644	99.5%
Aug-29	13	9	3,141	576	98.4%	3,132	99.7%
Sep-29	10	7	3,274	578	98.8%	3,267	99.8%
Oct-29	8	6	3,267	579	99.0%	3,261	99.8%

Reduction of tourist/recreational attraction

- 15.6.47 The baseline section describes tourist amenities in the area and how the Direct and Indirect AoI are not tourist hubs within the region. The three biggest tourist / recreational attractions are the Heckington Windmill, the Heckington Village Show and the Swaton Vintage Show (combined with egg throwing championships). Both shows take place in the summer, usually on the last weekend of July, and are over 2km from the Solar Array Area boundary. According to the construction schedule, peak worker numbers are not planned for summer 2027 or 2028, construction worker numbers in July should not surpass 185 personnel and no construction is planned for Sundays. Additionally, most workers and construction traffic will be concentrated around the Solar Array Area and will not affect local roads south of the A17 road near Heckington, where the two shows take place every year. There will be negligible impact from construction traffic on the Heckington Village Show and Swaton Vintage Show.
- 15.6.48 As assessed above, while there might be increased accommodation demand, the existing supply has capacity to accommodate construction employees while still having capacity to accommodate local tourists.
- 15.6.49 As assessed in **Chapter 6: Landscape and Visual (Document Ref: 6.2 ES Vol.1, 6.2.6)**, users of sections of PRoW Ewer/8/2 and Ewer/8/1 along the River Slea and users of Bridleway Ewer/1103/1, located immediately to the west of Solar Array Area will experience major adverse and significant visual effects due to the close proximity of construction activity associated with the Proposed Development. However, this will affect a very limited number of local users, will be short-term and will not considerably affect the touristic attractiveness of the wider area.
- 15.6.50 Taking all of the above into account, the Proposed Development is unlikely to have a measurable change on tourist and recreation baseline conditions, it will be very short term, localised and affecting a limited number of social receptors, resulting in low magnitude (the baseline conditions will not be considerably affected). The impact on tourist attractions will be minor adverse and the effect is Not Significant.

Operational Phase

Generation of local employment, procurement of goods and services and contribution to economy

- 15.6.51 It is assumed that 12 FTE jobs will be created per year during the 40-year operational phase. The length of this effect will be long-term. Levels of leakage and displacement remain the same as for the construction phase calculations. The summary of calculations can be found in Table 15.16, below.

Table 15.16 – Net employment during operations.

	DIRECT AOI	INDIRECT AOI	OUTSIDE AOI	TOTAL
Gross direct employment per annum (approximate)	3-4	6-7	2	12
Net direct employment (-displacement)	1-2	3-4	0-1	6

Indirect employment	2-3	5	1-2	9
Total net employment	4-5	8-9	2-3	15

15.6.52 It was assessed that around 4-5 FTE net jobs will be created in the Direct Aol and between 8-9 in the Indirect Aol, resulting in 12-14 in total. North Kesteven has 68,498 economically active residents. While the impact can have a bigger magnitude of change, locally, in the nearby parishes, on the level of the Direct Aol, the change will affect a negligible number of residents and will be long-term, resulting in a low to negligible magnitude of change. The local workforce has a low sensitivity for North Kesteven and medium for Boston Borough, which results in a Negligible to Minor impact. The effect is Not Significant.

Reduction of tourist/recreational attraction

15.6.53 **Chapter 6: Landscape and Visual (Document Ref: 6.2 ES Vol.1, 6.2.6)** confirms that the existing woodland and tree groups around residential properties completely screen the views from Howell hamlet. Therefore, **Chapter 6: Landscape and Visual (Document Ref: 6.2 ES Vol.1, 6.2.6)** assessed the impact on the Howell lodge to be Not Significant.

15.6.54 **Chapter 6: Landscape and Visual (Document Ref: 6.2 ES Vol.1, 6.2.6)** also found significant adverse visual effects on some sections of the PRow (i.e. LL|Ewer|8/2, LL|Ewer|8/1) along the River Slea due to the close proximity of the Proposed Development at year 0. Significant effects at year 0 have also been identified from the Bridleway LL|Ewer|1103/1, located immediately to the west of Beacon Fen Energy Park, due to the close distance of the Proposed Development. However, the socio-economic assessment of this finding is that the area adjacent to the Proposed Development is not a popular destination for tourists and, therefore, the adverse visual impacts have a negligible number of receptors. Moreover, at year 15, the proposed mitigation in Chapter 6 will screen the majority of the Proposed Development and reduce impacts on recreational receptors to not significant.

15.6.55 The operational phase of the Proposed Development will have a Negligible impact on traffic, accommodation and recreation. The three biggest tourist and recreational attractions are the Heckington Windmill, the Heckington Village Show and the Swaton Vintage Show (combined with Egg Throwing Championships). Both shows take place in the summer and are over 2km from the Solar Array Area boundary. There will be no material impact from the Proposed Development on the three biggest attractions during operations.

15.6.56 The operational phase will have long-term effects but will affect a low number of receptors. The impact is Negligible Adverse, resulting in a Not Significant effect.

Physical displacement and Land Acquisition

15.6.57 The residential receptor, Gashes Barn, is within the Solar Array Area; however, it is not within the DCO Order Limits. Therefore, no physical displacement will occur.

15.6.58 The Bespoke Access Road land take will not cause any physical resettlement of farm buildings or residential properties. Its final design avoids farms and residential buildings, therefore there will be no physical displacement.

15.6.59 As physical displacement will not take place, no impact is expected.

Restricted access to land and economic displacement of farming activities

15.6.60 The Bespoke Access Road will remain onsite during the 40-year operational period of the Solar Array Area. The land take from the temporary Bespoke Access Road will lead to long-term economic displacement of farming activities. However, landowners will be compensated for economic displacement as embedded mitigation. Moreover, project design post-PEIR, taking into account consultation feedback from landowners, has reduced Cable Route buffers to a minimum to reduce impact from economic displacement to a minimum. It is understood that there are very limited seasonal workers who would be affected by the loss or fragmentation of agricultural land.

15.6.61 Grazing during the operational phase is being considered by the Applicant in accordance with the **Outline Landscape and Ecological Management Plan (OLEMP) (Document Ref: 6.3 ES Vol. 2, 6.3.19)**. However, for this assessment a conservative approach has been taken and it is assumed that there will be no jobs created from grazing.

15.6.62 Land take for the Solar Array Area will cause loss of temporary jobs (economic displacement of 1-3 FTE jobs) and around 4 FTE jobs of which three are landowners. Grazing opportunities are dependent on whether there will be a local grazier interested in grazing their sheep within the Solar Array Area. Therefore, it cannot be determined whether agricultural jobs and hence a balance of economic displacement will be possible in this regard. Finally, impact on economic displacement from the Bespoke Access Road land take will be negligible, especially considering compensation offered to landowners (embedded mitigation).

15.6.63 The impact level is medium for temporary workers (long-term, however reversible and affecting a very small number of social receptors), and negligible (no measurable change to the receptor's socio-economic conditions) for landowners who will receive payments for the use of their land for the Proposed Development. This results in a magnitude of change of minor adverse for temporary agricultural workers and negligible for landowners. In this sense, the effect is assessed to be Not Significant for all receptors.

Restricted access to recreation

15.6.64 The PRoW within the Solar Array Area (i.e. LL|Ewer|12/1) is currently not accessible nor used. As part of embedded design enhancements, PRoW Ewer/12/1 is being extended in a south and westerly direction as a permissive path terminating in the vicinity of Ewerby Thorpe, and will be in place for the operational duration of the project, on a route to be determined via discharge of requirement, but approximately running in a south easterly direction along Car Dyke then heading south west on the north side of Hodge Dike. An

undetermined number of footbridges (unlikely to be more than eight in number) to cross existing watercourses, will be required.

15.6.65 The Solar Array Area will not restrict access to identified recreational facilities apart from the reservoir that is occasionally used by twelve people for recreational fishing.

15.6.66 There will be no access impacts to PRowS from the Cable Route, as the cabling will remain underground during operations.

15.6.67 The Access Route Corridor will pass through PRowS LL|KkLT|4/2 and LL|KkLT|5/1. Site observations recorded that the usage of these PRowS is low. Embedded mitigation includes the creation of managed crossings for these footpaths, explored in **Appendix 2.2: Bespoke Access Road Construction Method Statement (Document Ref: 6.3 ES Vol. 2, 6.3.5)**. Therefore, impact on those PRowS is not expected to be significant. Overall, taking into account the enhancement of the PRow network, the impact on recreation will be Negligible and the effect Not Significant.

Increased exposure to noise

15.6.68 The WHO recognises 'noise' as the second most harmful environmental stressor²⁹. The stress reactions caused in the human body can lead to an increased heart rate, high blood pressure, cardiovascular disease, premature deaths, sleep disturbance, hypertension, among others³⁰.

15.6.69 As assessed in **Chapter 10: Noise & Vibration, (Document Ref: 6.2 ES Vol.1, 6.2.10)** during operation, there is expected to be a moderate noise effect for residential receptors located in close proximity to the Beacon Fen Energy Park. This could potentially cause stress and health issues among the social receptors. **Chapter 10: Noise & Vibration, (Document Ref: 6.2 ES Vol.1, 6.2.10)** mentions embedded mitigation measures such as design choices (for example locating the BESS and Super Grid Transformers within the centre of the Solar Array Area to maximise distance from sensitive receptors, among others). Taking this into account, **Chapter 10: Noise & Vibration, (Document Ref: 6.2 ES Vol.1, 6.2.10)** assesses the noise impact during operation to be Not Significant.

15.6.70 The impact on North Kesteven population living in close proximity to the Beacon Fen Energy Park might experience a Negligible to Minor Adverse effect (Not Significant) from noise and vibration.

Proposed Development-induced population immigration (leading to pressure on local services and infrastructure)

15.6.71 It is estimated that there will be a total of 12 FTE gross direct jobs created during operation and an additional 9 indirect jobs, 15 net FTE jobs in total. It is highly unlikely the Proposed Development will create induced immigration during operations. The impact is assessed to be Negligible and the effect is Not Significant.

²⁹ WHO (2018). 'Environmental Noise Guidelines for the European Region'. WHO Regional Office for Europe. Available at:

³⁰ Environment Agency, UK GOV (2022). 'Guidance on Noise and vibration management: environmental permits'. Available at: <https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits/noise-and-vibration-management-environmental-permits>

Decommissioning Phase

Loss of jobs created during the operational phase

- 15.6.72 It was estimated that 15 FTE net direct and indirect jobs will be created during the operational phase. Once the operational phase ceases, these jobs will be lost. However, there will be job creation during the decommissioning phase similar to the construction phase.
- 15.6.73 Decommissioning is currently planned to last 24 to 36 months, which is a similar period to construction. It is anticipated that the decommissioning phase would require a similar level of employment and generate a similar scale and character of workforce spending and supply chain effects as the construction phase. As such it is anticipated that the decommissioning phase would generate the same level of effects as reported in the construction phase above.
- 15.6.74 Net employment will be circa 262 jobs (after accounting for operations jobs lost post-closure). Similarly, to the construction phase, the magnitude of change will be medium (short term, local, and affecting a small number of receptors), resulting in a Minor Beneficial impact for the North Kesteven workforce and Moderate Beneficial for Boston Borough workforce, assuming receptor sensitivity will remain unchanged. The effect will be Not Significant for North Kesteven workforce and Significant for Boston Borough workforce.

Increased exposure to noise and traffic

- 15.6.75 It is assumed noise and traffic impacts will be similar to construction impacts during decommissioning. Consequently, the magnitude of change is assessed to be low, resulting in a minor effect on residents in North Kesteven and Boston Borough. The effect is Not Significant.

Restricted access to land and economic displacement of farming activities (restricted grazing, cable removal)

- 15.6.76 Impact on Cable Route Corridor land: The 400kv cable will remain in situ post-operation. There will, therefore, be no impacts on the Cable Route Corridor land during decommissioning. In the worst-case scenario of cable removal, the assessment will mirror construction impacts, and the effect is expected Not Significant for landowners and temporary agricultural workers.
- 15.6.77 Impact on Solar Array Area land: If grazing is implemented on the Solar Array Area during the operational phase, there might be minor economic displacement of agricultural activities in the Solar Array Area during decommissioning. Nonetheless, the land previously taken for solar panels will be returned to arable land, most likely creating agricultural jobs. The impact is assessed to be (neutral) Negligible and the effect is Not Significant.
- 15.6.78 Impact on Bespoke Access Road land: Bespoke Access Road is likely to remain in operation for 1 to 3 years during operations, extending the land take impact from operational phase. The road will likely be removed during decommissioning. However, it is possible that engagement with the landowners at that time will establish a preference for it to be retained. This engagement will facilitate to choose an option with the least impact on

sensitive receptors (landowners). Therefore, it is understood that impact on restricted access to land and economic displacement will be Not Significant.

Restricted access to recreational areas and mobility options through footpaths (access to PRowS)

15.6.79 As mentioned above, the 400kv cable will not be removed from underground during decommissioning and is to remain in situ. As such, no PRowS that fall within the Cable Route Corridor will be affected during decommissioning. In the worst-case scenario of cable removal, the impacts on PRow users will mirror construction impacts, and the effect is expected to be Not Significant.

15.6.80 The enhanced PRow inside the Solar Array Area (LL|Ewer|12/1) could be temporarily closed for decommissioning activities in the Solar Array Area. Furthermore, the slightly increased traffic during the decommissioning phase could have a limited impact on cyclists and horse-riders on public roads.

15.6.81 Overall, the magnitude of change will be low for recreational areas (no measurable change to recreation) and the social receptors' sensitivity is low, resulting in a Minor Adverse impact, and the effect will be Not Significant.

15.7 Mitigation and enhancement

15.7.1 Additional mitigation and enhancement measures relevant to socio-economic impacts are included in **Appendix 15.3: Outline Skills, Supply Chain and Employment Plan (OSSCEP) (Document Ref: 6.3 ES Vol. 2, 6.3.98)**.

15.7.2 **Appendix 15.3: Outline Skills, Supply Chain and Employment Plan (OSSCEP) (Document Ref: 6.3 ES Vol. 2, 6.3.98)** enhances beneficial impacts from employment creation, aims at reducing influx of workers and mitigates impacts related to loss of employment. This plan is proposed to include such measures as:

- Prioritising local employment;
- Reskilling of temporary farm workers to avoid economic displacement or support in finding alternative agricultural work;
- Reskilling of workers after operational phase; and
- Potential upskilling of local residents through apprenticeships.

15.7.3 Additional mitigation will be developed and tailored to potential complaints regarding the influx of workers affecting services such as local pubs, restaurants and shops. Community perception will be gathered through the Community Liaison Officer related to the impact of worker influx, and additional mitigations will be considered, if necessary, they could be:

- Updating the Code of Conduct for workers to encourage workers to limit use of services to Sleaford, where there is more capacity to accommodate additional customers; and
- Partnering with local shops, restaurants and coffee shops, where practical, such as the Heckington co-op or Heckington Windmill Café, to arrange product deliveries to the Proposed Development.

15.7.4 Cumulative accommodation mitigation measures:

- Implementation of the OSSCEP, **Appendix 15.3: Outline Skills, Supply Chain and Employment Plan (Document Ref: 6.3 ES Vol. 2, 6.3.98)** to hire workers locally, avoiding the need for additional accommodation;
- Disclosure of construction timescales with other developments, and coordination of timescales to avoid overlap of peak construction worker months when practical;
- Cooperation with NKDC to understand most up-to-date accommodation demands; and
- If the overlap of peak construction months cannot be avoided, the Applicant will review accommodation capacity in NKDC and suggest alternative accommodation to workers, outside of NKDC, if necessary.

Residual Effects

15.7.5 After implementing mitigation measures outlined in section 15.7, no residual adverse Significant effects are expected. The implementation of **Appendix 15.3: Outline Skills, Supply Chain and Employment Plan (OSSCEP) (Document Ref: 6.3 ES Vol. 2, 6.3.98)** is expected to keep the impact as significant beneficial effect on the workforce and GVA in Boston Borough, and enhance GVA beneficial effects and local job creation in North Kesteven, keeping the impact on North Kesteven receptors as minor beneficial due to the receptor's low sensitivity.

Monitoring

15.7.6 Monitoring of local employment, supply chain benefits and apprenticeship opportunities is outlined in the OSSCEP (**Appendix 15.3: Outline Skills, Supply Chain and Employment Plan (Document Ref: 6.3 ES Vol. 2, 6.3.98)**).

15.7.7 Monitoring of local accommodation capacity will be carried out during peak construction months.

Future steps

15.7.8 The Applicant has been in discussions to rent, when practical, local accommodation that may potentially be affected by the Proposed Development.

15.8 Assessment of Cumulative Effects

Intra-Cumulative Effects

15.8.1 There are no intra-cumulative effects identified in this Chapter, elements of assessments of Traffic, Noise & Vibration and Landscape & Visual were included within the Assessment of Effects section of this chapter as impact pathways of socio-economic effects.

Inter-Cumulative Effects

15.8.2 The cumulative impact assessment focuses only on key shared receptors with other operational or planned projects in the Aol. The Chapter identified two inter-cumulative effects: the demand on local accommodation during the construction phase, and stress on local services, due to an influx of construction workers.

15.8.3 A full list of projects considered here is provided in Section 4.6 Scope and Methodology of this Environmental Statement (ES). As the only impact being considered is that of effect on current accommodation only projects within 25km have been considered, the determination of effects from each of the sites within 25km is provided below:

Table 15.17 – Developments considered in the assessment.

PROJECT	DEVELOPMENT STAGE	SCOPED IN/OUT - POTENTIAL CUMULATIVE EFFECTS
Triton Knoll Electrical System	Granted - 05/09/2016.	Scoped out, construction does not overlap.
Heckington Fen Solar Park ³¹	Consent granted on the 24 th of January 2024.	Scoped in - The ES for Heckington Fen ³² has estimated 218 workers requiring accommodation (436 construction workers in total), which might affect accommodation demand when construction schedules overlap. Heckington Fen construction is planned to commence in spring 2025 and last for 30 months, which means the projects construction schedules could overlap even for 10-11 months.
Outer Dowsing Offshore Wind (Generating Station) ³³	Examination stage	Scoped out - No anticipated impact on A17 and likely time frame for construction does not overlap.
Lincolnshire Reservoir ³⁴	The application is expected to be submitted Q4 2028. ³⁵	Scoped out - Unlikely that construction will commence within the timescales of this project. No anticipated cumulative effects.
Springwell Solar Farm ³⁶	Scoping Report prepared in March 2023, construction planned for 2026 and last 48 months in two phases. DCO application accepted for examination – 18/12/2024.	Scoped in - Cumulative traffic impact not identified. Potential impact from accommodation

³¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010123/EN010123-000945-6.1.11%20-%20Chapter%2011%20-%20Socio-Economics%20-%20Rev%204.pdf>

³² Ibid.

³³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010130/EN010130-000037-EN010130-Scoping-Report.pdf>

³⁴ <https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/lincolnshire-reservoir/>.

³⁵ Ibid.

³⁶ <https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/springwell-solar-farm/>

PROJECT	DEVELOPMENT STAGE	SCOPED IN/OUT - POTENTIAL CUMULATIVE EFFECTS
		demand. On average, 400 workers will be required ³⁷
Boston Alternative Energy Facility (BAEF) ³⁸	Permission granted 06/07/2023.	Scoped in – The ES for BAEF estimates up to 131 direct local construction jobs, with Boston being the primary employment resource. An additional 169 jobs would be undertaken by suppliers and contractors, it is assumed these 169 workers will require accommodation.
Temple Oaks Renewable Energy Park ³⁹	Pre-application stage. Scoping Report submitted in July 2022.	Scoped in - No identified impacts on the A17. The scoping report estimates construction workforce of 126 persons on site ⁴⁰ , which can have impact on accommodation availability.
Meridian Solar Farm	Pre-application. The application is expected to be submitted Q3 2025.	Scoped in – the construction programmes might overlap. Meridian Solar Farm could commence in 2028 the earliest, and the construction of Beacon Fen in planned to commence in 2027. Construction worker numbers are anticipated to peak at 400 staff per day. ⁴¹
Grimsby to Walpole	Pre-application. Submission expected Q2 2027.	Scoped out – enabling works to commence in 2029 the earliest, the construction programmes will not overlap significantly. ⁴²
Eastern Green Link 3 and 4	Pre-Application – Submission expected summer 2026	Scoped out – construction planned to commence in 2028, but construction worker numbers are very limited (6 full-time staff) ⁴³ .
Leoda Solar Farm	Application expected January to June 2026.	Scoped out – construction programme not available, but the submission date makes it unlikely that construction schedules will align.

³⁷ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010149/EN010149-000172-6.1%20Environmental%20Statement%20Volume%201%20Chapter%2013%20-%20Population.pdf>

³⁸ <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010095>

³⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010130/EN010130-000037-EN010130-Scoping-Report.pdf>

⁴⁰ <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010126-000020-Temple%20Oaks%20Scoping%20Report%20220630%20re-ISSUED.pdf>

⁴¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010169/EN010169-000010-Meridian%20Solar%20Farm%20Scoping%20Report.pdf>

⁴² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020036/EN020036-000004-GWPL%20-%20Scoping%20Report%20Volume%201%20Main%20Text.pdf>

⁴³ <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0210003-000079-EGLK%20-%20Scoping%20Opinion.pdf>

Demand on local accommodation during the construction phase

- 15.8.4 **Chapter 9: Access & Traffic (Document Ref: 6.2 ES Vol.1, 6.2.9)** has not identified significant cumulative impacts coming from the above developments. From a socio-economic perspective, the Heckington Fen Solar Farm, the Springwell Solar Farm, Boston Alternative Energy Facility, Meridian Solar Farm, and the Temple Oaks Renewable Energy Park might create cumulative impacts on accommodation availability during construction, as assessed below.
- 15.8.5 Where available within the relevant ES, the number of workers to be employed outside of the Aol and therefore requiring accommodation was used. For Springwell Solar Farm, Temple Oaks Renewable Energy Park and Meridian Solar Farm this data was not available. For these it was assumed that, due to local employment, only half of the total workers will require accommodation, the same assumption was also used in the Heckington Fen ES⁴⁴.
- 15.8.6 As identified above, a 70% leakage factor has been applied, meaning that 389 construction workers for the Proposed Development will likely require accommodation. This number is an estimate used for the assessment of accommodation availability, and does not reflect commitments or estimates of local employment. In reality, the number of workers requiring accommodation can vary due to the level of local employment and seasonal fluctuations of worker numbers required.

Table 15.18 – Estimates of construction workers requiring accommodation.

DEVELOPMENT	TOTAL	REQUIRING ACCOMMODATION
Beacon Fen	556	389
Heckington Fen	436	218
Springwell Solar Farm	400	200
Boston Alternative Energy Facility	300	169
Temple Oaks Renewable Energy Park	126	63
Meridian Solar Farm	400	200
Total	2,218	1,239

- 15.8.7 This assessment shows that 1,239 workers cumulatively will require accommodation at the same time. In reality, this will likely vary because of varied flows of workforce, lower workers demand and successful local employment.
- 15.8.8 As identified in the baseline, NKDC has a total of 3,679 bed spaces. Taking the worst-case scenario and assuming that all accommodation demands would be met in NKDC, there would be a remaining capacity of 2,440 bed spaces in the district. However, when factoring in seasonality, there is potential for there to be a more significant demand on the local accommodation in NKDC, most notably in April, where there is likely to be a deficit in accommodation, and May and June where there will be low remaining capacity.

⁴⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010123/EN010123-000945-6.1.11%20-%20Chapter%2011%20-%20Socio-Economics%20-%20Rev%204.pdf>

Table 15.19 – Seasonal Accommodation Demands

MONTH	BEDS AVAILABLE IN NKDC	REMAINING ACCOMMODATION IN NKDC (BEDS)	REMAINING ACCOMMODATION IN NKDC (BEDS) %
Jan	3,155	1,916	60.7%
Feb	3,307	2,068	62.5%
Mar	2,991	1,752	58.6%
Apr	989	250	-25.3%
May	1,431	192	13.4%
Jun	1,384	145	10.5%
Jul	2,656	1,417	53.4%
Aug	3,141	1,902	60.6%
Sep	3,274	2,035	62.2%
Oct	3,267	2,028	62.1%
Nov	1,839	600	32.6%
Dec	1,826	587	32.1%

15.8.9 Receptor sensitivity is medium to high and magnitude of change high resulting in a Major adverse inter-cumulative effect on accommodation before mitigation. The effect is Significant. Mitigation should include implementation of the **Appendix 15.3 Outline Skills, Supply Chain and Employment Plan (Document Ref: 6.3 ES Vol. 2, 6.3.98)**, disclosure of construction timescales with other developments when practical and cooperation with NKDC to understand accommodation demands. If the overlap of peak construction months cannot be avoided, the Applicant will review accommodation capacity in NKDC during peak months and suggest alternative accommodation outside of NKDC if necessary. The residual effect could then be reduced to Not Significant.

Stress on local services, due to an influx of construction workers

15.8.10 Impact from influx of workers causing stress on local shops and hospitality services was assessed Significant for vulnerable groups for the Proposed Development.

15.8.11 Looking at cumulative schemes, only Heckington Fen Solar Farm could have some cumulative impact from influx of workers if construction schedules overlap. Nonetheless, because of the location of Heckington Fen Solar Farm, it is expected that only local services and shops in Heckington could be affected by both developments in a measurable way. This will therefore affect a very limited number of vulnerable receptors, for a very limited amount of time, resulting in no perceivable changes to baseline conditions.

15.8.12 The magnitude of change will remain low and the effect will remain moderate adverse for vulnerable receptors, the effect will remain Significant.

15.8.13 Additional mitigation outlined in section 15.7 will reduce the impact magnitude to negligible, lowering the impact on vulnerable receptors to minor adverse, Not Significant in EIA terms.

15.8.14 No other significant cumulative impacts are expected. However, it is noteworthy that, as discussed, this combination of projects will result in job

creation across numerous sectors in the region. Ultimately, this will have a beneficial impact both in the Direct and Indirect Aol and further afield.

15.9 Summary

- 15.9.1 The assessment of baseline conditions showed that the study area has a lower share of the working-age population and a higher share of the elderly population than the national average.
- 15.9.2 In terms of local economy, there is relatively low unemployment in North Kesteven and relatively high unemployment in Boston. GVA per head is significantly lower in Boston and North Kesteven compared to average national GVA per head. On average, Boston has higher levels of deprivation compared to the national average and North Kesteven, while North Kesteven has lower levels of deprivation compared to the national average.
- 15.9.3 Baseline data collection showed that there is a network of PRoW / footpaths and recreational facilities around the Proposed Development, used mainly by local residents. Touristic attractions rarely attract visitors from outside of the region. Consequently, the visitor economy is not a significant contributor to GVA in the study area.
- 15.9.4 The Proposed Development will result in beneficial effects in terms of employment and economic contribution, mostly during construction and decommissioning.
- 15.9.5 The Proposed Development would lead to no residual adverse significant effects from a socio-economic perspective. After applying enhancement measures, during construction, effect from employment generation and GVA was assessed to be Significant Beneficial for Boston Borough.
- 15.9.6 **Appendix 15.3 Outline Skills, Supply Chain and Employment Plan (Document Ref: 6.3 ES Vol. 2, 6.3.98)** sets out a monitoring programme covering local employment levels and positive upskilling impacts.
- 15.9.7 Assessment of inter-cumulative effects, has suggested a Significant adverse effect on accommodation capacity before mitigation. No other significant cumulative impacts are expected and no significant effects post-mitigation are expected.

The only residual significant effect is the beneficial impact of construction employment on Boston Borough's workforce and a significant beneficial effect from GVA on Boston Borough, as shown in Table 15.20, below.

Table 15.20: Socio-Economics - Summary Assessment Matrix (Significant Residual effects)

Issue	Description of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Socio-economic												
Boston Borough workforce	Construction: Generation of local employment					X	X	X	Moderate Beneficial	St, R	Significant	Enhancement measures: OSSCEP
Boston Borough businesses and residents	Construction: Gross Value Added (GVA)					X	X	X	Moderate Beneficial	St, R	Significant	Enhancement measures: OSSCEP
Key: Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local Nature: St = Short-Term Mt = Medium-Term Lt = Long-Term R = Reversible Ir = Irreversible												