

# REPORT

## **Boston Alternative Energy Facility – Environmental Statement**

### Chapter 20 Socio-Economics

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## Executive Summary

Socio-economics considers a large number of aspects, which in relation to this chapter included employment, housing market, community infrastructure (including primary and secondary education and health) and tourism during both the construction and operational phases of the Facility. Additionally, the chapter considered the impacts on energy security/reliability as part of the operational phase.

The potential impacts that this chapter covers were agreed through consultation with the Planning Inspectorate whose Scoping Opinion provided guidance on which potential impacts should be covered as part of the assessment.

Given the broad spread of topics included within socio-economics, the sources of information to describe the baseline were extensive, with the assessment drawing on a desk-based study of publicly available data.

The assessment has considered the potential for impact, including cumulative effects, finding that for the majority these will be of **negligible significance**. The assessment considered the potential for some positive impacts, including: **moderate and minor** positive impacts in construction and operational employment respectively; and, a **moderate-substantial** effect in relation to energy security/reliability.

## 20 Socio-Economics

### 20.1 Introduction

20.1.1 This chapter of the Environmental Statement (ES) describes the existing environment in relation to socio-economics and details the assessment of the potential impacts during construction, operational and decommissioning phases of the Facility. Mitigation measures are provided, and a discussion of the residual impacts provided where significant impacts were identified.

20.1.2 This chapter was prepared by Lichfields.

### 20.2 Legislation, Policy and Guidance

20.2.1 This section briefly summarises the policy context relating to the socio-economic aspects of the development at the local, district and national levels.

#### **National Planning Policy**

##### Overarching National Policy Statement (NPS) for Energy (EN-1)

20.2.2 NPS EN-1 sets out national policy for energy infrastructure and has effect on decisions made by the Planning Inspectorate on applications for energy developments that fall within the scope of the NPSs (Department of Energy and Climate Change (DECC), 2011a).

20.2.3 EN-1 states that applicants should include an assessment of the socio-economic impacts of proposed development as part of any ES (DECC, 2011a). This should consider all relevant socio-economic impacts, which may include:

- The creation of jobs and training opportunities;
- The provision of additional local services and improvements to local infrastructure;
- Effects on tourism; the impact of an influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure; and
- Cumulative impacts.

20.2.4 EN-1 also states that applicants should describe the existing socio-economic conditions in the area surrounding the proposed development.

### NPS for Renewable Energy Infrastructure (EN-3)

20.2.5 NPS EN-3, taken together with EN-1, provides the primary basis for decision by the Planning Inspectorate on applications it receives for nationally significant renewable energy infrastructure (DECC, 2011b).

20.2.6 In relation to biomass and waste combustion, EN-3 states that:

*“The recovery of energy from the combustion of waste, where in accordance with the waste hierarchy, will play an increasingly important role in meeting the UK’s energy needs. Where waste burned is deemed renewable, this can also contribute to meeting the UK’s renewable energy targets. Further, the recovery of energy from the combustion of waste forms an important element of waste management strategies in both England and Wales. The combustion generating stations covered by this NPS are this which generate electricity:*

- *Using waste (possibly including non-renewable sources of waste) and/or biomass as a fuel; and*
- *Generate more than 50MW of electricity.”*

### National Planning Policy Framework (NPPF)

20.2.7 The Government published the revised NPPF in February 2019 (Ministry of Housing, Communities and Local Government (MHCLG), 2019a). The NPPF outlines that:

*“the purpose of the planning system is to contribute to the achievement of sustainable development.”*

20.2.8 Achieving sustainable development means that the planning system has three objectives – economic, social and environmental. The economic objective involves helping to build a strong, competitive economy. The social objective seeks to ensure that services and open spaces to meet the current and future needs of communities’ health, social and cultural well-being needs are accessible. The environmental objective highlights the importance of using resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

20.2.9 Chapter 6 of the NPPF concerns building a strong, competitive economy. Paragraph 80 sets out that:

*“planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt.”*

20.2.10 It places significant weight on the need to:

*“support economic growth and productivity, taking into account both local business needs and wider opportunities for development.”*

20.2.11 Paragraph 82 states that:

*“planning policies and decisions should recognise and address the specific locational requirements of different sectors”, including “making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations at a variety of scales and in suitably accessible locations.”*

20.2.12 Paragraph 117 states that planning policies and decisions should promote effective use of land. Paragraph 118 identifies that substantial weight should be given to the value of using:

*“suitable brownfield land within settlements for homes and other identified needs, and that appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land” should be supported.*

20.2.13 Paragraph 148 states that the:

*“planning system should support the transition to a low carbon future” and that “it should help to shape places in ways that contribute to radical reductions in greenhouse gas emissions”, “encourage the reuse of existing resources” and “support renewable and low carbon energy and associated infrastructure.”*

20.2.14 Paragraph 151 states that to help increase the use and supply of renewable and low carbon energy and heat, plans should provide a positive strategy for energy from these sources, that maximises the potential for suitable development and consider identifying suitable areas for renewable and low carbon energy sources.

20.2.15 Paragraph 154 identifies that

*“when determining planning applications for renewable or low carbon development, local planning authorities should:*

- a) *Not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and*



*b) Approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.”*

#### Waste Management Plan for England (2013)

20.2.16 In England, the waste hierarchy is both a guide to sustainable waste management and a legal requirement, enshrined in law through the Waste (England and Wales) Regulations 2011. The hierarchy gives top priority to waste prevention, followed by preparing for reuse, then recycling, other types of recovery (including energy recovery) and last of all disposal (e.g. landfill).

20.2.17 In relation to energy recovery the Plan states:

*“The Government supports efficient energy recovery from residual waste – of materials which cannot be reused or recycled – to deliver environmental benefits, reduce carbon impact and provide economic opportunities”* (Department for Environment, Food and Rural Affairs (Defra), 2013).

#### The Clean Growth Strategy (2017)

20.2.18 The Government published its Clean Growth Strategy in October 2017 (Department for Business, Energy and Industrial Strategy (BEIS), 2017). The report acknowledges that:

*“achieving clean growth, while ensuring an affordable energy supply for businesses and consumers, is at the heart of the UK’s Industrial Strategy”* and will *“increase productivity, create good jobs, boost earning power”* and *“help protect the climate”*.

*“The Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of “clean growth”, i.e. deliver increased economic growth and decreased emissions.”*

20.2.19 These include the ambition for the UK to produce zero avoidable waste by 2050.

#### A Green Future: Our 25 Year Plan to Improve the Environment (2018)

20.2.20 The Government published its 25 Year Plan to Improve the Environment in January 2018 (Defra, 2018).

20.2.21 The Plan recognises the importance of managing resources more sustainably and diverting more waste away from landfill. Whilst the Plan seeks to maximise the amount of waste that can be re-used, re-manufactured and recycled, it acknowledges that significant quantities of residual waste have been diverted from landfill through the development of Energy from Waste facilities. The Plan seeks to ensure the materials collected in the residual waste stream are managed to maximise their full value as a resource and minimise the environmental impact of treating them.

20.2.22 The Plan seeks to encourage operators to maximise the amount of energy recovered from residual waste while minimising the environmental impact of managing it, for example by utilising the heat as well as electricity produced.

### **Regional Planning Policy**

#### Greater Lincolnshire Strategic Economic Plan

20.2.23 Boston is located within the Greater Lincolnshire Local Enterprise Partnership (GLLEP). The GLLEP published their Strategic Economic Plan (SEP) in 2014 before refreshing it in Spring 2016 (GLLEP, 2016).

20.2.24 The refreshed SEP outlines the ambition to secure new investment to accelerate the delivery of:

- 13,000 new jobs;
- Support up to 22,000 businesses;
- Up to 100,000 new homes; and
- An increase in the value of the Greater Lincolnshire economy by £3.2 billion.

20.2.25 The SEP identifies four core priority sectors which have the potential to add real value to the UK economy and contribute towards the Government's Industrial Strategy:

- Agri-food;
- Manufacturing and Engineering;
- Visitor Economy; and
- Low Carbon Economy.

20.2.26 The SEP identifies that the low carbon economy is worth £1.2 billion per annum to the Greater Lincolnshire economy, employing over 12,000 people, and with significant potential to secure up to £60 billion of private investment over the next 15 years. Linked to this potential investment, the SEP identifies energy from

waste, in addition to other low carbon or environmental goods and services such as biomass and biofuels, as a major opportunity for growth. One of the priorities for the low carbon sector includes the development of a Greater Lincolnshire-wide energy efficiency/waste management programme.

20.2.27 The SEP also states that the visitor economy is worth over £1.9 billion per annum to the Greater Lincolnshire economy, supporting over 39,000 jobs. The SEP sets out a priority to double the real value of the tourism by 2020.

### Local Planning Policy

#### South-East Lincolnshire Local Plan 2011-2036

20.2.28 The adopted local plan for Boston is the South-East Lincolnshire Local Plan 2011-2036 (South-East Lincolnshire Joint Strategic Planning Committee, 2019). This was adopted on 8 March 2019.

20.2.29 Policy 7 (Improving South-East Lincolnshire's Employment Land Portfolio) states that:

*“the South-East Lincolnshire authorities will, in principle, support proposals which assist in the delivery of economic prosperity and some 17,600 jobs in the area”.*

20.2.30 Under Policy 7, the Application Site is partially allocated as a 'Main Employment Area' (Riverside Industrial Estate, Boston Ref: BO006).

20.2.31 Policy 31 (Climate Change and Renewable and Low Carbon Energy) identifies that:

*“the development of renewable energy facilities, associated infrastructure and the integration of decentralised technologies on proposed structures will be permitted provided there would be no significant harm to:*

- *Visual amenity, landscape character or quality, or skyline considerations;*
- *Residential amenity in respect of noise, fumes, odour, vibration, shadow flicker, sunlight reflection, broadcast interference, traffic;*
- *Highway safety (including public rights of way);*
- *Agricultural land take, landscape character or quality, or skyline considerations;*
- *Aviation and radar safety;*

- *Heritage assets including their setting; and*
- *The natural environment”.*

20.2.32 The reasoned justification supporting Policy 9 (Promoting a Stronger Visitor Economy) indicates that tourism is an important part of South-East Lincolnshire’s economy, with economic benefits including job creation.

### 20.3 Consultation

20.3.1 As part of the wider Environmental Impact Assessment (EIA), discussions have been held with key stakeholders and officers at Boston Borough Council (BBC) which have informed the Facility. In relation to socio-economic issues specifically, Lichfields has made best endeavours to engage with the relevant Destination Management Organisation for Boston/Lincolnshire in respect of tourism impacts; however, a response has not been received to date from the relevant organisation.

20.3.2 Additionally, the content of and approach to the socio-economic assessment have been scoped and agreed with the Planning Inspectorate.

20.3.3 The consultation for this chapter has been summarised in **Table 20-1**.

**Table 20-1 Consultation**

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
The Planning Inspectorate Scoping Opinion, July 2018	Scoping out Tourism:  No evidence or justification has been provided in the Scoping Report to support scoping this matter out. On this basis, the Inspectorate cannot agree to scope this matter out from the ES. The ES should include an assessment of the impacts to tourism where significant effects are likely to occur.	Impacts on tourism are discussed in <b>Section 20.7</b> .
	The ES should provide the information which informs the baseline assessment. Where this lack of available information has presented a limitation to the assessment this should be explained and the implications for the conclusions described in the ES.	Information that informed the baseline of the assessment are presented in <b>Section 20.6</b> .

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	<p>The Scoping Report refers to ‘micro’ and ‘small’ to describe businesses captured in the baseline information. It is not clear how this data will inform the assessment. The ES should define these terms, using relevant data sources or guidance as necessary, and set out how this and other information has been applied to the assessment.</p>	<p>These definitions and data are discussed in <b>Section 20.6</b> (see <b>Table 20-6</b>).</p>
	<p>The information on the potential effects is high level and does not identify specific impacts of the Proposed Development, for example the Scoping Report refers to ‘indirect effects on services’ however little detail is provided as to what these would be. The socio-economic effects of impacts to human health, taking into account sensitive receptors such as disadvantaged socio-economic groups, should also be included in the assessment where significant effects could occur. The ES must identify the anticipated impacts of the Proposed Development and quantify these where possible, for example the number of jobs anticipated to be created.</p>	<p>Potential impacts of the Facility are discussed in <b>Section 20.7</b>.</p>
	<p>The Scoping Report states that the Macmillan Way will require a permanent diversion. The ES should assess any likely significant effects associated with this proposal. Cross reference should be made to the socio-economic assessment with respect to tourism.</p>	<p>Impacts to Macmillan Way are discussed in <b>Section 20.7</b>.</p>
	<p>The Scoping Report gives a very broad description of the data that will be gathered to inform the ES. The ES should explain the methodology applied to the assessment, including the data sources used, consultation undertaken, the methodology applied to determining significance of effects, and any limitations encountered.</p>	<p>Consultation is discussed in this section (<b>Section 20.3</b>) of the chapter, assessment methodology is detailed in <b>Section 20.4</b>, and data used and any limitations are discussed in <b>Section 20.5</b>.</p>
<p>Section 42 Consultation Response – Lincolnshire County Council (LCC), 1<sup>st</sup> August 2019</p>	<p><b><u>Energy Requirements</u></b></p> <p>Attached is a report commissioned by the Council which shows that there are substantial energy requirements in the south of the county. The Council would be interested in seeing whether BAEF can provide targeted sources of energy as well as into the national grid.</p>	<p>Point noted.</p>
	<p><b><u>School Places</u></b></p>	<p>Noted, this is discussed in <b>Section 20.6</b> and <b>Section 20.7</b>.</p>

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	<p>It should be noted and amended that the provision of any new school would be through the County Council as Local Education Authority rather than Boston Borough Council.</p>	
	<p>The Council have run the numbers based on the most recent number on roll reports, these figures are from May 2019 and are therefore more up to date than those in the report and a more accurate representation. While the applicant took the capacity figure from the DfE website, these include elements of early years/pre-school capacity, and don't include some spaces recently opened. This appears to show an issue in secondary, Boston Grammar has taken above their advertised admissions number and Haven High is in the process of being expanded.</p>	<p>This is been discussed in <b>Section 20.6.</b></p>
	<p>The figures provided by the applicant are relatively accurate at primary level, and while a little way out at secondary, this element is being mitigated. While the capacity data comes from local knowledge, the number on roll data is available from the Lincolnshire Research Observatory to obtain the most recent data. From a school place planning perspective, the Council would look at future numbers which also aren't within the public domain. However, as this isn't a scheme that would contribute capital towards an expansion scheme, it is not deemed necessary to review in any greater detail.</p>	<p>Point noted.</p>
<p>Section 42 Consultation Response – Norfolk County Council</p>	<p>While Norfolk County Council welcomes the employment opportunities the Power Station will have within the local/regional economy both during construction and once operational, it is felt that given the proposal's proximity to Norfolk and the likelihood of additional major construction projects in both Norfolk and Suffolk arising from the offshore wind energy sector (i.e. associated with the Hornsea Three Project; Norfolk Vanguard and Boreas; and East Anglia Offshore Wind One (North) and Two) and the Sizewell C Nuclear Power Plan proposal, there is a need for:</p> <ul style="list-style-type: none"> <li>(a) Wider consideration of supply chain issues to address working with neighbouring authorities such as Norfolk; and</li> <li>(b) Ensuring that any Education, Skills and Employment Strategy addresses/considers the wider cumulative impacts arising from other planned NSIPs in the area (i.e. covering the above onshore and offshore projects).</li> </ul>	<p>This is discussed in <b>Section 20.9.</b></p>



Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	<p>The County Council would therefore suggest that the applicant develops an Education; Skills and Employment Strategy which will form part of the DCO application to address the above potential cross-boundary issues. Such strategies have been taken forward in other NSIPs covering for example the offshore wind energy sector developments. It is suggested that contact be made with the Norfolk County Council's Economic Development Manager - Dukes, David david.dukes@norfolk.gov.uk and the Employment and Skills Manager - Feeney, Jan jan.feeney@norfolk.gov.uk</p>	<p>Engagement with Boston College at a local level is being pursued alongside the development of the DCO application to identify apprenticeship opportunities that would be bespoke to this type of Facility.</p> <p>A wider Education, Skills and Employment Strategy is not considered necessary at this stage</p>
<p>Section 42 Consultation Response – BBC, 6<sup>th</sup> August 2019</p>	<p>Local Existing Business – there are existing businesses that could have a positive impact on the supply chain. Equally there are others that have high profile existing clients that visit the Marsh Lane site regularly. A negative impact from traffic over a four year period will have an impact on existing business and potentially create barriers to those businesses engaging with the potential opportunities the BAEF presents.</p>	<p>This is addressed in <b>Section 20.7</b>. Any transport-related issues are dealt with in <b>Chapter 19 Traffic and Transport</b>.</p>
	<p>Inward Investment - if there is a negative campaign or general negative news coverage, this will impact on the wider reputation of the Borough as a place in which to invest and also the BAEF as an opportunity to explore further.</p>	<p>Point noted.</p>
	<p>Traffic impact, the extent of machinery and equipment to be transported to the site and whether new roads will be required. Will there be a requirement for night working and how will impact on residents and wildlife be mitigated?</p>	<p>Any transport-related issues are dealt with in <b>Chapter 19 Traffic and Transport</b>.</p>
	<p>Local jobs for local people - how will the project use local expertise and technical knowledge; is there a proposed arrangement with Boston College to use apprentices; what consideration has been given to accommodation for workers.</p>	<p>These topics are discussed in <b>Section 20.7</b>.</p>

Consultee and Date	Response	Chapter Section Where Consultation Comment is Addressed
	We note the anticipated by-products and believe that the direct export of Heat / CO <sub>2</sub> / Electricity to encourage local business and residential development is an opportunity. In addition, by encouraging further employment opportunities, this will offset the deficit in the labour allocation designated for the area as falling within BAEF development footprint – by way of example the labour allocation for this area is approximately 800 jobs, but the proposed site will generate only approximately 100 jobs (after the initial construction).	These topics are discussed in <b>Section 20.7</b> . The Facility is planning to reuse heat and is not distributing heat locally. Electricity will be distributed into the national infrastructure under an agreement with Western Power Distribution; and CO <sub>2</sub> will be exported in accordance with market demand, which can be local if this need is manifested.
	We are mindful that renewable energy projects often provide a community fund to provide legacy projects within the community that mitigates the impact of the application site. We believe it would be helpful to the community to see this articulated in the documentation produced by the applicant to support the application.	It is anticipated that discussions on such commitments will be advanced during the Pre-Examination and Examination phases, after submission

## 20.4 Assessment Methodology

20.4.1 The baseline position in terms of economic conditions and the current provision of community facilities was established before examining the potential impacts of the Facility and their significance. Opportunities for the mitigation of any adverse effects and the enhancement of beneficial effects were then examined, including any embedded mitigation elements of the Facility.

20.4.2 This assessment drew upon published Government and local authority data, including the latest available statistics from the 2001 and 2011 Census, mid-year estimate series, Experian datasets and other published datasets.

### Significance Criteria

20.4.3 There are no generally accepted criteria for assessing the significance of socio-economic effects; therefore, these were assessed in a similar manner to the methodology presented in **Chapter 6 Approach to EIA**, based on the scale of the increase over the baseline position, as well as the nature and context of their effects. Where relevant, the location of the impact and its likely duration was considered. In some cases, this could not be quantified or measured, so the nature and context of the effects were considered more generally. Effects were identified as positive (beneficial), neutral or negative (adverse), whilst their



significance was classified as either 'negligible', 'minor', 'moderate' or 'substantial'.

20.4.4 The duration of the socio-economic effects was considered against whether it was temporary or permanent. Due to their nature, all operational effects were considered to be permanent unless otherwise stated. In terms of temporary effects, the duration was determined to be short term (less than five years), medium term (five-10 years), or long term (more than 10 years).

### Cumulative Impact Assessment

20.4.5 A list of schemes relevant to the Facility that could conceivably generate cumulative impacts by virtue of incremental changes to the baseline socio-economic conditions in the area of impact was considered. The list of schemes is detailed at **Section 20.8** along with a Cumulative Impact Assessment (CIA). This has been carried out having regard to the anticipated socio-economic impacts generated by the cumulative schemes and the assessment methodology outlined above.

### Transboundary Impact Assessment

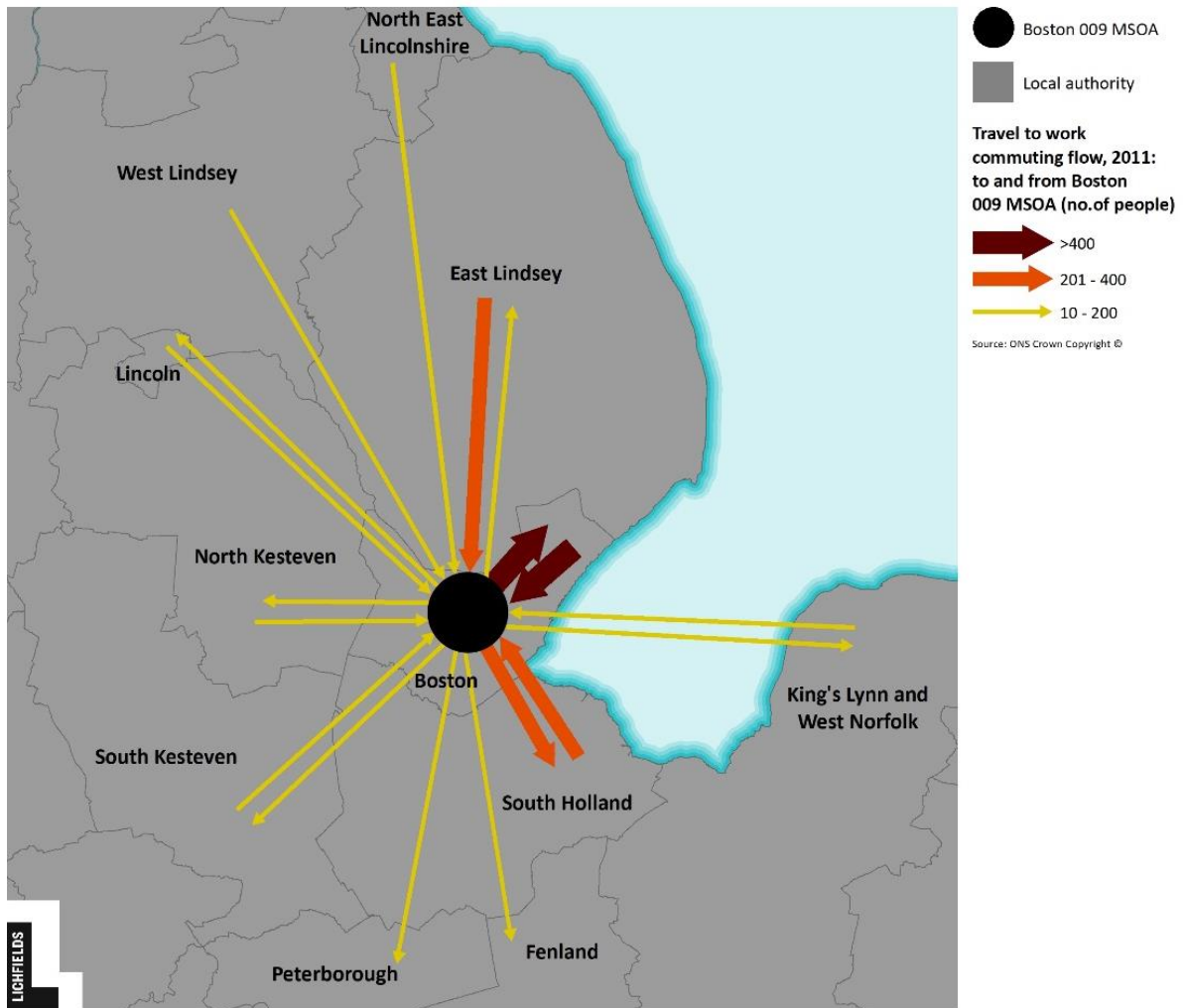
20.4.6 A Transboundary Impact Assessment is not relevant in respect of socio-economics. This is justified on the basis of the analysis of commuting data presented in **Section 20.5** which reveals that Boston is a self-contained labour market area and recognising the Application Site is not located close to any international boundary. Boston local authority area is therefore the most appropriate geography in which to consider the impacts of the Facility.

## 20.5 Scope

### Study Area

20.5.1 The Application Site is located immediately south of Boston town centre, Lincolnshire, east of the Riverside Industrial Estate. Sea flood defences along the tidal River Witham (known as The Haven) define the eastern boundary of the Application Site. Industrial and business properties surround the Application Site to the north, west, and south. These include a waste management facility (operated by Mick George Ltd at the time of writing) and a household waste recycling centre. The consented Biomass UK No. 3 Ltd gasification plant on the eastern border of the Principal Application Site is currently in commissioning. The Application Site is located within BBC and within the Boston 009 Middle Super Output Area (MSOA).

- 20.5.2 Given the Application Site's location close to the town of Boston, it is anticipated that any effects of the Facility will be focused primarily within the local authority area of Boston. However, effects could also be observed over a wider Area of Impact (AOI) (i.e. the study area), which is defined as the area from which the majority of the labour force is likely to be drawn.
- 20.5.3 The current criteria (Office for National Statistics (ONS), 2016) for defining travel to work areas (TTWAs) is that generally at least 75% of an area's resident workforce work in the area and at least 75% of the people who work in the area also live in the area. The area must also have a working population of at least 3,500.
- 20.5.4 Applying this methodology to data from the 2011 Census relating to commuting patterns confirms that the wider AOI is also the local authority area of Boston given that Boston Borough constitutes approximately 75% of both in-commuting and out-commuting flows, demonstrating high levels of self-containment. ONS TTWA analysis also demonstrates, in terms of commuting patterns, that Boston (TTWA E30000174) is a self-contained labour market area and is the appropriate AOI geography for the Facility. See **Plate 20-1** for travel to workflows from MSOA Boston 009.



**Plate 20-1 Travel to Work Flows from MSOA Boston 009. Source: Census 2011a / Lichfields Analysis**

20.5.5 The impact area(s) considered for the different potential effects are detailed in **Table 20-2.**

**Table 20-2 Impact Area Considered for Different Uses**

Potential effect	Main Impact Area	Wider Impact Area
Construction employment	Boston	Boston
Operational employment	Boston	Boston
Labour market	Boston	Boston
Housing market	Boston	Boston
Primary Education	Within 3 km of the Application Site	Boston
Secondary Education	Within 5 km of the Application Site	Boston
Healthcare	Within 5 km of the Application Site	Boston
Tourism	Boston	Boston
Energy security/reliability	Boston	Boston

## Data Sources

20.5.6 The assessment was undertaken with reference to a number of sources, as detailed in **Table 20-3**.

**Table 20-3 Key Information Sources**

Data Source	Reference
WF01BEW - Location of usual residence and place of work (OA level)	Census, 2011
Travel to work area analysis in Great Britain, 2016	Office for National Statistics, 2016

## Assumptions and Limitations

20.5.7 The limitations are identified where applicable. In particular, the data used from publicly available sources were not verified. Furthermore, whilst the latest available data were used, it should be noted that many data sources are frequently updated and could be subject to change since the time of drafting or during the course of the application process.

20.5.8 Assumptions were also identified where relevant within the appropriate sections of the chapter. Some of the key assumptions include:

- The assessment of employment associated with the construction period was based upon an estimate of indicative labour requirements provided by Alternative Use Boston Projects Ltd ('the Applicant'); and

- The assessment of employment associated with the operational phase was based upon a schedule of employment requirements provided by the Applicant. The information was based upon the anticipated business/operating model for the proposals and outlined the labour requirements associated with six distinct functions, which were then aggregated to assess the direct employment to be created on-site.

## 20.6 Existing Environment

20.6.1 This section sets out the economic context and main socio-economic features of the AOI (i.e. BBC) relating to the Facility. This includes a summary of the current and future projected local demographic conditions, local economic and labour market conditions, existing provision of community infrastructure and local housing market conditions and projected household growth within the AOI. Where the availability of data permits, these conditions were benchmarked against equivalent regional and national statistics.

### Local Demographic Conditions

#### Current Population and Projected Future Change

20.6.2 The latest available data from the ONS (ONS, 2020a) indicate that the population of the AOI in 2019 was 70,173. The same data indicate that 59.8% of the population are of 'working age' (16-64) which is lower than the equivalent percentages at the regional (61.9%) and national (62.5%) level. The AOI has a higher proportion of residents aged 65+ (20.9%) compared to the regional (19.5%) and national (18.6%) level. The population of the AOI grew by 10.7% between 2009 and 2019. The equivalent rate of population growth was 8.1% for the East Midlands and 7.3% at the national level.

20.6.3 The AOI's population to 2036 is expected to grow by 15.2%, exceeding the projected population growth at a regional (11.1%) and national (7.9%) level across the same period (ONS, 2020b). The AOI's working age population is also projected to grow at a higher rate across the period (11.6%) compared to the regional (5.3%) and national (2.9%) projections.

#### Migration

20.6.4 Migration data from the 2011 Census indicates that 12% of the AOI's population in 2011 (64,637) were in the broadest sense migrants insofar as they had either: moved within the area (63%); moved into the area from within the UK (24%); or moved into the area from outside the UK (13%). This sits between the figures recorded at the regional (11.5%) and national (12.3%) level. The AOI experienced

higher levels of out-migration (3.9% of usual resident population) than the regional (2.1%) and national (0.2%) levels.

20.6.5 Taking account of the balance between in- and out-migration, net migration into the AOI was 5,472 (8.5% of the usual resident population). This compared to an equivalent net migration figure at the regional level of 9.5% and 12.1% at the national level.

## Local Economic Conditions

### Employment Growth

20.6.6 An analysis of ONS Job Density data (ONS, 2018a) indicates that the total number of jobs in the AOI stood at 38,000 in 2018 (latest data available).

20.6.7 **Table 20.4** illustrates that jobs growth across the AOI during the period 2008 to 2018 was 26.7%, which was higher than the equivalent rates experienced both regionally (10.9%) and nationally (13.6%).

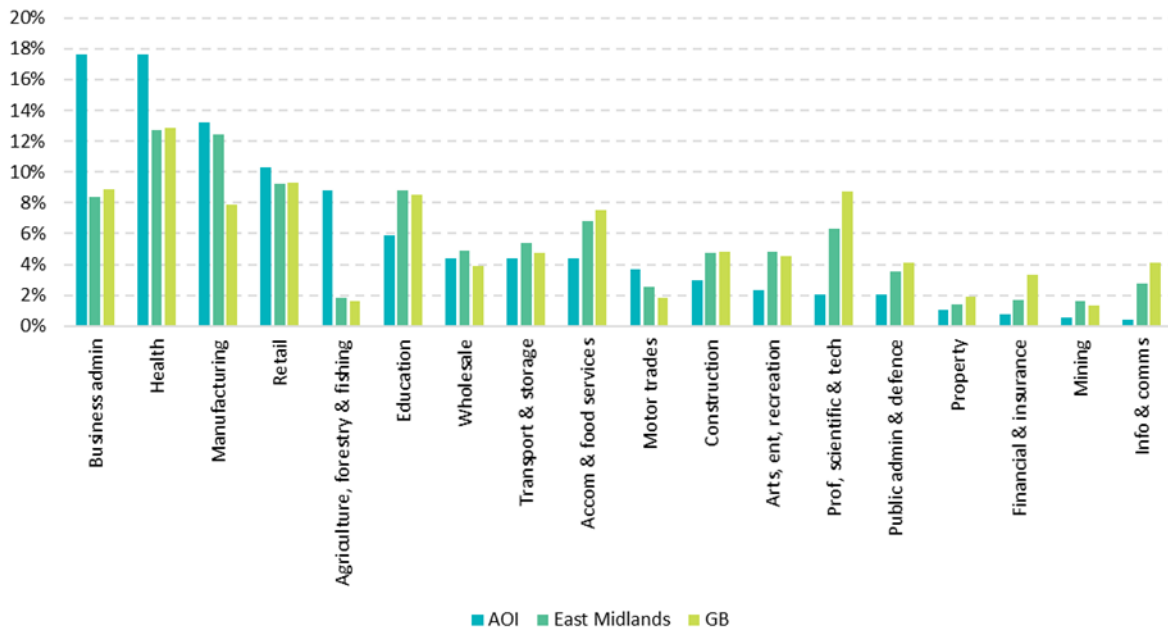
20.6.8 ONS Job Density data also provide a measure of the ratio of total jobs to working age residents in a given area. The most recently published data (2018) show that the AOI has a job density ratio of 0.91, indicating that the authority has 91 jobs for every 100 residents of working age (aged 16-64). This is higher than the regional (0.80) and national averages (0.86).

**Table 20-4 Employment and Jobs Density across the AOI. Source: ONS (2018a) Jobs Density Data/Lichfields Analysis**

Area	Total jobs	Jobs density	% Change 2008-2018
AOI	38,000	0.91	26.7%
East Midlands	2,387,000	0.80	10.9%
Great Britain	34,850,000	0.86	13.6%

### Sectoral Structure

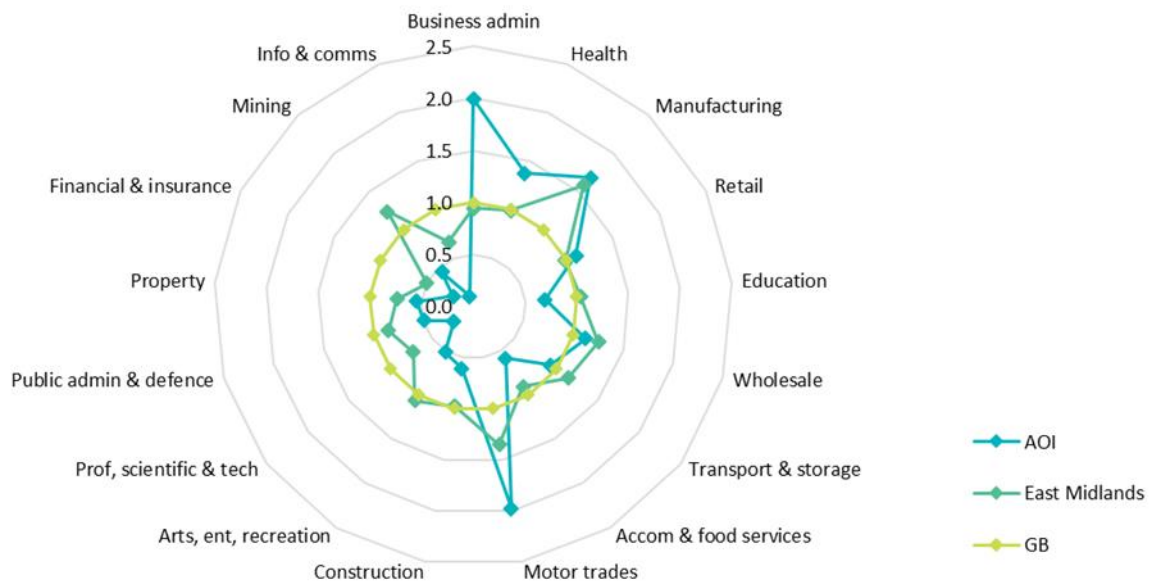
20.6.9 An analysis of Business Register and Employment Survey (BRES) data identifies that, as a proportion of total employment, in 2018 (most recent available data) the largest sectors across the AOI were 'Business administration and support services' (17.6%), 'Health' (17.6%) and 'Manufacturing' (13.2%) (ONS, 2018b), as shown in **Plate 20-2**.



**Plate 20-2 AOI Sectors as a Proportion of the Total Employment Base. Source: ONS (2018b) / Lichfields analysis**

20.6.10 A location quotient (LQ) analysis quantifies how concentrated a particular employment sector is in an area compared to the national average. ‘Agriculture, forestry & fishing’ displays the largest degree of over-representation locally compared with sector representation nationally (LQ 5.5) constituting 8.8% of employment within the local AOI. Due to this sector being considerably more represented locally than other sectors, for ease of presentation, it is omitted from **Plate 20-3** which shows the spread of representation across all remaining broad industrial groups.





**Plate 20-3 AOI Sector Representation. Source: ONS (2018b) / Lichfields analysis**

20.6.11 In addition to 'Agriculture, forestry & fishing', **Plate 20-3** shows that the following sectors are over-represented locally:

- Business administration and support services (LQ 2.0; 17.6% employment);
- Motor trades (LQ 2.0; 3.7% employment);
- Manufacturing (LQ 1.7; 13.2% employment);
- Health (LQ 1.4; 17.6% employment);
- Retail (LQ 1.1; 10.3% employment); and
- Wholesale (LQ 1.1; 4.4% employment).

20.6.12 The local AOI demonstrates most significant underrepresentation in relation to the following sectors:

- Information and communication (LQ 0.1; 0.4% employment);
- Financial and insurance (LQ 0.2; 0.7% employment);
- Professional, scientific and technical (including engineering activities) (LQ 0.2; 2.1% employment); and
- Mining, quarrying & utilities (LQ 0.4; 0.6% employment).

20.6.13 Over the period 2009 to 2018, in proportionate terms total employment within the AOI has grown at a rate faster (13.3%) than the regional (7.8%) and national (10.6%) averages. **Table 20-5** demonstrates that proportionately higher rates of



employment growth have been observed across the following sectors (compared to the regional and national performance): 'Motor trades'; 'Agriculture, forestry & fishing'; 'Business administration and support services'; 'Manufacturing'; and 'Health'. The most significant growth in this regard was observed in the 'Agriculture, forestry & fishing' and 'Manufacturing' sectors, whose growth rates (33.3% and 28.6% respectively) were far in excess of the regional and national growth rates over the same period. Whilst the 'Retail' sector experienced no growth in employment across the period this contrasted with a proportionate decline in employment at both the regional and national level.

20.6.14 **Table 20-5** also demonstrates that proportionately lower rates of employment growth have been observed across the following sectors (compared to the regional and national performance): 'Professional, scientific & technical'; 'Arts, entertainment & recreation'; 'Mining'; 'Education'; 'Wholesale' and 'Accommodation & food services'.

**Table 20-5 Employment change (2009-2018) by broad industrial group in the AOI (green highlighted cells indicate higher growth in the AOI relative to the regional and national comparators; red highlighted cells indicate the opposite). Source: ONS (2018b)/Lichfields Analysis**

Industry	AOI	East Midlands	GB
Motor trades	38.9%	28.6%	17.4%
Agriculture, forestry & fishing	33.3%	2.6%	1.2%
Business administration and support services	33.3%	15.4%	29.7%
Manufacturing	28.6%	2.7%	0.3%
Transport & storage	20.0%	20.8%	14.6%
Accommodation & food services	20.0%	24.6%	23.6%
Health	20.0%	15.1%	13.3%
Construction	0.0%	-8.9%	2.0%
Wholesale	0.0%	8.2%	7.8%
Retail	0.0%	-2.0%	-1.5%
Information & communications	0.0%	25.5%	22.8%
Financial & insurance	0.0%	2.9%	-2.6%
Education	0.0%	9.2%	4.9%
Property	-12.5%	-14.3%	22.2%
Mining	-20.0%	25.0%	25.7%
Arts, entertainment & recreation	-20.0%	10.6%	9.8%
Professional, scientific & technical	-22.2%	15.3%	30.9%
Public administration & defence	-22.2%	-26.2%	-14.0%
<b>Total</b>	<b>13.3%</b>	<b>7.8%</b>	<b>10.6%</b>

## Business Growth

20.6.15 Inter Departmental Business Register (IDBR) data (ONS, 2019a) shows that the number of active enterprises (defined as enterprises that had either turnover or employment at any time during the reference period) in the AOI increased from 2,015 to 2,235 over the period 2010 to 2019. This represents a growth rate of 10.9%. This is lower than the equivalent percentage increases of 25.9% regionally and 30.1% nationally. This is illustrated in **Table 20-6**.

**Table 20-6 Employment change (2009-2018) by broad industrial group in the AOI. Source: ONS (2019a)/Lichfields Analysis**

Employment Size band	AOI	East Midlands	Great Britain
Micro (0 to 9)	13.2%	27.2%	31.3%
Small (10 to 49)	2.1%	14.8%	20.1%
Medium-sized (50 to 249)	-25.0%	21.1%	25.2%
Large (250+)	50.0%	29.9%	21.5%
<b>Total</b>	<b>10.9%</b>	<b>25.9%</b>	<b>30.1%</b>

20.6.16 The AOI's comparatively lower rate of growth has been underpinned by:

- A reduction in the number of medium-sized (50 to 249) firms equivalent to 25.0% over the period. Although it should be noted that this represented a small contraction (15 firms) in absolute terms). This contrasts with 21.1% growth at the regional level and 25.2% growth at the national level;
- A slower growth rate of micro (0 to 9 employees) and small (10 to 49 employees) firms (13.2% and 2.1% respectively) compared with the equivalent regional (27.2% and 14.8% respectively) and national (31.3% and 20.1% respectively) growth rates.

## Tourism

20.6.17 Recent research (Visit Britain, 2019) indicates that, on average, Boston receives approximately 89,000 tourism-related trips per annum, contributing in the order of £13.7 million to the local economy. Boston tourism constitutes roughly 1.2% of total tourism trips and tourism expenditure within the East Midlands.

20.6.18 The share of Boston tourism in terms of trips is split relatively evenly between 'holidays' and 'visiting friends and relatives' with the former accounting for the majority of tourism spending (£6.3 million). This recent research also indicates that business tourism plays a less significant role within the Boston economy (c.£2 million of tourism expenditure).

20.6.19 Data from the BRES (ONS, 2018b) indicate that broad employment sectors that align with tourism related activities are under-represented compared with the regional and national averages. 4.4% of employment within the AOI is in the 'Accommodation and food services' sector and a location quotient of 0.6 indicates that this sector is therefore under-represented compared to Great Britain but also that of the East Midlands region (LQ of 0.9). Similarly, the 'Arts, entertainment, recreation & other services' sector is under-represented with a LQ of 0.5, whereas at the regional level this sector is slightly over-represented (LQ of 1.1).

## Labour Market Conditions

### Productivity

20.6.20 Productivity (measured by Gross Value Added (GVA) per workforce job) within the AOI averaged c. £37,200 in 2018, lower than the equivalent regional figure (c. £45,600) and significantly lower than the national average (c. £54,800) (ONS, 2019b).

20.6.21 As shown in **Table 20-7**, between 2008 and 2018 the AOI experienced a 7.5% increase in GVA per job but this was a lower rate of growth compared to the East Midlands (18.3%) and nationally (16.9%).

**Table 20-7 Change in GVA per job 2008-2018. Source: ONS (2018a) Job Density Data/Lichfields Analysis**

	AOI	East Midlands	UK
Total GVA per job (2008)	£34,600	£38,600	£46,900
Total GVA per job (2018)	£37,200	£45,600	£54,800
% change	7.5%	18.3%	16.9%

### Unemployment

20.6.22 The economic activity rate (i.e. the share of working-age residents either in or seeking employment) in the AOI, at 83.2%, is slightly higher than the regional (80.0%) and national (78.9%) averages (ONS, 2019c).

20.6.23 Data that indicate the total number of claimants shows that there were 2,595 claimants of Jobseeker's Allowance and Universal Credit in the AOI as of June 2020 (ONS, 2020c). This equates to 6.2% of the working age (16-64) population and whilst is marginally lower than the equivalent national rate (6.3%) it is higher than the rate for the East Midlands (5.6%).

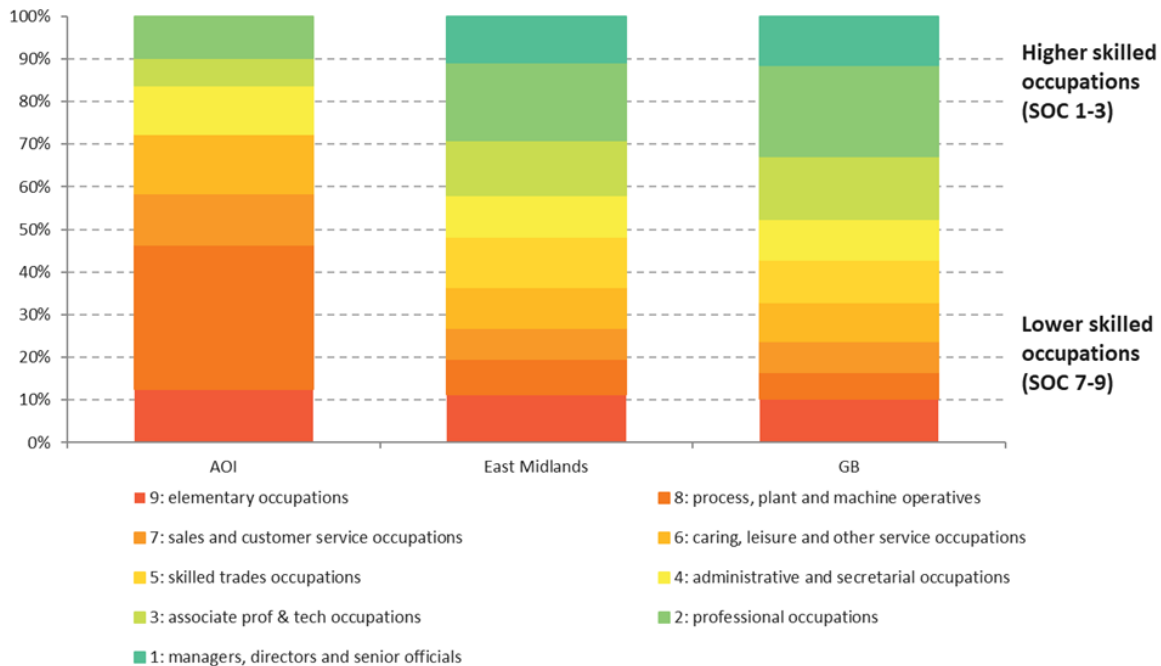
### Skills and Qualifications

20.6.24 The skills base of the resident workforce of the AOI is characterised by:

- A significantly lower proportion of residents with graduate level (NVQ level 4+) qualifications (23.6%) than that of the East Midlands (34.1%) and nationally (40.3%);
- A marginally lower proportion of residents with no qualifications (7.1%) than that of the East Midlands (7.4%) and nationally (7.7%); and
- A higher proportion of residents with 'other qualifications' (15.3%) than that of the East Midlands (7.0%) and nationally (6.7%) (ONS, 2019c).

20.6.25 An analysis of the existing occupational profile of the resident workforce (**Plate 20-4**) also shows that:

- The AOI has a significantly lower proportion (14.9%) of residents working in Standard Occupational Codes (SOC) 1-3, including: managers, directors and senior officials; professional occupations; and associate professional & technical occupations in comparison to the East Midlands (41.9%) and nationally (47.4%); and
- The AOI has a significantly higher proportion (53.6%) of residents working in SOC 7-9, including: sales and customer service occupations; process, plant and machine operatives; and elementary occupations in comparison to the East Midlands (26.9%) and nationally (23.6%).



**Plate 20-4 Occupational Profiles by SOC. Source: Annual Population Survey (ONS, 2019c) / Lichfields Analysis.**

## Earnings

20.6.26 The Annual Survey of Hours and Earnings (ASHE) data (ONS, 2019d) indicates that gross weekly median resident wages across the AOI (£456) in 2019 (latest available data) were lower than the East Midlands (£547) and the equivalent national figure (£587).

20.6.27 In 2019, gross weekly median workplace-based earnings were £491 across the AOI in comparison with the East Midlands (£535) and nationally (£587). This demonstrates that Boston is characterised by a low wage economy relative to the regional and national position. It also demonstrates that those who work within the AOI earn more than those living within the AOI – an indicator that a proportion of higher paid workers choose to live outside the AOI but commute in to access employment opportunities.

## Deprivation

20.6.28 Deprivation at the local level is measured by the Index of Multiple Deprivation (IMD), which uses a series of datasets to rank areas across seven domains that range from income to health. These categories combined together produce a multiple deprivation score for each local area.

20.6.29 The latest English Indices of Deprivation (MHCLG, 2019b) provides a composite measure of deprivation at a local level. The results show that Boston is ranked

85<sup>th</sup> out of 326 local authorities in England, where 1 represents the most deprived local authority and 326 is the least deprived. This means that the Borough is ranked within the 30% most deprived local authorities in England.

20.6.30 The English Indices of Deprivation identifies in overall terms (i.e. a synthesis of the seven domains of deprivation) that Boston contains just one Lower Super Output Area (LSOA) within the 10% most deprived in England, four in the 20% most deprived and ten in the 30% most deprived LSOAs nationally. 26 LSOAs within the local authority area are within the 50% least deprived in England.

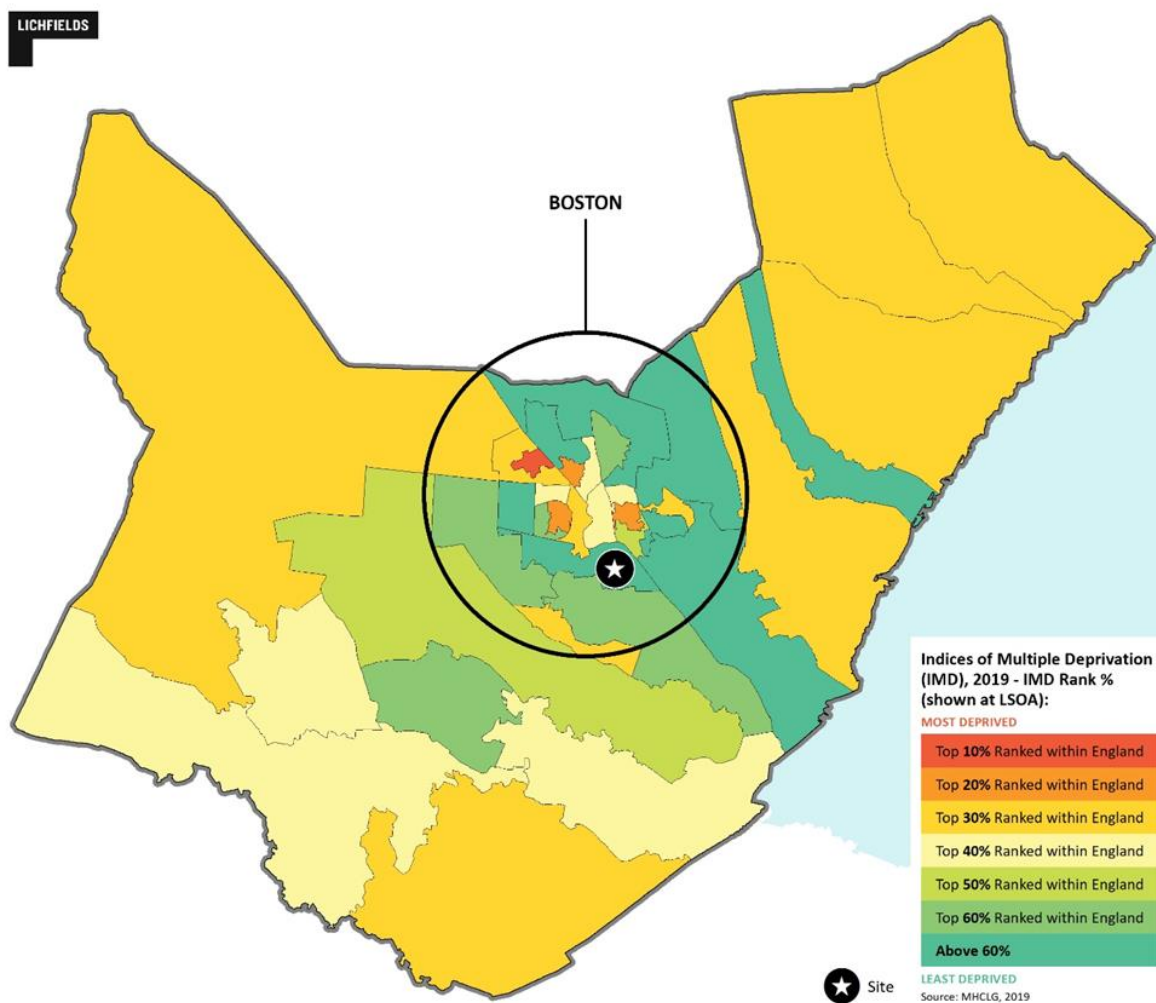


Plate 20-5 Deprivation Map of the AOI. Source: MHCLG (2019b) / Lichfields analysis

20.6.31 **Plate 20-5** illustrates that the four LSOAs classified within the most deprived 10% and 20% of English local authorities are all located within the town of Boston, and therefore within close proximity to the Application Site.



## Community Infrastructure

### Education

20.6.32 The Facility would not directly be expected to give rise to an additional demand for school places. However, where workers from outside the AOI move in to fill the employment opportunities created by the Facility, this could give rise to an additional demand for school places within the AOI. The extent to which labour will be sourced from beyond the AOI and the implications of this in relation to school places is considered in full in **Section 20.7**.

20.6.33 Schools in the AOI fall under the responsibility of LCC which is the Local Education Authority (LEA). Using school capacity and roll data from the Department for Education (Department for Education, 2020), schools were filtered based upon their proximity to the Facility (i.e. the AOI).

20.6.34 Eleven state primary schools, as detailed in **Table 20-8**, were identified as being located within the AOI (i.e. within 2 miles or 3.22 km). At primary level, schools in the AOI provide 3,154 places whilst the number of pupils on the roll is 3,047. This therefore indicates a surplus of 107 places (3.4%). It should also be recognised that there are three primary schools identified below for which there is no roll or capacity data recorded at the time of the assessment. As such, the inclusion of these schools could either improve or worsen the existing capacity position within the AOI.

**Table 20-8 Primary School Capacity within the AOI. Source: Department for Education (2020)/Lichfields Analysis**

Name	Distance from Development (km)	Number of Pupils	School Capacity	Surplus / Deficit (-)
St Thomas CofE Primary Academy	0.67	no data	no data	-
The St Nicholas Church of England Primary School, Boston	1.02	no data	no data	-
Hawthorn Tree School	1.68	395	420	25
Boston Pioneers Free School Academy	1.68	347	420	73
Tower Road Academy	2.04	609	630	21
Wyberton Primary Academy	2.05	no data	no data	-
Fishtoft Academy	2.1	55	70	15
Boston St Mary's RC Primary Voluntary Academy	2.16	199	210	11
Staniland Academy	2.21	620	630	10
Carlton Road Academy	2.38	434	459	25
Park Academy	2.89	388	315	-73
<b>Total</b>		<b>3,047</b>	<b>3,154</b>	<b>107</b>
2% operational surplus		3,047	3,091	44

20.6.35 The Department for Education recommendation is that schools should plan for a surplus of a minimum of 2% (National Audit Office and Department for Education, 2017) to avoid the risk of having insufficient capacity as a result of unexpected fluctuations in pupil numbers and to allow for flexibility and reasonable parent choice. Assuming an operational surplus capacity of 2% (63 places), the current balance of provision indicates that there is a surplus of 44 primary school places within the AOI (1.4%).

20.6.36 At secondary level, total capacity in the AOI (within 3 miles or 4.83 km) is identified as 2,479 places. The number on the roll is 2,624 pupils, indicating a deficit of 145 places (5.8%), as detailed in **Table 20-9**.

20.6.37 Assuming an operational surplus capacity of 2%, this indicates that there is currently a deficit of 195 secondary school places (8.0%). Consultation with the LEA indicated that Haven High Academy is currently in the process of expansion. Whilst details of the scale of expansion have not been disclosed, this would serve to alleviate the shortfall in provision outlined in **Table 20-9**.



**Table 20-9 Secondary School Capacity within the AOI. Source: Department for Education (2020)/Lichfields Analysis**

Name	Distance from Development (km)	Number of Pupils	School Capacity	Surplus / Deficit
The Boston Grammar School	1.42	767	643	-124
Boston High School	2.69	799	811	12
Haven High Academy	2.82	1,058	1,025	-33
<b>Total</b>		<b>2,624</b>	<b>2,479</b>	<b>-145</b>
2% operational surplus		2,624	2,429	-195

## Health

20.6.38 There are five GP surgeries located within the AOI (within three miles or 4.8 km of the Facility) as indicated in **Table 20-10**. This indicates that, against a target ratio of 1,800 patients per GP (HUDU, 2009), there is currently a shortfall of GPs within the AOI.

**Table 20-10 GP Provision within the AOI. Source: NSH Digital (2020)/Lichfields Analysis**

Row Labels	Number of Patients	Number of Full Time GPs	Ratio of Patients to GPs
Greyfriars Surgery	12,600	4.87	2,589
Kirton Medical Centre	7,275	1.97	3,687
Liquorpond Surgery	11,689	3.42	3,417
Parkside Medical Centre	16,480	8.13	2,028
The Sidings Medical Practice	17,357	1.64	10,584
<b>Total</b>	<b>65,401</b>	<b>20.0</b>	<b>3,266</b>
<b>Target ratio of patients to GPs 1,800</b>			
Difference (+/-)			-1,466

20.6.39 A review of dental provision within the AOI indicates that there are seven dental practices located within three miles (4.8 km) of the Facility (**Table 20-11**). Collectively, there are 31 dental practitioners operating within the AOI at present.

**Table 20-11 Dental Provision within the AOI. Source: NHS Choices (2020)/Lichfields Analysis**

Surgery Name	Number of Dentists
Burton Dental Lodge Ltd	3
Boston Dental Centre	10
Holland House Dental Practice (Portman Healthcare)	5
Smile Orthodontics Boston	3
Boston Smile Centre	3
Community Dental Services CIC	4
Bupa Dental Care, Boston	3
<b>Total</b>	<b>31</b>

## Local Housing Market Conditions

### Housing Stock

20.6.40 Live tables on dwelling stock from the Ministry of Housing, Communities and Local Government indicate that a total of 30,137 dwellings were located in Boston in 2019 (MHCLG, 2019c). This represents an increase of 7.6% since 2009, which is compares to an increase of 8.1% across the East Midlands and 7.6% nationally over the same period.

### Housing Type

20.6.41 The composition of the housing stock within Boston, by type, is shown in **Plate 20-6**. This is benchmarked against the housing stock composition for the East Midlands and nationally.



**Plate 20-6 Housing Stock by Type. Source: Census 2011b/Lichfields Analysis**

20.6.42 As shown in **Plate 20-6**, the housing stock in Boston contains a higher proportion of detached homes than the regional and national averages. It also contains a

lower proportion of semi-detached and terraced homes relative to the regional and national averages.

### Housing Tenure

20.6.43 The stock of housing in Boston is dominated by owner-occupied properties (63.9%). This is comparable to the national (63.3%) average but slightly below the regional (67.2%) average. Boston contains a marginally higher proportion of social rented housing (19.0%) compared to the regional (16.5%) and national averages (18.5%) (Census, 2011c) (see **Plate 20-7**).



**Plate 20-7 Percentage of Overall Housing Stock by Tenure. Source: Census 2011c/Lichfields Analysis**

### Projected Housing Need

20.6.44 Using the 2016-based household projections, the most recent Strategic Housing Market Assessment (SHMA) produced for the South-East Lincolnshire Joint Strategic Planning Committee<sup>1</sup> sets out a net annual requirement for 295 dwellings in Boston over the period 2011 to 2036 to meet local housing needs.

20.6.45 The latest household projections (ONS 2018-based household projections) indicate that, over the period 2018 to 2036, households in the BBC area are projected to increase from 28,541 to 33,843, equating to an increase of 18.6% (ONS, 2020d).

<sup>1</sup> Boston local authority area falls within this administrative area for strategic planning purposes

20.6.46 The latest housing delivery data from MHCLG Live Tables indicates that in 2018 to 2019, 360 net additional homes were delivered (MHCLG, 2019d).

### Anticipated Evolution of the Baseline Condition

20.6.47 The South-East Lincolnshire Joint Strategic Planning Unit's Employment Land Technical Paper Update (South-East Lincolnshire Joint Strategic Planning Committee, 2017) indicates that by 2036 (the end of the Local Plan period) it is anticipated that there will be an additional 3,800 jobs in the AOI (BBC).

20.6.48 The AOI's population to 2036 is expected to grow by 15.2% to 79,890 (ONS, 2020b). The AOI's working age population is also projected to grow at by 11.6% over the same period to 46,539. In proportionate terms this means that the share of working age residents amongst the population as a whole is projected to decline from 60.1% in 2018 to 58.3% in 2036.

## 20.7 Potential Impacts

20.7.1 This section assesses the main socio-economic effects of the Facility during construction, operation and decommissioning.

### Embedded Mitigation

20.7.2 As part of the project design, embedded mitigation measures have been proposed to reduce potential socio-economic impacts. These measures are considered standard industry practice for this type of the development. It is understood that the intention is for the Facility is to gradually increase the proportion of workers at the Facility sourced from the local area over a period of time. This phased integration of local labour will align with necessary improvements in training capabilities within the site's workforce and operating model. This incremental shift towards increasing the proportion of locally recruited employees will help to reduce the displacement impacts associated with the Facility by ensuring that any resultant adjustments within the local labour market occur gradually.

### Worst Case

20.7.3 This section establishes the Worst Case Scenario (WCS) for each key impact category, forming the basis for the subsequent impact assessment.

20.7.4 Full details of the range of development options being considered are provided within **Chapter 5 Project Description**.

- 20.7.5 For the purpose of the socio-economic chapter, only those design parameters with the potential to influence the level of impact to relevant receptors are identified.
- 20.7.6 The assessment of potential socio-economic impacts has been conducted following the provision of information about the job creation effects of the Facility both during the construction and operational phases. This information has been presented as absolute figures rather than as a range of different job creation outcomes. As such, the assessment of potential socio-economic impacts assessed at **Section 20.7** also represents the WCS. Since the assessment of employment impacts, both during construction and operation, influences the remainder of potential impacts these also represent the WCS.

### Potential Impacts during Construction

#### Impact 1: Employment

##### Direct Employment

- 20.7.7 The Applicant advised that the Facility is expected to support, at its peak, approximately 250 to 300 direct construction jobs. In total, it is understood that construction will run for an estimated build period of 48 months, which includes commissioning.
- 20.7.8 Levels of construction employment are not, however, anticipated to remain uniform over the duration of the build but will, instead, ebb and flow over time to reflect the differing labour requirements of the various stages of the build programme. For instance, the early stages of the build (site enabling works, groundworks and foundation preparatory works) are anticipated to require lower levels of construction labour.
- 20.7.9 The Applicant has advised that they expect to be able to source a large number of direct construction workers from within the local area (indeed it is understood that the proposed groundworks and civil engineering contractor is based in Boston), but with some more specialist roles being sourced from specialist contractors that may be located beyond the area of impact.
- 20.7.10 It is understood that the specialist roles relate to those labour inputs to be provided by the package suppliers (19 jobs) and installation team (150 jobs). As such, it is estimated that approximately 81 to 131 of the 250 to 300 direct construction jobs to be created will be filled by local residents. This corresponds to between 9% and 15% of the current construction labour force in Boston (estimated at 900). It is not anticipated that this would give rise to any local labour shortages but in the

event that it did, it is likely that this could be absorbed across the wider GLLEP area across which the current construction labour force totals 20,000.

20.7.11 It is not anticipated that the Facility would have any effect in relation to employment within the agricultural or fishery sectors.

20.7.12 **Chapter 11 Contaminated Land, Land Use and Hydrology** considers issues related to land use in further detail. This identifies that the Principal Application Site is predominantly agricultural land. This land has been allocated for industrial uses within the Lincolnshire Minerals and Waste Local Plan (LLC, 2016) and specifically the Lincolnshire Minerals and Waste Local Plan Site Locations document (LCC, 2017); and as 'Employment' land in the South-East Lincolnshire Local Plan (South-East Lincolnshire Joint Strategic Planning Committee, 2019). As such, it is considered unlikely to be used for agricultural production again in the future.

20.7.13 With respect to fisheries, **Chapter 18 Navigational Issues** provides a series of embedded mitigation measures which will minimise any potential effects of the Facility.

#### Indirect and Induced Employment

20.7.14 Construction typically involves purchases from a range of suppliers, who in turn purchase from their own suppliers further down the supply chain. The relationship between the initial direct and total economic effects is referred to as the 'multiplier effect'. It demonstrates that an initial investment can have much greater 'spin-off' effects as it works through the economy. The construction sector is recognised as being a part of the UK economy where there is a particularly large domestic effect in the supply chain.

20.7.15 In this context, it is anticipated that businesses in the local and wider impact areas would benefit from supply chain linkages and trade connections established during the construction phase. This would create additional indirect jobs in suppliers of construction materials and equipment etc.

20.7.16 In addition, local businesses would be expected to benefit from a temporary increase in demand as a result of expenditure by direct and indirect workers during construction. This could be expected to include wage spending of workers in shops, bars, restaurants and other services and facilities and helps to create additional induced jobs.

20.7.17 Research published in 2019 indicates that the construction industry has an indirect multiplier of 2.17 (ONS, 2019e). Applying this to the 250 to 300 direct

jobs to be supported during the peak of the construction phase indicates that the Facility could be expected to create 293 to 351 additional indirect jobs (in addition to the direct jobs derived above and any additional induced effects that it is not possible to quantify). The overall employment effect of the Facility is therefore estimated to peak at 540 to 651 direct and indirect jobs over the course of the 48 month construction period.

20.7.18 It is understood that no employment-generating uses are accommodated on the Application Site at present. As a result, no loss of on-site employment is anticipated during construction.

20.7.19 Taking the above into account, the employment effects of the Facility during the construction phase are considered to be temporary, short term and of **moderate beneficial** effect.

#### Impact 2: Housing Market

20.7.20 As set out in the preceding paragraphs, the Facility is expected to support 250 to 300 direct construction jobs during the peak of an estimated 48 month construction period. The Applicant has advised that they expect to be able to source many of these (81 to 131 as minimum, but possibly more) from within the local area. This is equivalent to between 32% and 44% of the direct jobs. The remaining jobs are understood to relate to more specialist labour inputs, which may need to be sourced from specialist contractors located beyond the area of impact.

20.7.21 This assumption is broadly supported by case study analysis of the geographical distribution of construction workers in relation to the delivery of Nuclear Power Stations at Sizewell B and Flamanville 3 in France. It is acknowledged that these sites are not direct comparators to the Facility. They are, however, considered helpful in understanding the broad balance between the need for specialist skills procured at the national level and the ability to use more locally available construction workers when delivering major, energy-related civil engineering projects.

20.7.22 With respect to Sizewell B, it is understood that the proportion of the construction workforce recruited locally peaked in the early stages of the build programme and ranged from 40% to 60% (EDF Energy, 2011). The majority of construction jobs filled by local workers (60%) were categorised as being semi-skilled/unskilled roles. With fewer local workers (30% and 10% respectively) accounting for skilled and professional, technical and managerial roles. It is estimated that 45-50% of workers at Flamanville 3 were recruited from the local area.



20.7.23 On the basis of this case study example, an alternative approach would be to assume that 40%-60% of direct construction workers could be expected to be recruited from beyond the local area. Applying this to a peak labour requirement of 250 to 300 direct workers translates to between 100 and 180 direct workers from beyond the local area.

20.7.24 The Facility does not allow for the provision of any on-site accommodation (in the form of a construction camp or similar) which reflects the scale of employment effects anticipated. As such, any increased demand associated with construction workers from beyond the local area will likely be focussed on the private housing market, as well as less permanent forms of accommodation, such as guesthouses and B&Bs.

20.7.25 An analysis of housing market effects set out within the Hinkley Point C Environmental Appraisal (EDF Energy, 2011) provides a helpful starting point for estimating the possible distribution of demand by accommodation type. It is recognised, however, that the scale of employment to be supported by Hinkley Point C and the length of the build are both greater than for the Facility considered within this ES. As such, it is considered likely that the Facility would generate (in proportionate terms) less demand for owner occupied properties than Hinkley Point C. This would be offset by an increase in the share of demand attributable to private rented properties and guesthouses/B&Bs.

20.7.26 Notwithstanding the above, the work shows that, excluding on-site accommodation, demand for accommodation from non-local workers at Hinkley Point C is expected to breakdown as follows:

- Approximately 20% of workers in owner occupied properties;
- Approximately 40% of workers in private rented properties; and
- Approximately 40% of workers in guesthouses/B&Bs etc.

20.7.27 Applying this indicative breakdown to a maximum of 180 workers from beyond the local area, indicates that the proposals could create demand for:

- 36 owner occupied properties;
- 72 private rented properties; and
- 72 guesthouse/B&B bed spaces.

20.7.28 As set out in **Section 20.5**, Boston currently contains 30,137 homes. As such, an increase in demand equivalent to a maximum of 108 (owner occupied and private rented) units corresponds to 0.4% of stock. It should be noted that this



allows for no house sharing between workers and assumes that all workers from beyond the local area choose to live in Boston Borough. ONS travel to work data (2016) (Census 2011) shows that 25% of those working within Boston commute in from the surrounding local authorities, most notably: East Lindsey (9% of workers); South Holland (7% of workers); and North Kesteven (5% of workers). As such, the observed effects of the Facility with respect to housing could be lower than estimated.

20.7.29 Taking the above into account, the housing market effects of the Facility during the construction phase are considered to be temporary, short term and **negligible**.

### Impact 3: Community Infrastructure

20.7.30 The Facility could, by attracting construction workers to move into the local area, create additional demand for community infrastructure including education and health facilities.

### Education

20.7.31 With respect to education facilities, the South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016) sets out the assumed relationship between additional housing delivery and demand for primary and secondary school places. Whilst it is not anticipated that the Facility will necessitate an increase in housing delivery, the same allowances (pupil yields) can be applied to the increased demand for housing in the local area in order to arrive at a view regarding the potential impacts with respect to education.

20.7.32 **Table 20-12** applies the pupil yields to the additional 108 (owner occupied and private rented homes) derived above. This shows that the Facility could be expected to increase demand for primary school places by up to 22 places. This represents 0.7% of the current capacity of primary schools within the area of impact, as set out in **Section 20.6**. The schools currently operate with surplus capacity of 3.4% (107 surplus places). As shown in **Section 20.6**, a surplus of 44 places would remain, once the data is adjusted to allow for operational flexibility (at 2%). This is sufficient to meet the additional demand for 22 places that could be generated by the Facility.

20.7.33 Taking this into account, as well as the scale of demand (0.7% of total existing capacity) the effect of the Facility with respect to primary school education during construction is considered to be temporary, short term and **negligible**.

20.7.34 In addition, it can be seen from **Table 20-12** that the Facility could be expected to create demand for an additional 21 secondary school places. This corresponds to 0.8% of the current capacity of secondary schools within the area of impact, as set out in **Section 20.6**. There are three secondary schools located in the area of impact at present, with a current deficit (in aggregate terms) equivalent to 145 places (before any allowances have been made for operational flexibility). As such, any additional demand associated with the Facility would increase the current deficit of provision.

20.7.35 Taking the above into account, as well as the scale of demand associated with the Facility (0.8% of existing capacity) the effect with respect to secondary school education during construction is considered to be temporary, short term and **minor adverse**.

**Table 20-12 Education Impacts During Construction. Source: South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016) / Lichfields Analysis**

	Primary Schools	Secondary Schools
Pupil Yield	0.2	0.19
Increase Housing Demand	108	108
Resultant Pupil Places	22	21

### Health

20.7.36 As set out above, it is anticipated that the Facility could result in a small number of construction workers relocating to the area of impact during the build period. It is estimated that this would total no more than 108 workers.

20.7.37 If it is assumed that these workers all moved their families into the area and based upon an average household size of 2.3 (in accordance with the South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016)) then this could be estimated to correspond to an additional 248 residents. Based upon the nationally accepted benchmark of 1,800 patients per Full Time Equivalent (FTE) GP (NHS HUDA, 2009) this is estimated to correspond to a need for 0.1 additional GPs.

20.7.38 In relation to dental provision, an additional 248 residents would require each of the seven dental practices in the local area to accommodate, on average, an additional 35 patients. This is equivalent to eight additional patients for each of the 31 dental practitioners currently operating from the local practices.

20.7.39 It is therefore anticipated that the Facility would give rise to temporary, short term and **negligible** effect with respect to health.

#### Impact 4 - Tourism

20.7.40 The Application Site is situated within an area of land allocated for employment uses (industrial and commercial) in the Local Plan (South-East Lincolnshire Joint Strategic Planning Committee, 2019). It is bounded by existing industrial uses to the north, west and south that form part of the Riverside Industrial Estate. In addition, the Biomass UK No. 3 Ltd gasification plant is located on the eastern border of the Application Site. As such, the Facility will be situated in an area that is already established and in use for similar industrial activities, it will not, therefore, alter the character of the surrounding area in a way that could be expected to impact upon the tourism appeal of the area of impact.

20.7.41 It is understood that the Facility will lead to minor modifications to the local Public Right of Way (PRoW) network including The England Coast Path and the Macmillan Way (an interconnected series of footpaths stretching from Boston to Abbotsbury in Dorset). It is anticipated that the development of the Facility will closure of existing PRoW along the flood bank where the wharf will be created. However, there is an existing PRoW that partly follows the Principal Application Site western boundary that will provide an alternative route, meaning that the diversion following closure will only be short in length. As such, it is considered that the effect of this will be **minor**.

20.7.42 Additionally, **Plate 20-8** illustrates the proximity of the Application Site to a range of key tourism facilities and natural assets in the local area. From this, it can be seen that no key tourist attractions are located within half a mile of the Application Site and that no natural assets are located within a mile and half. It is therefore assessed that any construction activity at the Application Site – which will be undertaken in accordance with good environmental practice – is unlikely to have a material effect on the demand for or attractiveness of existing tourism facilities.

20.7.43 In some instances, it would be reasonable to assume that increased demand for labour from beyond the local area during construction could generate a beneficial tourism effect due to increased demand for hotels, guesthouses etc. from workers as well as visits from friends and family which could increase demand for a variety of tourism attractions. Given the number of construction jobs that are expected to be sourced from beyond the area of impact, it is anticipated that any effects of this nature would be **negligible**.

20.7.44 Overall, therefore, the Facility is expected to have temporary, short term and **negligible** effect with respect to tourism.

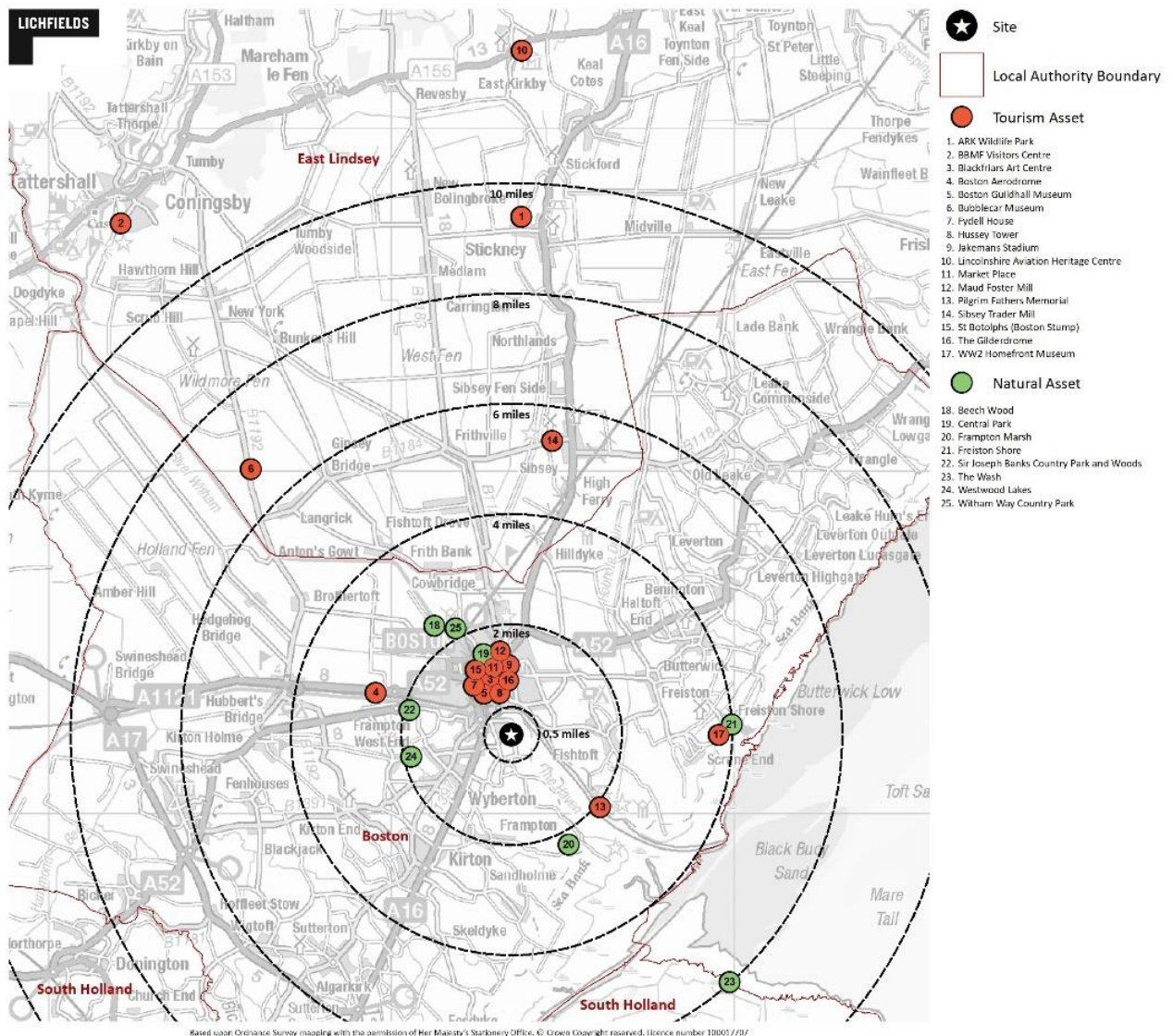


Plate 20-8 Proximity to Existing Tourism Assets. Source: Lichfields Analysis.

## Potential Impacts during Operation

### Impact 1: Employment

#### Direct Employment

20.7.45 The Applicant advised that the Facility is expected to support an estimated 108 gross direct FTE jobs during operation. This is summarised in **Table 20-13**.



**Table 20-13 Indicative Employment Schedule During Operation. Source: The Applicant/Lichfields Analysis**

Function	FTE Jobs
RDF Storage Operatives	22
RDF Feedstock Processing	6
Thermal Treatment	32
CO <sub>2</sub>	4
Lightweight Aggregate (LWA) Plant	28
General	16
<b>Total</b>	<b>108</b>

Net Additional Employment

20.7.46 In estimating the net additionality of the above employment effects, it is important to make allowances for the relocation of existing jobs currently based at the Application Site and to account for wider displacement effects.

20.7.47 It is understood that no employment generating uses are accommodated on the Application Site at present. As a result, no loss of on-site employment is anticipated.

20.7.48 The Application Site is allocated for Employment use in the South-East Lincolnshire Local Plan; and; industrial uses within Lincolnshire's Minerals and Waste Local Plan.

20.7.49 Wider displacement effects refer to the extent to which the Facility could reduce demand for competitor businesses in the local area or create shortages of labour in other local businesses. Given the UK's commitment to generate at least 15% of energy demand from renewable sources by 2020 and to further reduce carbon emissions by 80% to 2050 (DECC, 2015) it is anticipated that the Facility is unlikely to materially reduce demand for competitor organisations. In relation to the availability of labour, however, it is acknowledged that there are 2,595 residents in the AOI claiming Job Seekers Allowance (JSA) (ONS 2020c). This would perhaps suggest that there is a degree of slack within the local labour market to fill the employment opportunities to be created at the Application Site, subject to specific skills/training needs.

20.7.50 It is understood that the Applicant's ultimate aspiration for the Facility is to increase the proportion of workers sourced from the local area over time once the necessary training capability has been embedded within the site's workforce and

operating model. In order to ensure that the necessary skills are in place when the operational phase commences, however, some specialist roles may need to be recruited/relocated from beyond the area of impact initially, although the Applicant advised that this is more difficult to quantify with any degree of accuracy.

20.7.51 Based upon information provided by the Applicant, it is understood that approximately 47 FTE jobs, as listed below, are expected to be filled by local residents initially:

- RDF Storage Operatives: 22 FTE jobs;
- 20% of all Thermal Treatment roles: 6 FTE jobs;
- 20% of all Lightweight Aggregate (LWA) Plant roles: 6 FTE jobs; and
- General roles (less a small number of specialist management roles: 13 FTE jobs).

20.7.52 The incremental shift towards increasing the proportion of locally recruited employees (as referenced above) will help to reduce the displacement impacts associated with the Facility by ensuring that any resultant adjustments within the local labour market occur gradually. Boston College has expressed an interest in providing bespoke apprenticeship schemes related to the Facility as part of the college's expansion to engineering sector education and further discussion between the Applicant and Boston College will continue post-submission to evolve the potential for direct apprenticeship schemes.

20.7.53 Taking the above account, a displacement rate of 33% has been applied. As such, it is estimated that the Facility offers the opportunity to deliver net on-site employment equivalent to approximately 72 FTE jobs. It is anticipated that most, if not all, of these jobs will be filled by local residents once the training capability is in place to allow existing employees drawn in from beyond the area of impact (to provide the necessary skills for the commencement of the operational phase) to be redeployed elsewhere.

#### Indirect and Induced Employment

20.7.54 In addition to the direct jobs considered above, some indirect employment would also be created by the additional spending on goods and services by the operator. The wage expenditure of workers employed directly at the Facility, as well as those employed in local businesses in the supply chain, would also support induced employment in shops, services and other businesses in the local economy.

20.7.55 The Homes and Communities Agency (HCA) Additionality Guide (HCA, 2015) estimates that industrial uses typically give rise to multiplier effects of 1.29 at the local level, rising to 1.44 at the regional level. On this basis, it is estimated that the 72 net additional FTE jobs derived above could support the creation of a further 21 indirect and induced FTE jobs in the local economy (i.e. the AOI). At the regional (East Midlands) level a total of 32 indirect and induced FTE jobs are estimated to be supported, including the 21 to be captured locally. This corresponds to 93 FTE jobs, in total, across the AOI, rising to 104 FTE jobs at the regional level.

20.7.56 This is considered to represent a permanent and **minor beneficial** effect.

### Impact 2: Housing Market

20.7.57 As set out in **Table 20-13**, the Facility is expected to support approximately 108 gross direct FTE jobs once operational. The Applicant estimates that several specialist roles will need to be recruited from beyond the AOI in the first instance, to ensure that the necessary skills are in place when the operational phase commences. It is understood that approximately 47 direct FTE roles could be filled locally in the first instance, with the remaining 61 direct FTE jobs filled by workers currently living beyond the AOI.

20.7.58 The Applicant's ultimate aspiration for the Facility is to increase the proportion of workers sourced from the local area over time once the necessary training capability has been embedded within the site's workforce and operating model. As such, whilst there may be some temporary, short-term effects observed in the housing market, any permanent effects are anticipated to be negligible.

20.7.59 Based on the above, it is assumed that 61 gross direct FTE jobs are to be recruited/relocated from beyond the AOI in the first instance. As with the construction stage, it is anticipated that the accommodation needs of any operational employees from outside of the AOI would be met through a combination of owner occupation, private rented accommodation and guesthouses/B&Bs. As a maximum, it is therefore anticipated that the Facility could result in a temporary, short-term increase in demand for housing in the AOI equivalent to 61 units. This allows for no house sharing between workers and assumes that all workers from beyond the local area choose to live within Boston Borough. ONS travel to work data (Census 2011a) shows that 25% of those working within Boston commute in from the surrounding local authorities, most notably: East Lindsey (9% of workers); South Holland (7% of workers); and North Kesteven (5% of workers). As such, the observed effects of the Proposal with respect to housing could be lower than estimated.



20.7.60 Notwithstanding the above, a temporary increase in demand for housing equivalent to 61 units would correspond to 0.2% of Boston Borough's current supply of 30,137 homes (as set out in **Section 20.6**).

20.7.61 Overall, therefore, it is anticipated that the Facility would have a permanent and **negligible** effect with respect to housing.

### Impact 3: Community Infrastructure

20.7.62 Where the Facility attracts workers from beyond the AOI to relocate within Boston Borough in response to the employment opportunities created it could generate additional demand for community infrastructure including education and health facilities.

#### Education

20.7.63 As set out above, the Applicant's ultimate aspiration for the Facility is to recruit all workers from the local area eventually. As such, any permanent effects with respect to education are anticipated to be negligible. In the short term, however, some workers will need to be sourced from beyond the AOI to ensure that the necessary skills are in place when the operational phase commences. This could, therefore, give rise to some temporary and short term increases in demand for school places.

20.7.64 Based upon the assumptions outlined above in relation to the housing market, it is assumed that a maximum of 61 workers could be recruited from beyond the AOI in the first instance, with this level reducing incrementally over time.

20.7.65 The South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016) sets out the assumed relationship between additional housing delivery and demand for primary and secondary school places. Whilst it is not anticipated that the Facility will necessitate an increase in housing delivery, the same allowances (pupil yields) can be applied to the increased demand for housing in the local area in order to arrive at a view regarding the potential impacts with respect to education.

20.7.66 **Table 20-14** applies the pupil yields to the additional 61 households to be generated by the Facility (assuming that no house sharing takes place between colleagues employed at the Application Site). This shows that the Facility could be expected to increase demand for primary school places by up to 12 places. This represents 0.4% of the current capacity of primary schools within the AOI, as set out in **Section 20.6**. The schools currently operate with a surplus of 3.4% (107 surplus places). As shown in **Section 20.6**, adjusting the figures to allow for

operational flexibility (at 2%) leaves surplus capacity of 44 places. This is enough to accommodate the likely demand arising from the operational phase.

20.7.67 Taking the above into account, the effect of the Facility with respect to primary school education during operation is considered to be permanent and **negligible**. Whilst a temporary, short term effect will be observed as the facility transitions towards a workforce drawn from the local area the effect of this is also expected to be negligible.

**Table 20-14 Education Impacts During Operation. Source: South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016)/Lichfields Analysis**

	Primary Schools	Secondary Schools
Pupil Yield	0.2	0.19
Increased Housing Demand	61	61
Resultant Pupil Places	12	12

20.7.68 It can also be seen from **Table 20-14** that the Facility is expected to create demand for an additional 12 secondary school places. This corresponds to 0.5% of the current capacity of secondary schools within the AOI, as set out within **Section 20.6**. There are three secondary schools located within the AOI at present, with a current deficit (in aggregate terms) equivalent to 145 places (not allowing for any operational flexibility). Any additional demand associated with the Facility would increase this shortfall of provision.

20.7.69 Taking the above into account, the Facility is considered to have a temporary and **minor adverse** effect with respect to secondary school provision. As the proportion of local workers employed at the site increases, however, this is expected to shift to a permanent and **negligible** effect.

### Health

20.7.70 As set out above, the Applicant's ultimate aspiration for the Facility is to recruit all workers from the local area eventually and as a result any permanent effects with respect to health are anticipated to be negligible. In the short term, however, it is estimated that up to 61 workers may need to be sourced from beyond the AOI to ensure that the necessary skills are in place when the operational phase commences. This could give rise to some temporary and short term increases in demand for GP and dental facilities.

20.7.71 Assuming that all workers from beyond the area of impact relocate with their families – and based upon an average household size of 2.3 (as set out in the South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016)), it is estimated

that this could correspond to an additional 140 residents. Based upon the nationally accepted benchmark of 1,800 patients per FTE GP (HUDU, 2009) this would represent a short-term increase in demand equivalent to 0.08 additional GPs.

20.7.72 In relation to dental provision, a short-term increase of 140 residents would require each of the seven dental practices in the local area to accommodate, on average, an additional 20 patients. This is equivalent to five additional patients for each of the 31 dental practitioners currently operating from the local practices.

20.7.73 Having regard to the above, the Facility is considered to have a permanent and **negligible** effect in relation to health.

#### Impact 4: Tourism

20.7.74 The Application Site is situated within an area of land allocated for employment uses (industrial and commercial) in the Local Plan. It is bounded by existing industrial uses to the north, west and south. In addition, the Biomass UK No. 3 Ltd gasification plant is located on the eastern border of the Application Site. As such, the Facility will be situated in an area that is already established and in use for similar industrial activities, it will not, therefore, be altering the character of the surrounding area in a way that could be expected to impact upon the tourism appeal of the AOI.

20.7.75 Additionally, **Plate 20-8** illustrates the proximity of the Application Site to a range of key tourism facilities and natural assets in the local area. From this, it can be seen that no key tourist attractions are located within half a mile of the Application Site and that no natural assets are located within a mile and half. As such, operational activity at the Facility is unlikely to have a material effect on the demand for or attractiveness of existing tourism facilities.

20.7.76 In some instances, it would be reasonable to assume that the need to recruit workers from beyond the AOI could generate beneficial tourism by driving visits from friends and family (thereby increasing demand for visitor accommodation and attractions). Additionally, some operational staff from beyond the AOI may choose to stay in hotel/guesthouse accommodation, which would again serve to increase demand. Given the number of operational jobs that are expected to be sourced from beyond the AOI, however, it is anticipated that any (short term) effects of this nature would be **negligible**.

20.7.77 Overall, therefore, the Facility is expected to have permanent and **negligible** effect with respect to tourism.

### Impact 5: Energy Security/Reliability

20.7.78 The Facility represents a long-term sustainable source of renewable energy. It can help to meet renewable energy targets and reduce carbon emissions, including the UK's commitment to generate at least 15% of energy demand from renewable sources by 2020 and beyond and to further reduce carbon emissions by 80% to 2050.

20.7.79 It is understood that the Facility is capable of generating 80 MW of energy per hour and will operate 8,000 hours per annum. In total, therefore, the Facility offers the potential to generate an estimated 640,000 MWh of energy each year.

20.7.80 The 2011 Census indicates that the average UK household uses 3.1 MWh of energy per annum. As such, the Facility is capable of generating sufficient energy to meet the needs of 206,000 households. This corresponds to more than two-thirds of all households in Lincolnshire (306,970) and is 7.5 times higher than the number of households in Boston (27,290) as identified within the 2011 Census. The Facility therefore offers the potential to provide a sustainable source of renewable energy for the population that is representative of more than two-thirds of the county it is in. This is considered to represent a permanent and **moderate-to-substantial beneficial** effect.

### **Potential Impacts during Decommissioning**

20.7.81 As set out within the Scoping Report (Royal HaskoningDHV, 2018), an assumption has been made (for the purposes of the ES and to allow a decommissioning assessment to be presented) that the Facility will have a lifetime of 25 years. This is understood to be typical for facilities of this nature.

20.7.82 The Scoping Report also sets out that the effects associated with any decommissioning phase are assumed to be of a similar level to those to be observed during the construction phase.

### Impact 1: Employment

20.7.83 The decommissioning of the Facility is likely to generate a range of employment opportunities. In the absence of a phasing plan or indicative labour requirement schedule, it has been assumed that the effects would be broadly similar to the construction phase. As set out above, this approach is consistent with that proposed within the Scoping Report. It is therefore estimated that the decommissioning of the Facility could be expected to 250 to 300 direct jobs at the peak of a 48 month period. Further indirect employment (as well as induced) opportunities are also likely to be supported, although the scale of magnitude

could perhaps be expected to be lower than the 293 to 351 estimated in relation to construction (due to a lower requirement for raw materials etc.).

20.7.84 Taking the above into account, the employment effects of the Facility during decommissioning are considered to be temporary, short term and **moderate beneficial**.

#### Impact 2: Housing Market

20.7.85 As set out above, no phasing plan or indicative labour requirement schedule is available with respect to decommissioning. It has therefore been assumed that the direct employment effects of would be broadly similar to the construction phase (which is expected to support 250 to 300 direct jobs at the peak of a 48 month period).

20.7.86 If it is also assumed that the proportion of workers from beyond the local area is broadly comparable to that assumed with respect to construction (40%-60%) as well as the breakdown of non-local workers' housing preferences by tenure, then the Facility could be estimated to create additional demand for a maximum 108 homes. This corresponds to 0.4% of stock at present, although the percentage share is likely to be lower in 25 years' time due to the delivery of additional housing in the intervening period.

20.7.87 The housing market effects of the Facility during decommissioning are therefore expected to be temporary, short term and **negligible**.

#### Impact 3: Tourism

20.7.88 The Application Site is situated within an area of land allocated for employment uses (industrial and commercial) in the Local Plan. It is bounded by existing industrial uses to the north, west and south. In addition, the Biomass UK No. 3 Ltd gasification plant is towards the eastern border of the Application Site.

20.7.89 **Plate 20-8** illustrates the proximity of the Facility to a range of key tourism facilities and natural assets in the local area. The maps demonstrate that no key tourist attractions are located within half a mile of the Facility and that no natural assets are located within a mile and half. As such, any decommissioning activity, which will be undertaken in accordance with good environmental practice, is unlikely to have a material effect on the demand for or attractiveness of existing tourism facilities.

20.7.90 In some instances, it would be reasonable to assume that increased demand for labour from beyond the local area during decommissioning could generate a beneficial tourism effect due to increased demand for hotels, guesthouses etc.

from workers as well as visits from friends and family which could increase demand for a variety of tourism attractions. Given the estimated job creation effects of decommissioning (and the likelihood that only a proportion of these will be specialist roles that need to be recruited from beyond the area of impact) it is anticipated that any effects of this nature would be **negligible**.

20.7.91 Overall, therefore, the Facility is expected to have temporary, short term and **negligible** effect with respect to tourism during decommissioning.

### Mitigation Measures

20.7.92 This section considers the need for mitigation measures in order to address any adverse effects of the Facility.

#### During Construction

20.7.93 It is anticipated that the Facility could give rise to a temporary, short term and **moderate beneficial** effect with respect to employment during construction. In addition, temporary, short term and negligible effects are expected in relation to housing markets; primary education; health (GP and dental provision); and tourism. No mitigation measures are considered to be necessary in relation to any of the above.

20.7.94 A temporary, short term and minor adverse effect is anticipated with regards secondary education. A current deficit of secondary school place is already observed within the area of impact and the Proposal will increase demand by an estimate 21 places in the short term. It is understood that proposals are already in place for the provision of additional secondary school provision which would effectively mitigate the effects of the Proposal. The South-East Lincolnshire Infrastructure Delivery Plan (PBA, 2016) identifies that a new secondary school should be delivered within Boston (to meet the needs of Boston, Bicker and Butterwick) as an essential infrastructure priority for the local authority area. It is recognised, however, that this would need to be delivered through Lincolnshire County Council as the LEA.

20.7.95 Given the scale of demand associated with the Facility, it is anticipated that this additional provision would be capable of accommodating the temporary uplift projected to occur during the construction phase. In the event of the delivery of a new secondary school in Boston (which is outside the control of the Applicant), effective mitigation through the provision of additional capacity would see the secondary education effects of the Proposal shift from temporary, short term and minor adverse to temporary, short term and **negligible**.



### During Operation

20.7.96 The Facility is expected to give rise to a permanent and **moderate-to-substantial beneficial** effect with respect to energy security/reliability and a permanent and minor beneficial effect in relation to employment. Permanent and negligible effects are anticipated with respect to all other effects (housing markets, education, health and tourism). As a result, no mitigation measures are considered to be necessary.

### During Decommissioning

20.7.97 During decommissioning, it is anticipated that the Facility would give rise to a temporary, short term and **moderate beneficial** effect with respect to employment; and a temporary, short term and negligible effect in relation to both housing markets and tourism. No mitigation measures are therefore considered to be necessary.

### **Residual Impacts**

20.7.98 This section considers the residual effects of the Facility, taking account of any mitigation measures. The majority of residual effects are the same as the effects discussed in the mitigation measures section. This reflects the fact that few mitigation measures were identified as being necessary.

### During Construction

20.7.99 As set out above, a temporary, short term and **minor adverse** effect is anticipated with regard to secondary education. It is understood that proposals are already in place for the provision of additional secondary school provision which would effectively mitigate the effects of the Facility. This would see the secondary education effects of the Proposal shift from temporary, short term and minor adverse to temporary, short term and a **negligible** effect.

20.7.100 All other effects were assessed as being **beneficial** or **negligible**. As a result, no mitigation measures are identified as necessary and the residual effects are the same as those described in **Section 20.7**.

### During Operation

20.7.101 All effects were assessed as being **beneficial** or **negligible**. As a result, no mitigation measures were identified as necessary and the residual effects are the same as those described in **Section 20.7**.



### During Decommissioning

20.7.102 All effects were assessed as being **beneficial** or **negligible**. As a result, no mitigation measures were identified as necessary and the residual effects are the same as those described in **Section 20.7**.

## 20.8 Cumulative Impacts

20.8.1 **Table 20-15** below considers whether impacts presented in **Section 20.7** have the potential to act cumulatively with other projects.

**Table 20-15 Potential Cumulative Impacts**

Impact	Potential for cumulative impact	Data confidence	Rationale
Construction: Employment	Yes	Medium	Potential for the capacity of the labour market in the AOI to be lowered if several large construction projects occur simultaneously.
Construction: Housing Market	Yes	Low	Other construction schemes could give rise to additional housing requirements in the AOI due to increased demand associated with construction workers from outside the AOI.
Construction: Primary Education	Yes	Low	Additional housing requirements could give rise to an increased demand for primary school places within the AOI.
Construction: Secondary Education	Yes	Low	Additional housing requirements could give rise to an increased demand for secondary school places within the AOI.
Construction: Health	Yes	Low	Additional housing requirements could give rise to an increased demand for healthcare facilities within the AOI.
Construction: Tourism	Yes	Low	Potential for impacts of additional schemes on tourism to act cumulatively.
Operation: Employment	Yes	Medium	Potential for the capacity of the labour market in the AOI to be lowered if the operational periods of other projects occur simultaneously.
Operation: Housing Market	Yes	Low	Other schemes could give rise to additional housing requirements in the AOI due to increased demand associated with workers from outside the AOI.

Impact	Potential for cumulative impact	Data confidence	Rationale
Operation: Primary Education	Yes	Low	Additional housing requirements could give rise to an increased demand for primary school places within the AOI.
Operation: Secondary Education	Yes	Low	Additional housing requirements could give rise to an increased demand for secondary school places within the AOI.
Operation: Health	Yes	Low	Additional housing requirements could give rise to an increased demand for healthcare facilities within the AOI.
Operation: Tourism	Yes	Low	Potential for impacts of additional schemes on tourism to act cumulatively.
Operation: Energy Security/Reliability	Yes	Low	Potential for impacts of additional schemes on Energy Security/Reliability to act cumulatively.
Decommissioning	Potential cumulative impacts during decommissioning will be the same as during construction		

20.8.2 Projects considered in the CIA are detailed in **Table 20-16**.

Table 20-16 Summary of Projects considered for the CIA in Relation to Socio-Economics

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
Boston Barrier Flood Defence	Transport and Works Act Order consented	2017 – ongoing (completed August 2021)	Boston Barrier at closest point to the Application Site is 500 m.	ES	Complete / high	Yes	<p>Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure.</p> <p>Although it is noted that this is unlikely due to the likely completion date of the Barrier scheme being ahead of the Facility.</p>
Battery Energy Storage Plant (Marsh Lane) B/17/0467	Application approved	2017 - ongoing	Beeston Farm less than 10 m from the Application Site	Detailed application	Incomplete / low	Yes	<p>Potential for labour market competition with the Application Site for construction employment and associated impacts to community infrastructure. Potential for cumulative impact in relation to Energy Security/Reliability.</p>
The Quadrant Mixed-use development of 502 dwellings and	Application approved	2014 - ongoing	Quadrant 1 1.2 km from the Application Site	Details within ES	Quadrant 1 – Complete/ high	Yes	<p>Potential for labour market competition with the Application Site for construction and</p>

Project Related

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
commercial/ leisure uses B/14/0165	Construction started				Quadrant 2 - Incomplete/ low		operational employment and associated impacts to community infrastructure. Potential impact on overall housing supply within the AOI.
Land to the west of Stephenson Close Residential Development of up to 85 dwellings B/17/0515	Application not yet determined	2017 - ongoing	From the most eastern part of the Scheme to the Application Site is 550 m.	Outline only	Incomplete/ low	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure. Potential impact on overall housing supply within the AOI.
Triton Knoll Offshore Wind Farm	DCO consented	2008 - ongoing	Onshore cable corridor and Construction compound at Langrick 9.7 km from the Application Site	ES	Complete/ high	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure. Potential for cumulative impact in relation to Energy Security/Reliability.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
Viking Link Interconnector B/17/0340	Application approved	2014 - 2023	Bicker Fen substation 14.4 km from the Application Site	ES	Incomplete / low	Yes	Potential for labour market competition with the Application Site for construction employment and associated impacts to community infrastructure.
Land south of Endeavour Way, PE20 0JA Erection of 14,655sq.m Class B2 (general industrial) floor space B/15/0506	Application Approved	2015 – ongoing	10 km south west of the Application Site	Detailed application	Complete / high	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure.
Howards Tenens Ltd, Riverside Industrial Estate, Marsh Lane, Boston, Lincolnshire PE21 7SZ Erection of storage and distribution building (Class B8) B/18/0063	Application Approved	2018 - ongoing	1 km west of the Application Site	Detailed application	Unknown	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure.
Land off Wash Road, Kirton, Boston Storage and distribution park comprising of	Application Approved	2005 - ongoing	7 km south of the Application Site	Outline application	Complete / high	Yes	Potential for labour market competition with the Application Site for construction and operational

Project Related

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
approximately 58,000sq.m of B8 (Storage and Distribution), B2 (General Industry) and B1 (Light Industry) including means of access 17/08/2005							employment and associated impacts to community infrastructure.
Land off Enterprise Way, Boston, PE21 7TW Resubmission of planning application B/17/0520 Proposed mixed use commercial development (A2/A3/B1/B8/D2) including associated access, parking and landscaping	Application Approved	2018 - present	3.5 km west of the Application Site	Detailed application	Completed / high	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure.
Land adjacent to J T Friskney, Boardsides, Wyberton Fen, Boston, PE21 7NY Erection of single storey storage unit and associated car parking	Application Approved	2018 - present	4.5 km west of the Application Site	Detailed application	Unknown	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure.

Project	Status	Development Period	Distance from the Application Site	Project Definition	Project Data Status	Included in CIA	Rationale
B/18/0433							
Land off Lealand Way, Marsh Lane Industrial Estate, Boston, PE21 7SW Installation of a 6.0 MW Gas Fired Power Generation Site, associated infrastructure and new means of access B/19/0474	Application Approved	2019 - present	1 km west of the Application Site	Detailed application	Unknown	Yes	Potential for labour market competition with the Application Site for construction and operational employment and associated impacts to community infrastructure. Potential for cumulative impact in relation to Energy Security/Reliability.



- 20.8.3 An assessment was carried out to establish whether any cumulative effects may arise from the Facility when considered with various other schemes in proximity to the site (**Table 20-6**). The objective is to identify whether impacts from several developments which individually might be insignificant could, when considered together, cause a significant indirect and cumulative impact requiring mitigation.
- 20.8.4 A review of the relevant documentation has indicated that the cumulative schemes could give rise to an increase in demand for construction industry employment within the AOI and more widely. The construction employment associated with The Quadrant mixed-use development was assessed as 87 direct FTE jobs and a further 244 FTE jobs in the supply chain. The overall assessment of significance was major beneficial. The precise quantum of construction employment impacts associated with the remaining cumulative schemes has not been established following a review of the relevant documentation. Notwithstanding, it is anticipated that they would all give rise to construction industry employment within the AOI. However, given the nature of some of these schemes (offshore wind, flood defence, battery energy storage), it is highly likely that construction labour required would be highly specialised and therefore is more likely to be sourced from outside the AOI and is unlikely to directly compete with other schemes for local construction labour. As such, it is assessed that, collectively, the cumulative impact on construction employment is likely to be negligible. The resulting effect likely to be experienced on the housing market, community infrastructure and tourism during construction is also assessed as **negligible**.
- 20.8.5 During operation, The Quadrant development was assessed as delivering 663 full time and part time jobs and an overall effect that was **major beneficial** in significance. The scale of the operational employment impacts associated with the remaining as likely to be low and are unlikely to directly compete for local labour given their specialised nature. The delivery of c. 500 homes over 7 years as part of the Quadrant Development will increase the supply of homes within the AOI, resulting in an effect on the housing market of **moderate beneficial** significance. It is anticipated that the delivery of these homes, alongside the potential to deliver a further 85 at land to the west of Stephenson Close, Boston could help to alleviate any potential increase in demand for housing associated with the delivery of the Facility or indeed the remaining cumulative schemes.
- 20.8.6 It is assessed that the cumulative impacts on energy security/reliability associated with the delivery of Triton Knoll offshore wind farm, a gas fired power station at land off Lealand Way and a battery energy storage plant at Marsh Lane could combine positively with the Facility to give rise to an enhanced beneficial effect.

20.8.7 Overall, it is assessed that the cumulative impact of the schemes highlighted in **Table 20-16** would be negligible during both the construction and operational phases. There would therefore be no additional requirement for mitigation.

## 20.9 Transboundary Impacts

20.9.1 Transboundary Impact Assessment is not relevant in respect of socio-economics. This is justified on the basis of the analysis of commuting data presented in **Section 20.5** which reveals that Boston is a self-contained labour market area. Boston local authority area is therefore the most appropriate geography in which to consider the impacts of the Facility.

## 20.10 Inter-Relationships with Other Topics

20.10.1 **Table 20-17** below shows the other chapters which inter-relate to this chapter.

**Table 20-17 Chapter Topic Inter-Relationships**

Topic and description	Related Chapter	Where addressed in this Chapter
Contaminated Land, Land Use and Hydrogeology	Chapter 11	<b>Section 20.7</b>
Marine and Coastal Ecology	Chapter 17	<b>Section 20.7</b>

## 20.11 Interactions

20.11.1 The impacts identified and assessed in this chapter have the potential to interact with each other, which could give rise to synergistic impacts because of that interaction. The worst case impacts assessed within the chapter take these interactions into account and for the impact assessments are considered conservative and robust. For clarity, the areas of interaction between impacts are presented in **Table 20-18**, along with an indication as to whether the interaction may give rise to synergistic impacts.

Table 20-18 Interaction Between Impacts

Potential interaction between impacts							
Construction							
	1 Employment	2 Housing Market	3 Primary Education	4 Secondary Education	5 Health	6 Tourism	
1 Employment	-	Yes	Yes	Yes	Yes	Yes	Yes
2 Housing Market	Yes	-	Yes	Yes	Yes	Yes	Yes
3 Primary Education	Yes	Yes	-	Yes	No	No	No
4 Secondary Education	Yes	Yes	Yes	-	No	No	No
5 Health	Yes	Yes	No	No	-	No	No
6 Tourism	Yes	Yes	No	No	No	-	-
Operation							
	1 Employment	2 Housing Market	3 Primary Education	4 Secondary Education	5 Health	6 Tourism	7 Energy Security and Reliability
1 Employment	-	Yes	Yes	Yes	Yes	Yes	No
2 Housing Market	Yes	-	Yes	Yes	Yes	Yes	No
3 Primary Education	Yes	Yes	-	Yes	No	No	No
4 Secondary Education	Yes	Yes	Yes	-	No	No	No
5 Health	Yes	Yes	No	No	-	No	No
6 Tourism	Yes	Yes	No	No	No	-	No
7 Energy Security and Reliability	No	No	No	No	No	No	-

**Potential interaction between impacts**

**Decommissioning**

It is anticipated that the decommissioning impacts will be similar in nature to those of construction.

## 20.12 Summary

20.12.1 **Table 20-19** provides an overview of the effects of the Facility (with and without mitigation) during construction, operation and decommissioning. From this it can be seen that:

- **Beneficial** employment effects are expected to be observed during construction, operation and decommissioning;
- **Beneficial** effects with respect to energy security/reliability are anticipated during operation;
- A temporary, short term and **minor adverse** effect is anticipated in relation to secondary education during construction, but it is considered that this can be effectively mitigated throughout the course of the operational phase through the requirement identified in the South-East Lincolnshire Local Plan Infrastructure Delivery Plan to deliver a new secondary school within the area of impact (Boston); and
- All other effects are anticipated to be **negligible** in scale.

20.12.2 Overall, and on balance, the Facility is assessed as having a **minor beneficial** effect from a socio-economic perspective.

Table 20-19 Impact Summary

Potential Impact		Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
<b>Construction</b>							
Impact 1: Employment		AOI	Medium	Beneficial	Moderate	N/A	Beneficial, Moderate
Impact 2: Housing Market		AOI	Low	Negligible	Negligible	N/A	Negligible
Impact 3: Community Infrastructure	Primary Education	3 km of Application Site	Medium	Negligible	Negligible	N/A	Negligible
	Secondary Education	5 km of Application Site	Medium	Adverse	Minor	Effective mitigation through the commitment of BBC to deliver a new secondary school in Boston, as identified in the SEELP Infrastructure Delivery Plan	Negligible
	Health	5 km of Application Site	Medium	Negligible	Negligible	N/A	Negligible
Impact 4: Tourism		AOI	Low	Negligible	Negligible	N/A	Negligible
<b>Operation</b>							

Potential Impact		Receptor	Value/ Sensitivity	Magnitude	Significance	Mitigation	Residual Effect
Impact 1: Employment		AOI	Medium	High	Major beneficial	N/A	Beneficial, Minor
Impact 2: Housing Market		AOI	Low	Negligible	Negligible	N/A	Negligible
Impact 3: Community Infrastructure	Primary Education	3 km of Application Site	Medium	Negligible	Negligible	N/A	Negligible
	Secondary Education	5 km of Application Site	Medium	Negligible	Negligible	N/A	Negligible
	Health	5 km of Application Site	Medium	Negligible	Negligible	N/A	Negligible
Impact 4: Tourism		AOI	Low	Negligible	Negligible	N/A	Negligible
Impact 5: Energy Security/Reliability		AOI	Medium/High	Beneficial	Moderate-Substantial	N/A	Beneficial, Moderate-Substantial
<b>Decommissioning</b>							
Impact Summary during decommissioning will be the same as during construction.							



## 20.13 References

Census (2011a) Origin Destination WF01BEW - Location of usual residence and place of work (OA level). Available at: <https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?theme=75&subgrp=Origin+Destination> [Accessed: 03/08/2020].

Census (2011b) Key Statistics KS401EW - Dwellings, household spaces and accommodation type. Available at: <https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?theme=75&subgrp=Key+Statistics> [Accessed: 05/08/2020].

Census (2011c) Key Statistics KS402EW - Tenure Available at: <https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?theme=75&subgrp=Key+Statistics> [Accessed: 05/08/2020].

Department for Energy and Climate Change (DECC) (2011a). The overarching NPS for Energy (EN-1)

Department for Energy and Climate Change (DECC) (2011b). The NPS for Renewable Energy Infrastructure (EN-3)

Department for Business, Energy and Industrial Strategy (BEIS) (2017). The Clean Growth Strategy: Leading the way to a low carbon future. Available at: <https://www.gov.uk/government/publications/clean-growth-strategy> [Accessed: 03/08/2020].

Department for Education (2020) Get information about schools. Available at: <https://get-information-schools.service.gov.uk/> [Accessed: 05/08/2020].

Department for Environment, Food & Rural Affairs (Defra) (2013). Waste Management Plan for England. Available at: <https://www.gov.uk/government/publications/waste-management-plan-for-england> [Accessed: 03/08/2020].

Department for Environment, Food & Rural Affairs (Defra) (2018). A Green Future: Our 25 Year Plan to Improve the Environment. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf) [Accessed: 03/08/2020].

EDF Energy (2011) Hinckley Point C Pre-Application Consultation – Stage 2 Environmental Appraisal – Volume 2. Available at:

<https://www.edfenergy.com/sites/default/files/V2%20C08%20SOCIO%20ECONOMICS.pdf> [Accessed: 05/08/2020].

Greater Lincolnshire Local Enterprise Partnership (GLLEP) (2016). Greater Lincolnshire LEP Strategic Economic Plan 2014-2030, Refresh Spring 2016. Available at: <https://www.greaterlincolnshirelep.co.uk/assets/documents/Strategic Economic Plan 2016 Refresh.pdf> [Accessed: 05/08/2020].

Homes and Communities Agency (HCA) (2014) Additionality Guide Fourth Edition. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/378177/additionality\\_guide\\_2014\\_full.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/378177/additionality_guide_2014_full.pdf) [Accessed: 05/08/2020].

Lincolnshire County Council (LCC) (2016). Lincolnshire Minerals and Waste Local Plan. Available at: <https://www.lincolnshire.gov.uk/residents/environment-and-planning/planning-and-development/minerals-and-waste/> [Accessed: 12/12/2018].

Ministry of Housing, Communities and Local Government (MHCLG) (2019a). National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed: 03/08/2020].

Ministry of Housing, Communities and Local Government (MHCLG) (2019b) English Indices of Deprivation 2019. Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019> [Accessed: 03/08/2020].

Ministry of Housing, Communities and Local Government (MHCLG) (2019c). Table 100 Dwelling stock: Number of Dwellings by Tenure and district: England; 2019. Available at: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants> [Accessed: 03/08/2020].

Ministry of Housing, Communities and Local Government (MHCLG) (2019d). Table 253 Housebuilding: permanent dwellings started and completed, by tenure and district, 2018-19. Available at: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building> [Accessed: 03/08/2020].

National Audit Office and Department for Education (2017). Capital Funding for Schools. Available at: <https://www.nao.org.uk/wp-content/uploads/2017/02/Capital-funding-for-schools.pdf> [Accessed: 05/08/2020].

NHS Choices (2020) Find a Dentist, Available at: <https://www.nhs.uk/service-search/find-a-dentist/results/Boston?latitude=52.9763268345452&longitude=-0.027151124978860033> [Accessed: 05/08/2020].

NHS Digital (2020) General Practice Workforce - 31 March 2020. Available at: <https://digital.nhs.uk/data-and-information/publications/statistical/general-and-personal-medical-services/final-31-march-2020> [Accessed: 05/08/2020].

NHS Healthy Urban Development Unit (HUDU) (2009). Royal College of General Practitioners Standard, as recommended by the NHS Healthy Urban Development Unit.

Office for National Statistics (ONS) (2016). Travel to work area analysis in Great Britain: 2016. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/traveltoworkareanalysisingreatbritain/2016#:~:text=The%20current%20criteria%20for%20defining,population%20of%20at%20least%203%2C500.> [Accessed: 05/08/2020].

Office for National Statistics (ONS) (2018a). Jobs Density. Available at: <https://www.nomisweb.co.uk/datasets/jd> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2018b). Business Register and Employment Survey. Available at: <https://www.nomisweb.co.uk/datasets/newbrespub> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2019a). UK Business Counts. Available at: <https://www.nomisweb.co.uk/datasets/idbrent> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2019b). Regional gross value added (balanced) by industry: local authorities by NUTS 1 region. Available at: <https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedbalancedlocalauthoritiesbynuts1region> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2019c). Annual Population Survey. Available at: <https://www.nomisweb.co.uk/datasets/apsnew> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2019d). Annual Survey of Hours and Earnings. Available at: <https://www.nomisweb.co.uk/sources/ashe> [Accessed: 03/08/2020].

Office of National Statistics (ONS) (2019e) Detailed Input-Output Tables. Available at: <https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/datasets/inputoutputsupplyandusetablessummarytables> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2020a). Mid Year Population Estimates. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2020b). National population projections: 2018-based. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/householdprojectionsforengland> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2020c). Claimant count by sex and age. Available at: <https://www.nomisweb.co.uk/datasets/ucjsa> [Accessed: 03/08/2020].

Office for National Statistics (ONS) (2020d). Table 406: Household projections, local authorities and higher administrative areas within England, mid-2001 to mid-2043. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/householdprojectionsforengland> [Accessed: 03/08/2020].

Peter Brett Associates (PBA) (2016). South-East Lincolnshire Delivery Plan 2016 Final Report. Available at: <http://www.southeastlincslocalplan.org/wp-content/uploads/2016/11/FINAL-South-East-Lincs-IDP-17th-November-2016.pdf> [Accessed: 05/08/2020].

Royal HaskoningDHV (2018). Boston Alternative Energy Facility: Scoping Report. Reference: I&BPB6943-RH002R001F01.

South-East Lincolnshire Joint Strategic Planning Committee (2017). South-East Lincolnshire Local Plan: Employment Land Technical Paper Update. Available at: <http://www.southeastlincslocalplan.org/wp-content/uploads/2017/04/Employment-Land-Technical-Paper-Update-March-2017.pdf> [Accessed: 05/08/2020].

South-East Lincolnshire Joint Strategic Planning Committee (2019). South-East Lincolnshire Local Plan. Available at: <http://www.southeastlincslocalplan.org/> [Accessed: 05/08/2020].

Visit Britain (2019). The GB Tourist 2019 Annual Report. Available at: [https://www.visitbritain.org/sites/default/files/vb-corporate/gb\\_tourist\\_annual\\_report\\_2019.pdf](https://www.visitbritain.org/sites/default/files/vb-corporate/gb_tourist_annual_report_2019.pdf) [Accessed: 03/08/2020].