



Environmental Statement

Houghton Main Energy Centre

Peel Environmental Ltd

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Environmental Statement

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1. Background, Introduction and Context

1.1 Introduction

- 1.1.1 This Environmental Statement Addendum (ES) to consented planning application 2015/0137 supports a S73 planning application made by Peel Environmental Ltd (Peel) to make amendments to the consented Timber Resource Recovery Centre on land off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley. The amended proposals are referred to throughout this ES as 'the Energy Centre'.
- 1.1.2 In accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations), this ES accompanies the S73 planning application. It contains the detailed information required by the Local Planning Authority (LPA) to assist them in their determination of the application. This ES reports the outcome of the updated Environmental Impact Assessment (EIA) for selected topics.
- 1.1.3 Where necessary, ES chapters have been comprehensively reviewed to address the proposed changes to the consented scheme. The amendments sought to the consented scheme include an increase in feedstock accepted at the site, increase in vehicle movements associated with this, a widening of feedstock to utilise Refuse Derived Fuel (RDF), and a widening of delivery hours and construction hours. There are no changes proposed to the built development or layout.
- 1.1.4 The potential impacts that have been assessed through fully updated ES chapters are those related to air quality, odour and human health, and traffic generation. Updated assessments for air quality, and traffic and transport are provided in support of the application. Additionally, human health risks will also be assessed, and an odour assessment will be included. Other technical assessments associated with the consented application remain valid.
- 1.1.5 Additionally, the ES sets out consideration of other topics to confirm there is no requirement to update the existing EIA in this regard. This is based on a consideration of the absence of impacts arising from the proposed amendments, the confirmation of the absence of additional sensitive receptors and of cumulative impacts. It is also provided with reference to EIA regulations and topic specific national and other relevant guidance.

1.2 The application site

- 1.2.1 The red line application area for planning permission 2015/0137 is shown on the consented Site Location Plan (PL 002 Site Location Plan 1302_PL002). The proposed amendments are entirely within the redline boundary. No changes to the consented buildings or layout are proposed as part of this S73 application. The proposed amendments will not result in any additional infrastructure to that previously consented. The site is described more fully in Chapter 2 of this report.
- 1.2.2 Land to the east of the site was recently consented for the construction of an overflow car park for ASOS is now in operation. This is addressed in this application.

1.3 Consented and Implemented Scheme

- 1.3.1 The consented application (2015/0137) granted planning consent for a Timber Resource Recovery Centre, receiving a maximum of 150,000tpa of waste wood. This application consented a process that recovers clean ferrous and non-ferrous material for recycling and would export approximately 20MW of renewable electrical power. The proposed amended scheme will export up to 22MW of low carbon energy.

1.3.2 An application to discharge planning conditions on consent 2015/0137 was consented in Spring 2018 (2017/1726). Conditions discharged are set out below:

- Condition 5 – finished floor levels were approved.
- Condition 6 – proposed sample materials and finishes for buildings and structures were approved.
- Condition 7 – detailed site access design and highways details were approved.
- Condition 9 – A Construction Method Statement for the consented scheme was approved.
- Condition 10 – A highways conditions survey was part-discharged.
- Condition 12 – A full foul and surface water drainage strategy was approved.
- Condition 13 – Hard and Soft Landscaping proposals and designs were approved.
- Condition 15 – A Landscaping Management Plan was approved.
- Condition 16 – An Arboricultural Impact Assessment and Tree Protection Plan were approved.
- Condition 23 – A Construction Environmental Management Plan was approved.
- Condition 24 – Lighting Details were approved.

1.3.3 Condition 1 of the consented application 2015/0137 required implementation of the planning permission within three years of the issue of the consent, meaning the development should be started by 29th June 2018. Following grant of consent for the discharge of conditions listed above, which represented all pre-commencement conditions, the applicant started the development ahead of this date and this was confirmed by Barnsley Council.

1.4 Proposed Amended Scheme

1.4.1 The consented details will be implemented as approved under consented applications 2015/0137 and 2017/1726. No changes are sought to approved plans and drawings and the proposed buildings and structures will be built as consented in plans and drawings set out in condition 2 of this permission.

1.4.2 No changes to the site access are sought as part of this S73 application. Access to the site is from a spur off an existing roundabout (known as Houghton Main Colliery Roundabout) on the A6195 Park Spring Road.

1.4.3 The amendments proposed to the consented scheme relate only to the quantity and type of feedstock, the number of HV feedstock deliveries, delivery hours and to construction hours related to controls on noise levels. No changes are required to details approved under discharge of conditions consent 2017/1726. Details of the changes sought to conditions on permission 2015/0137 are set out in Chapter 3.

1.4.4 The consented fuel type will be amended to enable the site to utilise Refused Derived Fuel (RDF), although the potential to use waste wood would be retained. RDF is produced from non-hazardous waste that is left over once recyclates, such as glass and metal, have been removed off-site. This amendment to the proposed fuel type is due to commercial factors affecting the of waste wood market.

- 1.4.5 RDF has a lower calorific value than waste wood and so more feedstock needs to be processed through the facility to generate a similar amount of low carbon energy. Therefore, this S73 application seeks consent to increase feedstock accepted at the facility from the consented 150,000tpa to a proposed maximum of 260,000tpa.
- 1.4.6 The waste which will be treated at the site is waste which would otherwise be sent to landfill or exported abroad. The proposed increase in the amount of fuel that can be used at the Energy Centre will increase the amount of low carbon energy generated at the site.
- 1.4.7 HV movements will increase to 78 per weekday and 66 per weekend day based on 7 days a week for delivery, compared to the conditions attached to the original consent which limit HV movements to 60 per day based on 5 days a week for delivery.
- 1.4.8 Based on a specific set of proposed HV routes, some changes will be sought to delivery hours in order to spread vehicle movements over a longer period to reduce impacts on the local highway network and major local employers.

1.5 Proposed Amendments to Conditions

- 1.5.1 This S73 application seeks to make amendments to a limited number of conditions attached to the original consent (2015/0137). The proposed amendments to the wording of the conditions are set out below.
- 1.5.2 **Condition 4** – This S73 application seeks to amend this condition to the following wording: ‘the approved Houghton Main Energy Centre shall only be used for the reception, handling and preparation of RDF and waste wood and energy recovery therefrom up to a maximum of 260,000 tonnes per annum’.
- 1.5.3 **Why is this being sought?** This S73 application seeks to utilise Refuse Derived Fuel (RDF), with the option retained to utilise waste wood. RDF is a category of feedstock recognised by DEFRA which is produced from residual mixed waste which is left over once recyclates have been removed. Commercial factors relating to the of waste wood market have necessitated this change.
- 1.5.4 RDF has a lower and more variable calorific value than waste wood and so there is a need to run more feedstock through the facility in order to generate a broadly equivalent amount of power to that consented in the original application (2015/0137).
- 1.5.5 The wording proposed above reflects the need to increase import of feedstock to the site from the consented 150,000tpa to 260,000tpa. Where necessary, the relevant assessments have been updated to account for the increased throughput of feedstock and different feedstock characteristics, as part of this S73 application. Critically, however, the plant will continue to meet all regulatory requirements set out in its environmental permit, once granted, and in this regard is unchanged.
- 1.5.6 **Condition 17** - This S73 application seeks to amend this condition to the following wording: Construction or remediation work comprising the use of plant, machinery or equipment, or deliveries of materials which are audible at the monitoring locations M01 to M07 detailed in the noise report supporting Application No. 2015/0137 shall only take place between the hours of 0800 to 1800 Monday to Friday and 0800 to 1600 on Saturdays and at no time on Sundays or Bank Holidays.
- 1.5.7 **Why is this being sought?** Construction management practices generally allow for construction weekend working on Saturdays and for this to continue during the afternoon. The proposed change brings this condition into line with such practice. The amendment also allows for after-hours construction work provided this is not audible at the stated receptors. This recognises that certain categories of work, for example cable-pulling, can only carried out when areas of the site are cleared

of other construction workers. However, such activities should not by their nature be audible, being internal to the facility buildings.

- 1.5.8 **Condition 19** – This S73 application seeks amendments to the delivery hours of the development. As a result of this, the wording of condition 19 is required to be amended to: ‘deliveries with the transfer of waste to and from the site shall only take place between the hours of 07:00 to 19:00 Monday to Friday, and between 08:00 to 18:00 on Saturday and Sunday. All deliveries are to take place in accordance with the details of the submitted lorry routing and management plan’
- 1.5.9 **Why is this being sought?** The proposed amendment to condition 19 will enable HV movements associated with the delivery of materials and export of residual materials to be spread across additional delivery days, which will minimise the impact of HV movements on the road network at busier times. As stated in the consented application, the clear intention is to import and export materials via main routes on the strategic route network only and not run vehicles through local residential areas. A lorry routing and management plan is provided as part of this S73 application to demonstrate this and to allow this not to be conditioned. In view of the commitments made and the strategy presented to adhere to them, there should be no amenity impacts created on residents through an extension of deliveries to include weekends.
- 1.5.10 **Condition 20** – This S73 application also seeks to amend delivery movements, the following changes to the wording of this condition are required: ‘Delivery movements associated with the transfer of waste to and from the site shall not exceed 78 per day (39 in and 39 out) between Monday to Friday and shall not exceed 66 per day (33 in and 33 out) on Saturday and Sunday’.).
- 1.5.11 **Why is this being sought?** The proposed amendment to condition 20 will allow an increase in daily HV deliveries to be accepted at the site, which is required to broaden and increase feedstock inputs as sought. A Transport Assessment is provided with the planning application which demonstrates that an increase in vehicle movements can be accommodated at the site without causing significant or severe traffic impacts on the local highway network. Weekend deliveries will further spread delivery traffic away from peak weekday hours and, in combination with proposed management practices and lorry routes in this application, will provide effective mechanisms to avoid amenity impacts.

1.6 The Applicant

- 1.6.1 The applicant for this S73 application is Peel Environmental Ltd (Peel).
- 1.6.2 Peel Environmental Ltd are a development company who own, manage and develop infrastructure in the waste, minerals and environmental technology sectors across the UK. The company identifies sites suitable for development and is at the forefront of developing new infrastructure by working with investor, developers and partners to address the energy challenges faced. Peel Environmental Ltd are seeking to develop a network of energy-from-waste facilities throughout the UK.

1.7 EIA Regulations

- 1.7.1 Undertaking an Environmental Impact Assessment (EIA) and the submission of an associated ES alongside a planning application, is the statutory procedure for assessing the likely effects on the environment of new development and ensuring they are fully understood and taken into account before the development is consented. The EIA enables the full consideration of environmental factors when planning applications are being consented.
- 1.7.2 The EIA Regulations require an EIA to be carried out to support a specific range of major development proposals. The EIA is defined in the Department of the Environment, Transport and the Regions Circular 02/99 as:

“a means of drawing together, in a systematic way, an assessment of a project’s likely significant environmental effects. This helps to ensure that the importance of the predicted effects, and the scope for reducing them, are properly understood by the public and the relevant competent authority before it makes a decision.”

- 1.7.3 The EIA Regulations specify certain types of development for which an EIA is mandatory (Schedule 1 Developments) and categories of development where an EIA may be required (Schedule 2 Developments) “if it is likely to have significant effects on the environment by virtue of factors such as its size, nature or location”.
- 1.7.4 Resource Recovery Facilities are deemed to fall under category 10 of Schedule 1 of the EIA Regulations. This identifies “Waste disposal installations for the incineration or chemical treatment” (as defined in Annex I to Directive 2008/98/EC under heading D9) of non-hazardous waste with a capacity exceeding 100 tonnes per day.
- 1.7.5 The proposed development at Houghton Main has been consented through planning application 2015/0137. This proposed amendments through this S73 application will add an anticipated throughput in excess of 100 tonnes per day so that the proposed amendments fall under schedule 1 Development of the EIA Regulations and therefore require an EIA to be prepared to accompany the S73 planning application. This will be through an addendum to the Environment Statement to address matters of relevance to the proposed amendments.
- 1.7.6 The structure of the original ES has been used, where necessary, the relevant sections have been amended and updated. The content of the ES is broadly set out in Schedule 4 to the EIA Regulations and can be further refined through a formal scoping process detailed at Section 13 of the EIA Regulations. Schedule 4 contains information which must be included in the ES (at Part II) and information which should be included if relevant (Part I).
- 1.7.7 Based on Schedule 4, the following structure will be adopted:
 - **Part one** - planning application documents.
 - **Part two** - Environmental Statement.
 - **Part three** - Non-Technical Summary.

1.8 EIA Scoping

- 1.8.1 In accordance with Section 13(1) of the EIA Regulations a scoping request has been submitted to Barnsley Metropolitan Borough Council. A copy of the scoping request is provided at Appendix 1.1 of this ES. The scoping report sets out anticipated requirements which are addressed through this ES.

1.9 Community Engagement

- 1.9.1 The consented application 2015/0137, which this S73 application seeks to amend, was subject to a comprehensive programme of community engagement. The application included a Statement of Community Involvement (SCI) setting out full details of the community engagement. More targeted engagement has been undertaken to consult stakeholders on the more limited proposals associated with the S73 application.

1.10 Environmental Statement Structure

- 1.10.1 This ES reports the outcome of the EIA process, required by the EIA Regulations. This ensures that the planning authority is fully informed of the likely significant effects of the amended development proposals sought through this S73 application. As required by the EIA Regulations the document:
 - Describes the proposals and the area surrounding the proposed development site;



- Updates the existing environmental conditions in the area of the proposed development site;
- Draws conclusions about any significant effects that the proposals may have on the environment; and
- Explains the measures that Peel has adopted or intends to adopt in order to mitigate any identified significant adverse effects.

1.10.2 This ES follows a standard format and structure, this document forming Volume 1 of the ES. It is the Main ES Report which contains an introduction to the proposed development and includes the technical assessments (including baseline studies, assessment methodologies and findings) undertaken to determine the potential likely impacts of the proposal in accordance with the EIA Regulations and national guidance. Where technical assessments require no update as part of this S73 application, a statement has been included to confirm the original chapter remains valid for the determination of this S73 application.

1.10.3 In accordance with the EIA Regulations (Schedule 4, Part I, Section 9) and national guidance, this ES, contains a Non-Technical Summary (NTS) in Volume 2. The NTS sets out the main findings of the ES in accessible (i.e. non-technical) language.

1.10.4 Technical appendices to the Main Report are contained in Volume 3 of the ES. The technical appendices include, for example, technical data and diagrams, background information and technical terminology.

2. Site Description

2.1 Introduction

- 2.1.1 The subject site is 3ha in area in an approximately triangular shape to the west of the A6195 Park Spring Road, Barnsley. The site is located approximately 1km west of Little Houghton and 6.5km east of Barnsley town centre. The nearest postcode for the site is S72 7GX and the National Grid Reference of the centre of the site is SE 41710 06484
- 2.1.2 The site is bound by curved flood defences to the north and west which follow the alignment of a disused rail line. The River Dearne runs in a north south direction to the west of the site the northern half of the eastern edge is bound by employment land which is the remaining portion of the allocated employment site. Beyond that is the A6195 Park Spring Road. In the southern part of the site (south of the roundabout), the eastern edge is bound by disused land.
- 2.1.3 The site is brownfield land primarily vegetated with rough restored grassland. Some scattered shrubs and small trees are also present on the site. The site is flat except for bunding at its northern and western boundaries.
- 2.1.4 The site was subject to open cast colliery workings between 1997 and 2001 which included the removal of any earthworks associated with the former railway lines. The colliery was previously used for deep shaft mining by UK coal between the 1890s and 1991. Open casting was completed and the land was reclaimed and compacted to provide a platform suitable for industrial development.
- 2.1.5 An ASOS Fulfilment Centre on land adjacent to the east and south east of the site. The warehouse was developed by Prologis and was constructed under Reserved Matters Approval 2005/1441 (which followed Outline Planning Permission B/03/0762/HR granted in 2003 for Class B1, B2 and B8 development of the site). The existing warehouse has recently been granted planning permission for an extension (ref: 2012/1018). In 2017, the ASOS Fulfilment Centre had planning permission granted for the formation of a car park (ref:2017/0782).
- 2.1.6 Where applicable the consented applications in close proximity to the site, since the submission of the original application (2015/0137), have been taken into account in the updated technical assessments accompanying this S73 application.
- 2.1.7 This S73 application does not seek to make any changes to the redline boundary or the layout of the site. No additional infrastructure is proposed as part of this S73 application.

2.2 Access

- 2.2.1 Access to the site is from a spur off an existing roundabout (known as Houghton Main Colliery Roundabout) on the A6195 Park Spring Road. The proposed access was consented within the original application and will remain unchanged as part of this S73 application. Details of this access have been approved under discharge of conditions application.
- 2.2.2 The existing spur access will be improved as part of the consented development and tailored to suit the development. The entry gate and weighbridge off the access road are shown in the Site Layout Plan (PL 003 Proposed Site Layout 1302_PL003) which was part of the consented application. This S73 application seeks no changes to the consented site layout.
- 2.2.3 The transport assessment baseline has been updated within this S73 application to account for the recently constructed car park at the ASOS site and any other potential changes to highway conditions since the original application (2015/0137) was granted consent in 2015.

2.2.4 The site is well connected to the strategic highway network, with both the A1 (M) and M1 approximately 9km away to the east and west respectively. Access to the motorway network can be gained using the A6195 and other A-class roads linking to it. Similarly, a good class of road (A635) provides connection to Barnsley town centre.

2.3 Sensitive Receptors

2.3.1 The site is largely isolated from sensitive receptors. The nearest residential properties to the application site are Crook House Farm located approximately 0.8km to the West, Store Mill Farm located 1.5km to the north west, Tyers Hall Farm located 1.8km to the south west and a housing development located on Doncaster Road, 1.8km south west of the proposed development. Potential impacts of the proposal on these and other nearby residential dwellings, including noise and visual, have been taken into account and fully assessed through the original consented application and through this S73 application.

2.3.2 The ASOS Fulfilment Centre lies across Park Spring Road to the east of the site, approximately 150m from the Houghton Main application site.

2.3.3 A Public Right of Way runs along the north eastern tip of the application site.

2.3.4 The site is adjacent to the Barnsley Green Belt boundary. The proposed amendments to the consented development have no impact on the Barnsley Green Belt. There are no proposals for new development in the green belt.

2.3.5 A number of RSPB Reserve sites are located within 3km radius of this site. Land to the north west of the site is designated as the Dearne Valley RSPB reserve. The RSPB Dearne Valley Old Moor wetlands nature reserve lies approximately 5km to the south of the site. This reserve is based around several lakes which form marshland and reedbeds. There are also open water and land habitats present at the reserve.

2.3.6 The site lies within the Dearne Valley Nature Improvement Area which covers extensive areas of Barnsley and adjoining Boroughs.

2.3.7 A nearest listed building is a Grade II listed building located approximately 1.5km to the east of the site.

2.4 Nature Conservation

2.4.1 There are a number of designated nature conservation sites, including Local Nature Reserves (LNR) and Sites of special Scientific Interest (SSSI) within 15km of the application site. There are two SSSIs located within 5km of the application site; Carlton Main Brickworks (to the north of the site) and Stairfoot Brickworks (to the south-west of the site). The potential impacts of the proposed amendments on these designated nature conservation sites are considered in the ES.

2.4.2 There are no European Designated Sites (Ramsar, Special Areas of Conservation or Special Protection Areas) within 15km of the site. The site is located within Landscape Character Area C2 Lower Dearne Lowland River Floor.

2.4.3 The site is designated as a Community Forest, this designation washes over the entire area. The site is also designated as a National Character Area.

2.4.4 The site is also located within the Barnsley Nature Improvement Area (NIA). Upon implementation of the consented development, Peel contributed £50,000 to Barnsley Council for works to improve the NIA.

2.5 Flood Risk

- 2.5.1 The majority of the site is located within Flood Zone 1. Part of the site, in the north-west corner, is within Flood Zone 2. There have been no changes to the site layout or the development footprint as part of this S73 application. In addition, there have been no relevant changes to legislation or guidance that would affect the assessment previously undertaken.
- 2.5.2 The previously consented FRA remains appropriate and valid; therefore, no further consideration of flood risk has been undertaken within this ES. Chapter 7 of this ES provides a statement confirming that the proposed amendments do not require any further consideration in terms of flood risk.

2.6 Planning Allocations / Designations

- 2.6.1 The application site is previously developed land. In the current context, the development plan for the application site comprises:
- The Barnsley Draft Local Plan 2016 Publication
 - The Barnsley, Doncaster and Rotherham Joint Waste Plan (Adopted March 2012)
 - The Barnsley Core Strategy (adopted September 2011)
 - The remaining Saved Policies of the Barnsley Unitary Development Plan (adopted December 2000)
- 2.6.2 The Barnsley Draft Local Plan 2016 Publication allocates the application site as a suitable site for employment uses (Site N2 – Land West of Park Spring Road, Houghton). The proposed site will create 20 full-time jobs once operational, ranging from entry-level to highly skilled positions. Additionally, up-to 200 jobs will be created on-site during the peak construction period. During the 30-month construction phase the development will support 40 off-site jobs.
- 2.6.3 Section 8 of the Barnsley Draft Local Plan 2016 Publication considers the economy, this policy notes the requirement for ensuring the provision of a wide range of employment locations, land and premises. Existing and new sectors should be supported and developed to enable growth. The low carbon sector has been identified as a priority sector to facilitate growth.
- 2.6.4 Within the remaining Saved Policies of the Barnsley Unitary Development Plan (adopted December 2000), the site of the former Houghton Main Colliery is designated as an area of investigation for potential employment development, policy DA4.
- 2.6.5 Policy WCS1 of the Barnsley, Doncaster and Rotherham Joint Waste Plan (adopted March 2012) outlines Barnsley, Doncaster and Rotherham's overall strategy for achieving waste management. This policy seeks to locate waste management facilities on vacant and underused brownfield land in existing employment areas.

3. S73 Amendments to Conditions on 2015/0137

3.1 Proposed Amended Scheme

- 3.1.1 As described in Chapter 1 of this ES, the consented development will be built as approved under consented applications 2015/0137 and 2017/1726 (discharge of conditions). No changes are sought to approved plans and drawings and the proposed buildings and structures will be built as consented in plans and drawings set out in condition 2 of the planning permission.
- 3.1.2 No changes to the site access are sought as part of this S73. Access to the site is from a spur off an existing roundabout (known as Houghton Main Colliery Roundabout) on the A6195 Park Spring Road application which has now be constructed to the boundary of the energy centre site.
- 3.1.3 The amendments proposed to the consented scheme relate only to the quantity and type of feedstock, the number of HV feedstock deliveries, delivery hours and to construction hours related to controls on noise levels. No changes are required to details approved under discharge of conditions consent 2017/1726.
- 3.1.4 The consented feedstock will be amended to enable the site to utilise Refused Derived Fuel (RDF), although the potential to use waste wood would be retained. RDF is produced from non-hazardous waste that is left over once recyclates, such as glass and metal, have been removed off-site. This amendment to the proposed fuel type is due to commercial factors affecting the of waste wood market.
- 3.1.5 RDF has a lower calorific value than waste wood and so more feedstock needs to be processed through the facility to generate a similar amount of low carbon energy. Therefore, this S73 application seeks consent to increase feedstock accepted at the facility from the consented 150,000tpa to a proposed maximum of 260,000tpa.
- 3.1.6 The waste which will be treated at the site is waste which would otherwise be sent to landfill or exported abroad. The proposed increase in the amount of fuel that can be used at the Energy Centre will increase the amount of low carbon energy generated at the site.
- 3.1.7 HV movements will increase to 78 movements per weekday and 66 movements per day on weekend days, based on 7 days a week for delivery, compared to the conditions attached to the original consent which limit HV movements to 60 per day based on 5 days a week for delivery.
- 3.1.8 Based on a specific set of proposed HV routes, some changes will be sought to delivery hours in order to spread vehicle movements over a longer period to reduce impacts on the local highway network. In view of the submission of a clear proposed HV management plan based on specific routes, the applicant is seeking to amend conditions to require adherence to the submitted plan as approved.

3.2 Proposed Amendments to Conditions

- 3.2.1 This S73 application seeks to make amendments to a limited number of conditions attached to the original consent (2015/0137). The proposed amendments to the wording of the conditions are set out below.
- 3.2.2 **Condition 4** – This S73 application seeks to amend this condition to the following wording: ‘the approved Houghton Main Energy Centre shall only be used for the reception, handling and preparation of RDF and waste wood and energy recovery therefrom up to a maximum of 260,000 tonnes per annum’.
- 3.2.3 **Why is this being sought?** This S73 application seeks to utilise Refuse Derived Fuel (RDF), with the option retained to utilise waste wood. RDF is a category of feedstock recognised by DEFRA which is

produced from residual mixed waste which is left over once recyclates have been removed. Commercial factors relating to the waste wood market have necessitated this change.

- 3.2.4 RDF has a lower and more variable calorific value than waste wood and so there is a need to run more feedstock through the facility in order to generate a broadly equivalent amount of power to that consented in the original application (2015/0137).
- 3.2.5 The wording proposed above reflects the need to increase import of feedstock to the site from the consented 150,000tpa to 260,000tpa. Where necessary, the relevant assessments have been updated to account for the increased throughput of feedstock and different feedstock characteristics, as part of this S73 application. Critically, however, the plant will continue to meet all regulatory requirements set out in its environmental permit, once granted, and in this regard is unchanged.
- 3.2.6 **Condition 17** - This S73 application seeks to amend this condition to the following wording: Construction or remediation work comprising the use of plant, machinery or equipment, or deliveries of materials which audible at the monitoring locations M01 to M07 detailed in the noise report supporting Application No. 2015/0137 shall only take place between the hours of 0800 to 1800 Monday to Friday and 0800 to 1600 on Saturdays and at no time on Sundays or Bank Holidays.
- 3.2.7 **Why is this being sought?** Construction management practices generally allow for construction weekend working on Saturdays and for this to continue during the afternoon. The proposed change brings this condition into line with such practice. The amendment also allows for after-hours construction work provided this is not audible at the stated receptors. This recognises that certain categories of work, for example cable-pulling, can only be carried out when areas of the site are cleared of other construction workers. However, such activities should not by their nature be audible, being internal to the facility buildings.
- 3.2.8 **Condition 18** – This S73 application seeks to amend this condition to the following wording: Once operational, the level of noise emitted from the site shall not exceed the existing background noise levels (LA0 +0db) as measured at the monitoring locations M01 to M07 detailed in the noise report supporting this application. Once the plant is fully commissioned and operational the applicant shall submit a report demonstrating that the site facility is operational within the limits defined within this condition. In the event that the noise level from the development is above the stated levels then the applicant shall submit a mitigation scheme for the written approval of the Local Planning Authority in order to identify measures to reduce the noise of the development to within acceptable levels. The approved scheme shall then be implemented. In the event that the noise level from the development cannot be brought to within acceptable levels, as defined above, the development shall not continue to operate until such time as details of a mitigation scheme to be submitted by the applicant are approved by the Local Planning Authority.
- 3.2.9 **Why is this being sought?** The proposed amendments are sought as a consequence of amendments sought to Condition 17, and to provide reassurance that the operations can recommence following approval of details of a mitigation scheme to address noise impacts, should these arise.
- 3.2.10 **Condition 19** – This S73 application seeks amendments to the delivery hours of the development. As a result of this, the wording of condition 19 is required to be amended to: ‘deliveries with the transfer of waste to and from the site shall only take place between the hours of 07:00 to 19:00 Monday to Friday, and between 08:00 to 18:00 on Saturday and Sunday. All deliveries are to take place in accordance with the details of the submitted lorry routing and management plan’
- 3.2.11 **Why is this being sought?** The proposed amendment to condition 19 will enable HV movements associated with the delivery of materials and export of residual materials to be spread across additional delivery days, which will minimise the impact of HV movements on the road network at

busier times. As stated in the consented application, the clear intention is to import and export materials via main routes on the strategic route network only and not run vehicles through local residential areas. A lorry routing and management plan is provided as part of this S73 application to demonstrate this and to allow this not to be conditioned. In view of the commitments made and the strategy presented to adherence to them, there should be no amenity impacts created on residents through an extension of deliveries to include weekends.

- 3.2.12 **Condition 20** – This S73 application also seeks to amend delivery movements, the following changes to the wording of this condition are required: ‘Delivery movements associated with the transfer of waste to and from the site shall not exceed 78 per day (39 in and 39 out) between Monday to Friday and shall not exceed 66 per day (33 in and 33 out) on Saturday and Sunday’.
- 3.2.13 **Why is this being sought?** The proposed amendment to condition 20 will allow an increase in daily HV deliveries to be accepted at the site, which is required to broaden and increase feedstock inputs as sought. A Transport Assessment is provided with the planning application which demonstrates that an increase in vehicle movements can be accommodated at the site without causing significant or severe traffic impacts on the local highway network. Weekend deliveries will further spread delivery traffic away from peak weekday hours and, in combination with proposed management practices and lorry routes in this application, will provide effective mechanisms to avoid amenity impacts.

3.3 Process Description

- 3.3.1 The Energy Centre process uses feedstock to generate electricity and heat through a steam generation process. More specifically, to generate energy steam is first raised through a boiler and a steam turbine then uses the steam to produce electricity with heat produced as a by-product being recycled and electricity either being used across the development for ancillary supply or being transferred to the distribution network via an alternator, transformer and on-site substation. The turbine is enclosed in an acoustically attenuated extension to the electricity switch-room to reduce noise to a minimum. The process is regulated from a computerised control room. The buildings will be lit internally using electricity generated from the process.
- 3.3.2 The emissions stack provides a point of discharge of exhaust flue gas emissions from the power generation process and needs to be sufficiently high and wide enough to allow the plant to operate efficiently and safely disperse the exhaust gas emissions to the atmosphere. The stack will be provided with Continuous Emissions Monitoring (CEM) equipment for both performance monitoring and environmental compliance.
- 3.3.3 Air-cooled condensers will be installed as part of the development and will be a closed-circuit dry cooling system, hence eliminating any requirement for extensive cooling water use.
- 3.3.4 The firewater tank and pump house will supplement fire protection systems used for the feedstock preparation and energy centre processes, to be approved by the Environment Agency. More broadly, water to automatic sprinkler/deluge/water mist fire protection systems that protect the remaining building areas and specific items of plant such as the transformers will be supplied from the nearby water mains.

3.4 Employment

- 3.4.1 The Energy Centre will generate up to 20 full time equivalent (FTE) jobs during operation of the facility, ranging from entry-level to highly skilled positions. The proposed development will create up to 200 jobs on-site during the peak of construction activities. The proposal will support an additional 40 off site jobs during the 30-month construction phase.

4. Planning History and Policy Context

4.1 Introduction

4.1.1 This chapter provides details of the planning history of the application site and sets out the context of the planning policy documents relevant to the site and the proposed development.

4.2 Site History

4.2.1 The site is part of the former Houghton Main Colliery which has been subject to both deep shaft mining and, more recently, opencast working. Following opencast working the site was backfilled and restored to original levels.

4.2.2 The site is considered to be brownfield, previously developed land suitable for redevelopment. The site has planning permission granted for the development of a Renewable Energy Centre on the site (2015/0137), and the relevant pre-commencement conditions have been discharged.

4.3 Planning History

4.3.1 A search of Barnsley Metropolitan Borough Council's Planning Explorer database reveals the planning permission history for the site and surrounding area as set out in table 4.1 below.

4.3.2 The applications which are highlighted in orange in the below table, are those which are located on the proposed Houghton Main site.

Table 4.1: Planning History of the site and surrounding land. Orange highlighting indicates permissions covering the subject site.

Application Number	Site Address	Development Description	Status	Date Registered	Decision
2017/1726	Land off Park Spring Road, Houghton Main, Little Houghton, Barnsley	Discharge of conditions 5, 6, 7, 9, 10, 12, 13, 16, 23 and 24 of application 2015/0137 for erection of renewable energy park comprising of timber recovery centre and infrastructure	Under Consideration	17/01/18	
2017/0782	Land off Park Spring Road (opposite ASOS), Little Houghton, Barnsley, S72 7GX	Formation of a Car Park	Final Decision	11/09/17	Approved subject to Legal Agreement

2016/1106	ASOS, Park Spring Road, Barnsley, S72 7GX	Erection of 3 storey extension to existing building	Final Decision	01/09/16	Approve with Conditions
2015/0137	Land off Park Spring Road, Houghton Main, Little Houghton, Barnsley	Erection of a Renewable Energy Park comprising of a Timber Resource Recovery Centre and associated infrastructure	Final Decision	17/02/15	Approved Subject to Legal Agreement
2014/0559	Land off Houghton Main Colliery Roundabout, Park Springs Road, Barnsley	Development of Renewable Energy Park comprising Timber Resource Recovery Centre and Anaerobic Digestion Facility and associated infrastructure.	Final Decision	30/05/14	Refused
2013/0860	Park Spring Road, Little Houghton, Barnsley	Erection of 3 no. turbines wind farm with a height of 80m to hub and 126.5m to blade tip, including substation building and ancillary infrastructure. (Environmental Impact Assessment)	Final Decision	09/09/13	Approved with conditions
2012/1018	ASOS, Park Spring Road, Little Houghton, Barnsley, S72 7GX	Erection of extensions to southern and western elevations of existing distribution warehouse and extension to	Final Decision	13/09/12	Approved with conditions

		existing surface car parking area.			
2011/1443	Land off Park Spring Road, Houghton Main, Little Houghton, Barnsley	Erection of 19 industrial units with associated external works and landscaping (Extension to time limit of the application 2008/1426)	Final Decision	20/12/11	Approved with Conditions
2011/0951	Land off Park Spring Road, Little Houghton, Barnsley	Installation of a 70m high meteorological data gathering mast (Temporary for 2 years).	Final Decision	08/08/11	Approve for a Temporary Period
2008/1426	Land off Park Spring Road, Houghton Main, Grimethorpe, Barnsley	Erection of 19 industrial units with associated external works and landscaping.	Final Decision	11/09/08	Approved
2005/1441	Park Springs, off Park Spring Road, Little Houghton, Barnsley	Erection of a distribution warehouse and associated offices, car parking, service areas and landscaping (Reserved Matters).	Final Decision	22/08/05	Approved with Conditions
B/03/0762/HR	S/O Houghton Main Colliery, Middlecliffe Lane, Little Houghton	Outline for modification of Condition No. 1 of planning consent B/99/1064/HR for use of land for industrial/employment uses.	Final Decision	14/05/03	

5. Need and Alternatives

5.1 Introduction

- 5.1.1 Part 5, Section 18 (3d) of the EIA regulations requires ‘a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;’ to be included within the ES.
- 5.1.2 Where no alternatives are considered by the developer, there is no requirement to include details of alternative options. In this instance, ‘alternatives’ were not considered by the developer. The following sections provides justification for this.

5.2 Existing Planning Consent

- 5.2.1 The consented planning application 2015/0137 established the need for and successfully justified the proposal against alternatives for the proposed development in the proposed location. It considered that there was a justifiable need for a facility capable of the thermal treatment of a specific waste stream (wood) on the subject site.
- 5.2.2 A comprehensive alternative site assessment was prepared and approved, and information was provided to address alternative sites including those allocated in the local waste plans. This assessment concluded that the proposed site is suitable for the proposed type of development and confirmed that no other potentially acceptable sites would perform better than the selected site at Houghton Main.
- 5.2.3 The National Planning Policy Guidance on Waste was published prior to the determination of the application and this was fully addressed within the decision. This included successfully demonstrating that the proposed development would not harm delivery of local waste management objectives as set out in adopted Barnsley, Doncaster and Rotherham waste management strategy and local plan.
- 5.2.4 This section considers whether alternatives need to be reconsidered as a result of the amendments sought to the consented scheme, in terms of national and local waste management strategy, waste management requirements and local waste planning strategy. This is limited to the switch to RDF and the increase in throughput.

5.3 National and local planning need for the switch to RDF and increase in throughput

- 5.3.1 The ‘need’ for the proposed amendments is identified within national and local planning policies. The NPPF (2018), at paragraph 154, states that:

‘When determining planning applications for renewable and low carbon development, local planning authorities should: 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.’

- 5.3.2 Policy WCS4 of the Barnsley, Doncaster and Rotherham Joint Waste Plan relates to Waste Management proposals on non-allocated sites. This policy states:

‘Proposals for waste development on non-allocated sites will be permitted provided they demonstrate how they:

- *Do not significantly adversely affect the character or amenity of the site or surrounding area;*
- *Contribute towards the aims of sustainable waste management in line with the waste hierarchy;*

- *Do not undermine the provision of waste development on strategic sites set out under Policy WCS3'*
- 5.3.3 Policy WCS4 also notes that; 'Subject to meeting these criteria, the types of location where waste proposals may be acceptable in principle include...designated employment and industrial areas/sites.'
- 5.3.4 The Joint Waste Plan notes that landfill is becoming increasingly expensive and scarce, and notes that we urgently need to develop new technologies and alternative solutions to manage waste in a way that reduces emissions, conserves or produces new resources and protects or enhances the quality of the environment.
- 5.3.5 The Joint Waste Plan states that; 'modern waste technologies and practices offer the opportunity to enhance our green credentials since they:
- *Can significantly reduce greenhouse gas emissions and energy costs (e.g. use of fossil fuels and road transport) as fewer resources are used;*
 - *Are cleaner and more resource efficient than traditional methods of waste disposal;*
 - *Can bring benefits to communities, such as green jobs, new waste collection services and alternative energy sources (e.g. biofuel and biomass) that can heat or power our homes and businesses;*
 - *Are subject to strict environmental regulations through licences issued by the Environment Agency and subsequent licence enforcement/ monitoring; and*
 - *Set a good example to the rest of the region and the UK on delivering innovative waste solutions'.*
- 5.3.6 The South Yorkshire Municipal Waste Strategy (2016-2021) vision aims to reduce, re-use and recover energy from 95% of South Yorkshire's waste. The Joint Waste Strategy recognises that a wide range of proven waste technologies are available. These technologies have the potential to convert waste that cannot be re-used or recycled into renewable energy, such as electricity. The Joint Waste Strategy's approach is designed to be flexible rather than prescriptive to encourage innovation and support advances in technology over the plan period.
- 5.3.7 The Joint Waste Strategy demonstrates that Barnsley, Doncaster and Rotherham will require an additional 337,000 tonnes of municipal waste recycling, composting, treatment or recovery capacity by the end of the plan period. The authorities in the area have made contractual arrangements for the collection, management and disposal of this waste, which would not be affected by the switch of materials input to the Houghton Main Energy Centre.
- 5.3.8 Additionally, the Joint Waste Strategy demonstrates that Barnsley, Doncaster and Rotherham currently produce around 700,000 tonnes of commercial and industrial waste each year (which equates to just over 10% of Yorkshire and the Humber's total commercial and industrial waste). Barnsley, Doncaster and Rotherham require an additional 180,000 tonnes of commercial and industrial recycling, composting treatment or recovery capacity by the end of the plan period.
- 5.3.9 By 2026, Barnsley, Doncaster and Rotherham must provide sufficient new waste management facilities to meet the capacity shortfall of around 517,000 tonnes of recycling, treatment and recovery capacity for municipal, commercial and industrial waste (Figure 3). This could be met through the provision of three large sites (100-400,000 tonnes/year) or a number of smaller sites.
- 5.3.10 At present, non-hazardous waste materials from South Yorkshire and the wider Yorkshire and Humber Region are collected from a variety of sources for recycling and processing into RDF at large aggregator sites. Significant amounts of RDF have been sent abroad for use in European energy recovery facilities. This practice has reduced and will further decline after Brexit, meaning that there

will be further requirements for waste management capacity in the UK in order to ensure diversion from landfill is maintained and increased.

- 5.3.11 In switching to utilise RDF, the Energy Centre will support movement up the waste hierarchy, with energy recovery being favoured over disposal. This S73 application seeks to increase throughput at the consented facility by 110,000 tonnes per annum, to 260,000 tonnes per annum of RDF. This is waste which might otherwise be sent to energy recovery facilities further afield or, more likely, landfill.
- 5.3.12 The consented application is already considered to be an appropriate type of development in the proposed location as established by the planning permission. The above discussion demonstrates a core requirement for further waste management capacity to handle residual RDF materials and utilise this to generate low carbon energy.

5.4 Insignificant environmental impacts and effective mitigation of switch to RDF and increase in throughput

- 5.4.1 The proposed amended development sought within this S73 application will increase the tonnes of material processed at this site from the consented 150,000tpa to 260,000tpa. It would switch the materials processed from waste wood to RDF.
- 5.4.2 Given there are no other changes to the consented scheme, the potential environmental impacts arising, to be considered in this ES are limited to Traffic and Air Quality.
- 5.4.3 **Traffic Generation** – The consented application described arrangements for transfer of feedstock to the site based on a supply contract with a single supplier. This would result in a managed, predictable pattern of deliveries in vehicles akin to modern distribution HVs. This will not change.
- 5.4.4 Feedstock would be brought to site from RDF aggregators under a single contract or small number of contracts, which provides advantages in terms of improving the ability of the operators to manage heavy traffic routes to the plant, to manage and limit delivery hours in accordance with operational, traffic and local amenity considerations. From an operational viewpoint, a single contract also provides more control over the quality and consistency of waste materials and greater security in terms of power generation.
- 5.4.5 The level of traffic generated by the change of, and increase in, feedstock to be accepted at the site has been fully assessed in an updated Transport Assessment. The level of traffic generation is not significant and will have a negligible impact on the highway network.
- 5.4.6 Negligible impacts on traffic generation have been successfully mitigated through proposals to include Saturdays and Sundays as delivery days. Information has been submitted to provide reassurance of the potential to consent additional delivery days through a HV routing plan.
- 5.4.7 The changes sought do not lead to the need to reconsider the acceptability of the site for the use consented and proposed, established in local planning policy and by previous decisions to consent vastly greater transport movements from the site in connection with a business park development, a permission which has also been implemented.
- 5.4.8 The Joint Waste Strategy recognises that in terms of location, preference will be given to employment and industrial areas or sites within existing waste management use. Most waste facilities are classed as employment uses and can be accommodated within existing employment sites, the proposed site is a designated employment site in the Local Plan
- 5.4.9 **Air Quality** – The proposals result in a need to re-assess in this ES impacts on air quality, on human health and to assess odour impacts. The results indicate improved results in terms of emissions impacts on local sensitive receptors. This results from higher emission velocity from the stack



supported by a greater amount of water vapour, thereby aiding dispersion, and from the characteristics of RDF over waste wood.

- 5.4.10 In view of the insignificant air quality impacts, odour impacts and human health impacts there is no requirement from this viewpoint, to reconsider alternative sites.

5.5 Conclusions

- 5.5.1 It is considered that the need for the proposed amendments to the consented application are necessary in terms of national and local waste management and planning policies. Justification for this is based on the amount of available RDF materials in the region and at a national level, and of the likelihood that this will continue to grow as exports of RDF materials decline. The proposals will demonstrably not impact on delivery of local municipal waste management objectives which are secured by waste management contracts managed by local authorities. There is an acknowledged requirement for new waste management capacity to handle non-hazardous RDF and a clear objective to recover low carbon energy from this material, over sending it to landfill.
- 5.5.2 An alternative site assessment for the site, which was submitted as part of the consented application 2015/0137, remains sufficient to support the proposed amendments in this S73 application. It confirmed that none of the alternative sites assessed would perform any better than the proposed Houghton Main site. This chapter has demonstrated that no further assessment of alternative sites is necessary from the viewpoint of environmental impacts. The justification for this is given above in relation to the insignificance of changes in impacts resulting from the proposals and the effectiveness of proposed mitigations (on traffic).

6. Traffic and Highways

6.1 Introduction

6.1.1 This chapter reports on the assessment of potential traffic and transport impacts associated with a Section 73 application at the consented Energy Centre at the Houghton Main colliery site in Barnsley.

6.2 Background

6.2.1 A full Transport Assessment has been undertaken in relation to the Section 73 application and this is reported in the separate document (181102/SK21847/TA01(-03)).

6.2.2 The scope of the Transport Assessment is based on that previously agreed with the local highway authority, Barnsley Metropolitan Borough Council (BMBC), when the Transport Assessment was prepared for the consented Energy Centre application on the site.

6.2.3 The scope of the assessment accords with the National Planning Policy Framework (NPPF) and National Planning Practice Guidance (NPPG). This chapter draws on the findings of the Transport Assessment and should be read in conjunction with the full transport document.

6.2.4 A Framework Travel Plan is proposed for implementation at the site. The Framework is attached as an appendix to the Transport Assessment. The Framework provides details of the recommended policy measures, management and monitoring mechanisms, and targets to be used promote sustainable access and reduce the number of single occupancy car trips generated by the site. The measures proposed have been drawn from UK best practice and acknowledge the future operational requirements and staff numbers at the site.

6.2.5 The changes to the RDF import levels at the site, whilst not generating substantial volumes of traffic, will include HV traffic required for the transport of materials to the site, and to a lesser extent, exports from the site. The operator has control over these movements and, although the Transport Assessment shows that the HV movements will not be significant, has agreed to institute management strategies to further minimise the impact of these movements on residential amenity and highway operation during critical periods. This includes adoption of a routing strategy for access to the A1 and M1 and a commitment to co-ordinate these movements to minimise the impact on ASOS shift change-over periods.

6.2.6 The Transport Assessment shows that the Section 73 application will have a minimal impact on surrounding highway network and will not generate significantly more traffic than that associated with the consented Energy Centre. The Transport Assessment considers the impact of the proposal on the A1695 Park Spring Road and site access. In line with the previous Transport Assessment, a forecast is also made of the development traffic impact the Broomhill and Cathill Roundabouts.

6.2.7 To summarise, the Transport Assessment considers changes in traffic flows for the following study area:

- Site Access/Park Spring Road
- A6195/A635 'Cathill Roundabout'
- A6195/Manvers Way/Highgate 'Broomhill Roundabout'

6.2.8 The junctions and links shown above are not necessarily locations where environmental impact from the proposals will cause a rise of between 10% and 30% in traffic. More details of the ES assessment criteria are provided later in this ES chapter.



6.2.9 This chapter sets out the assessment methodology for reviewing potential impacts arising from the transport requirements of the development proposals; the baseline conditions against which this is assessed; any mitigation measures and the residual effects of the proposals.

6.3 Legislation & policy

6.3.1 This section outlines the local, regional and national policy guidelines that will govern future development of the site. This section also details environmental guidance against which the transport impact has been assessed.

National Transport Policy

6.3.2 The National Planning Policy Framework (NPPF), published in 2012, consolidates previous national planning policy guidance into one document. NPPF was updated in 2018.

6.3.3 NPPF states that consideration should be given to both sustainable access and safety, and that developments should be located where the need to travel can be minimised and sustainable transport can be maximised. The NPPF outlines a commitment to the use of Travel Plans to reinforce the sustainable credentials of a development.

6.3.4 The NPPF document also states that refusal on transport grounds should only be made when residual cumulative impacts are severe or where there will be an unacceptable effect on road safety.

6.3.5 National Planning Practice Guidance (NPPG) provides guidance on the application of NPPF principles for local authorities and developers. In terms of transport, NPPG states where and when the assessment of transport impacts and the production of a Travel Plan will be required. NPPG states, in line with NPPF, that assessment of the transport implications of development will be required for proposals that are of a scale that will generate a significant volume of traffic or will have a severe impact on the local highway network. NPPG also outlines government commitment where accessibility is or can be made good.

6.3.6 In line with NPPF and NPPG, the site is located in an accessible location with highway infrastructure suitable for the use proposed already in place. The Transport Assessment demonstrates that the residual traffic generated by the proposal can be safely accommodated on the local highway network and will not cause a severe change from baseline operational characteristics.

6.3.7 The Transport Assessment shows that the proposal site meets national transport policy requirements.

Local Transport Policy

6.3.8 Local transport policy is outlined in the third South Yorkshire Local Transport Plan (known as the 'Sheffield City Region Transport Strategy: 2011-2026'). The document outlines transport strategy and investment priorities for Barnsley, Doncaster, Rotherham and Sheffield for the 15 year period. The document underpins local planning policy, including the Core Strategy, and aims to:

- Support economic growth
- Enhance social inclusion and health
- Reduce emissions from vehicles
- Maximise safety and security



- Provide excellent road, rail and air links to/from South Yorkshire

6.3.9 LTP3 seeks to influence land use planning by locating development so that the need to travel is reduced, accessibility is maximised and local infrastructure is appropriate to the needs of the development type.

6.3.10 The South Yorkshire Passenger Transport Executive (SYLTE) document 'Land Use Planning and Public Transport: A Developer Guide' seeks to:

- Support developers in designing a sustainable site
- Highlight public transport interventions and incentives available

6.3.11 The SYLTE guidance aims to:

'...prevent dependency on the private car, it is important that attractive public transport as well as walking and cycling links are in place, supported by incentives to use them.'

6.3.12 SYLTE promotes developments that provide good connections to existing sustainable route corridors. SYLTE guidance states to be deemed accessible a development must be within 400m (5-minute walk) of public transport facilities.

6.3.13 The development proposal meets the requirements of local policy.

Relevant Environmental Guidance

6.3.14 As a matter of best practice, this assessment has been undertaken based on the relevant guidance for the assessment of road traffic, including: 'Guidelines on the Environmental Assessment of Road Traffic' published in 1993 by The Institute of Environmental Management and Assessment (IEMA); and, 'Guidelines on Transport Assessment' published in March 2007 by the Department for Transport.

6.4 Methodology

Transport Assessment Scope

6.4.1 The scope of the Transport Assessment is based on that agreed with BMBC during the preparation of the assessments for the consented Energy Centre application. Further discussions were held with BMBC earlier this year, where BMBC requested that the traffic survey data be updated for the new planning application to allow an understanding of changes in prevailing traffic conditions near to the site.

Environmental Impacts

6.4.2 This assessment has taken account of the 'Guidelines for the Environmental Assessment of Road Traffic' (Guidance Note No. 1) prepared by The Institute of Environmental Assessment (IEA) (now The Institute of Environmental Management & Assessment). The IEMA Guidelines recommend two rules to be considered when assessing the impact of development traffic on a highway link:

Rule 1: Include highway links where traffic flows will increase more than 30% (or the number of HVs will increase by more than 30%); and

Rule 2: Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

- 6.4.3 The above rules are to be used in determining the study area links that should be included within the environmental assessment. The 30% threshold is based upon research and experience of the environmental effects of traffic, with less than a 30% increase generally resulting in imperceptible changes in the environmental effects of traffic. The 10% level should be applied to sensitive receptors only.
- 6.4.4 The IEMA threshold has been undertaken by comparing the base situation (eg with the 2015 150,000tpa site flows) with the additional flows resulting from the Section 73 application (eg additional 110,000tpa flows, changes to delivery hours and changes to shift patterns).
- 6.4.5 Column 3 in table 2.1 of the IEMA Guidelines sets out a list of environmental effects that should be assessed for their significance.
- 6.4.6 Definitions of each of the potential effects identified in the IEMA Guidelines are set out below along with explanatory text relating to assessment criteria. It is on this basis that the assessment in this chapter has been undertaken. It is acknowledged at paragraph 2.4 of the IEMA Guidelines that not all the effects listed in column 3 of table 2.1 would be applicable to every development.
- 6.4.7 **Noise and Vibration:** The environmental implications of noise and vibration arising from changes in traffic flow have been separately assessed in this ES.
- 6.4.8 **Visual Effects:** The visual effect of traffic is complex and subjective and includes both visual obstruction and visual intrusion. The IEMA Guidelines acknowledge that in the majority of situations the changes in traffic resulting from a development will have little effect.
- 6.4.9 **Severance:** Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. Severance is difficult to measure and by its subjective nature is likely to vary between different groups within a single community. In addition to the volume, composition and speed of traffic, severance is also likely to be influenced by the geometric characteristics of a road, the demand for movement across a road and the variety of land uses and extent of community located on either side of a road. All these factors are considered when determining the likely severance effect. In general terms according to the IEMA guidelines a 30% change in traffic flow is likely to produce a 'slight' change in severance, with 'moderate' and 'substantial' changes occurring at 60% and 90% respectively.
- 6.4.10 **Driver Delay:** Delay to drivers generally occurs at junctions where opposing vehicle manoeuvres are undertaken with vehicles having to give or receive priority depending upon the type of junction arrangement. A number of traffic modelling computer programs are available which are able to predict the average vehicle delay at junctions. Assessments have, where appropriate, been undertaken on the adjoining road network to establish the existing average vehicle delay during the weekday peak hour periods when traffic flows are at their greatest. Development traffic flows have then been added and further operational assessments undertaken to establish the average vehicle delay following development. The change in average vehicle delay as a result of the proposed development is then identified and its significance assessed. Details of these assessments are set out in the Transport Assessment.
- 6.4.11 **Pedestrian Delay:** The delay incurred by pedestrians is generally a direct consequence of their ability to cross roads. Thus the provision of crossing facilities, the geometric characteristics of the road, and

the traffic volume, composition and speed are all factors that can affect pedestrian delay and have been considered when assessing this effect. It should be noted that the IEMA guidelines advise that in assessing levels of, and changes in, pedestrian delay, assessors do not attempt to use quantitative thresholds. Instead, the Guidelines recommend the use of professional judgement to determine whether pedestrian delay is a significant effect.

- 6.4.12 **Pedestrian Amenity:** The term pedestrian amenity is broadly defined as the relative pleasantness of a journey. Pedestrian amenity is affected by traffic flow, speed and composition as well as footway width and the separation/protection from traffic. Pedestrian amenity encompasses the overall relationship between pedestrians and traffic, including fear and intimidation, which is the most emotive and difficult effect to quantify and assess. There are no commonly agreed thresholds for quantifying the significance of changes in pedestrian amenity, although where traffic flow (or its HV component) doubles significant effect is likely to arise. All the above factors are considered in reaching a professional judgement when assessing this effect.
- 6.4.13 **Accidents and Safety:** To establish the effect on the road safety record of the adjoining road network the latest available Personal Injury Accident (PIA) statistics have been obtained from DfT. These statistics provide information on the location and severity of PIAs. The data obtained covers the latest three-year period. Assessments have considered the statistical incidence of accidents and assessed the likely change in the frequency of accidents as a result of the proposed development. In addition, consideration has been given to the local circumstances prevailing in particular traffic speed, flow and composition as well as vehicle conflict and pedestrian activity. A combination of these assessments enables a professional judgement to be made regarding the significance of the effect.
- 6.4.14 **Hazardous Loads:** 'The Guidelines for the Environmental Assessment of Road Traffic' acknowledge, in paragraph 2.4, that most developments would not result in an increase in the number of movements of hazardous or dangerous loads. These are specific to certain development types.
- 6.4.15 **Air Pollution:** The potential air quality effects of the traffic generated by the proposed development are considered in separately in this ES.
- 6.4.16 **Dust and Dirt:** Potential dust and dirt arising from traffic is mainly associated with HV traffic. The extent of any impact of dust and dirt arising from the construction and post construction phase would be dependent upon the management practices adopted on site. Specifically procedures such as washing down of wheels and sheeting of HVs likely to shed debris would prevent the occurrence of dust and dirt spreading from the site to the adjoining road network. It is considered such procedures would ensure that dust and dirt are managed and do not impact on local people.

Magnitude of Impact

- 6.4.17 The methodology used in assessing the significance of any particular effect is set out in the paragraph above. A description of the terminology used is set out below.
- **Negligible:** No significant effects.
 - **Minor:** Not noteworthy or material – impacts are of low magnitude and frequency and will not exceed relevant quality standards, residual effects will be negligible.
 - **Moderate:** Noteworthy, material – impacts are of moderate magnitude and frequency. Relevant quality standards may be exceeded to limited extent. Possible secondary impacts, residual effects will be minimal.

- **Major:** Impacts are likely to be of a high magnitude and frequency with quality standards being exceeded, at times considerably. There may be secondary impacts of some magnitude, residual effects will be of some significance.
- **Substantial:** Impacts will be of a consistently high magnitude and frequency of standards exceeded by a significant margin. Secondary impacts also likely to have a high magnitude and frequency.

Sensitivity of Receptors

6.4.18 The sensitivity of receptors is set below:

- **High:** Over 200 properties per day affected by increased traffic flow. Over 45% increase in traffic flow past properties on single carriageways.
- **Moderate:** 100-200 properties per day affected by increased traffic flow. 30% increase in traffic flow past properties on single carriageways.
- **Low:** Under 100 properties per day affected by increased traffic flow. 10% to 15% increase in traffic flow past properties on single carriageways.
- **Negligible:** No discernible change in conditions or properties affected.

Assessment of Significance

6.4.19 The assessment of significance of transport effects of the development is guided by the sensitivity of the receptor points. Thus, the significance is directly related to the sensitivity of the receptor and the level at which the receptor will be affected.

6.4.20 The guidance cross tabulates the receptor sensitivity and impact magnitude, shown in Table 6.1.

Table 6.1 – Impact Significance

Significance		Sensitivity of Receptor			
		High	Moderate	Low	Negligible
Impact	Substantial	HIGH	HIGH/MODERATE	MODERATE	-
	Major	HIGH/MODERATE	MODERATE	LOW/MODERATE	-
	Moderate	MODERATE	MODERATE/LOW	LOW/NEGLIGIBLE	-
	Minor	LOW	LOW/NEGLIGIBLE	NEGLIGIBLE	-
	Negligible	-	-	-	-

Cumulative Impact Assessment

6.4.21 The Do-Nothing traffic forecasts include background traffic growth derived using locally adjusted TEMPRO NTEM factors. These factors include projections of future housing and employment growth in a local area.

6.5 Baseline conditions

Site Location & Characteristics

6.5.1 The site is located on the south side of the A6195 Park Spring Road just over 1km west of the settlements of Little Houghton and Great Houghton, some 6.5km east of the centre of Barnsley and 1.5km north of Darfield.

- 6.5.2 Vehicle access to the site is available via a spur from an existing roundabout on Park Spring Road, known as Houghton Main Colliery Roundabout. The junction also provides access to the ASOS Fulfilment Centre on the northern side of Park Spring Road and an ASOS car park the west of this facility.
- 6.5.3 The site forms part of the Houghton Main Colliery site (disused) and benefits from a live planning consent for the development of an energy centre (150,000tpa timber resource recovery) granted in 2015 (2015/0137). The site also has an implemented consent for the construction of 10,607sqm of employment uses (2008/1426) granted in 2011.
- 6.5.4 Planning consent also exists for a new ASOS car park, also accessed from the arm serving the development site. This car park is now constructed and provides 370 spaces. It is being provided to reduce congestion and road safety issues that occur in ASOS's existing 553 space car park during shift change over periods.

Accessibility by Vehicles

- 6.5.5 The A6195 Park Spring Road is a single carriageway road subject to the national speed limit. The road is of relatively recent construction and is of a high standard. The route is a bus corridor with typical service provision of two buses per hour in each direction during the day. Bus stops with good standard shelters are located on Park Spring Road adjacent to the site, footway connections to these are provided from the Houghton Main Colliery Roundabout.
- 6.5.6 The site relates well to the strategic highway network, with both the A1(M) and M1 approximately 9km to the east and west of the site, respectively. Access to strategic routes and the local area can be gained via the A6195 and other A class routes including the A635 which routes east-west between the M1 and A1(M) via Barnsley town centre, and meets the A6195 at the Cathill Roundabout some 2.5km south-east of the site.
- 6.5.7 The Cathill Roundabout connects the A6195 with the A635, the Broomhill Roundabout is the next junction to the south on the A6195, 2km south of the Cathill Roundabout, and provides access to Broomhill via Highgate and areas of Brampton and Wath Upon Dearne via Manvers Way.

Base Daily Traffic Flows

- 6.5.8 In 2018, Automatic Traffic Count (ATC) data was collected on Park Spring Road to the north and south of the site access. Additional daily traffic data has been taken from the DfT database for the wider area. The DfT data is from 2016 and so it has been growthed to 2018 using TEMPRO adjusted NTEM factors.
- 6.5.9 The 2018 Base daily link flow data is provided in the table below.

Table 6.2 – 2018 Base Daily Link Flows

Link Flows	Daily Total Traffic Flows (AADT)	Daily HV Flows (AADT)	% HV
A6195 N Park Spring Road	11072	1274	11.5%
A6195 S Park Spring Road	12266	1368	11.2%
A635 W Doncaster Road	18229	688	3.8%
A635 E Doncaster Road	15055	1677	11.1%
A6195 S	26025	1195	4.6%

- 6.5.10 The Transport Assessment should be referred to for details of existing AM and PM peak hour traffic flows.
- 6.5.11 The site benefits from planning consent for the development of an energy centre (150,000tpa timber resource recovery) and 12 car parking spaces (application ref 2015/0137). The planning permission was gained in 2015 and has an implemented status.
- 6.5.12 The consented site traffic flows were forecast using on advice from the applicant, the TRICS database and 2011 Census. The vehicle traffic flows permitted by the current site consent are summarized in the table below, with full forecast output provided in the Transport Assessment.

Table 6.3 – Permitted Site Traffic

	ALL VEHICLES (LV + HV)			HV ONLY		
	IN	OUT	TOTAL	IN	OUT	TOTAL
DAILY	38	38	77	30	30	60

- 6.5.13 The trip distribution on the wider network is based on that agreed with BMBC when considering the Transport Assessment for the current consent for the site.

Table 6.4 – Distributed Permitted Site Traffic

Route Name	Distribution	Permitted Traffic (LV + HV)	Permitted HV Traffic
A6195 N Park Spring Road	49%	38	29
A6195 S Park Spring Road	51%	39	31
A635 W Doncaster Road	16%	12	10
A635 E Doncaster Road	12%	9	7
A6195 S	22%	17	13

Road Safety Levels

- 6.5.14 Road safety data for the most recent three years available on the DfT database has been used to establish accident patterns at the site access junction. This data shows that there has been a single accident, classified as slight, at the site access junction during the period assessed.

Accessibility by Non-Car Modes

- 6.5.15 The opportunities for walking, cycling and public transport for access to the site have been considered. Use of these modes offers the opportunity to reduce the amount of traffic generated by the proposal thereby minimising the negative effects of traffic associated with the scheme.

Access on Foot

- 6.5.16 Two-thirds of all journeys in the UK are under-five miles and short distance trips offer the greatest opportunity for changes in travel behaviour. DfT best practice guidance states that walking has the potential to substitute for car trips under 2km, which equates to a 25-minute walk.
- 6.5.17 The settlements of Little Houghton lie within the accepted maximum walking distance of 2km for commuting trips and footways are present connecting to this area.
- 6.5.18 The northern part of Darfield is also within 2km of the site and footpath connections are again present between Darfield and the A6195 via Ings Lane, to the south of the Site.

6.5.19 Given the limited population within an acceptable walking distance of the Site it is considered that walking is unlikely to make a significant contribution to travel to the site, but routes are available from the nearest settlement areas.

Access by Cycle

6.5.20 The section of Park Spring Road between the site access junction and Ings Lane is designated as part of the local cycle network with a cycle connection available to Middlecliff Lane. To the north of the site further off-road cycle connections are available from the A6195 to Great Houghton and Cudworth.

6.5.21 National cycle network routes 62 and 67 run to the west and south of the site.

6.5.22 Cycling England recommends 8km as a maximum cycling distance in the document ‘Integrating Cycling into Development Proposals’ and the CIHT document ‘Planning for Cycling’ states that cycling has the potential to substitute for car trips under five miles (8km).

6.5.23 The communities of Little Houghton, Great Houghton, Thurnscoe, Bolton upon Dearne, Wombwell, Cudworth and Stairfoot are all within an acceptable cycle distance of the Site.

Public Transport

6.5.24 Bus stops are available on both sides of Park Spring Road adjacent to the Site. These are of a good standard with shelters, timetable information and footway connections.

Table 6.5 – Existing Bus Services

Service No.	Route	AM	Day	PM	Evening
27	Barnsley – Shafton – Grimethorpe – Wombwell	1	2	2	1
28/28C	Barnsley – Cudworth – Brierley - Pontefract	1	1	1	1
208	Rotherham – Swinton - Grimethorpe	3 per day: 1 early morning, 1 mid-afternoon and 1 late evening			
219/219 A	Barnsley - Doncaster	2 early morning and 2 late evening			

6.5.25 The existing bus services offer a good level of coverage of surrounding residential areas. The timings of the services will cover the proposed shift patterns and regular services are available during the day.

6.5.26 The number and frequency of existing bus services currently available offer a realistic option for travel to the Site.

Existing Commuter Mode Share

6.5.27 Mode share information for work trips undertaken in the area around the site has been obtained from the 2011 Census. The Census data is shown in the table below.

Table 6.6 – Existing Barnsley Mode Share

Single Occupancy Car	71%
Sustainable Modes	29%

6.5.28 The existing travel pattern suggests there are opportunities in relation to the proposal site to build on bus use, cycle use and car sharing in order to minimise car trips for staff. This opportunity is borne out by a staff travel survey undertaken at the adjacent ASOS Fulfilment Centre. The ASOS survey showed that staff travel by single occupancy car is 51%, rather than the 71% Barnsley authority average.

6.6 Evaluation

Modelling Scenarios

6.6.1 In this ES Chapter the following development impact test scenarios have been undertaken:

- 2023 Do-Nothing
- 2023 Do-Something

6.6.2 Full details of the AM and PM peak hour assessments are provided in the Transport Assessment.

Assessment Years

6.6.3 In line with DfT guidance, the Transport Assessment considers a future assessment year of five years post planning permission, e.g. 2023.

6.6.4 The 2018 Base traffic flows have been growthed to the assessment year using TEMPRO adjusted NETM to model the effects of background traffic flows and future housing and employment growth projections.

6.6.5 The permitted site traffic flows associated with the 150,000tpa energy centre are included in the 2023 Do-Nothing traffic flows as this is the situation that will occur if the changes associated with the Section 73 application do not come forward.

6.6.6 A new ASOS car park (370 spaces) has been constructed adjacent to the proposed energy centre. This car park has been provided to reduce road safety and congestion issues that occur in ASOS's existing car park during shift change over periods. The Transport Statement produced and agreed with BMBC during consideration of this application demonstrated that the new car park would not generate any new ASOS traffic flows, as it was merely provided to allow improved efficiencies for existing ASOS movements. The traffic flows associated with this proposal are therefore already included in the 2018 Base link traffic flows. An adjustment has been made to the turning flows at the Houghton Colliery Roundabout for the purposes of the modelling in the Transport Assessment.

6.6.7 Full details of the growth factors are provided in the Transport Assessment. The Do-Nothing link flows are shown in the table below.

Table 6.7 – 2018 Base & 2023 Do-Nothing Traffic Flows

Link Location	2018 Base AADT			2023 Do-Nothing AADT		
	Total	HV	%HV	Total	HV	%HV
A6195 N Park Spring Road	11072	1274	11.5%	11874	1391	11.7%
A6195 S Park Spring Road	12266	1368	11.2%	13152	1493	11.4%
A635 W Doncaster Road	18229	688	3.8%	19499	745	3.8%
A635 E Doncaster Road	15055	1677	11.1%	16103	1800	11.2%
A6195 S	26025	1195	4.6%	27837	1291	4.6%

Development Overview

- 6.6.8 The Energy Centre will primarily treat up to 260,000tpa RDF and will export upto 22MWe of low carbon electricity. This is an increase of 110,000tpa RDF import when compared to the consented situation.
- 6.6.9 From a transport and access perspective, the rest of layout remains the same as the consented situation. Access will still be taken, as consented, from the existing spur on the Houghton Main Colliery Roundabout. This access has been constructed as part of the condition discharge for the consented use.
- 6.6.10 Parking is provided at a level required to meet the operational needs of the facility. In line with this, 12 parking spaces are provided, including two disabled spaces. A cycle shelter is provided with three cycle stands (six spaces).

Traffic Forecast

- 6.6.11 The facility will have the capability to deal with 260,000tpa of import RDF material. The facility will generate approximately 52,000tpa export material (ash). The facility will operate continuously throughout the year between Monday and Sunday, with a presumed average four weeks downtime for maintenance.
- 6.6.12 In line with the current consent HV movements will occur between 07:00 and 19:00 (Monday to Friday) and 08:00 and 18:00 (Saturday and Sunday).
- 6.6.13 Table 6.8 shows the total Energy Centre traffic flows following the Section 73 application proposals, e.g. traffic flows associated with the 150,000tpa consent and traffic flows associated with the Section 73 additional 110,000tpa. For the assessment it has been assumed that deliveries and exports will be undertaken in 25t payload vehicles. In reality vehicles up to 28t payloads could be used. The use of 25t ensures a robust assessment of future traffic numbers.

Table 6.8– Operation

	TPA	Average Payload (t)	Weekly Tonnage	Weekly HV	Weekday Daily Load	Weekend Daily Load
Deliveries	260,000	25	5,417	217	33	27
Export	52,000	25	1,083	43	7	5

- 6.6.14 The resulting movements are summarised in table 6.9. Table 6.9 shows the total Energy Centre flows following the Section 73 application (eg including the consented traffic situation).

Table 6.9– HV Trips

	Heavy Vehicle Traffic		
	IN	OUT	TOTAL
Weekday Daily	39	39	78
Weekend Daily	33	33	66
AADT	37	37	74

6.6.15 The facility will employ a total of 20 members of staff. The operator has advised that a maximum of 4 shift staff will be on site at any one time and that the facility will operate three 8-hour shifts per day (8am – 4pm, 4pm – 12am, and 12am – 8am). Managerial staff will work between 8am and 5pm, the traffic forecast for the assessment is based on 4 managerial staff being on site at once.

6.6.16 Typical commuter car driver mode shares for travel to work in Barnsley are again used to complete the analysis of traffic movements associated with the facility. These are shown in the table.

Table 6.10–Total Site Traffic (in veh)

	HV Traffic			Shift Staff Car Traffic			Management Staff Car Traffic			Total Traffic		
	IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
Weekday Daily	39	39	78	9	9	18	3	3	6	51	51	102
Weekend Daily	33	33	66	9	9	18	3	3	6	45	45	90
AADT	37	37	74	9	9	18	3	3	6	49	49	98

Development Traffic Distribution

6.6.17 The traffic has been distributed onto the highway network in line with the distribution used in the TA for the consented Energy Centre.

Table 6.11– Development Trip Distribution (in veh)

Route Name	Distribution	Permitted Traffic (LV + HV)	Permitted HV Traffic
A6195 N Park Spring Road	49%	48	36
A6195 S Park Spring Road	51%	49	38
A635 W Doncaster Road	16%	16	12
A635 E Doncaster Road	12%	12	9
A6195 S	22%	21	16

2023 Do-Something Flows

6.6.18 The table below shows the Do-Something flows that will occur following the development. The flows are made up of the growthed 2018 Base flows and distributed development flows. The development flows include those associated with the consent for a 150,000tpa Energy Centre.

Table 6.12– 2023 Do-Something Flows (in veh)

Link Location	2023 Do-Something AADT		
	Total	HV	%HV
A6195 N Park Spring Road	11884	1398	11.76%
A6195 S Park Spring Road	13162	1500	11.4%
A635 W Doncaster Road	19502	748	3.83%
A635 E Doncaster Road	16106	1802	11.19%
A6195 S	27842	1294	4.65%

6.7 Assessment of impact & significance

Quantification of Impact

6.7.1 The table below shows a comparison of total daily traffic associated with the consented Energy Centre and the new proposal.

6.7.2 The table shows that the proposal will not result in a significant increase in traffic flows, when compared to the consented situation, and that the level of change is well beneath DfT significance thresholds.

Table 6.13– Comparison of Permitted & New Site Trips (in veh)

	AADT (LV+HV)	AADT (HV)
Permitted	76	60
Permitted + Section 73	97	74
<i>Change</i>	<i>+21</i>	<i>+14</i>

6.7.3 The table below shows that the change in the network traffic flows resulting from the Section 73 application. The table shows that there will be a minimal increase in traffic flows from the Do-Nothing scenario as a result of increasing RDF import on all highway links. The change in flows is negligible at all locations.

Table 6.14– Change in Network Traffic (in veh)

Link Location	Do-Nothing	Do-Something	Impact (with permitted)
A6195 N Park Spring Road	11874	11884	0.083%
A6195 S Park Spring Road	13152	13162	0.078%
A635 W Doncaster Road	19499	19502	0.016%
A635 E Doncaster Road	16103	16106	0.015%
A6195 S	27837	27842	0.016%

6.7.4 The table below shows that there will be a minimal change in HVs on the highway network as a result of the Section 73 application. The table shows that the change in HV composition on the highway network will be minimal.

Table 6.15– Change in HV Proportion of Base Traffic

Link Flow	Do-Nothing	Do-Something	Change in HV %
	HV %	HV %	
A6195 N Park Spring Road	11.72%	11.76%	+0.04%
A6195 S Park Spring Road	11.35%	11.40%	+0.05%
A635 W Doncaster Road	3.82%	3.83%	+0.01%
A635 E Doncaster Road	11.18%	11.19%	+0.01%
A6195 S	4.64%	4.65%	+0.01%

6.7.5 The IEMA Guidelines recommend two rules to be considered when assessing the impact of development traffic on a highway link:

- **Rule 1:** Include highway links where traffic flows will increase more than 30% (or the number of HVs will increase by more than 30%); and
- **Rule 2:** Include any other specifically sensitive areas where traffic were flows have increased by 10% or more.

6.7.6 As can be seen in both tables, the Section 73 application will not result in an increase in total daily traffic flows above 1%, with a maximum change in traffic flows of 0.083%. The change in HV traffic proportions is also negligible with a maximum increase in proportion of 0.05%.

6.7.7 The impact of the Section 73 application is substantially less than both IEMA Rule 1 and Rule 2 significance thresholds of 10% and 30%. On this basis, no further environmental assessment is required, and it is concluded that the proposal will have a negligible environmental impact.

6.7.8 BMBC has identified the Cathill and Broomhill Roundabouts as sensitive locations. The change in total daily traffic on the links approaching these junctions is forecast to be a maximum of 0.016%. This level of increase in flows will not be perceptible to other drivers on the network and will have no impact on highway operation or safety. It is also well below the IEMA’s 10% significance threshold for sensitive locations.

6.7.9 The level of change in proportion of HV traffic on links approaching the roundabouts is also minimal and will not cause an environmental impact.

6.7.10 It is concluded that the Section 73 application will not have an environmental transport impact on the surrounding area. Notwithstanding this, further consideration is given to the effects of the development.

Visual Effects

6.7.11 The Transport Assessment, and the tables above, demonstrate that the change in traffic resulting from the development is insignificant at all locations.

- 6.7.12 The additional development traffic will access the site via existing highway routes, which contain LV and HV traffic. The access routes are all of sufficient standard and design to accommodate the development flows.
- 6.7.13 The Section 73 application will not significantly alter the composition of traffic already on the local road network. The assessment shows that the increase in HV proportions will be minimal and will have a negligible effect.
- 6.7.14 It is concluded that the Section 73 application will have a low significance impact on visual effects.

Severance

- 6.7.15 Severance is only likely to occur on heavily trafficked roads and result from the perceived division the road and traffic creates between either side of the carriageway.
- 6.7.16 IEMA guidance states that severance changes area often difficult to detect and require changes in flows above 90% for it to be classified as 'substantial' and over 60% for it to be classified as 'moderate'.
- 6.7.17 The Section 73 application will not result in changes in traffic flow of a significant magnitude, with the highest offsite impact being 0.083% increase in total traffic and 0.05% increase in HV proportions at the site access junction.
- 6.7.18 The impact of the Section 73 application on severance is below the thresholds defined by IEMA and the development will not have a significant impact on this element.

Driver Delay

- 6.7.19 Delays to drivers are generally caused at junctions. The impact of the development proposal on driver delay has been assessed in the Transport Assessment. This assessment shows that the addition of the development traffic on the highway network will have an insignificant impact on driver delay at most junctions within the study area, when compared to the baseline situation.
- 6.7.20 The Broomhill and Cathill Roundabouts are identified by BMBC as sensitive locations with existing delay issues. The Transport Assessment shows that the traffic impact of the proposal will be minimal at these locations and will not result in a significant change from baseline traffic conditions. Despite this, the proposal includes measures to encourage a reduction in staff single occupancy car movements, a HV routing strategy and a commitment to co-ordinate deliveries to reduce impact during ASOS shift changes.

Pedestrian Delay & Amenity

- 6.7.21 The delay incurred by pedestrians is generally a direct consequence of their ability to cross roads. Thus, the provision of crossing facilities, the geometric characteristics of the road and traffic volume, composition and speed are all factors that can impact on pedestrian delay.
- 6.7.22 The Transport Assessment demonstrates that the development site is well located to allow access to existing pedestrian routes connecting to local bus stops.
- 6.7.23 Guidance states that a doubling of traffic or HV has to occur for significant impact on pedestrians to be experienced. The maximum change in traffic is well beneath the defined significance levels.

Accidents & Safety

- 6.7.24 The Transport Assessment includes analysis of historic collision records at the access to the site. This analysis shows that there are no prevalent accident patterns or hotspots.
- 6.7.25 The net change in traffic as a result of the Section 73 application is shown to be insignificant on the network with a maximum of 0.083% and the impact on road safety is forecast to be negligible.

Dust & Dirt

- 6.7.26 Dust and dirt arising from traffic is mainly associated with HV traffic undertaking particular activities, such as construction. The extent of any impact of dust and dirt will be dependent upon management practices during construction. Specific procedures, such as washing down wheels and sheeting HV, will stop incidence of dust and dirt spreading on to the adjoining highway network.
- 6.7.27 All vehicular routes on site will be surfaced and so it is unlikely that any dust or dirt will arise from traffic generated by the completed proposal. The development will have a negligible impact on dust and dirt.

6.8 Mitigation

- 6.8.1 The Transport Assessment shows that the Section 73 application will have a minimal impact on surrounding highway network and will not generate significantly more traffic than that associated with the permitted energy centre.
- 6.8.2 The Transport Assessment considers the traffic impact of the proposal on the A1695 Park Spring Road, site access, Cathill Roundabout and Broomhill Roundabout. The Transport Assessment shows that the proposal will not have a material impact on AM or PM peak operation at these locations.
- 6.8.3 The Transport ES chapter shows that the proposal will have a negligible impact when considered against IEMA significance thresholds.
- 6.8.4 The Transport Assessment shows that the Section 73 application can be accommodated without a requirement to provide mitigation measures. Despite these findings the development proposals identify measures to enhance accessibility to the site, to promote efficient HV route management and a commitment to co-ordinate deliveries to minimise the impact during ASOS shift change-overs.
- 6.8.5 The Transport Assessment and ES transport chapter use a worst-case staff car mode share and do not consider the reductions in single occupancy car use that will result when the Travel Plan is adopted. Both of these elements will reduce development traffic and will further mitigate the environmental effects of the proposal.
- 6.8.6 The ES assessment shows that the proposal for which outline consent is sought will not have a perceptible environmental impact on local transport conditions, even when the proposed mitigation measures are not considered in the assessment.

6.9 Residual effects

- 6.9.1 The traffic generated by the Section 73 application proposals has been clearly shown to have an insignificant impact upon future traffic and transport conditions. This is despite the use of worst-case traffic assumptions and no account made of mitigation measures.
- 6.9.2 The proposal identifies infrastructure and sustainable policy interventions that, if considered in the traffic generation, would further reduce residual traffic flows.
- 6.9.3 A summary of the environmental impact of the Section 73 application is provided in the table below.

Table 6.16– Significance After Mitigation

Description of Impact	Nature of Impact	Mitigation Measure(s)	Significance after Mitigation
Increase in traffic flows	Change in traffic flows	None required, below threshold of significance. However, development proposes: Travel Plan measures & HV Management Strategy	Negligible
Visual effects	Change in traffic composition/movements	None required, below threshold of significance. However, development proposes: HV Management Strategy	Negligible
Severance	Change in traffic flows	None required, below threshold of significance. However, development proposes: Travel Plan measures & HV Management Strategy	Negligible
Driver delay	Change in junction operation	None required, below threshold of significance. However, development proposes: Travel Plan measures & HV Management Strategy	Negligible
Pedestrian delay/amenity	Change in traffic flows	None required, below threshold of significance. However, development proposes: Travel Plan measures & HV Management Strategy	Negligible
Accidents and safety	Change in traffic flows	None required, below threshold of significance. However, development proposes: Travel Plan measures & HV Management Strategy	Negligible

Description of Impact	Nature of Impact	Mitigation Measure(s)	Significance after Mitigation
Hazardous loads	Construction only	Subject to management plan if required	Negligible
Dust and dirt	Construction only	Subject to construction practice methods identified in Operation Method Statement	Negligible

6.10 Summary & conclusions

- 6.10.1 This chapter reports on the assessment of potential traffic and transport impacts associated with the Section 73 application for the Energy Centre at the Houghton Main colliery site in Barnsley.
- 6.10.2 The site benefits from planning consent for an Energy Centre (150,000tpa timber resource recovery). The Section 73 application seeks to increase RDF import to 260,000tpa, a 110,000tpa increase when compared to the consented situation.
- 6.10.3 A Framework Travel Plan has already been prepared and agreed with BMDC for the consented Energy Centre. This document has been updated to acknowledge the increase in RDF import and changes in delivery and shift patterns, but in all other respects remains the same as consented Framework Travel Plan. The Framework Travel Plan for this is attached as an appendix to the Transport Assessment.
- 6.10.4 The Framework Travel Plan provides details of the recommended policy measures, management and monitoring mechanisms, and targets to be used promote sustainable access and reduce the number of single occupancy car trips generated by the site. The measures proposed have been drawn from UK best practice and acknowledge the future operational requirements and staff numbers at the site.
- 6.10.5 The type of development proposed, whilst not generating substantial volumes of traffic, will include HV traffic required for the transport of materials to the site, and to a lesser extent, exports from the site. The operator has control over these movements and has agreed to institute management strategies to minimise the impact of HV movements on residential amenity and ensure that large vehicles use appropriate A class roads to access the A1 and M1. The HV routing strategy is included in the Transport Assessment and Framework Travel Plan for the site.
- 6.10.6 Although the changes in traffic flows resulting from the Section 73 application are minimal, a full Transport Assessment has been prepared. The Transport Assessment further supports the conclusion that the Section 73 application will have a minimal impact on surrounding highway network and will not generate significantly more traffic than that associated with the current consented use of the site. The Transport Assessment considers the impact resulting from the change in traffic at the site access, Cathill Roundabout and Broomhill Roundabout. The Transport Assessment also considers the reassignment of the existing ASOS traffic flows that will result of ASOS providing additional parking facilities off Park Spring Road to accommodate shift change over period traffic.
- 6.10.7 The Transport Assessment demonstrates that changes in traffic movements arising from the Section 73 application can be accommodated on the local highway network and that changes in traffic flow will be insignificant.
- 6.10.8 The Transport Assessment and ES transport chapter show that the traffic impact of the Section 73 application is well below the IEMA significance threshold at all highway links in the study area. Despite this, the impacts of Section 73 application in relation to the key environmental criteria as set out in IEMA guidance have still been considered in this report. The assessment shows that the Section 73 application will have a negligible transport impact in all criteria. The Transport Assessment still



identifies infrastructure and sustainable policy interventions that will accompany the proposal to reduce single occupancy car use and manage HV movements.

6.10.9 It is concluded that the Section 73 application will not have a significant environmental transport impact and will not substantially change the situation currently consented for the site.

7. Hydrology, Flooding and Drainage

7.1 Proposals

7.1.1 A Section 73 application seeks amendments to consented application (2015/0137) on land off Houghton Main Colliery Roundabout. As confirmed prior, the following amendments to this application are sought:

- Changes to widen the type of feedstock being utilised to include RDF;
- An increase to the consented tonnage limits to 260,000 tonnes per annum;
- An increase in consented daily waste delivery/ export traffic movements;
- An increase to delivery hours at the site; and
- Adjustments to on-site construction hours.

There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented. This also means no increase in drained surfaces will occur nor any increase in the peak employee numbers at the Site.

7.2 Sensitive receptors

7.2.1 The submitted Hydrology chapter of the Environment Statement for consented application 2015/0137 stated the only environmental receptor for flooding and drainage associated with the proposed development is the River Dearne, located just beyond the western boundary. The proposals outlined above will not alter in any way, the receptor nor its sensitivity to the proposed development.

7.2.2 The proposals indicate there is no amendment to the redline nor any additional infrastructure which would include any additional drained surfaces. Without an increase in hardstanding areas, there is no alteration to potential for pollutants reaching the River Dearne. Therefore, the previous assessment is valid and no change in impact will occur.

7.2.3 The site will also experience the same flood risk as assessed previously, thus the probability of flooding within the Site is unaltered and thus the previous assessment remains valid and no change in impact will occur.

7.2.4 The proposal will not increase the maximum peak number of employees within the site. Without an increase in employee numbers at the site, foul flows will not increase and therefore the assessment undertaken previously is still valid and no change in impact will occur.

7.3 Cumulative impacts

7.3.1 The following sites were identified within the original ES submitted with the approved application:

7.3.2 Park Spring Wind Farm (2013/0860); and

7.3.3 ASOS Extension to Warehouse and Parking Area (2013/1250).

7.3.4 Following the application, the following additional applications that may contribute to a cumulative impact have been identified:

- Car park on Land off Park Spring Road (opposite ASOS), Little Houghton, Barnsley, S72 7GX (2017/0782); and

- Three-storey extension to ASOS, Park Spring Road, Barnsley, S72 7GX (2016/1106).

7.3.5 The above additional developments will contribute surface water to the River Dearne in the vicinity of the Site. However, both developments are known to have existing or proposed Sustainable Drainage Systems which will ensure the volumes of surface water and chemical water quality are suitable for discharge to the River Dearne.

7.3.6 The proposals outlined for the Site do not include any additional surface water discharging from the Site. Therefore, any assessment of cumulative impact from the Hydrology chapter of the ES submitted with the consented application or any assessment undertaken for the above listed local developments should still be considered valid and no change in impact will result.

7.4 Changes to topic specific guidance since the original application

7.4.1 Table 7.1 below demonstrates the reference documents that have been amended or replaced since the consented application was made. It summarises what, if any, changes to the assessment criteria have resulted from the document amendments and replacements.

Table 7.1: Reference Document Amendments/Replacements and summary of any assessment changes resulting from there.

Original Reference Document	Amendment/Replacement	Changes to assessment following the document amendment/replacement
National Planning Policy Framework 2012	National Planning Policy Framework 2018	None to affect.
Technical Guidance to the National Planning Policy Framework 2012	Planning Practice Guidance, ID 7	None to affect. <i>Climate Change allowance for attenuation of rainfall during a 1 in 100-year event has increased from 30% to 40%. As the application was submitted prior to March 2016, it can continue to attenuate with the 30% allowance.</i>
Office of the Deputy Prime Minister, The Building Regulations 2000	Office of the Deputy Prime Minister, The Building Regulations 2010, amended 2015.	None to affect
British Water Code of Practice, Flows and Loads – 3, 2009	British Water Code of Practice, Flows and Loads – 4, 2013	None to affect.

Note – Any text in italics are additional comments for clarification.



7.4.2 As confirmed in Table 7.1, the listed reference document amendments or replacements have not changed in a manner to alter the assessment made in the original ES.

7.5 Confirmation of no additional impacts

7.5.1 As outlined above, the listed amendments to the original proposed development will not change flood risk, or surface water/foul drainage from the Site. While there are potential additional developments within the local area of the Site that may contribute surface water to the only local sensitive receptor (the River Dearne), there will be no change to the cumulative impacts as assessed in the original ES. Any amendments or replacements for reference documents have not resulted in changes to the assessment for the Site. Therefore, no further assessments for hydrology, flood risk and drainage are required for the development in light of the proposed Section 73 amendments.

8. Air Quality, Odour and Human Health

8.1 Introduction

- 8.1.1 This chapter describes the likely significant air quality and odour effects associated with the proposed development, using reference to the technical report included at Appendix 8.1 and 8.2. The assessment has been carried out by Air Quality Consultants Ltd on behalf of Enzygo Ltd.
- 8.1.2 The proposed development is located to the east of Barnsley, and within the Barnsley Metropolitan Borough boundary. The Council has declared a number of Air Quality Management Areas (AQMAs) due to concerns with concentrations of nitrogen dioxide. All the AQMAs are in Barnsley and the proposed development is more than 5 km from the nearest AQMA.
- 8.1.3 The proposed facility will process approximately 260,000 tpa of Refuse Derived Fuel (RDF). The facility will export upto 22 MW of electrical power.
- 8.1.4 During the construction phase, dust emissions have the potential to impact upon local receptors and this has been assessed. The main pollutants of concern related to construction activities are dust and PM₁₀. Emissions from on-site plant and vehicles have not been assessed, as experience suggests they are unlikely to have a significant impact (Institute of Air Quality Management, 2014).
- 8.1.5 During the operational phase, emissions to air from the main stack in the process building have been assessed. These emissions have the potential to impact on human health and ecosystems.
- 8.1.6 In relation to human health, consideration has been given to a comprehensive range of pollutants that may be emitted. The list is taken from the Industrial Emissions Directive (IED), to which the proposed development will have to conform for permitting purposes. The pollutants addressed are set out in Appendix 8.1.
- 8.1.7 The potential air quality impacts on sensitive wildlife sites has also been addressed. There are no Special Protection Areas (SPAs), Special Areas of Conservation (SCAs) or Ramsar sites within 10 km of the development. However, a Site of Special Scientific Interest (SSSI), a local nature reserve (LNR), and a number of Local Wildlife Sites (LWS), Ancient Woodland (AW) and Restored Ancient Woodland (RAW) sites have been identified within 2 km of the proposed development. In addition, the Council has advised that a new SSSI may be declared adjacent to the boundary of the proposed development; at present, precise details, such as the location and boundary of the proposed SSSI, and the reasons for the designation, are unavailable. The Carlton Main Brickwords SSSI has been designated for its geological interest and will not be sensitive to air pollution, however the LWSs, AW and RAW may be sensitive to changes in pollutant concentrations brought about by the operation of the proposed facility. These sites are shown in figure 5.1 and define the extent of the study area. The relevant pollutants with the potential to affect sensitive ecosystems are listed in Appendix 8.1.

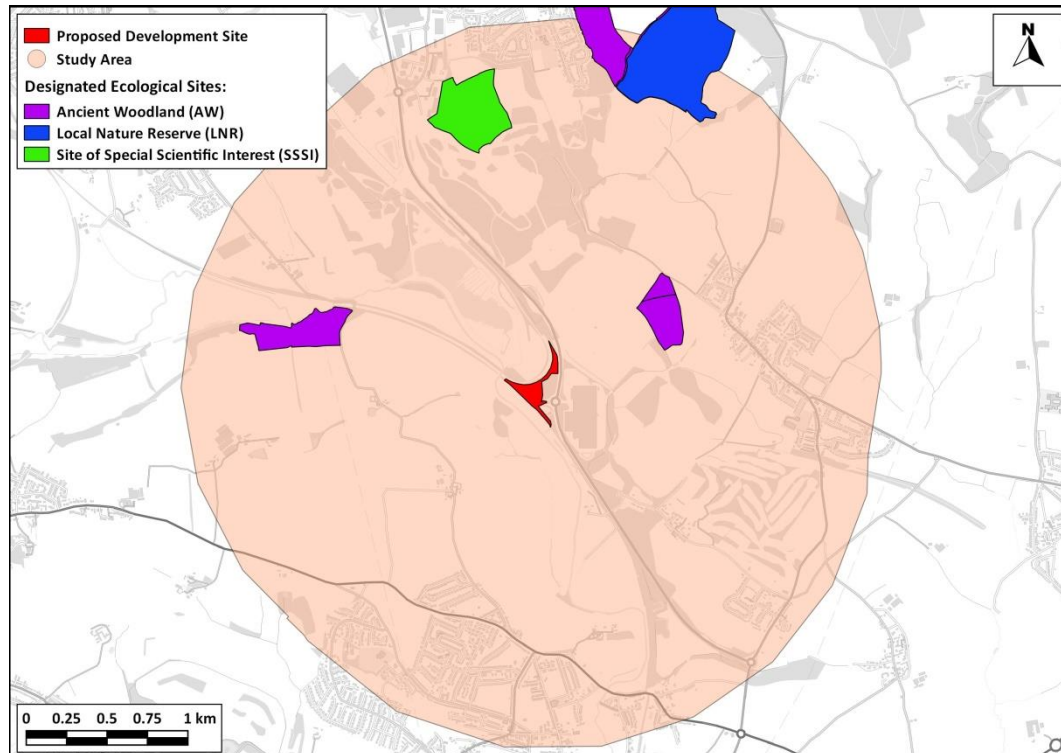


Figure 8.1 – Study Area and Ecological Sites within 2km of the Proposed Development

- 8.1.8 The proposed development will increase the traffic flows on local roads, emissions from which may impact on air quality in the local area. These changes in traffic flows have, however, been screened out as insignificant using the criteria within the EPUK/IAQM guidance on planning for air quality (Moorcroft and Barrowcliffe et al, 2017).
- 8.1.9 The Transport Strategy estimates that there will be 534 weekly HV movements generated by the proposed development. This is equivalent to an AADT (Annual Average Daily Traffic flow) of 76 movements per day and is below the threshold of 100 movements per day stated in the EPUK/IAQM guidance; a quantitative assessment is not required, and it is concluded that the road traffic impacts will be not significant. Although it is sometimes necessary to consider traffic emissions in combination with stack emissions, the proposed development will be accessed by the A6195 to the north and south, and both routes allow access to the nearest major roads (the A628 and A635) without passing near to any of the sensitive residential receptors. It is judged that road traffic emissions do not need to be considered further.
- 8.1.10 This chapter describes existing local air quality conditions in 2017, and the predicted air quality in the future assuming that the proposed development does, or does not proceed. The assessment of construction dust impacts focuses on the anticipated duration of the works.
- 8.1.11 The Houghton Main development has the potential to generate odours which may be detected beyond the application site boundary. The potential for odour effects resulting from the operation of the proposed development has been assessed. Full details of the assessment methodology and results are provided in the technical report in Appendix 8.2.
- 8.1.12 This chapter has been prepared taking into account all relevant local and national guidance and regulations, and follows a methodology agreed with Barnsley Metropolitan Borough Council.

8.2 Methodology

Construction Impacts

- 8.2.1 There are no formal assessment criteria for dust. In the absence of formal criteria, the approach developed by the Institute of Air Quality Management (IAQM)¹ (2016) has been used.
- 8.2.2 The construction dust assessment considers the potential for impacts within 350 m of the site boundary; or within 50 m of roads used by construction vehicles. This follows a sequence of steps. Step 1 is a basic screening stage, to determine whether the more detailed assessment provided in Step 2 is required. Step 2a determines the potential for dust to be raised from on-site works and by vehicles leaving the site. Step 2b defines the sensitivity of the area to any dust that may be raised. Step 2c combines the information from Steps 2a and 2b to determine the risk of dust impacts without appropriate mitigation. Step 3 uses this information to determine the appropriate level of mitigation required to ensure that there should be no significant impacts. Further details are provided in Appendix 8.1.

Operational Impacts

Air Quality

- 8.2.3 The operational air quality impacts have focussed on emissions from the main stack. Emissions have been assessed using the ADMS-5 detailed dispersion model.
- 8.2.4 Model input parameters and emission rates have been sourced by the applicant. Where specific emission rates are not available, they have been based on the emission limits set out in the Industrial Emissions Directive, which the proposed development will be required to conform to. Full details of the emissions, model set up and data processing are provided in Appendix 8.1.
- 8.2.5 Modelling has been carried out to predict pollutant process contributions from the main stack at 13 sensitive locations which represent human health exposure (e.g. residential properties) and a further 15 locations which represent nearby sensitive ecosystems. The modelled receptor locations are shown in Figure 8.2.

¹ The IAQM is the professional body for air quality practitioners in the UK.

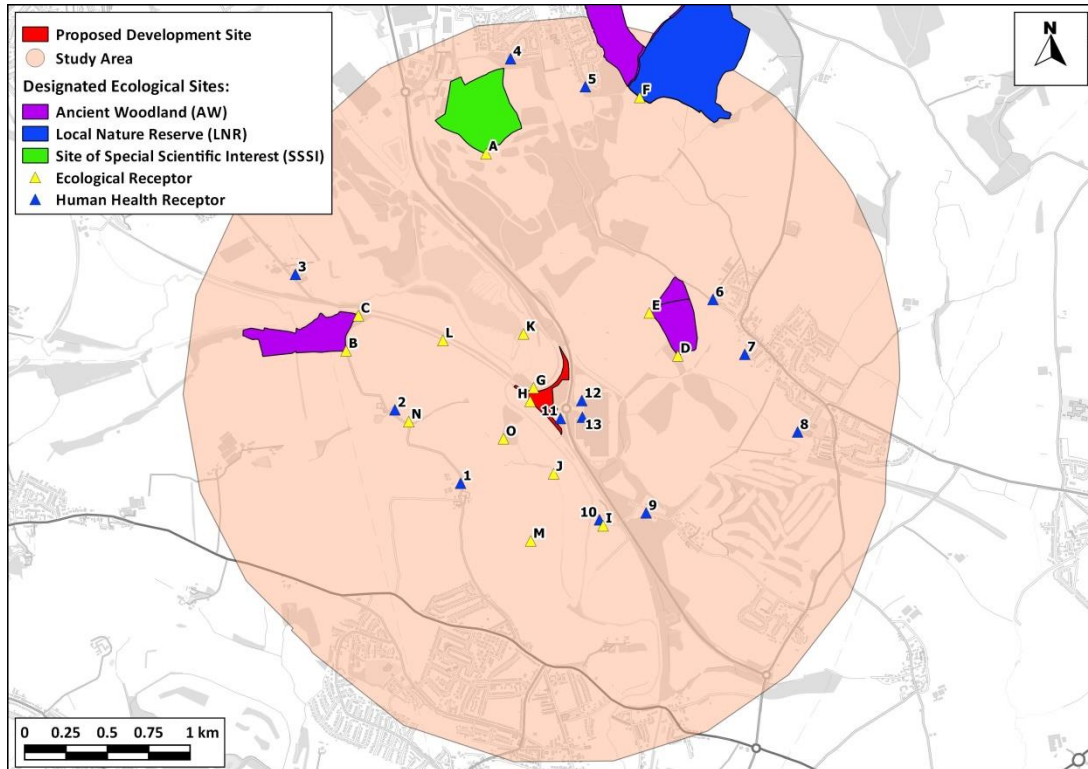


Figure 8.2 – Receptor Locations

- 8.2.6 A series of model sensitivity tests have been carried out to account for variations in meteorological data and building wake effects. The dispersion models have been run using five years of hourly sequential meteorological data, both with and without the influence of building wake effects, in order to account for any potential uncertainty. The results presented are the highest calculated in any of the meteorological years.
- 8.2.7 Modelled pollutant process contributions (PCs) have been compared to screening criteria published by the Environment Agency. This guidance states that regardless of the baseline environmental conditions, a process can be considered as insignificant if:
- the long-term (annual mean) PC is <1% of the long-term environmental standard; and
 - the short-term (15-minute, 1-hour, 24-hour mean) PC is <10% of the short-term environmental standard.
- 8.2.8 It should be recognised that these criteria determine when an impact can be screened out as insignificant. They do not imply that impacts will necessarily be significant if these criteria are exceeded, merely that there is a potential for significant impacts to occur that should be considered using a detailed assessment methodology, such as a detailed dispersion modelling study (as has been carried out for this project), and taking into account background concentrations.
- 8.2.9 Where these screening criteria are exceeded, the Process Environmental Concentration (PEC) has been calculated and compared to relevant Environmental Assessment Levels (EALs) and Air Quality Objectives (AQOs). The PEC is the total predicted pollutant concentration at a receptor location, which is a combination of the predicted process contribution, and the baseline pollutant concentration.
- 8.2.10 Where the process contribution exceeds a screening criterion and a PEC has been calculated, then, where relevant (principally for long-term environmental standards), the impact magnitude has been

estimated using criteria published by the IAQM and Environmental Protection UK (EPUK) (Moorcroft and Barrowcliffe et al, 2017). For short-term environmental standards; where the PEC does not exceed the relevant EAL or AQO, then the process contribution is judged to be insignificant.

- 8.2.11 In terms of locally-designated ecological sites (as opposed to those with national or European designation), the Environment Agency discounts the possibility of significant effects where the PC is less than 100% of the long-term or short-term EAL (Environment Agency, 2018).
- 8.2.12 The previously mentioned EPUK and IAQM guidance does not apply to nature conservation sites, and the use of the Environment Agency guidance is most appropriate for assessing impacts on ecosystems.

Odours

- 8.2.13 The potential impacts of odours emitted during the operation of the proposed development have been assessed using a risk assessment methodology published by the IAQM (Institute of Air Quality Management, 2018). The methodology identifies the potential risk of odour impacts in relation to 'FIDOR'; Frequency; Intensity; Duration; Offensiveness; and Receptor location and sensitivity. Full details are provided in Appendix 8.2.

8.3 Planning Policy

- 8.3.1 The assessment follows all relevant national and local planning policy. A full policy review has been carried out within the technical report. The relevant planning policy for this chapter is detailed within Section 2 of the technical report (Appendix 8.1).

8.4 Baseline Conditions

Air Quality

Air Quality Review and Assessment

- 8.4.1 Barnsley Metropolitan Borough Council has investigated air quality within its area as part of its responsibilities under the LAQM regime. The Council has declared a number of AQMAs within the borough for exceedances of the annual mean nitrogen dioxide objective. The AQMAs are associated with busy arterial roads and junctions close to Barnsley town centre. The declared AQMAs are shown in the technical report (Appendix 8.1; Figure 4). The application site is not near to any of these AQMAs.

Local Air Quality Monitoring

- 8.4.2 Barnsley Metropolitan Borough Council operates three automatic monitoring sites within its area. The Council also operates a large number of nitrogen dioxide monitoring sites using diffusion tubes. All of these sites are either within Barnsley or Royston, and none are in close proximity to the proposed development.

Background Pollutant Concentrations and Deposition Rates

- 8.4.3 Background pollutant concentrations and deposition rates across the study area have been obtained from a number of sources. They are well below the relevant EALs/AQOs with the exception of background nutrient nitrogen deposition and total acid deposition rates, which are predicted to

exceed the relevant critical loads. It is relatively common in the UK for background nutrient nitrogen and total acid deposition rates to exceed local and site-specific critical loads.

8.4.4 Full details of the background concentrations used in the assessment are presented in the technical report (Appendix 8.1).

Odours

8.4.5 No significant existing sources of odour have been identified at, or in close proximity to the proposed development. The rural setting of the site suggests a potential for occasional odours from local agriculture, but for the purposes of this assessment it is assumed that no in-combination odour impacts need be considered.

8.5 Potential Effects

Construction Impacts

8.5.1 Risk categories for the four construction activities without mitigation have been defined and are set out in Table 8.1. These risk categories have been used to determine the appropriate level of mitigation as set out later in this Chapter.

Table 8.1 – Summary of Risk of Impacts Without Mitigation

Source	Dust Soiling	Human Health
Demolition	None	None
Earthworks	Low Risk	Low Risk
Construction	Low Risk	Low Risk
Trackout	Negligible	Negligible

8.5.2 The IAQM does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. Guidance from IAQM (2016) is that, with appropriate mitigation in place, the effects of construction dust will be 'not significant'.

Operational Air Quality Impacts

8.5.3 Concentrations have been predicted at thirteen locations representing the nearest existing human health exposure at ground level (1.5 m above ground) and first floor level (4.5 m above ground) for each receptor location. Fifteen additional receptor locations have been modelled to represent the nearby sensitive ecosystems.

8.5.4 Concentrations have been assessed against the short-term objective by assuming the plant will operate continuously at full (100%) load.

Initial Screening Assessment

Health

8.5.5 The predicted maximum PCs have been compared with the Environment Agency screening criteria. The conclusions based on the screening criteria for the PCs are set out in Table 8.2.

Table 8.2 – Maximum Predicted PCs in the Study Area ($\mu\text{g}/\text{m}^3$)

Pollutant	Time Period	Maximum PC	EAL	% of EAL	Detailed Assessment Required
Nitrogen dioxide	Annual	0.84	40	2.1	Yes
	1 hour	29.1	200	14.5	Yes
PM ₁₀	Annual	0.06	40	0.1	No
	24 hours	0.5	50	1.1	No
PM _{2.5} ^a	Annual	0.06	25	0.2	No
SO ₂	24 hours	9.5	125	7.6	No
	1 hour	20.4	350	5.8	No
	15 minutes	22.5	266	8.5	No
CO	8 hour rolling mean	19.8	10000	0.2	No
HF	Annual	0.006	16	0.04	No
	1 hour	0.46	160	0.3	No
HCl	Annual mean	0.06	20	0.3	No
	1 hour	4.6	750	0.6	No
TOC as Benzene	Annual mean	0.6	5	1.2	Yes
Cadmium	Annual	0.0002	0.005	4.0	Yes
Thallium	Annual	0.0002	1	0.02	No
	1hour	0.015	30	0.1	No
Mercury	Annual	0.0002	0.25	0.1	No
	1hour	0.015	7.5	0.2	No
Antimony	Annual	0.002	5	0.04	No
	1hour	0.15	150	0.1	No
Arsenic	Annual	0.002	0.003	66.5	Yes
Chromium (III)	Annual	0.002	5	0.04	No
	1hour	0.15	150	0.1	No
Chromium (VI)	Annual	0.002	0.0002	998	Yes
	1hour	0.15	15	1.0	No
Cobalt	Annual	0.002	1	0.2	No

	1hour	0.15	30	0.5	No
Copper	Annual	0.002	10	0.02	No
	1hour	0.15	200	0.1	No
Lead	Annual	0.002	0.25	0.8	No
Manganese	Annual	0.002	0.15	1.3	Yes
	1hour	0.15	1500	0.01	No
Nickel	Annual	0.002	0.02	10.0	Yes
Vanadium	Annual	0.002	5	0.04	No
Ammonia	Annual	0.02	180	0.01	No
	1hour	1.54	2500	0.1	No
Dioxins and Furans	Annual	1.01×10^{-9}	0.0000003	0.3	No

- a The PM_{2.5} objective, which is to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it. The EU limit value is the same but is to be met by 2015.
- b TOC assessed against the AQO for benzene.
- c Long- and short-term EALs for thallium and cobalt, the long-term EAL for HCl and the short-term EAL for chromium (VI) has been calculated from the exposure limits in EH4024, and converted to the respective EAL using guidance in H1 (Environment Agency, 2010).

8.5.6 The predicted impacts exceed the screening criteria for a number of pollutants and require further detailed assessment. Detailed assessment is required for nitrogen dioxide, TOC, cadmium, arsenic, chromium (VI), manganese and nickel. No further assessment is required for those pollutants which do not exceed the screening criteria as the impacts of these pollutants are considered *insignificant*.

Ecosystems

8.5.7 The predicted PCs at the ecosystem receptors have been compared with the Environment Agency screening criteria. The conclusions are set out in Table 8.3.

Table 8.3 – Maximum Predicted PCs to Sensitive Habitats in the Study Area

Pollutant	Time Period	Maximum PC ($\mu\text{g}/\text{m}^3$)	EAL	% of EAL	Detailed Assessment Required
Nitrogen Oxides	Annual	3.1	30	13.9	No
	24-hour mean	93.9	75	125	Yes
Sulphur Dioxide	Annual	0.77	20	3.8	No
Hydrogen Fluoride	24-hour mean	0.47	5	9.4	No
	Weekly mean ^a	0.47	0.5	93.9	No
Ammonia	Annual	0.05	1	5.1	No

Nutrient Nitrogen Deposition Rate	Annual	0.58	10	5.8	No
Total Acid Deposition Rate	Annual	0.04	1.17	3.5	No

^a Weekly mean HF has not been modelled, so 24-hour mean concentration has been used for screening as a worst-case assumption.

8.5.8 The predicted impacts exceed the screening criterion for 24-hour mean NO_x concentrations, and require further detailed assessment.

8.5.9 The predicted impacts for all other pollutants (annual mean NO_x, SO₂, HF, ammonia, nutrient nitrogen deposition and total acid deposition) are considered to be insignificant.

Detailed Assessment

8.5.10 The approach taken for the detailed assessment has been to add the process contributions to the background concentrations and compare them to the relevant EALs or AQOs. For all pollutants, the relevant EALs/AQOs will not be exceeded

8.5.11 The technical report in Appendix 8.1 sets out the detailed assessment in detail.

Significance of Operational Air Quality Effects

8.5.12 The overall operational air quality effects are judged to be *insignificant*. Table 8.4 summarises the factors taken into consideration.

Table 8.4 – Factors Taken into Account in Determining the Overall Significance of the Scheme on Local Air Quality

Factors	Outcome of Assessment
Number of people affected by increases and/or decreases in concentrations and a judgement on the overall balance.	The area is largely rural and with limited numbers of receptors near to the development site. Overall there are unlikely to be many people affected by changes in concentrations.
The magnitude of the changes and the descriptions of the impacts at the receptors.	Some receptors may be exposed to large changes in concentrations in terms of the long-term objectives/EALs. However, all the concentrations are below the objectives/EALs such that the impacts are considered negligible.
Whether or not an exceedance of an objective is predicted to arise in the study area where none existed before or an exceedance area is substantially increased.	There are no exceedances of the objectives/EALs.
Uncertainty, including the extent to which worst-case assumptions have been made.	Worst-case approaches have been adopted and a range of scenarios have been modelled to account for uncertainty. Scenarios include five years of metrological data and with and without buildings.
The extent to which an objective is exceeded.	No objectives/EALs are predicted to be exceeded.

Whether or not the study area exceeds an objective and this exceedance is removed or the exceedance area is reduced.	No objectives/EALs are predicted to be exceeded.
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Odour Effects

8.5.13 The assessment of the potential odour effects are presented in Table 8.5. This brings together the source odour potential, effectiveness of pathway and receptor sensitivity, all of which are described in detail in the technical report (Appendix 8.2).

Table 8.5 – Assessment of Potential Odour Effects from Houghton Main

Receptor	Risk of Odour Impact (Dose)			Receptor Sensitivity	Likely Odour Effect
	Source Odour Potential	Effectiveness of Pathway	Risk of Odour Impact		
Receptor 1	Medium	Ineffective	Negligible	High	Negligible
Receptor 2	Medium	Ineffective	Negligible	High	Negligible
Receptor 3	Medium	Ineffective	Negligible	High	Negligible
Receptor 4	Medium	Ineffective	Negligible	High	Negligible
Receptor 5	Medium	Ineffective	Negligible	High	Negligible
Receptor 6	Medium	Ineffective	Negligible	High	Negligible
Receptor 7	Medium	Ineffective	Negligible	High	Negligible
Receptor 8	Medium	Ineffective	Negligible	High	Negligible
Receptor 9	Medium	Ineffective	Negligible	High	Negligible
Receptor 10	Medium	Ineffective	Negligible	High	Negligible
Receptor 11	Medium	Moderately Effective	Low	Medium	Negligible
Receptor 12	Medium	Moderately Effective	Low	Medium	Negligible
Receptor 13	Medium	Moderately Effective	Low	Medium	Negligible

8.5.14 The potential odour effects are summarised in the final column of Table 8.5. The table summarises the potential effects for each receptor, but the final stage of the risk assessment is to make an overall judgement as to the likely significance of effects. In this case, the potential for odour effects are negligible at all receptor locations, and it is therefore judged that that overall significance of odour effects is insignificant.

8.6 Mitigation

Construction

- 8.6.1 Measures to mitigate dust emissions will be required during the construction phase of the development in order to reduce impacts upon nearby sensitive receptors.
- 8.6.2 The site has been identified as a Low Risk site as set out in the Table 8.1. Comprehensive guidance has been published by IAQM (2016) that describes measures that should be employed, as appropriate, to reduce the impacts, along with guidance on monitoring during demolition and construction (IAQM, 2018). This reflects best practice experience and has been used, together with the professional experience of the consultant who has undertaken the dust impact assessment and the findings of the assessment, to draw up a set of measures that should be incorporated into the specification for the works. These measures are described in Appendix A5 of the technical report (Appendix 8.1).
- 8.6.3 The mitigation measures have been written into a Construction Environmental Management Plan (CEMP), which has been approved by the Council.
- 8.6.4 Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There should not be any excess to potentially contaminate local watercourses.

Operation

- 8.6.5 The Energy Centre will include all necessary emissions abatement and continuous emissions monitoring (CEMS) to ensure that the installation complies with the emission limits set out in Table 3. This will be a requirement within the Environmental Permit that must be issued and regulated by the Environment Agency in order for the facility to operate. No additional mitigation measures are proposed.

Odours

- 8.6.6 No additional mitigation measures are proposed.

8.7 Residual Effects

Construction

- 8.7.1 The IAQM guidance is clear that, with appropriate mitigation in place, the residual effect will normally be 'not significant'. The mitigation measures set out earlier are based on the IAQM guidance. With these measures in place and effectively implemented the residual effects are judged to be *insignificant*.

Operation

- 8.7.2 The residual effects will be the same as those identified above and judged to be *not significant*.

Odours



8.7.3 The residual impacts will be the same as those identified above and judged to be *insignificant*.

8.8 Conclusions

8.8.1 The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emission. With these measures in place, it is expected that any residual effects will be *insignificant*.

8.8.2 The operational effects of traffic have been discounted as *insignificant* as the incremental change to flows is below established screening criteria.

8.8.3 Overall the operational air quality impacts on human health and sensitive ecosystems are considered to be *insignificant*.

8.8.4 The potential for odour effects due to the operation of the facility are considered negligible at all receptor locations, and it is therefore judged that that overall significance of odour effects is *insignificant*.

9. Landscape and Visual Amenity

9.1 Introduction

9.1.1 A Landscape and Visual Impact Assessment (LVIA) dated February 2015 was submitted, as Chapter 9 of the Environmental Statement (ES), in support of the consented application (2015/0137) on land off Houghton Main Colliery Roundabout application.

9.1.2 The 2015 LVIA and ES were undertaken using the following guidance, all of which remains current:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (2013) Landscape Institute and the Institute for Environmental Management and Assessment;
- Landscape Character Assessment Guidance for England and Scotland (2002); The Countryside Agency and Scottish Natural Heritage; and
- Guidelines for Environmental Impact Assessment (2004); Institute for Environmental Management and Assessment.

9.1.3 In light of the proposed changes to the consent scheme, as described above, we have reviewed the relevant documents and plans provided and can confirm that the current S73 Application would not give rise to any physical or visual changes from the consented scheme that would affect the assessment of effects within Chapter 9 – Landscape and Visual of the ES. Overall the assessment found that “the development would not result in any significant landscape or visual adverse effects.”

9.1.4 To this end we are entirely satisfied that the LVIA remains pertinent and relevant.

10. Noise and Vibration

10.1 Proposals

10.1.1 A Section 73 application seeks amendments to consented application (2015/0137) on land off Houghton Main Colliery Roundabout. As confirmed prior, the following amendments to this application are sought:

1. Changes to widen the type of feedstock being utilised to include RDF;
2. An increase to the consented tonnage limits to 260,000 tonnes per annum;
3. An increase in consented daily waste delivery/ export traffic movements; and
4. An increase to delivery hours at the site.

10.1.2 There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented. This also means no increase in drained surfaces will occur nor any increase in the peak employee numbers at the Site.

10.1.3 The original application (2015/0137) has had all pre-commencement conditions discharged. The planning consent was implemented prior to the expiry of the planning permission and this has been confirmed by the council.

10.2 Sensitive Receptors

10.2.1 The site is largely isolated from sensitive receptors. The nearest residential properties to the application site are Crook House Farm located approximately 0.8km to the West, Store Mill Farm located 1.5km to the north west, Tyers Hall Farm located 1.8km to the south west and a housing development located on Doncaster Road, 1.8km south west of the proposed development. Potential impacts of the proposal on these and other nearby residential dwellings, including noise and visual, have been taken into account and fully assessed through the original consented application and through this s73 application.

10.2.2 The ASOS Fulfilment Centre lies across Park Spring Road to the east of the site, approximately 150m from the Houghton Main application site.

10.2.3 The sensitive receptors listed above, which are nearest to this site, were assessed as part of the original application. This section confirms that there have been no changes to the sensitive receptors which need to be assessed as part of this S73 application and therefore it is considered that no additional assessment is required.

10.3 Cumulative Impacts

10.3.1 The sensitive receptors nearest to the proposed site have been assessed within the original assessment and as part of this S73 application to determine potential cumulative impacts resulting from proposed amended development.

10.3.2 As there would be no change in the operational procedures at the proposed development there would be no change in cumulative impacts at the receptors assessed.

10.4 Changes to topic specific guidance since the original application



10.4.1 There have been no changes to the guidance specific to noise from the proposed development since the original assessment.

10.5 Confirmation of no additional impacts

7.1.1 Based on the information provided and the results of the original assessment, there are unlikely to be any additional impacts.

11. Ecology and Nature Conservation

11.1 Background

11.1.1 The following historical reports² have been referred to, along with the other technical chapters of the EIA:

- Preliminary Ecological Appraisal (Enzygo, 2014), Appendix 11.1,
- Phase II Habitat Surveys (Enzygo, 2014), Appendix 11.2,
- Preliminary Ecological Appraisal (Enzygo, 2016), Appendix 11.3, and
- Construction Ecological Management Plan (CEMP) (Enzygo, 2017), Appendix 11.4.

11.1.2 Consultation undertaken to date, relevant to biodiversity includes:

- Natural England, Royal Society for the Protection of Birds (RSPB) and a Forestry Officer as part of the planning process for application 2015/0137 (details of responses not available), and
- Application 2015/0137, granted in June 2015, was approved subject to a number of conditions, including Condition 23 (below) which was discharged by CEMP (Enzygo, 2017):

“Prior to the commencement of development full details of the mitigation measures identified in the Phase 2 Habitat Survey, including a timetable for their implementation, shall be submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the approved details. Reason: To conserve and enhance biodiversity in accordance with the Core Strategy Policy CSP 36”.

11.1.3 The purpose of this chapter of the ES is as follows:

- To identify and describe all potentially significant ecological effects associated with the proposed works,
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects,
- To identify how mitigation measures will be secured,
- To provide an assessment of the significance of any residual effects,
- To identify appropriate enhancement measures, and

² These reports have been relied upon in the preparation of this report, no surveys, reports, records centre searches or assessments have been made in the interim, beyond confirmation of statutory designations as detailed in Table 11.4 below. It is therefore assumed there has been no significant change in species or habitat distribution across the site or within the immediate surrounding area.

- To set out the requirements for post-construction monitoring.

11.1.4 This chapter of the ES has been prepared by a Senior Ecologist (Kirsty Rogers MZool [Hons], Grad CIEEM) from Enzygo on behalf of Peel Environmental Management Ltd., under the guidance of Derek Allan MCIEEM MSc BSc [Hons] (Director of Ecology at Enzygo). It has been compiled in accordance with current guidance, provided by the Chartered Institute for Ecology and Environmental Management (CIEEM), Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018), and covers the construction and operational phases of the proposed development.

11.2 Proposal

11.2.1 This S73 application is seeking amendments to the consented application (2015/0137) on land off Houghton Main Colliery Roundabout. The consented Planning Application (2015/0137) on the site is for the development of a Renewable Energy Park comprising a Timber Resource Recovery Centre (TRRC) and associated infrastructure on land off Houghton Main Colliery Roundabout, Park Spring Road, Little Houghton Barnsley, S71 5EX.

11.2.2 The consented application (2015/0137) has had all of the pre-commencement conditions discharged. A form of implementation (substantive development start) was agreed with the Council and this started prior to the expiry of the planning permission.

11.2.3 The following amendments to the consented application are sought:

- Changes to widen the type of feedstock being utilised to include RDF;
- An increase to the consented tonnage limits to 260,000 tonnes per annum;
- An increase in consented daily waste delivery/ export traffic movements;
- More flexible construction hours; and,
- An increase to delivery hours at the site.

11.2.4 There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented. There will be no significant increase in noise during the construction phase or operation of the site in comparison with previous submissions and there will be no use of any surrounding land/adjacent buildings during the construction phase i.e. for storage of materials or use as a compound. Additionally, there will be no significant increase in air pollution, confirmed by the supporting Air Quality Chapter.

11.3 Assessment Methodology

11.3.1 The zone of influence has been determined through consideration of likely impacts and key ecological effects and based on the professional judgement of the ecologist leading the project with reference to current guidance (CIEEM, 2018). This includes: the construction phase; operational phase; and any identified in-combination/cumulative effects. Specific radii for each ecological feature are explained in the following sections.

11.3.2 The following ecological features have been considered throughout this chapter:

- Statutory sites designated or classified under international conventions or European legislation,
- Statutory sites designated under national legislation (excluding geological),
- Locally designated wildlife sites,
- Ancient Woodland Inventory sites, Important Hedgerows (as defined by The Hedgerow Regulations 1997), Veteran Trees, trees listed under Tree Preservation Orders (TPOs), and trees within a Conservation Area,
- England Habitats of Principal Importance (HPI) identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and Local BAP Habitats,
- Legally protected species,
- England Species of Principal Importance (SPI) identified as requiring action in the UK BAP and Local BAP Species,
- Notable species (which includes: Species of conservation concern and Red Data Book (RDB) species, Birds of Conservation Concern (BOCC), and nationally rare and nationally scarce species),
- Invasive species (listed under section 14 of Schedule 9), and
- The wider green infrastructure resource.

11.3.3 The importance of each ecological feature has been considered within a defined geographical context, in accordance with current guidelines (CIEEM, 2018). This value ranges from high to low, as below:

- International,
- National,
- Regional,
- County,
- Local,
- Within zone of influence, and
- Negligible.

11.3.4 Additionally, an assessment of likely effects/impacts to ecological features has been made in accordance with current guidelines (CIEEM, 2018). This takes into consideration effects that would impact upon aspects of ecological structure and function, such as: available resources; environmental processes; ecological processes; human influences; historical context; ecological relationships; ecological role or function; ecosystem properties; and other environmental

influences. The scale of each effect/impact (along with any identified cumulative effect) has then been characterised as follows (CIEEM, 2018):

- Positive or Negative,
- Extent,
- Magnitude,
- Duration,
- Timing,
- Frequency, and
- Reversibility.

11.3.5 Where effects to ecological features are identified, avoidance, mitigation, and compensation measures that are proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works are described in accordance with current guidelines BS42020:2013: Biodiversity – Code of Practice for Planning and Development (BSI, 2013). In addition, in accordance with the NPPF, opportunities to enhance or create benefits to wildlife are explored alongside the hierarchy of aforementioned measures.

11.3.6 Assessment criteria stipulated within current guidance, as approved by CIEEM, were also followed to determine the potential for/status of each protected species/habitat surveyed. Refer to Appendices for full details. This includes:

- Classification of habitats in accordance with standard Phase I methodology (JNCC, 2010),
- Habitat Suitability Index (HSI) measure of waterbodies to obtain numerical index between 0 and 1 and suitability rating given i.e. Poor, Below Average, Average, Good, or Excellent suitability for GCN (ARG, 2010),
- eDNA analysis of water samples to confirm presence/absence of GCN (Biggs et al, 2014),
- Bat Activity Index (BAI) of the site (Hundt, 2012³) i.e. Bat passes per time unit, being Low, Moderate, or High, with analysis of audio recordings using Kaleidoscope Pro 4.5 UK Analysis Software,
- Status of Badger setts entrances i.e. well-used, partially-used, disused, and setts i.e. Main, Annex, Subsidiary, Outlying, Single Hole, in current use or disused (Harris et al., 1989, and Neal & Cheeseman, 1996), and
- Status of common reptile population(s) i.e. Low, Good, or Exceptional for each species, and whether the site qualifies for the Key Reptile Site Register (Froglife, 1999).

³ Survey conducted before current guidance released.

11.4 Survey Methodology

Desk Study

11.4.1 Desk study details were obtained from the following sources on the associated dates to provide background on ecological features in the vicinity of the site. Records over 10 years old for transient species and all species protected from sale only are excluded. In each case the search included the site and the specified area beyond the site boundary. Records obtained included:

- Historic results of surveys undertaken throughout land immediately surrounding the application site (if these records had not been submitted to the Local Records Centre), including those associated with planning application 2013/0860 (Barnsley Metropolitan Borough Council Planning Portal, 1st November 2018),
- European statutory sites within a 15km radius, national statutory sites designated for bats and birds within a 10km radius, all other national statutory sites within a 5km radius, and England HPI identified as requiring action in the UK BAP (JNCC, 2015) and Ancient Woodland within a 2km radius (Natural England GIS Digital Boundary Database and Natural England Site Designations, 1st November 2018),
- Green Infrastructure, TPOs and Conservation Areas within a 0.5km radius (Barnsley Council 10th August 2016);
- Waterbodies within a 0.5km radius (Online mapping sources including: Google Maps; MAGIC; and Ordnance Survey Street View, 11th August 2016);
- European Protected Species (EPS) Licence applications within a 2km radius (MAGIC, 11th August 2016);
- Locally designated wildlife sites, Legally protected species, England SPI identified as requiring action in the UK BAP (JNCC, 2015), Barnsley Local BAP Habitats/Species, any Notable species (which includes: Species of conservation concern and RDB species (JNCC, 2014a), BOCC (Eaton et al., 2015); and nationally rare and nationally scarce species (JNCC, 2014b)) and Invasive species within a 2km radius, and important hedgerows/veteran trees within a 0.5km radius (Barnsley Biological Records Centre (BBRC), 10th August 2016);

Field Survey

11.4.2 Field surveys were undertaken across the site. These were undertaken throughout the 2014 survey season and partly updated in 2016 in accordance with current guidance, as approved by CIEEM, and undertaken by suitably qualified and experienced ecologists who satisfy all necessary field survey competencies as stipulated by CIEEM. Surveyors were also licensed/accredited where necessary under Natural England survey/class licences.

- Extended Phase I Habitat Survey in accordance with JNCC, 2010 (mapped habitats, recorded plant species abundances using DAFOR scale, and recorded incidental observations of protected & priority species), on 4th February 2013, and subsequently updated on the 31st May 2014 and again on 26th June 2016,

- eDNA for GCN, a collection of water samples from suitable ponds as identified above and submission to accredited laboratory for eDNA analysis in accordance with current guidance (Biggs et al, 2014), 28th June 2016 by a Consultant Ecologist accredited under Natural England CL08 (Class 1) survey licence 2015-19227-CLS CLS,
- Reptile Survey, during suitable weather conditions, using artificial refugia at a density > 10/ha in accordance with current survey guidelines (Froglife, 1999), along with a search of natural refugia, 21st May to 3rd June 2014,
- Badger Survey, of the site and within a 30m radius where access was available, in accordance with current guidelines for Badger Survey (Harris et al., 1989) (visual search recording evidence), 1st June 2014,
- Problematic Species Assessment, to evaluate the non-native plant species and any other problematic species on site and the wider area, 21st May 2014, and
- Bat Activity Survey, undertaken in accordance with 2nd Edition BCT Survey guidelines (Hundt, 2012) using EM3+ Eco Meter by Wildlife Acoustics and an Anabat II over a single transect on two visits, 31st May 2014 and the 23rd June 2014.

11.5 Baseline Conditions

Designated Sites

11.5.1 Designated sites, including details of any Impact Risk Zone (IRZ) within which the proposed works fall, and designated habitats identified by the desk study are presented below, along with the reason(s) for their designation and associated ecological value.

Table 11.1: Sites and Habitats Identified by Desk Study.


Ecological Feature	Details	Ecological Value
Statutory sites designated or classified under international conventions or European legislation (including IRZ & CZ)		
None	-	-
Statutory sites designated under national legislation (including IRZ & CZ)		
Denaby Ings Site of Special Scientific Interest (SSSI) 9.4km SE	Denaby Ings represents one of the most diverse wetlands in the county and is notable for its breeding bird community of riparian and wader species.	National.
West Haigh Wood Local Nature Reserve (LNR) 1.6km N	This site is comprised of ancient woodland and young broad-leaved woodland and supports a number of UK BAP bird species.	National.
Proposed works are located within IRZ of SSSI beyond 2km.	Threshold criteria only require consultation with Natural England for "Airports, helipads and other aviation proposals".	National.
Locally designated wildlife sites		
Edderthorpe Ings Local Wildlife Site (LWS) 108m W&N	The site is comprised of open water, formed on formerly drained agricultural land, areas of swamp, marshy grassland and neutral grassland habitats	County.




Ecological Feature	Details	Ecological Value
	are also present. This site also includes the banks of the River Dearne and is important for a range of bird species but particularly Schedule 1 species: Avocet (<i>Recurvirostra avosetta</i>) and Little-ringed Plover (<i>Charadrius dubius</i>).	
England HPI, Local BAP Habitats, Ancient Woodland, Important Hedgerows, Veteran Trees, TPOs and Conservation Areas		
Deciduous Woodland HPI, <5m from site boundary, N.	HPI	County.
Green Infrastructure, Blue/Aquatic & Dark Zones		
Green Infrastructure	Site forms part of a wider area of grassland and scrub that has established over the former Colliery but is not a significant part of the wider green infrastructure resource, hence no impacts are perceived should this be lost. Habitats off-site to the north and west form a more significant part of the wider green infrastructure resource which is associated with the River Dearne corridor, disused railway and Edderthorpe Ings.	County.

Habitats

11.5.2 The following habitats were identified on site during the field survey.

Table 11.2: Habitats Identified on Site

Habitat Type (code)	Details	Ecological Value
Poor Semi-Improved Grassland (B6) 	<p>The majority of the site is comprised of poor semi-improved grassland. This habitat is unmanaged with grasses reaching 1m in places and is becoming lost to successional scrub (see below). Grass species present include dominant Cock's-foot Grass (<i>Dactylus glomerata</i>), Annual Meadow-grass (<i>Poa annua</i>), Perennial Rye Grass (<i>Lolium perenne</i>), Creeping Bent (<i>Agrostis stolonifera</i>) and False Oat-grass (<i>Arrhenatherum elatius</i>) with occasional Timothy Grass (<i>Phleum pratense</i>) and Reed Canary Grass (<i>Phalaris arundinacea</i>) also present.</p> <p>Herb species found within include abundant Common Dandelion (<i>Taraxacum officinale</i>), Creeping Thistle (<i>Cirsium arvense</i>), White Clover (<i>Trifolium repens</i>), Rosebay Willowherb (<i>Chamerion angustifolium</i>) and Broad-leaved Dock (<i>Rumex obtusifolius</i>). Occasionally abundant species include Birds-foot Trefoil (<i>Lotus corniculatus</i>), Common Vetch (<i>Vicia sativa</i>), Ribwort Plantain (<i>Plantago lanceolata</i>), Common Ragwort (<i>Jacobaea vulgaris</i>), Lesser Trefoil (<i>Trifolium dubium</i>) and Oxeye Daisy (<i>Leucanthemum vulgare</i>). Common Spotted Orchid (<i>Dactylorhiza fuchsia</i>) is found rarely to the south of the site.</p> <p>Towards the centre of the site the grassland is wetter with small ephemeral pools forming, Pedunculate Sedge (<i>Carex pedunculata</i>), Common Reedmace (<i>Typha latifolia</i>) and</p>	Poor Semi-Improved Grassland is of Negligible value. Areas of Marshy Grassland (HPI) & Orchid Species of Principle Importance (SPI) of Local value.

Habitat Type (code)	Details	Ecological Value
	<p>moss species are found frequently, with rarely occurring Northern Marsh Orchid (<i>Dactylorhiza purpurella</i>) also found here.</p> <p>(This habitat does not meet the criteria definition of Acid/Neutral Flush, which is categorised as minerotrophic mires and habitat associated with water movement, which typically support species-poor vegetation including Sphagnum carpet overlain with Carex and/or Juncus species.</p>	
<p>Scattered Scrub (A2.2)</p> 	<p>Encroaching scattered scrub comprised of dominant Silver Birch (<i>Betula pendula</i>), with occasionally occurring Ash (<i>Fraxinus excelsior</i>), Goat Willow (<i>Salix caprea</i>), Pedunculate Oak (<i>Quercus robur</i>) and rarely occurring Hawthorn (<i>Crataegus monogyna</i>) scattered throughout.</p>	Negligible.
<p>Hedgerow Species-Poor (J2.1.2)</p> 	<p>H1 is a planted hedgerow extending 4-5m in width and approximately 4m in height. The understory is patchy with species of poor semi-improved grassland present and areas of exposed weed control membrane. Silver Birch and Hawthorn is abundantly present, with frequently occurring Dog Rose (<i>Rosa canina</i>) and Goat Willow. Occasionally present Pedunculate Oak and rarely occurring Bramble (<i>Rubus fruticosus</i>) also present.</p> <p>H2 is a planted hedgerow comprised of Hawthorn and Blackthorn (<i>Prunus spinose</i>). This habitat is not managed and stands at 1.2m in height.</p> <p>Hedgerows, for the purpose of HPI and Local BAP classification, are defined as any boundary line of trees or shrubs over 20 metres long and less than 5 metres wide where any gaps between the trees or shrubs are less than 20 metres wide. These must also be comprised of 80% or more of at least 1 woody UK native species. H1 and H2 meet the criteria to warrant classification as HPI and Local BAP Habitat. May also meet criteria to be classified as 'Important' under the hedgerow regulations. Boundary hedgerows are to be retained with existing breaches utilised.</p>	County.
<p>Hedgerow (with trees) Species-poor (J2.3.2)</p> 	<p>H3 is an unmanaged "leggy" hedgerow standing at 5-6m in height with a post and barbed-wire fence within. This hedgerow is comprised of dominant Silver Birch with frequent Ash, Goat Willow, Pedunculate Oak and Hazel (<i>Corylus avellana</i>). Occasionally occurring Hawthorn, Blackthorn and Dog Rose is also present. The understory is comprised of species similar to that found within poor semi-improved grassland elsewhere on site.</p> <p>Hedgerows, for the purpose of HPI and Local BAP classification, are defined as any boundary line of trees or shrubs over 20 metres long and less than 5 metres wide where any gaps between the trees or shrubs are less than</p>	County.

Habitat Type (code)	Details	Ecological Value
	20 metres wide. These must also be comprised of 80% or more of at least 1 woody UK native species. H3 meets the criteria to warrant classification as HPI and Local BAP Habitat. May also meet criteria to be classified as 'Important' under the hedgerow regulations. Boundary hedgerows are to be retained with existing breaches utilised.	

Protected & Priority Species

11.5.3 The possibility that Legally protected species, England SPI/Local BAP Species, any Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species), and Invasive species will pose a constraint to the proposed development is evaluated for each of the aforementioned based on assessment of habitat suitability and other relevant factors, such as: national distribution of each species/group; previous records of species occurrence obtained through the desk study; connectivity to suitable habitats in the surrounding landscape; field signs suggesting presence of species within or near to the site; and probability of the proposed works having an adverse impact on the species/group if present. Given the large number of England SPI /Local BAP Species, and Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species), these have only been included if identified from the desk study and/or observed on site during the field survey,

Table 11.3: Species Identified from the Desk Study and Field Surveys

Feature	Details	Ecological Value
Bats (Chiroptera spp.)	Two records of unidentified bats (Chiroptera spp.) within search radius, 2km E. No buildings or structures on site. ES Chapter (Enzygo, 2015) summarised there was no trees on site of suitable size/structure to provide PRF's, further confirmed in PEA (Enzygo, 2016) however it is noted there is potential immediately off-site (to the north) and the wider area. Phase II Surveys (Enzygo, 2014) confirmed low bat activity over the site following Bat Activity Surveys, with the northern site boundary and the River Dean corridor beyond forming a well-used commuting corridor. PEA (Enzygo, 2016) confirmed grassland/hedgerows offer low suitability for commuting/foraging bats (Collins 2016), also partially lit from adjacent industrial buildings (to the east). Riparian corridor, dismantled railway, woodland and mature trees immediately off-site offer higher quality bat habitat.	Local.
Badger (<i>Meles meles</i>)	No records of Badger within search radius. Phase II Surveys (Enzygo, 2014) included a Badger survey which found no evidence of setts or Badger activity on site or within the immediate surrounding area. PEA (Enzygo, 2016) found no evidence of Badger setts on or within 30m of site boundary. General mammal runs (likely	Negligible.

Feature	Details	Ecological Value
	Rabbit, <i>Oryctolagus cuniculus</i>) present on western site boundary were noted. ES (Parsons Brinckerhoff, 2013) on neighbouring land (to the east) recorded latrines on site in 2011 suggesting a population in the wider area.	
Dormouse (<i>Muscardinus avellanarius</i>)	No records of Dormice within search radius. No suitable habitat on site (scattered scrub provides sub-optimal, fragmented habitat with boundary hedgerows and off-site woodland offering more suitable habitat).	Negligible.
Otter (<i>Lutra lutra</i>)	No records of Otter within search radius. No suitable habitat within the site boundaries. The River Dearne (off-site to west) offers suitable foraging and sheltering opportunities. ES (Parsons Brinckerhoff, 2013) on neighbouring land (to the east) found no evidence of Otter activity during surveys in 2011, summarising “dispersing otters may pass through the site they are unlikely to see terrestrial features in the area or site as whole on a permanent basis”.	Negligible.
Water Vole (<i>Arvicola amphibious</i>)	Seven records of Water Vole are associated with the River Dearne, 60m W. No evidence of Water Vole noted on site, the site itself provides no suitable habitat for Water Vole, with the River Dearne off-site to west offering more suitable habitat. ES (Parsons Brinckerhoff, 2013) on neighbouring land (to the east) found no evidence of Water Vole activity but found water bodies with the potential to support the species within the wider area, and concluded the site is likely to support low numbers and is of Local value.	Negligible.
Other Protected Mammals	No records of Protected Mammals within search radius. The site is comprised of common habitat types and are unlikely to offer any specialist opportunities.	Negligible
Specially Protected Birds	Records of 56 species, including Whimbrel (<i>Numenius phaeopus</i>), Merlin (<i>Falco columbarius</i>), Kingfisher (<i>Alcedo atthis</i>) and Barn Owl (<i>Tyto alba</i>) the majority associated with Edderthorpe Ings, 108m W. The site offers limited nesting opportunities, confined to the boundary features. The majority of the site (grassland and encroaching scrub) is too dense and unsuitable for ground nesting birds. Common habitat types only, do not offer any specialist feeding opportunities for Schedule 1 birds recorded in area. ES (Parsons Brinckerhoff, 2013) on neighbouring land (to the east) found the majority of specially protected birds were associated with Edderthorpe Flash rather than neighbouring habitats.	Negligible.
All Other Birds	Record of 74 bird species, including Kittiwake (<i>Rissa tridactyla</i>), Lapwing (<i>Vanellus vanellus</i>), Skylark (<i>Alauda arvensis</i>) and Wigeon (<i>Anas penelope</i>) the majority associated with Edderthorpe Ings, 108m W.	Zone of Influence.

Feature	Details	Ecological Value
	Phase II Surveys (Enzygo, 2014) recorded nesting activity on site summarising “it was very limited and generally comprised of common woodland and garden species”. The scrub and hedgerow vegetation on site offer suitable habitat for a range of general nesting birds, with increasingly suitable habitats in the wider surrounding area.	
Common Reptiles	No records of Reptiles within search radius. Phase II Surveys (Enzygo, 2014) recorded one Viviparous Lizard (<i>Zootoca vivipara</i>) and one Grass Snake (<i>Natrix natrix</i> with one suspected juvenile Grass Snake. Unmanaged grassland, scrub and hedgerows on site provide cover and basking opportunities for all Common Reptile species. Brash also provides potential hibernacula and there is connectivity to off site habitats.	Zone of Influence.
Great Crested Newt (<i>Triturus cristatus</i>)	No records of GCN within search radius. No suitable aquatic/breeding habitat on site (ephemeral pools are dry most of year with no submerged or emergent aquatic vegetation). Three waterbodies within a 250m radius (further 2 within a 500m radius but beyond River/Roads which are considered to act as barriers to the movement of amphibians). An eDNA test for all 3 ponds in the area conducted during PEA (Enzygo, 2016) reported a ‘negative’ result, indicating likely absence of GCN. Habitats on site provide suitable cover and foraging habitat during the terrestrial life phases. Brash also provides hibernacula. ES (Parsons Brinckerhoff, 2013) on neighbouring land (to the east) found no evidence of GCN on site but summarised there was potential breeding habitat and suitable terrestrial habitat on site therefore their site was of Local value”.	Local.
Other Protected Herpetofauna	No records of other protected herpetofauna within search radius. The site is comprised of common habitat types and are unlikely to offer any specialist opportunities.	Negligible.
White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	No records of White Clawed Crayfish within search radius. There is no suitable habitat on site. The River Dearne off-site (to the west) offers suitable habitat.	Negligible.
Fish/Marine	No records of Fish or Marine species within search radius. There is no suitable habitat on site. The River Dearne off-site (to the west) offers suitable habitat.	Negligible.
Protected Invertebrates	No records of Protected Invertebrates within search radius. The site is comprised of common habitat types and are unlikely to offer any specialist opportunities.	Negligible.
Protected Flora	No records of Protected Flora within search radius. The site is comprised of common habitat types and are unlikely to offer any specialist opportunities.	Negligible.
England SPI/Local BAP & Notable Mammal species	Records of Hedgehog (<i>Erinaceus europaeus</i>) located 960m S. All habitats on site provide foraging and sheltering opportunities for this species.	Zone of Influence.

Feature	Details	Ecological Value
England SPI/Local BAP & Notable Invertebrate species	Records of Small Heath (<i>Coenonympha pamphilus</i>) and Wall butterfly (<i>Lasiommata megera</i>) 775m N. All habitats on site provide foraging and sheltering opportunities. ES (Parsons Brinckerhoff, 2013) on neighbouring land (to the east) found opportunities for a range of invertebrate species within the surrounding area.	Zone of Influence.
Invasive Flora	Records of Himalayan Balsam (<i>Impatiens glandulifera</i>) and New Zealand Pigmyweed (<i>Crassula helmsii</i>) within Edderthorpe Ings, 108m W. None noted on site. Himalayan Balsam noted immediately off-site to west along River Dearne corridor and New Zealand Pigmyweed found within pond off-site to the south.	Negligible.
Invasive Fauna	No records within search radius. None noted on site.	Negligible.

11.6 Ecological Evaluation and Impact Assessment

11.6.1 An assessment of effects upon identified ecological features during the construction & operational phase is provided, along with the associated scale of each identified effect/impact. This includes both direct and indirect effects in the absence of mitigation, as well as any identified in-combination/ cumulative effects where applicable. Where no effects have been identified, a clear explanation as to why this is the case has been provided. Only ecological features identified on site and within the zone of influence are assessed. Ecological features of negligible ecological value have not been considered further.

Table 11.4: Assessment of Effects during Construction & Operational Phase.

Ecological Feature	Potential Impact/Effect during Construction	Potential Impact/Effect during Operation
Green Infrastructure, Deciduous Woodland & Hedgerow Habitat of Principal Importance (HPI) [National]	Yes- a) potential works within root zones during construction activities/site clearance (no loss of habitats). Minor adverse, temporary, reversible impact.	Yes- a) continued degradation of habitats from poor management. Minor adverse, long-duration, permanent, reversible impact.
Marshy Grassland (HPI) & Orchid Species of Principle Importance (SPI) [Local]	Yes- a) loss of habitat during site clearance/construction activities. Minor adverse, permanent, reversible impact.	Yes- a) continued degradation of habitats from poor management. Minor adverse, long-duration, permanent, reversible impact.
Bats [Local]	Yes – a) loss of low suitability habitat during site clearance/construction activities. Minor adverse, permanent, reversible impact; b) potential indirect disturbance of any retained roosts (if present) and commuting/ foraging habitats on and off-site/immediate surrounding area, from lighting during	Yes -a) potential indirect disturbance of any retained roosts (if present) and commuting/ foraging habitats on and off-site/immediate surrounding area, from lighting during operation of site. Minor adverse, temporary, reversible impact.

Ecological Feature	Potential Impact/Effect during Construction	Potential Impact/Effect during Operation
	construction of site. Minor adverse, temporary, reversible impact.	
Birds (general nesting) [Zone of Influence]	Yes – a) potential disturbance of active nesting birds during site clearance. Minor adverse, temporary, irreversible impact. b) loss of suitable nesting habitat during site clearance. Minor adverse, permanent, reversible impact.	Yes- a) continued degradation of habitats from poor management during site operation. Minor adverse, long-duration, permanent, reversible impact.
Common Reptiles [Local]	Yes – a) risk of killing/injury during site clearance works. Significant adverse, temporary, irreversible impact; b) loss of approx. 3.5Ha of suitable habitat during site clearance works. Minor adverse, permanent, reversible impact.	Yes- a) continued degradation of habitats from poor management during site operation. Minor adverse, long-duration, permanent, reversible impact.
Great Crested Newt (<i>Triturus cristatus</i>) [Local]	Yes – a) limited risk of killing/injury during site clearance, and b) loss of approx. 3.5Ha of suitable terrestrial habitat, IF GCN present. Minor adverse, temporary, reversible impact.	Yes- a) continued degradation of habitats from poor management during site operation. Minor adverse, long-duration, permanent, reversible impact.
England SPI/Local BAP & Notable species) Mammals & Invertebrates [Zone of Influence]	Yes – a) risk of killing/injury during site clearance, and b) loss of suitable habitat. Minor adverse, temporary, reversible impact.	Yes- a) continued degradation of habitats from poor management during site operation. Minor adverse, long-duration, permanent, reversible impact.
Invasive Flora) [Zone of Influence]	Yes – a) risk of spreading during site clearance. Minor adverse, temporary, reversible impact.	None.

11.7 Mitigation and Enhancement Measures

11.7.1 Mitigation measures to avoid, mitigate, or compensate for the identified effects/impacts to ecological features, during the construction and operational phase, is present below, along with the associated scale of any residual effect/impact. Enhancement measures are also considered. Ecological features with no identified potential effects (and ecological features with negligible ecological value), are not considered further.

Table 11.5: Mitigation during Construction and Operation

Ecological Feature	Mitigation & Enhancement during Construction	Mitigation & Enhancement during Operation
Green Infrastructure, Deciduous Woodland & Hedgerow Habitat of Principal Importance (HPI) [National]	a) Retention with appropriate root protection zones in accordance with BS5837:2012. No Residual Effect.	a) Appropriate management. No Residual Effect. As construction phase. Biodiversity Gain.

Ecological Feature	Mitigation & Enhancement during Construction	Mitigation & Enhancement during Operation
	Enhancement of retained hedgerows, planting of new hedgerows to improve GI connectivity. Biodiversity Gain.	
Marshy Grassland (HPI) & Orchid Species of Principle Importance (SPI) [Local]	a) Plugs/turfs of marshy grassland, in particular those areas with Orchid species, will be collected and relocated on site No Residual Effect.	a) Appropriate management. No Residual Effect. As construction phase. Biodiversity Gain.
Bats [Local]	a) Enhancement of retained hedgerows, planting of new hedgerows to improve GI connectivity. No Residual Effect b) no night lighting or night working. No Residual Effect.	a) Sensitive lighting scheme, appropriate management. No Residual Effect. Incorporation of new roosting features on mature trees. Biodiversity Gain.
Birds (general nesting) [Zone of Influence]	a) Habitat clearance outside nesting period or ECoW to check No Residual Effect. b) Creation of suitable nesting habitat No Residual Effect. Installation of bird nesting boxes on mature trees. Biodiversity Gain.	a) Appropriate management. No Residual Effect. As construction phase. Biodiversity Gain.
Common Reptiles [Local]	a) Exclusion fencing and translocation effort to receptor area and off site. No Residual Effect. b) Create new habitats with hibernacula. Biodiversity Gain.	a) Appropriate management. No Residual Effect. As construction phase. Biodiversity Gain.
Great Crested Newt (<i>Triturus cristatus</i>) [Local]	a) Reasonable Avoidance Measures (RAMS) will be used to avoid potential impacts to GCN. No Residual Effect. b) Incorporation of further terrestrial habitat, hibernacula, improve connectivity between meta-populations. Biodiversity Gain.	a) Appropriate management. No Residual Effect. As construction phase. Biodiversity Gain.
England SPI/Local BAP & Notable species) [Zone of Influence]	a) ECoW to supervise clearance, creation of suitable habitat. No Residual Effect. New landscaping provides new opportunities Biodiversity Gain.	a) Appropriate management. No Residual Effect. As construction phase. Biodiversity Gain.
Invasive Flora) [Zone of Influence]	a) Invasive weed contractor to treat. No Residual Effect. Control off-site source. Biodiversity Gain.	None.

11.7.2 A Landscape and Ecological Management Plan (LEMP) will be produced prior to the operation of the site. This will include full details of the aforementioned ecological mitigation & enhancement measures.

11.8 Planning Policy Context

Legislation

11.8.1 Wildlife legislation and policy relevant to the proposed works are set out below. This legal information is a summary only, and the original legal documents should be consulted for definitive information.

Table 11.6: Legislation Protection Afforded to Sites & Habitats

Designated Site, Habitat and /or Species	Legal Status
Hedgerows	Hedgerows that meet certain criteria are protected by The Hedgerows Regulations 1997, under which it is an offence to remove or destroy such hedgerows without permission from the Local Planning Authority.
European Protected Species	
Bats & Great Crested Newt	<p>These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to:</p> <ul style="list-style-type: none"> • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; • Damage or destroy a breeding site or resting place of such an animal. <p>European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed:</p> <ul style="list-style-type: none"> • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. <p>Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to ‘have regard to the requirements of the EC Habitats Directive in the exercise of their functions’. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.</p>
Nationally Protected Species	
Bats & Great Crested Newt	<p>These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Common Lizard, Grass Snake	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.
Nesting Birds (general)	<p>All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any wild bird;

Designated Site, Habitat and /or Species	Legal Status
	<ul style="list-style-type: none"> Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Wild Mammals	The Wild Mammals (Protection) Act 1996 makes it illegal to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.
Invasive Species	
Himalayan Balsam	The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act.

11.8.2 Section 40 of the Natural Environment and Rural Communities Act 2006 (the NERC Act) places a legal duty on public bodies, including planning authorities, to ‘have regard’ to the conservation of biodiversity when carrying out their normal functions, which includes consideration of planning applications.

11.8.3 In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI), of which there are 56 habitats and 943 species. The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

National Planning Policy

11.8.4 The NPPF (2018) set out the Government’s planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment under the Birds or Habitats Directives is being considered, planned or determined.

11.8.5 The NPPF states that:

11.8.6 ‘When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused,
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest,

- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists,
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity, and
- the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC); listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'

11.8.7 Under the NPPF, the Planning Authority has a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

11.8.8 Also, under the NPPF, the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes and sites of biodiversity (in a manner commensurate with their statutory status or identified quality in the development plan) and to minimise impacts on, and provide net gains for biodiversity, including by establishing a coherent ecological network that are more resilient to current and future pressures

Local Planning Policy

11.8.9 The following policies of the adopted Barnsley Local Development Framework Core Strategy (Barnsley Council, 2011) are applicable:

11.8.10 CSP 33 Green Infrastructure:

We will protect, maintain, enhance and create an integrated network of connected and multi-functional Green Infrastructure assets that:

- provides attractive environments where people want to live, work, learn, play, visit and invest,
- meets the environmental, social and economic needs of communities across the borough and the wider City Regions,
- enhances the quality of life for present and future residents and visitors,
- helps to meet the challenge of climate change,
- enhances biodiversity and landscape character,
- improves opportunities for recreation and tourism,
- respects local distinctiveness and historical and cultural heritage, and

- maximises potential economic and social benefits.

At a strategic level Barnsley's Green Infrastructure network includes the following corridors which are shown on the Green Infrastructure Diagram 5 [available on page 137 of the Barnsley Local Development Framework Core Strategy (Barnsley Council, 2011)]:

- River Dearne Valley Corridor,
- River Dove Valley Corridor,
- River Don Valley Corridor,
- Dearne Valley Green Heart Corridor, and
- Historic Landscape Corridor.

The network of Green Infrastructure will be secured by protecting open space, creating new open spaces as part of new development, and by using developer contributions to create and improve Green Infrastructure.

Upon substantive start of the consented development in June 2018, the applicant contributed £50,000 to Barnsley Council for support for improvements in the Barnsley Nature Improvement Area and this could support bio-diversity and green infrastructure improvements within the area.

11.8.11CSP 36 Biodiversity and Geodiversity:

Development will be expected to conserve and enhance the biodiversity and geological features of the borough by:

- protecting and improving habitats, species, sites of ecological value and sites of geological value with particular regard to designated wildlife and geological sites of international, national and local significance, ancient woodland and species and habitats of principal importance identified in Section 74 of the Countryside and Rights of Way Act 2000 and in the Barnsley Biodiversity Action Plan,
- maximising biodiversity and geodiversity opportunities in and around new developments, and
- conserving and enhancing the form, local character and distinctiveness of the river corridors of the Dearne and Dove as natural floodplains and important strategic wildlife corridors.

Development which may harm a biodiversity or geological feature will not be permitted unless effective mitigation and/or compensatory measures can be ensured.

11.8.12CSP 37 Landscape Character

Development will be expected to retain and enhance the character and distinctiveness of the individual Landscape Character Area in which it is located (as set out in the Landscape Character Assessment of Barnsley Borough 2002).

11.9 Summary and Conclusions

- 11.9.1 A total of 8 ecological features (excluding those of negligible value) were identified on-site and off-site/within the zone of influence, including: Green Infrastructure, Deciduous Woodland & Hedgerow Habitat of Principal Importance (HPI), Marshy Grassland (HPI) & Orchid Species of Principle Importance (SPI), Bats, Birds (general nesting), Common Reptiles, Great Crested Newts, England SPI/Local BAP & Notable species and Invasive Flora.
- 11.9.2 Of these ecological features, in the absence of mitigation, 8 could be subject to potential impacts during the construction phase (i.e. from site clearance), with 7 likely to be subject to potential impacts during the operational phase (i.e. from poor management). No in-combination/cumulative effects from surrounding applications have been considered.
- 11.9.3 With the incorporation of appropriate avoidance and mitigation measures, there will be no residual effect/impact to any of these ecological features, both during the construction phase and operational phase.
- 11.9.4 Proposed enhancements will result in a biodiversity gain across the site.

11.10 References

Barnsley Metropolitan Borough Council, 2011. Barnsley Local Development Framework: Core Strategy. Available at: <https://www.barnsley.gov.uk/media/4084/adopted-core-strategy.pdf>. [Accessed on 1st November 2018].

BSI, 2013. Biodiversity - Code of Practice for Planning and Development BS42020:2013. BSI Standards Limited: London.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.), 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Eaton et al., 2015. Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. Available at: <http://www.bto.org/science/monitoring/psob> [Accessed on 3rd February 2016].

Hundt, L., 2012. Bat Surveys: Good Practice Guidelines, 2nd Edition. Bat Conservation Trust.

JNCC, 2010. Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. Joint Nature Conservation Committee: Peterborough.

JNCC, 2014a. Species of Conservation Concern UK. Available at: <http://www.jncc.defra.gov.uk/page/5335> [Accessed on 3rd February 2016].

JNCC, 2014b. Nationally rare and nationally scarce species UK. Available at: <http://www.jncc.defra.gov.uk/page-3425> [Accessed on 25th September 2018].

Parsons Brinckerhoff, 2013. Park Springs Wind Farm- Environmental Statement: Volume 1. Newcastle upon Tyne.

Legislation Sources



Conservation of Habitats and Species (Amendment) Regulations 2012. Available at:
<http://www.legislation.gov.uk/uksi/2012/1927/contents/made>

Countryside and Rights of Way Act 2000. Available at:
<http://www.legislation.gov.uk/ukpga/2000/37/contents>

National Parks and Access to the Countryside Act 1949. Available at:
<http://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97>

National Planning Policy Framework (2018). Available at:
<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Natural Environment and Rural Communities (NERC) Act 2006: Available at:
<http://www.legislation.gov.uk/ukpga/>

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention). Available at: <http://jncc.defra.gov.uk/page-1369>

The Habitats Directive. Available at
http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm.

The National Archives: Available at: <http://www.legislation.gov.uk/>

Wildlife and Countryside Act 1981 (as amended). Available at:
<http://www.legislation.gov.uk/ukpga/1981/69>

12. Hydrogeology and Ground Conditions

12.1 Proposals

12.1.1 A Section 73 application seeks amendments to consented application (2015/0137) on land off Houghton Main Colliery Roundabout. As confirmed prior, the following amendments to this application are sought:

- Changes to widen the type of feedstock being utilised to include RDF;
- An increase to the consented tonnage limits to 260,000 tonnes per annum;
- An increase in consented daily waste delivery/ export traffic movements;
- An increase to delivery hours at the site; and
- Adjustments to on-site working hours.

12.1.2 There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented. This also means no increase in drained surfaces will occur nor any increase in the peak employee numbers at the Site.

12.2 Sensitive receptors

12.2.1 The submitted Hydrogeology and Ground Conditions chapter of the Environment Statement (ES) submitted in support of consented application 2015/0137 did not identify any environmental risks associated with contamination or ground gas.

12.2.2 The presence of Made Ground was identified below the proposed development associated with a backfilled open cast coal working and foundations are to be designed to accommodate safe development. No risks were identified from deep coal mining.

12.2.3 The proposals indicate there is no amendment to the redline nor any additional infrastructure which would include any additional risks or change in sensitivity of the receptors. Therefore, the previous assessment is valid and no change in impact will occur.

12.3 Cumulative impacts

12.3.1 No cumulative impacts were identified, and this remains unchanged.

12.4 Changes to topic specific guidance since the original application

12.4.1 Table 12.1 below demonstrates the reference documents that have been amended or replaced since the consented application was made. It summarises what, if any, changes to the assessment criteria have resulted from the document amendments and replacements.

Table 12.1: Reference Document Amendments/Replacements and summary of any assessment changes resulting from there.

Original Reference Document	Amendment/Replacement	Changes to assessment following the document amendment/replacement
National Planning Policy Framework 2012	National Planning Policy Framework 2018	None to affect.
Office of the Deputy Prime Minister, The Building Regulations 2000	Office of the Deputy Prime Minister, The Building Regulations 2010, amended 2015.	None to affect

Note – Any text in italics are additional comments for clarification.

12.4.2 As confirmed in Table 12.1, the listed reference document amendments or replacements have not changed in a manner to alter the assessment made in the original ES.

Confirmation of no additional impacts

12.4.3 As outlined above, the listed amendments to the original proposed development will not change the assessment for Hydrogeology and Ground Conditions. Therefore, no further assessments for Hydrogeology and Ground Conditions are required for the development in light of the proposed Section 73 amendments.

13. Archaeology and Cultural Heritage

13.1 Proposals

- 13.1.1 This S73 application is seeking amendments to the consented application (2015/0137) for a Renewable Energy Park comprising a Timber Resource Recovery Centre on land off Houghton Main Colliery Roundabout.
- 13.1.2 The consented application (2015/0137) has had all of the pre-commencement conditions discharged. A form of implementation (substantive development start) was agreed with the council and this started prior to the expiry of the planning permission.
- 13.1.3 The following amendments to the consented application are sought:
1. Changes to widen the type of feedstock being utilised to include RDF;
 2. An increase to the consented tonnage limits to 260,000 tonnes per annum;
 3. An increase in consented daily waste delivery/ export traffic movements;
 4. An increase to delivery hours at the site; and
 5. Adjustments to on-site working hours.
- 13.1.4 There have been no amendments to the redline boundary since the original application was consented. The proposals will not change the way the Energy Centre will operate and will not result in any additional infrastructure to that previously consented.

13.2 Planning History

- 13.2.1 Since the original application, there have been two consented applications in close proximity to the Houghton Main Site.
- 13.2.2 The table below reflects the applications which have been submitted and consented since the original application was submitted.

Application Number	Site Address	Development Description	Status	Date Registered	Decision
2017/0782	Land off Park Spring Road (opposite ASOS), Little Houghton, Barnsley, S72 7GX	Formation of a Car Park	Final Decision	11/09/17	Approved subject to Legal Agreement
2016/1106	ASOS, Park Spring Road, Barnsley, S72 7GX	Erection of 3 storey extension to existing building	Final Decision	01/09/16	Approved with conditions

13.2.3 The potential impacts of these consented applications have been considered as part of this S73 application.

13.3 Sensitive Receptors

13.3.1 The site is largely isolated from sensitive receptors. The nearest residential properties to the application site are Crook House Farm located approximately 0.8km to the West, Store Mill Farm located 1.5km to the north west, Tyers Hall Farm located 1.8km to the south west and a housing development located on Doncaster Road, 1.8km south west of the proposed development. Potential impacts of the proposal on these and other nearby residential dwellings, have been taken into account and fully assessed through the original consented application and through this S73 application.

13.3.2 The ASOS Fulfilment Centre lies across Park Spring Road to the east of the site, approximately 150m from the energy centre site.

13.3.3 A Public Right of Way runs along the north eastern tip of the application site.

13.3.4 The site is adjacent to the Barnsley Green Belt. Any potential impacts of the proposed amendments to the development on the setting of the Barnsley Green Belt have been considered in this S73 application. The impact of the amendments on the setting of the Barnsley Green Belt have been reconsidered as part of this S73 application.

13.3.5 The sensitive receptors listed above which are in close proximity to this site were assessed as part of the original application. This section confirms that there have been no changes to the sensitive receptors which need to be assessed as part of this S73 application, and therefore it is considered that no additional assessment is required.

13.4 Cumulative Impacts

13.4.1 The planning history and sensitive receptors in close proximity to the proposed site have been assessed as part of this S73 application to determine potential cumulative impacts as a result of the proposed amended development.

13.4.2 Where necessary, technical assessments have been revised to assess the potential cumulative impacts of the proposed amended development with the consented planning applications and sensitive receptors. Specifically, cumulative impacts in terms of highways and visual impacts have been assessed as part of this S73 application.

13.5 Revised National Planning Policy Framework: July 2018

13.5.1 Para 189. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

13.5.2 Para. 190. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the

setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.

- 13.5.3 Para. 192. In determining applications, local planning authorities should take account of: a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation; b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and c) the desirability of new development making a positive contribution to local character and distinctiveness.

13.6 Considering potential impacts

- 13.6.1 Para 193. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

- 13.6.2 Para 194. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;
- b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional

- 13.6.3 Para 195. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- a) the nature of the heritage asset prevents all reasonable uses of the site; and
- b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
- d) the harm or loss is outweighed by the benefit of bringing the site back into use.

- 13.6.4 Para 196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

- 13.6.5 Para 197: The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that

directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

13.6.6 Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

13.6.7 The effect of the updated NPPF guidance is to all intents and purposes unchanged, in particular in relation to the present proposal, where no impact on sensitive receptors is present and no below-ground archaeological assets remain.

13.6.8 No new designations are recorded within the site or its surroundings.

13.7 Summary and Conclusion

13.7.1 The proposals do not cause impacts on heritage assets and sensitive receptors. No new sensitive receptors need to be considered in the application. Recent changes to the NPPF do not create the need for reconsideration of heritage impacts in relation to the proposed amendments in this S73 application.

14. Climate Change

14.1 Introduction

14.1.1 This Section 73 application seeks amendments to consented application (2015/0137) on land off Houghton Main Colliery Roundabout. As confirmed prior, the following amendments to this application are sought:

- Changes to widen the type of feedstock being utilised to include RDF;
- An increase to the consented tonnage limits to 260,000 tonnes per annum;
- An increase in consented daily waste delivery/ export traffic movements;
- An increase to delivery hours at the site; and
- Adjustments to on-site working hours.

14.1.2 There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented.

14.2 Baseline

14.2.1 The consented application (2015/0137) granted planning consent for a Renewable Energy Park comprising a Timber Resource Recovery Centre, receiving a maximum of 150,000tpa of waste wood. The proposed amended scheme will export up to 22MW of low carbon energy.

14.2.2 The built development will be constructed as consented. The implications for climate change objectives need to be assessed against the switch of feedstock to RDF, the increased level of throughput to 260,000 tpa, the changes in delivery traffic, and the energy that would be generated by the amended scheme.

14.3 Assessment

14.3.1 This Chapter considers the relative impact of the amended proposals on the achievement of carbon reduction objectives compared to other outcomes and considers the potential for displacement of fossil fuel energy production through the energy generated by the facility as proposed. A Carbon Assessment has been prepared in support of this S73 Application to inform this.

14.4 Construction impacts

14.4.1 The Carbon Assessment does not consider the impacts of construction of the consented development which is not being amended through these proposals.

14.5 Operational Impacts

14.5.1 The carbon emissions have been calculated for the proposed Energy Centre. This takes account of:

- carbon dioxide released from the combustion of fossil-fuel derived carbon in the Energy Centre;

- releases of other greenhouse gases from the combustion of waste;
- combustion of gas oil in auxiliary burners;
- carbon dioxide emissions from the transport of waste and residues; and
- emissions offset from the export of electricity from the Energy Centre.

14.5.2 These emissions have been compared with the carbon emissions from sending the same waste to landfill, taking account of:

- the release of methane in the fraction of landfill gas which is not captured; and
- emissions offset from the generation of electricity from landfill gas.

14.5.3 In the base case, the Energy Centre is predicted to lead to a net reduction in greenhouse gas emissions of over 52,000 tonnes of CO₂-equivalent (CO₂e) per annum compared to the landfill counterfactual.

14.5.4 The sensitivity of this calculation to different grid displacement factors and different landfill gas recovery rates has also been considered. The results of the sensitivities provide a net reduction of greenhouse gas emissions within a range of 20,000 to 106,000 tonnes of CO₂e emissions per annum. In all cases, processing waste in the Energy Centre is predicted to lead to a net reduction in greenhouse gases.

14.6 Cumulative Impacts

14.6.1 The amended proposals will lead to the generation of low carbon energy which will displace fossil fuel energy generation and could potentially have localised cumulative benefits to local off-takers. The net reduction in greenhouse gas emissions from the proposed development will self-evidently not lead to negative cumulative impacts for climate change arising from the proposed development.

14.7 Conclusion

14.7.1 In terms of meeting climate change objectives through a reduction in generation of greenhouse gas emissions, the proposed amendments to the consented application 2015/0137 will make a positive contribution. The operation of the Energy Centre as proposed will lead to a net reduction in greenhouse gas emissions of over 52,000 tonnes of CO₂-equivalent per annum compared to landfill.

15. Socio-economic Impacts

15.1 Introduction

15.1.1 A Section 73 application seeks amendments to consented application (2015/0137) on land off Houghton Main Colliery Roundabout. As confirmed prior, the following amendments to this application are sought:

- Changes to widen the type of feedstock being utilised to include RDF;
- An increase to the consented tonnage limits to 260,000 tonnes per annum;
- An increase in consented daily waste delivery/ export traffic movements;
- An increase to delivery hours at the site; and
- Adjustments to on-site working hours.

15.1.2 There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented.

15.1.3 This chapter quantifies and summarises the potential local and regional economic benefits arising from the proposed Houghton Main Energy Centre at the former Houghton Main Colliery site in Barnsley.

15.1.4 Regeneris have provided an Economic Benefit Statement to accompany this S73 application. The Economic Benefit Statement demonstrates the potential economic benefits of their proposal locally, in the Borough and across the wider South Yorkshire area.

15.1.5 The Houghton Main site in which the proposed facility will be located has undergone significant regeneration activity since the Colliery's closure. While regeneration has been bringing forward positive change in the local area, a clear socio-economic need remains, and further economic development interventions and investments are required, such as the proposed Houghton Main Energy Centre, to bring forward new local employment opportunities.

15.1.6 Barnsley and South Yorkshire still have higher than average levels of economic inactivity. The latest data from the ONS Annual Population Survey (2018), shows that in Barnsley 25% of the working age population are economically inactive, compared to 21% nationally.

15.2 Potential Construction Phase Economic Benefits

15.2.1 The proposed Houghton Main Energy Centre project is a significant investment into Houghton, the surrounding area, and the Barnsley local authority area. Approximately, £100 million will be invested in the construction and development of the proposed Energy Centre. This investment will support jobs during the construction phase, some of which would be located locally.

15.2.2 It is estimated that the proposed development would support up to 200 jobs on-site during the period of peak construction activity. This peak activity would be reached around one year into the construction phase and last for approximately six months.

15.2.3 It is estimated that around 240 jobs would be supported in total during the 30-month construction phase. Comparing this to the expected 200 on-site jobs, this suggests that around

40 off-site jobs would be supported during this construction phase covering areas such as design and procurement.

- 15.2.4 There are over 5,000 construction workers in Barnsley local authority area and 28,500 in South Yorkshire, representing 6% and 5% of total employment respectively. A significant and relevant construction skills base (contractors and construction workers) is available in the local and sub-regional area.
- 15.2.5 Whilst on-site, there is potential for these workers to require accommodation, food and other amenities, resulting in additional expenditure in the local economy.

15.3 Potential Operational Economic Benefits

- 15.3.1 The proposed Energy Centre, once fully operational, would support 20 full-time equivalent jobs directly on site.
- 15.3.2 The range of operational roles at the Energy Centre would be as follows:
- Around 20% of the jobs will be highly skilled (4 jobs)
 - Around 10 jobs will be process, plant and machine operatives
 - Around 5 jobs (25%) will be entry-level (Elementary Occupations) jobs
 - There will also be on administrative role created
- 15.3.3 The broad mix of occupations will provide opportunities for a range of people within the local area.
- 15.3.4 Based on estimates provided by the Developer, it is estimated that the total gross annual salaries (i.e. employment income) paid to staff employed directly on-site would be in the region of £875,000 annually.
- 15.3.5 The potential gross indirect impact of the HMEC would be an additional 7 full-time equivalent jobs and a further £0.13 million GVA per annum for Barnsley and the wider South Yorkshire area.

15.4 Potential Wider Impacts

- 15.4.1 Analysing similar facilities that have been commissioned in the UK and evaluated by the Valuation Office Agency, it is estimated that as a minimum this facility would generate around £880,000 per annum in business rates that would be collected by Barnsley Metropolitan Borough Council. This is based on an assumption of a £44,000 rate liability per MW at similar facilities. Depending on changes to rate multipliers and future re-evaluations, this figure can be expected to change over time; however, it is likely to remain within this order of magnitude for the foreseeable future.
- 15.4.2 Despite uncertainty around the scale of business rate capture locally, Barnsley Metropolitan Borough Council would directly receive a substantial proportion of the potential c. £0.88 business rates that the Houghton Main Energy Centre would pay. This would directly benefit and support the provision of public services to residents across the Barnsley local authority area and the Sheffield City Region.

16. Amenity Impacts

16.1 Introduction

16.1.1 A Section 73 application seeks amendments to consented application (2015/0137) on land off Houghton Main Colliery Roundabout. As confirmed prior, the following amendments to this application are sought:

- Changes to widen the type of feedstock being utilised to include RDF;
- An increase to the consented tonnage limits to 260,000 tonnes per annum;
- An increase in consented daily waste delivery/ export traffic movements;
- An increase to delivery hours at the site; and
- Adjustments to on-site working hours.

16.1.2 There have been no amendments to the redline boundary since the original application was consented. The proposals will not result in any additional infrastructure to that previously consented.

16.1.3 This chapter of the ES considers and assesses the potential of the proposed Energy Centre to cause environmental nuisance and impacts on amenity arising from the amended proposals. With regard to the changes sought, amenity issues are limited to those arising from the switch in feedstock to RDF, additional traffic and wider delivery and construction hours.

16.1.4 The operator will apply for an Environmental Permit from the Environment Agency. This will control, among other things, operational measures and procedures which will control noise, odour and dust as well as emission from the technology process. To some extent amenity issues arising from construction processes have already been addressed through the approved Construction Method Statement and Construction Environment Management Plans.

16.1.5 Amenity impacts arising from traffic are also addressed through mitigation measures to spread out deliveries and define delivery routes now.

16.1.6 This chapter details the assessment methodology used for the assessment. It sets out the baseline conditions on the site and surrounding environment; details the potential environmental impacts; mitigation measures required to ensure the potential impacts are at an acceptable level.

16.2 Methodology

16.2.1 This chapter focuses on the potential environmental impacts arising from the proposed development.

16.3 Planning Policy

Legislative and Policy Context

16.3.1 As already detailed, amenity issues such as those considered are principally controlled under the Environmental Permit process.

16.3.2 Impacts on the amenity of the surrounding environment and its residents are a material consideration in the determination of planning applications for waste management facilities. A full assessment of the proposal against the provisions of the development plan is, including in relation to amenity issues, is provided in the Planning Statement which accompanies this application.

16.3.3 A summary of the national and local policy relating to dust and environmental issues is provided below.

National Policy

16.3.4 National Planning Policy Framework (NPPF, 2018)

In terms of renewable energy, the NPPF, at paragraph 154 states that; *'When determining planning applications for renewable and low carbon development, local planning authorities should...approve the application if its impacts are (or can be made) acceptable'*.

Local Policy

16.3.5 Barnsley Adopted Core Strategy states at paragraph 4.12 states that:

'Promoting sustainable development and reducing the boroughs impact on climate change are overarching principles of this Core Strategy...the use of land will be assessed against the objective of securing sustainable development with Barnsley to meet its environmental, economic and social needs'.

16.3.6 It goes on to state:

'Protection or enhancement of the quality of natural assets including water, air, soil, minerals and biodiversity'

16.3.7 The above policy requirements have been taken into consideration in the assessment in this chapter.

Relevant Guidance

16.3.8 There is no statutory or non-statutory best practice guidance for undertaking assessments of potential environmental impacts on amenity issues for proposed waste to energy management facilities.

16.3.9 The methodology and approach within the original consented application was based on pre-application discussions and informal scoping exercises.

16.3.10 There have been no proposed alterations to the technology proposed, and no additional infrastructure is proposed as part of this S73 application.

Development Stages

16.3.11 No changes are proposed to the consented layout and elevations through this S73 application. The proposed development has been separated into three distinct stages for the purposes of this assessment. The development stages remain unchanged from the original application and are detailed below:

- **Site Preparation:** This stage includes any works required to clear and level the site prior to the commencement of construction works;

- **Construction:** This stage includes on site works required for the physical construction of the facility. It also includes traffic movements required during the construction stage;
- **Operation:** This stage covers the day-to-day operation of the facility following commissioning.

Significance of Impact

16.3.12 The significance of any potential impact will be qualified using the categories detailed below:

- **Insignificant** – The potential impact is negligible or insignificant;
- **Minor** – The potential impact will occur infrequently and will have minimal effect;
- **Moderate** – The potential impact will occur at moderate frequency and will have moderate effects;
- **Major** – The potential impact will occur frequently and will have significant effects.

Cumulative Impacts

16.3.13 As detailed in Chapter 4 of this ES, the site has been subject to a number of planning applications including the erection of a Renewable Energy Park comprising of a Timber Resource Recovery Centre and associated infrastructure (2015/0137). A discharge of conditions application relating to application 2015/0137 has also been submitted for approval.

16.3.14 Since the original consented application at Houghton Main, two additional planning applications have been granted permission at the ASOS Fulfilment Centre site. The existing warehouse has recently been granted planning permission for the erection of a 3-storey extension (2016/1106). Additionally, a planning application for the formation of a car park at this site has recently been consented (2017/0782). The car park is now in operation.

16.3.15 Full details of the site's planning history are provided in Chapter 4 of this Environmental Statement.

16.4 Baseline Conditions

16.4.1 Full details of the consented planning application 2015/0137 and the site to which it relates are provided in the Planning Statement and Chapter 2 of this ES. The consented application is for the construction of a Renewable Energy Park comprising a Timber Resource Recovery Centre utilising up to 150,000 tonnes per annum of waste (wood) to generate 20MW of low carbon electrical power to distribution to the national grid and/or local off-takers. The consented built development, which has had pre-commencement conditions discharged and a substantive start has been made on the development. This forms the consented baseline for site.

16.4.2 The site is part of the former Houghton Main Colliery which has been subject to both deep shaft mining and, more recently, opencast working. Following opencast working the site was backfilled and restored to original levels. The site is therefore considered to be brownfield, previously developed land suitable for redevelopment. The site is currently vacant for future use.

16.4.3 Surrounding land uses include an existing warehouse (ASOS Fulfilment Centre) on land to the east of the site on the opposite side of Park Spring Road. The site is surrounded by the Barnsley Green Bely on three sides. A public footpath runs alongside the north east tip of the application site. To the north and west of the site lies undeveloped land.

- 16.4.4 A number of RSPB Reserve sites are located within 3km radius of this site. The RSPB Dearne Valley Reserve is located to the north west of the site. The RSPB Dearne Valley Old Moor wetlands nature reserve lies approximately 5km to the south of the site. This reserve is based around several lakes which form marshland and reedbeds. There are also open water and land habitats present at the reserve. There are no European Designated Sites (Ramsar, Special Areas of Conservation or Special Protection Areas) within 15km of the site.
- 16.4.5 The site is relatively remote from any residential properties. there are a few scattered farms and properties nearby, the closest being located approximately 0.8km to the west of the proposed site.

16.5 Assessment of Effects

- 16.5.1 It is not considered that the assessment of effects will be amended as part of this S73 application.

Site Preparation

- 16.5.2 Groundworks and storage of materials required for site preparation will have the potential to create litter and dust. The already approved Construction and Environmental Management Plan will be implemented to ensure best practice measures are utilised during site preparation activities. Impacts will be minor and none are additional to those already considered as part of the implemented consent.

Construction

- 16.5.3 Construction activities, if not properly managed also have potential to cause dust and litter nuisance.
- 16.5.4 Delivery vehicles will all be securely sheeted to avoid litter and dust originating from vehicles. Suitable storage containers will be employed on site for waste material waiting to be transported off site.
- 16.5.5 Regular site checks will be undertaken during construction to ensure on site litter is kept to a minimum.
- 16.5.6 In potentially dusty (dry and windy) conditions, damping equipment will be used to minimise dust creation during construction activities. Impacts will be minor.
- 16.5.7 These measures have been approved through the Construction Method Statement and Construction Environment Management Plan agreed by the council prior to implementation of the current planning permission

Operation

- 16.5.8 The proposed facility, if not managed correctly, has the potential to generate litter. Litter can have both visual and nuisance implication if it were to escape the operational area of the site.
- 16.5.9 Vehicles carrying material into the building will be enclosed and/or securely sheeted to ensure no litter problem will occur, this is consistent with Condition 22 of the current planning consent.
- 16.5.10 Reception building doors will only be opened when a delivery vehicle enters the building. Doors will be fast-acting and whilst open measures will be placed to stop air escaping via the doors using negative pressure and a form of 'air-knife' technology. Further odour control measures in the building will ensure odour is managed effectively.

16.5.11 No waste can be stored outdoors under current conditions this is not subject to change through this S73 application.

16.5.12 Regular site checks will be undertaken to ensure the proposed litter measures implemented are effective. Impacts will be insignificant.

16.5.13 No waste material will be stored outside and waste inside the building will be regularly disturbed to ensure potential for vermin infestation is removed.

Dust

16.5.14 As already detailed, all waste management operations will be undertaken within the building and all delivery vehicles will be secured. Impacts will therefore be minor.

16.5.15 As all activities will be contained within the enclosed building and the Environmental Permit Regulations will impose control measure requirement, the potential for environmental nuisance will be low. Impacts will therefore be insignificant.

Cumulative

16.5.16 There are no surrounding operational activities that have the potential to create cumulative impacts.

16.5.17 Given the low potential for dust and litter impacts in the Application site, and with an expectation that construction activities on any other site would also follow best practice construction methods, the potential cumulative impact during construction will be low.

16.6 Mitigation

16.6.1 The following mitigation measures are set out for the proposed S73 application. The below mitigation measures remain unchanged from the original consent, as there are no proposed changes to the process or infrastructure which has previously been consented. Condition 21 relates to no outdoor storage of waste at the site and Condition 22 ensures all waste transported to and from the site shall be transported to the site in vehicles that are fully enclosed. These two conditions will not be subject to any changes as part of this S73 application. These conditions and the following mitigation measures ensure any potential amenity impacts from the site during site preparation, construction and operation are reduced.

16.7 Site Preparation and Construction

16.7.1 The Construction Method Statement and Construction Environment Management Plan already submitted to and approved by Barnsley Council to discharge conditions 9 and 23 of the implemented consent would be implemented to ensure appropriate mitigation of potential amenity impacts as identified in the ES for the consented scheme and reflected in those documents.

16.8 Operation

16.8.1 The following mitigation measures will be implemented to reduce any potential amenity impacts from dust arising from wind-blown litter during operation:

- All delivery vehicles will be enclosed to ensure no material will fall from the vehicle or be blown from the load;
- All unloading materials will take place within the Reception Hall;

- Suitable containers will be utilised for recyclables to avoid any escape of litter from the site; and
- Regular site inspections will be undertaken to ensure the proposed measures are effective. Any litter found will be collected at the end of each working day.
- Doors will be kept closed to remove the potential for escape of materials into the yard.
- The site will be dampened down using water bowsers during dusty (dry and/or windy) conditions; and
- Wheel wash facilities will be used for all vehicles leaving the site.

16.9 Cumulative Impacts

16.9.1 As with the consented application, it is considered that if the above mitigation measures are applied to the proposed site, the cumulative impacts of other amenity issues (dust, litter) will be of minor frequency and significance.

16.10 Summary and Conclusions

16.10.1 The potential adverse impacts on local amenity from litter and dust will be adequately mitigated using best practice construction and waste management methods. The methods proposed are likely to be a requirement of the Environmental Permit which will need to be issued before works commence.

16.10.2 This chapter demonstrates that the impacts of the proposal in terms of litter and dust, will be minor particularly when the mitigation measures proposed are implemented.

16.10.3 A number of the consented conditions relate to the mitigation measures set out in this chapter. These conditions will remain in place and where necessary will be amended to ensure consistency with the proposed amended development within this S73 application.

17. Cumulative Impacts

17.1 Introduction

17.1.1 This chapter provides an assessment of potential cumulative effects of the proposed development in this S73 application. The assessment covers potential impacts during both the construction and operational phases of the proposed development.

17.2 Methodology

17.2.1 The cumulative impact assessment undertaken for the proposal has been informed by both national legislation, guidance and local policy.

17.3 Planning Policy

Legislation

17.3.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations), at Schedule 4 Part 18, 4, B, requires that Environmental Statements include:

“the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment.”

Guidance

17.3.2 The European Commission document ‘Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions’ (May 1999) defines cumulative impacts as:

“Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project.”

17.3.3 This definition of cumulative impact was adopted when reviewing cumulative impacts within the original application.

17.3.4 The assessment methodology includes a review of extant and unimplemented planning permissions (i.e. developments that do not form part of the existing baseline conditions) in the area to determine the potential cumulative impacts of the proposed development sought through this S73 application.

17.3.5 This cumulative impact assessment generally draws on the assessments undertaken for the technical chapters of the ES.

17.4 Projects Considered in Assessment

17.4.1 Following a review of the existing developments in the area and scrutiny of the recently consented developments on the BMBC website, the following additional developments are considered to potentially contribute to cumulative impacts:

- Formation of a car park at the ASOS Fulfilment Centre site (2017/0782)
- Erection of 3 storey extension to existing ASOS Fulfilment Centre (2016/1106)

17.5 Cumulative Effects Assessment

ASOS Fulfilment Centre

- 17.5.1 The ASOS fulfilment centre lies on land immediately to the east and south of the site.
- 17.5.2 Since the proposed Timber Resource Recovery Centre at Houghton Main was granted planning consent in June 2015, two additional planning applications were granted permission at the ASOS Fulfilment Centre. The existing warehouse has recently been granted planning permission for the erection of a 3-storey extension (2016/1106). Additionally, a planning application for the formation of a car park adjacent to the Houghton Main site has recently been consented (2017/0782). The car park is now operational.
- 17.5.3 The potential for cumulative visual impacts from developments were considered within the consented application 2015/0137, through the submission of a LVIA and within the Environment Statement for that application. Decisions on more recent applications have been taken by Barnsley Council with the knowledge that the consent 2015/0137 was extant and could be built. The amended proposals do not alter the built development that will take place under implemented consent. Therefore, no additional cumulative impacts in this regard are created.
- 17.5.4 The short statements set out in each section of this ES confirms the lack of cumulative impact considerations affecting flood risk, ground conditions, heritage and amenity.
- 17.5.5 In addition, no further consideration of construction and site preparation impacts are required for the same reason, that is the amended scheme would be built as originally consented. Detailed measures set out in a Construction Method Statement and a Construction Environment Management Plan (CEMP) have subsequently been approved by Barnsley Council *after* grant of planning permission for other schemes in the area. These will be implemented as approved.
- 17.5.6 The development proposed by this S73 application will have potential cumulative highways impacts in combination with the consented developments at the ASOS Fulfilment Centre.
- 17.5.7 An updated Transport Assessment has been prepared to accompany this S73 application. The updated Transport Assessment has been updated to include the consented car park at the ASOS site in the baseline figures. The Transport Assessment concludes that traffic generation on the network from construction and operation of the proposed amended scheme, in combination with other traffic generation, are negligible.
- 17.5.8 The Air Quality Assessment, Odour Assessment and Human Health Impact Assessment have concluded that cumulative impacts are insignificant.

17.6 Conclusions

- 17.6.1 This section has identified two planning applications in close proximity to the site which have been consented since the grant of planning consent for the Timber Resource Recovery Centre in June 2015, to confirm the potential for cumulative impacts. However, it has been determined that the impacts associated with the construction of the amended scheme and its inherent built characteristics are the same as originally assessed and so have already been taken into account in issuing planning decisions on more recent applications.
- 17.6.2 Only two aspects require further consideration arising from the proposed amendments, relating to traffic and air quality impacts. In both cases, the relevant technical assessments and ES chapters have concluded any cumulative impacts are insignificant. Regardless, mitigation



measures have been proposed to spread out traffic generation which will also aid the more effective operation of the Energy Centre.

18. Summary and Conclusion

- 18.1.1 This ES provides details of the work undertaken and considerations made in relation to the proposed amended development at the consented Renewable Energy Park comprising a Timber Resource Recovery Centre, on land off Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley.
- 18.1.2 This report forms an addendum to the ES for the consented scheme 2015/0137. It provides a description of the proposed amended development, an assessment of the likely potential environmental impacts arising from the amended development, both during construction and operation of the amended development, and outlines the proposed measures incorporated into the proposals avoid, reduce and/or mitigate potential impacts arising from the amended development proposal.
- 18.1.3 In all regards the ES confirms that there impacts arising from the proposed amendments are negligible in traffic terms and insignificant in terms of Air Quality, Odour and Human Health impacts. No other potential impacts are identified including relating to amenity and cumulative impacts.
- 18.1.4 The statements contained within this ES confirm the veracity of existing technical assessments in terms of technical standards and national guidance.



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