



Environmental Statement: Non-Technical Summary

Planning Application for the Development of Houghton Main Renewable Energy Centre (REC) comprising a Timber Resource Recovery Centre Including Associated Infrastructure

On land off Houghton Main Colliery Roundabout, Park Spring Road,
Houghton Main, Barnsley

For Peel Environmental Management (UK) Ltd and Houghton Main Waste Limited



Contact Details:

Enzygo Ltd.
The Granary
Woodend Lane
Cromhall
Gloucestershire
GL12 8AA

Tel: 01454 269237
Fax: 01454 269760
Email: lee.searles@enzygo.com
www.enzygo.com

Environmental Statement: Non-Technical Summary

Planning Application for the Development Houghton Main Renewable Energy Centre (REC) comprising a Timber Resource Recovery Centre Including Associated Infrastructure.

Project:	CRM.066.004
Location:	Land off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley
For:	Peel Environmental Management (UK) Limited
Status:	Final
Date:	February 2015
Author:	Lee Searles, Director of Planning
Reviewer:	Kevin Parr, Director

Disclaimer:

This report has been produced by Enzygo Limited within the terms of the contract with the client and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Enzygo Limited Registered in England No. 6525159
Registered Office Stag House The Chipping Wotton-Under-Edge Gloucestershire GL12 7AD

Contents

1.0 Foreword.....	3
2.0 Introduction	5
3.0 Project Description	6
4.0 Consideration of Need and Alternatives	8
5.0 Summary of Environmental Impacts	11
6.0 Summary and Conclusion	17
Drawings	20

DRAWINGS & APPENDICES

Drawing	Title
PL001	Site Analysis
PL002	Site Location Plan
PL003	Proposed Site Layout Plan

1.0 Foreword

- 1.1 This Non-Technical Summary (**NTS**) of the Environmental Statement (**ES**) is submitted in support of a planning application made by Peel Environmental Management (UK) Limited and Houghton Main Waste Limited (Peel) to develop a Renewable Energy Centre (REC) on land off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley.
- 1.2 The application site is 3.0 hectares (ha) in area and is located approximately 1km west of Little Houghton and 6.5km east of Barnsley Town Centre. The red line application area is shown on the Application Site Boundary Plan (PL002 Site Location Plan).
- 1.3 The ES assesses revised proposals for the development of the site, to those contained in planning application 2014/0559. In some cases, assessments undertaken to assess environmental impacts of these earlier proposals, have been updated to assess the revised proposals. Reference to approach taken is made in each section as appropriate.
- 1.4 The revised proposals for the development of the site are essentially the same as the earlier proposals, except for the deletion of a proposed anaerobic digestion facility from the scheme.
- 1.5 The Environmental Statement reports the outcome of the EIA process, required by the EIA Regulations so that the planning authority is fully informed of the likely significant effects of the development. The Environmental Statement comprises the following documents:
- **Volume 1 – The Main Environmental Statement Report.** The main report provides an introduction to the proposed development and includes the technical assessments undertaken to determine the potential likely impacts of the proposal in accordance with the EIA Regulations and national guidance. Volume 1 contains:
 - **Chapter 1:** Background, Introduction and Context
 - **Chapter 2:** Site Description
 - **Chapter 3:** Proposed Development
 - **Chapter 4:** Planning History and Policy Context
 - **Chapter 5:** Need and Alternatives
 - **Chapter 6:** Transport
 - **Chapter 7:** Hydrology, Flood Risk and SUDS
 - **Chapter 8:** Air Quality
 - **Chapter 9:** Landscape and Visual Amenity
 - **Chapter 10:** Noise and Vibration
 - **Chapter 11:** Ecology and Nature Conservation
 - **Chapter 12:** Hydrogeology and Ground Conditions
 - **Chapter 13:** Archaeology and Cultural Heritage
 - **Chapter 14:** Socio-Economic Impacts
 - **Chapter 15:** Other Amenity Issues
 - **Chapter 16:** Cumulative Impacts
 - **Chapter 17:** Summary



- **Volume 2: Non-Technical Summary.** This document is a Non-Technical Summary of the Environmental Statement. It contains a description of the proposed development and a summary of the Environmental Statement, expressed in non-technical language.
- **Volume 3: Technical appendices** include the full technical assessment reports and data supporting the Environmental Statement.

1.6 Copies of the full set of Environmental Statement documents are available at a cost of £100 from Peel Environmental Management (UK) Limited, Peel Dome, The Trafford Centre, Manchester, M17 8PL. Alternatively, the Non-Technical Summary can be obtained free of charge from the same address. Electronic copies of the Non-Technical Summary are also available free of charge from <http://www.peel.co.uk/environmental>.

2.0 Introduction

Introduction

- 2.1 This Environmental Statement (ES) supports a planning application to develop a Renewable Energy Centre (REC) on land which was formerly the Houghton Main Colliery.
- 2.2 In accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the EIA Regulations), an Environmental Statement accompanies the planning application. It contains the detailed information required by the Local Planning Authority (LPA) to assist them in their determination of the application.
- 2.3 This Non-Technical Summary of Environmental Statement (ES) summarises the outcome of the Environmental Impact Assessment (EIA) as reported in the ES.

The Site

- 2.4 The application site is 3.0 hectares (ha). The red line application is shown on the Site Location Plan (PL 002). The site is former colliery land which has regenerated naturally with scrub vegetation.
- 2.5 The site is located off the Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley. The nearest postcode to the site is S71 5EX and the National Grid Reference of the centre of the site is SE 41696 06515. The site is bounded by allocated vacant employment land and also the A6195 Park Spring Road to east and curved flood defence bunds 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 Applicant

- 2.6 The applicant is Peel Environmental Management (UK) Limited and Houghton Main Waste Limited (Peel). Peel Environmental Management (UK) Limited owns, manages and develops infrastructure in the waste, minerals and environmental sectors. The company identifies sites suitable for development and is at the forefront of developing new infrastructure by working with technology partners to address the energy challenges faced. Peel Environmental Management (UK) Limited is seeking to develop a network of energy facilities across England and Scotland, and is currently pursuing opportunities in Yorkshire and Nottinghamshire. Houghton Main Waste Limited is a special purpose vehicle created by Peel to deliver the proposed Houghton Main REC development.

This Document

- 2.7 This document is the Non-Technical Summary (**NTS**) of the Environmental Statement (ES), which has been prepared to accompany the planning application. It summarises the findings of an Environmental Impact Assessment (**EIA**) of the proposed scheme in non-technical language.

3.0 Project Description

The proposed development

- 3.1 The proposed REC comprises a 150,000 tonnes per annum (tpa) Timber Resource Recovery Centre (TRRC) and associated infrastructure. The development will create a renewable energy generation facility with the potential to export 20 megawatts (MW) of electricity to the national grid with the potential for direct heat and electrical supply to appropriate off-takers in the local area.
- 3.2 The TRRC will be developed by Northern Bio Power, a joint venture company between O-Gen UK and the UNA Group. The construction and operation of the TRRC will be carried out under contract. Northern Bio Power Limited is currently developing similar facilities in Plymouth and Tyseley, Birmingham.
- 3.3 The TRRC will be located on the southern and western portion of the site. It will receive approximately 150,000tpa of biomass, which may include construction and demolition waste timber, and will subject it to a process that recovers clean ferrous and non-ferrous material for recycling and generates approximately 20MW of renewable electrical power.

Site Access

- 3.4 The TRRC will utilise the western access off the Houghton Main Colliery Roundabout. The final design of the access has been determined following the completion of a Transport Assessment as part of this EIA process (see Chapter 6 of the ES) and is shown on the Proposed Site Layout drawing PL 003. This existing access will be improved as part of the proposed development and tailored to suit the development proposal.

Fuel Source

- 3.5 The TRRC will be fuelled by biomass which may include timber derived primarily from commercial and industrial sources, with as much as possible sourced locally and sub-regionally. The Planning Statement and Chapter 5 of the ES indicate that significant sources of feedstock are available to support the TRRC operation.

Construction

- 3.6 The site will be subject to the following sequence of construction activities:
- Site clearance and creation of temporary lay down area;
 - Site establishment, including the connection to existing off-site drainage and services, preparation of site levels;
 - Construction of the facility and access and access road, service yard, car park and weighbridges;
- 3.7 Potentially significant impacts arising from the construction phase of the operation are fully assessed through the Environmental Statement and, where appropriate, mitigation measures will be detailed which will ensure that construction activities do not adversely impact upon the local amenity and the environment.

Design and layout

- 3.8 The overall layout of the proposed development together with the design of its principle structures and buildings has primarily been guided by a requirement to ensure that the layout and building designs satisfy the operational requirements of the facility, including the required vehicular movements within the site. However, architectural treatment has also been at the forefront of the design process to ensure a high quality design appropriate for both its function and its setting will be created.
- 3.9 This high quality and appropriate design has been achieved through the development and testing of a series of architectural studies for both the layout of the site and the individual buildings which make up the facility. This process of evaluation and assessment of the alternative design solutions has resulted in the proposed architectural design. Full details of the design approach taken and its evolution to take account of constraints and of responses to consultation and engagement, are set out in the Design and Access Statement included in Section 3 of the Planning Application.
- 3.10 The proposed TRRC will comprise the following key elements;
- Reception Hall (65.0m X 45.0m X 9.0m to eaves, 11.37m to top of upstand)
 - Process Building (102.0m X 30.0m X 30.0m to top of parapet)
 - Stack (2.5m diameter X 45m)
 - Turbine Hall (25.7m X 18.0m X 17.9m)
 - Offices/ workshop (12.3m X 18m X 17.9m to parapet)
 - Air Cooled Condensers (53.7m X 13.4m X 23.0m)
 - Ash Storage Silos (6.6 diameter X 14.8)
 - Fire water tank (13.0m diameter X 7.0m)
 - Fuel oil storage tank (13.2m X 2.4m X 2.5m)
 - Standby generator (13.2m X 3.2m X 2.0m)
 - Fire Water pumps enclosure (4.0m X 3.0m X 2.5m)
 - Sub-station
 - Weighbridge (2)
 - Site fencing;
 - External Lighting
 - Parking spaces
 - A cycle shelter

4.0 Consideration of Need and Alternatives

Introduction

- 4.1 The ES is required to assess the suitability of the location of the proposed REC against other potential locations, to consider the need for the facility being proposed and to consider alternative design approaches to achieve an acceptable design proposal.

Suitability of Site Location

- 4.2 A detailed Alternative Site Assessment (ASA) has been undertaken to assess the suitability of alternative sites and to justify the selection of the application site for the proposed REC. This is set out in full in Section 5 of the Planning Application and Chapter 5 of the ES.
- 4.3 An ASA was undertaken to support the earlier proposals. The methodology was agreed with BMBC planning officers to identify and assess potential sites in two stages – a total of 56 employment sites and 4 Joint Waste Plan sites were evaluated in a Stage 1 assessment process. 43 of these sites were found to have either significant constraints or to lack the necessary available site area. 13 employment sites and 2 Joint Waste Plan sites were further examined in a Stage 2 assessment.
- 4.4 The suitability of potential alternative sites in stage 2 was evaluated on the basis of access, visual impact, other amenity impacts (such as air quality and noise), proximity to waste markets technical considerations and availability.
- 4.5 The main conclusion from the earlier assessment was that whilst there are a number of potentially suitable sites available, no site performed any better than the proposed Houghton Main site, the proposed development of which was fully evaluated through an Environmental Impact Assessment.
- 4.6 Constraints of varying levels of significance were identified for most of the Stage 2 sites assessed. If required, the suitability of mitigations to reduce to an acceptable level the visual and amenity impacts on sensitive receptors in the proximity to the alternative sites would need to be carefully evaluated.
- 4.7 In the light of these factors and within the constraints set by the assessment, no potential alternative sites were identified that are considered to be more suitable for proposed aggregated development than the Houghton Main Site, which is the subject of this planning application.
- 4.8 In accordance with the revised site requirements of the revised proposals for a TRRC only (which are smaller at 3.0 ha), and to take account of updated information set out in the Draft Local Plan 2014 and supporting evidence base on employment land availability, both published by BMBC, an addendum to the earlier ASA has been produced to support revised proposals.
- 4.9 This has reconsidered sites discounted from the earlier ASA on grounds of site size and has assessed new sites identified in the Draft Local Plan. A Total of 27 sites were identified. The Stage 1 study demonstrated that 9 of these were no longer considered available or suitable for the proposed development. The remaining 18 sites were subjected to further assessment.

This considered how the development would affect residential areas, and other impacts such as noise, traffic and visual impacts.

- 4.10 Constraints were identified for all of the Stage 2 sites, and these were considered to have varying levels of significance. For the majority of the alternative sites identified, the potential for visual impacts would need to be fully assessed.
- 4.11 A number of sites also experience access constraints for the heavy vehicle traffic associated with the proposed development.
- 4.12 In light of these factors, no potential alternative sites were identified that are considered to be more suitable for the proposed development than the Houghton Main Site, which is the subject of this application.

Feedstock Availability

- 4.13 The TRRC will be fuelled by biomass which may include timber derived primarily from commercial and industrial sources, with as much as possible sourced locally and sub-regionally. The Planning Statement and Chapter 5 of the ES indicate that significant sources of feedstock are available to support the TRRC operation.

Alternative Design and Layout

- 4.14 As part of the design development process for the facility on the application site, various site layouts and configurations of the proposed REC were developed and each reviewed against design criteria and the overall architectural design approach. Section 3 of the planning application, the Design and Access Statement, provides full details of the design approach taken.
- 4.15 A number of design constraints were identified as key drivers in developing a proposed site layout and architectural design for the Houghton Main site and proposed REC.
- 4.16 The location of the TRRC is in this instance very much dictated by the site's boundaries and in particular the triangular shape. Its siting is also influenced by having to ensure that the location and interrelationship of all of the buildings and external equipment, together with the road infrastructure that serves them, delivers an efficient and safe layout.
- 4.17 The development of the design and layout of the facility has also been guided by the site constraints and operational requirements of the proposed activities. The final layout and design of the development was considered to be the most operationally efficient means of using the space available for the activities proposed.
- 4.18 Peel has been keen to ensure that the evolution of design approaches takes place within a framework supported locally and which is consistent with the principle of Core Strategy policy CSP29 on design. The advice of the Barnsley Urban Renaissance Design Advisory Panel (BURDAP) has been sought and its input has been valuable in informing the proposed design. The Design and Access Statement, explains how the design has responded to BURDAP advice.
- 4.19 The design approach has also sought to meet the requirements of Core Strategy policy CSP37 in relation to the retention and enhancement of the distinctiveness of Landscape Character Areas. There has been a close relationship between the development of the alternative design options and assessments of landscape character, and landscape and visual impacts. Within

technical constraints, this has influenced approaches to site layout, building design and profile, materials and landscape proposals. Extensive engagement with local communities has also been an important influence on design of the TRRC, the design of which has been carried through to the revised proposals. The Statement of Community Involvement set out in Section 4 of the Planning application demonstrates how consultation has influenced design evolution.

Summary

- 4.20 This chapter of the NTS has summarised the approaches taken to consider need for the proposed REC, potential alternative sites and alternative design strategies to respond to site, environmental and operational requirements. It has shown how the approaches have successfully concluded that the proposed REC has a valuable role to play in meeting local and sub-regional waste and renewable energy needs, that the chosen site is at least as good as others which are available, and that the design approach has been successful in responding to the range of constraints identified through public engagement process.

5.0 Summary of Environmental Impacts

Introduction

- 5.1 This chapter provides a summary of the technical assessments undertaken in support of the planning application for the proposed REC.

Transport

- 5.2 A comprehensive Transport Assessment (TA) has been undertaken by SK Transport Planning Ltd (SKTP) to identify current traffic movements associated with the proposed development, forecast the number of traffic movements generated by the proposal, ascertain any impacts the development may have on the local road network and recommend any mitigation measure which should be implemented. The TA is set out in Volume 3 of and is discussed in Chapter 6 of the Environmental Statement.
- 5.3 Construction impacts from traffic will be addressed through appropriate mitigation strategies including within a Dust Management Plan (see Air Quality below).
- 5.4 The TA shows that the operation of the development will have a minimal impact on surrounding highway network and will generate less traffic than that associated with the permitted site use and will have an insignificant impact when compared to baseline traffic conditions. The revised proposals will generate significantly fewer HGV movements than the earlier proposal.
- 5.5 The operator has agreed to manage the timings of HGV movements to avoid periods of congestion on the local highway network, and to manage the routes used by HGV traffic accessing the site to reduce inconvenience to local communities. The TA concludes that the proposal meets the requirements of local and national policy, and that the residual impact of the proposal will not be severe (a technical terms used by the National Planning Policy Framework).
- 5.6 A Framework Travel Plan has been prepared to support and promote sustainable access to the site, and identify measures that can be implemented to further reduce the number of single occupancy car trips generated by the proposal.
- 5.7 The Transport Assessment concludes that the proposal meets the requirements of local and national policy. Chapter 6 of the Environmental Statement addresses the findings of the assessment shows that the residual impact of the proposal will be negligible.

Hydrology, Flood Risk and SUDS

- 5.8 A Flood Risk Assessment (FRA) and Drainage Strategy have been prepared to identify if the site is at risk of flooding, if the development poses a risk to flooding elsewhere and establish a suitable drainage design for the development. The assessment also takes into account external factors such as climate change. The Flood Risk Assessment (FRA) and Drainage Strategy is set out in Volume 3 and discussed in Chapter 7 of the Environmental Statement. The surface water drainage scheme details are also set out in Section 8 of the planning application.

- 5.9 For the construction phase, standard best practice construction methods would be implemented to ensure that no water quality impacts result from the construction works. These would be documented in a Construction Environment Management Plan prepared at a later stage.
- 5.10 The key findings from the Flood Risk Assessment in relation to the operation of the development are that, based on a discussion with the Environment Agency and a review of Environment Agency flood maps (based on historic air photographic information) which show the site to be located largely within Flood Zone 1 with a small section in the westernmost part of the site is located within the current mapped Flood Zone 2, the site would be considered to have a low to medium risk of fluvial flooding.
- 5.11 However, there has been further interpretation of this information, in combination with detailed site topographical information surveyed as part of this planning application, which provides updated and more accurate information. The position agreed with the Environment Agency, reflected in its response to consultation on this matter, is that that a 'low' level of flood risk is posed by this source of flooding.
- 5.12 The proposed development is classified as 'less vulnerable'. Less vulnerable uses are appropriate within Flood Zones 1, 2 and 3 after the completion of a satisfactory FRA. All development is, however, appropriate within Flood Zone 1.
- 5.13 The surface water drainage scheme for the proposed development will manage and reduce the flood risk posed by the surface water runoff from the site. The level of run-off to be permitted from the site has been agreed with BMBC and the detailed drainage scheme required to achieve that has been calculated in the detailed drainage design in the Flood Risk Assessment in Volume 3 of the ES. This provides a suitable solution to the need to manage surface water effectively to standards agreed with BMBC.
- 5.14 There are no Yorkshire Water sewers located within the immediate vicinity of the site (there is one located 380m away). As such, the use of an appropriately specified package treatment plant to manage foul water, located within the site, will be investigated further at detailed design.

Air Quality

- 5.15 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
- 5.16 To assess the impacts of the operation of the development, an Air Quality Assessment was undertaken to ascertain the locality's baseline conditions, establish the level of air quality impacts the proposed development may have on sensitive receptors (such as residential properties and the ASOS building) and identify ways to mitigate any impacts. The Air Quality Assessment is set out in Appendix 8.1 in Volume 3 of the Environmental Statement.
- 5.17 Modelling was undertaken to assess the effect of emissions from the proposed facility, taking into account factors such other development in the local area. The assessments concluded:
- The operational impacts of increased traffic have been discounted as insignificant using published screening criteria.

- The operational impacts of the proposed gasification on human health have been shown to be insignificant.
- The operational impacts of the proposed gasification facility on ecosystems have been shown to be insignificant.
- Overall the operational air quality impacts on human health and sensitive ecosystems are considered to be insignificant.

Landscape and Visual Impact

- 5.18 Regarding the construction phase of the development, the landscape and visual impacts of the development would be limited to construction equipment and would therefore create only minor landscape and visual effects.
- 5.19 An updated Landscape and Visual Impact Assessment produced by Enzygo in February 2015, has been undertaken to identify any visual impacts which may result from the proposed development on sensitive receptors such as nearby residential properties. The Landscape and Visual Impact Assessment is included in the Environmental Statement.
- 5.20 The surrounding land uses are predominantly agricultural in nature, with the village of Darfield approximately 1.1km south, Little Houghton is approximately 0.9km south east and Great Houghton 1.5km east.
- 5.21 There would be areas of landscaping on the periphery of the development and in off-site locations to the south, in accordance with a proposed landscape masterplan. Existing areas of planting on the western and northern boundaries of the site would be supplemented.
- 5.22 The study area is characterised by the combination of agricultural land uses. The industry in the area comprises of former open cast workings and many modern industrial developments are located on the valley floor.
- 5.23 The ASOS fulfilment centre building is a focal element within the study area. The building has a total height of 18 metres to the building's apex. Therefore the proposed TRRC building elevation of 30 metres would be visible above the roof of the ASOS building for receptors to the east, particularly those located in Great Houghton and Little Houghton.
- 5.24 Due to the predominant industrial and commercial land uses surrounding the site, there is a low density of sensitive receptors.
- 5.25 It is unlikely that any residential receptors would be significantly affected by the proposed development, and where there are oblique or partial views of the development these would be seen as in combination with other detracting features within the view, predominantly the ASOS building.
- 5.26 Overall, the development is expected to have a slight adverse landscape impact and slight moderate adverse visual impact. The proposal mitigates some impacts through its design approach as detailed in the Design and Access Statement at Section 3 and in the Landscaping Scheme set out in the Environmental Statement.
- 5.27 A landscape scheme has been formulated and is set out within the Landscape and Visual Assessment within the Environmental Statement.

Noise and Vibration

- 5.28 A Noise and Vibration Assessment, undertaken by Enzygo in April 2014, examines the potential for noise impacts which may result from the construction and operation of the proposed development on sensitive 'receptors' such as nearby residential properties. The Noise Assessment is set out in Chapter 10 of the Environmental Statement.
- 5.29 A noise survey has been undertaken at the closest receptors locations to the site, which has been used to inform the assessment.
- 5.30 Assessment of onsite operational noise has been undertaken in accordance with required standards, the measured background noise level data and predicted operational noise levels from the proposed REC (plant and on site vehicles). Within the scope of this application formal consultation exercise was undertaken with the planning authority (LPA), BMBC and with the Environmental Health Department at BMBC relating to the noise and vibration issues associated with the development of the REC.
- 5.31 As a result of the nature of the development and the separation distances involved between the operational plant and the nearest sensitive receptors, it is not considered that operational vibration would be a significant issue associated with the proposed REC.
- 5.32 The short term effects of the construction activities could result in significant impacts depending upon the works being undertaken at the time and the area in which they occur. With the implementation of the proposed temporary mitigation measures, careful consideration of the construction programme, and adherence to a CEMP or S61 agreement, the resulting impact significance will be reduced to within acceptable levels
- 5.33 Impacts to specific identified receptors during the construction phase are expected to be relatively short-term in duration. Typical construction techniques employed within the scope of a development would not generally give rise to significant vibration issues outside of the immediate vicinity of the operation.
- 5.34 The processes associated with the proposed REC are unlikely to generate significant levels of vibration that would be discernible beyond the site boundary and certainly not at the closest sensitive receptors which are some distance away.
- 5.35 The assessments of the daytime period for both the weekend and weekday periods, presented indicates that the proposed REC facility would operate at a level considered to 'Provide a positive indication that complaints are unlikely' and would not be considered to be detrimental to the amenity of the area and as such would not be considered prejudicial to development.
- 5.36 The impacts of operational noise from the proposed facility, with the implementation of the incorporated mitigation measures as detailed within the ES Chapter 10, are predicted to be acceptable and are not deemed to have an adverse effect within the vicinity of the application site.

Ecology and Nature Conservation

- 5.37 Enzygo Ltd was commissioned to conduct a preliminary ecological appraisal. The site was been subject to several visits over in the first half of 2014, in order to undertake a thorough

ecological assessment of the site. The report of the preliminary ecological appraisal and Phase II Report of Habitat Surveys are set out in Volume 3 of the Environmental Statement.

- 5.38 The proposal site is surrounded by land of agricultural value. The relative nature conservation value of the proposal site appears to be low and the site is considered to contain habitats and flora that are at most of local nature conservation significance, although this assessment will be revised after a full survey for lower plant species is undertaken in the summer of 2014.
- 5.39 There are important ecological areas on the immediate peripheries of the site including an RSPB nature reserve. Locally there are environmental initiatives underway to maximise the value of important habitat in the area.
- 5.40 Opportunities to enhance habitat linkage through planting on site has been considered and is included as part of the landscape scheme set out in the Landscape and Visual Impact Assessment. For example, the inclusion of a pond on the site will provide an opportunity to create habitat linkage through the site.
- 5.41 The additional surveys undertaken were a Bat Activity Survey, Badger Survey, Breeding Birds Survey, Reptile Survey, Great Crested Newt Survey, and a Problematic Species Survey. These have concluded there are no constraints on development that cannot be addressed through appropriate design and other mitigation measures recommended.

Hydrogeology and Ground Conditions

- 5.42 Evidence supplied by the Coal Authority and the South Yorkshire Mining Advisory Service indicates that the site was used as an open cast coal pit from 1997 to 2000. The open case works was backfilled with compacted earthworks materials. There is a low moderate risk associated with the backfill materials.
- 5.43 Made Ground has been recorded on the site. This is associated with the backfill of the open cast coal pit. The permeability of the Made Ground is shown as very high to very low reflecting the mixed nature of the materials.
- 5.44 It is considered that there is a low/moderate risk associated with land quality issues at the site. Given the proposed end usage of the site with the majority of the site being covered with hardstanding with perimeter landscaping it is recommended that there will be no pollutant linkage for the areas of proposed hardstanding.
- 5.45 An assessment of the Application Site has been undertaken based on a Phase I Environmental and Mining Report, Hydrogeological Desk Study Appraisal and Contamination Assessment. Incorporated enhancement measures will mitigate most adverse impacts. Following implementation of mitigation measures no significant adverse impacts are expected in relation to geology and hydrogeology. Development of the scheme will allow remediation to be undertaken giving environmental betterment in accordance with the requirements of the NPPF and Local Plans.

Archaeology and Cultural Heritage

- 5.46 A Cultural Heritage Environmental Impact Assessment produced in January 2015 has been undertaken to determine the likely presence of historic remains onsite and assess the possible impacts upon the historic assets arising from the proposals.

- 5.47 It is considered that the proposed development will not have an adverse impact on any designated cultural heritage sites or settings.
- 5.48 It is also considered that hitherto unknown and hence unrecorded sites may have once been present within the footprint of the proposed development. However such sites will have been destroyed by the intensive utilisation of the proposed development site in the 19th and 20th centuries and that there is a minimal potential for the development to impact directly on any archaeology that might previously have been present.
- 5.49 Overall, the ES has identified sites of national and regional importance in the study area but these are not within the boundary of the proposed development and will not be adversely affected by the proposed development. The assessment determines that the proposed REC will not adversely affect any heritage assets within the wider vicinity of the site. No mitigation measures are recommended.

Socio-Economic Impacts

- 5.50 A Socio-Economic Statement is set out in Chapter 14 of the Environmental Statement. It details the positive economic benefits that will result from the development of the proposed REC. The development of the REC will generate at least 200 jobs during the construction phase and up to 25 permanent jobs during its operation. There will be opportunities (and commitments made by Peel to encourage) for local access to jobs and supply-chains.
- 5.51 The proposed REC will also contribute to strategic growth objectives for Barnsley through the provision of strategic renewable energy capacity to support local businesses and encourage inward investment based on secure and sustainably energy supplies.

6.0 Summary and Conclusion

- 6.1 The ES provides details of the EIA carried out for the proposed development of a Renewable Energy Centre (REC) on land off Houghton Main Colliery Roundabout, Park Spring Road, Houghton Main, Barnsley. The ES provides a description of the proposed development, an assessment of the likely and potential environmental impacts arising from the development, both during construction and operation of the development, and outlines proposed measures incorporated into the design to avoid, reduce and/or mitigate the adverse impacts of the proposal.
- 6.2 It is proposed to construct and operate the REC on approximately 3.0 hectares of land that was previously part of the Houghton Main Colliery. The development will comprise a Timber Resource Recovery Centre, receiving 150,000 tpa of biomass to export approximately 20MW of electrical energy via a highly efficient advanced gasification process. This is a revised proposal following refusal of an earlier application for a large scheme also containing a proposed Anaerobic Digestion Facility, which is now deleted from the proposals.
- 6.3 The scope and methodology for the assessments undertaken to inform this ES were developed in consultation with the LPA, Barnsley Metropolitan Borough Council, and other relevant statutory consultees. This was achieved through both informal scoping and the submission of a formal scoping request to the LPA. Details of the consultation undertaken with various stakeholders are provided in the relevant chapters of this ES.
- 6.4 The ES is presented in the form of a main ES report and associated tables and figures (Volume 1), this non-technical summary (Volume 2) and technical appendices (Volume 3). Volume 1 of the ES is comprised of individual chapters which report the findings of detailed assessments undertaken in relation to transport, ecology, air quality etc.
- 6.5 This section of the Non-Technical Summary provides overall summary of the impacts of the proposal and draws on the chapters of the ES to propose a coherent and balanced strategy to ensuring the development can take place whilst having acceptable environmental impacts. The ES considers the impacts both at construction and operational phases of the project.
- 6.6 The Transport Assessment concludes that the strategic road network and local highway network, including key local roundabouts, can accommodate the proposed development with no or negligible impact. A framework travel plan provides a mechanism for development of specific measures to control heavy vehicle traffic and promote efficient staff travel by car. These provide an appropriate mechanism for ensuring that the mitigations recommended are adhered to.
- 6.7 The Flood Risk Assessment demonstrates that the proposal site is at low risk of flooding, based on the latest topographical survey. A suitable surface water drainage scheme has been prepared to manage run-off from the site in accordance with run-off rates agreed with BMBC. A foul water system will be designed at a later stage but there is no objection in principle to this from Yorkshire Water.
- 6.8 The Landscape and Visual Impact Assessment concludes that there are a relatively low number of sensitive receptors within the vicinity of the plant. The relationship of the proposed REC to the adjacent ASOS building and the approach to the design of the REC to respond to local

residents' views will further reduce the impact of the proposed REC. The LVIA concludes that the Proposed REC will have a slight adverse impact on some sensitive receptors. Further mitigation is proposed through landscaping scheme included with the LVIA.

- 6.9 The air quality assessment concludes there are negligible impacts on air quality resulting from the operation of the proposed REC. There is potential for construction dust impacts to occur, which should be mitigated to an insignificant level through the preparation of a dust management plan at the appropriate stage.
- 6.10 The noise and vibration assessment concludes that the noise associated with the operation of the proposed REC would conform to criteria determined by BMBC and will not be detrimental to the nearest noise sensitive receptors. The potential for construction noise associated with the proposed REC is capable of mitigation through agreed measures as part of the construction programme.
- 6.11 The preliminary ecological appraisal concludes the flora and fauna onsite is most likely to be of at most local nature conservation significance. This was investigated through further surveys to cover bat activity, breeding birds, reptiles, great crested newts, lower plants species and problematic species. These concluded that, with appropriate recommendations, there are no constraints on development.
- 6.12 In relation to ground conditions and land quality, the suite of studies undertaken conclude that incorporated enhancement measures will mitigate most adverse impacts. Following implementation of mitigation measures no significant adverse impacts are expected in relation to geology and hydrogeology. Development of the scheme will allow remediation to be undertaken giving environmental betterment in accordance with the requirements of the NPPF and Local Plans.
- 6.13 The Cultural Heritage Environmental Impact Assessment (Chapter 13 of the ES) concludes that the proposed development will not have an adverse impact on any designated heritage sites or settings. Any unknown or unrecorded sites will have been destroyed during the period of mining activity between the 1890s and 2001.
- 6.14 The proposed REC will have a positive socio-economic impact through the provision of local jobs in the construction and operation of the plant. It will provide a modern renewable energy generation facility, export a significant amount of power to the national grid and have the ability to supply local heat and power to businesses in the area.
- 6.15 The EIA undertaken for the development and reported in the ES provides a number of mitigation measures that will be employed to ensure the environmental impacts of the proposal are not significant. All mitigation measures can be put in place without conflicting with any other proposed measure. This will ensure the development is undertaken in a coherent and complimentary manner and that no cross-disciplinary issues arise.

Conclusion

- 6.16 The assessments contained within the ES conclude that the development as proposed can be undertaken without creating any significant adverse environmental impact. The development will restore and bring back into use the site of a former colliery for a modern renewable energy use. The proposed REC will create positive socio-economic impacts through job creation,



sustainable energy supply and essential renewable energy infrastructure to support local business growth and inward investment.



DRAWINGS

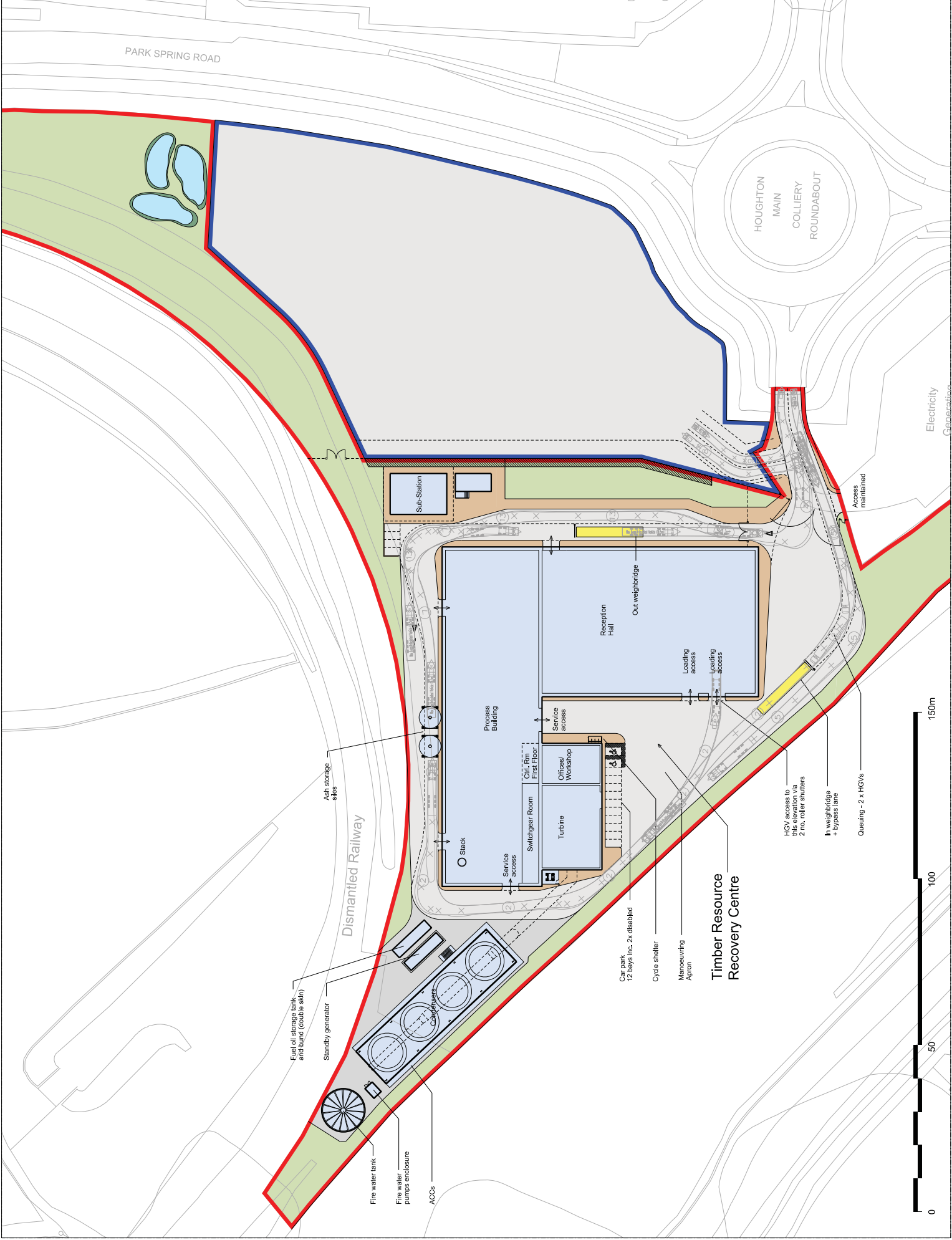
NOTE

1. THE DRAWING IS COPYRIGHT © GS&A LTD.
2. ANY WORK SHALL BE SET OUT AND MARKED TO THE BOUNDARIES OF THE LAND SHOWN ON THIS DRAWING.
3. WHERE ANY DISCREPANCIES EXIST BETWEEN THIS DRAWING AND ANY PREVIOUS DRAWINGS, THIS DRAWING SHALL TAKE PRECEDENCE.
4. ANY WORK SHALL BE SET OUT AND MARKED TO THE BOUNDARIES OF THE LAND SHOWN ON THIS DRAWING.

KEY

- Site boundary
- Adjacent site
- 2.5m wide hedge/line perimeter
- 2.5m wide hedge/line perimeter
- 2.5m wide hedge/line perimeter

For further information on planning and building please refer to PL038-37



A	150130	Revised for planning
-	150133	Revised for planning
FOR INFORMATION		
GS&A		
150130@A1 150130 DATE: 15/01/2019 DRAWN BY: JG		
HOUGHTON MAIN REC		
Proposed Site Layout		
1313_PL003 A		
GS	1313_PL003	A
DATE:	15/01/2019	DATE:
DRAWN BY:	JG	DRAWN BY:
CHECKED BY:		CHECKED BY:
DESIGNED BY:		DESIGNED BY:
APPROVED BY:		APPROVED BY:

Electricity Generation

150m

100

50

0



Enzygo specialise in a wide range of technical services:

- Property and Sites**
- Waste Planning**
- Waste Technologies and Renewables**
- Waste Technologies**
- Landscape Architecture**
- Environmental Co-ordination**
- Hydrology and Flood Risk**
- Waste Contract Procurement**
- Minerals Planning**
- Noise and Vibration**
- Permitting and Regulation**
- Environmental Planning**
- Ecology Services**
- Contaminated Land and Geotechnical**

BRISTOL OFFICE

The Granary
Woodend Lane
Cromhall
Bristol GL12 8AA
Tel: 01454 269237
Fax: 01454 269760

kevin.parr@enzygo.com

SHEFFIELD OFFICE

STEP Business Centre
Wortley Road
Deepcar
Sheffield S36 2UH
Tel: 0114 2903677
Fax: 0114 2903688

matt.travis@enzygo.com

MONMOUTH OFFICE, WALES

Singleton Court Business Park
Wonastow Road
Monmouth
Monmouthshire NP25 5JA
Tel: 01600 714611
Fax: 01600 716744

chris.formaggia@enzygo.com
