

ERECTION OF A REPLACEMENT RENEWABLE ENERGY GENERATION BUILDING

PEBBLE HALL FARM, BOSWORTH ROAD, THEDDINGWORTH,
NORTHAMPTONSHIRE, LE17 6NJ

CARBONARIUS LTD

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1 INTRODUCTION

1.1 Background

- 1.1.1 This Environmental Statement (ES) has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011. It accompanies a planning application submitted Northamptonshire County Council by GP Planning Ltd on behalf of Carbonarius (the applicant). The planning application seeks to modify an existing permission for a Renewable Energy Generation Facility (REGF) at Pebble Hall, Bosworth Road, Theddingworth, Northamptonshire, LE17 6NJ.
- 1.1.2 The modifications include the re-siting of the power generation building, an increase in its footprint and height to accommodate gasification plant, an increase in the stack height and an increase in wood waste inputs to provide the fuel supply.
- 1.1.3 The timber preparation operation is already undertaken on the site, using waste wood from sources within 30 miles of the site. The modified REGF facility will process a total of 72,000 tonnes of timber per annum, which is 32,000 tonnes per annum more than the consented REGF amount. The facility will produce 10.4 MWe of renewable electricity per hour, which is more than twice the consented REGF. This is enough to power 17,000 homes or 21% Northamptonshire homes. Renewable heat will also be produced in the form of hot water to be used in adjacent industrial operations and available to nearby businesses. The plant will be CHP-ready. The renewable electricity will be fed into the national grid via underground cables.
- 1.1.4 The ES comprises three main parts:
- Environmental Statement Report;
 - Technical Appendices; and
 - A Non-Technical Summary (NTS).
- 1.1.5 The NTS is presented as a separate document.
- 1.1.6 The Environmental Statement is supported by the following drawings:
- GPP/C/PH/REGF/13/01 – Site Location Plan
 - GPP/C/PH/REGF/13/02 – Site Plan
 - GPP/C/PH/REGF/13/03 – Existing Site Layout Plan
 - GPP/C/PH/REGF/13/04 – Proposed Site Layout Plan
 - GPP/C/PH/REGF/13/05 – Landscape Plan
 - GPP/C/PH/REGF/13/06 – Building Elevations
 - GPP/C/PH/REGF/13/08 – Catchment Area Plan
 - GPP/C/PH/REGF/13/09 – Photopanel A, B and C
 - GPP/C/PH/REGF/13/16 – Hedgerow Removal Plan
 - GPP/C/PH/REGF/13/17 – Cross Sections
 - GPP/C/PH/REGF/13/18 – Lorry Routing Plan
- 1.1.7 Following two Regulation 22 requests, copies of which are included in Appendix 1, two rounds of supplementary information were submitted to Northamptonshire County Council (NCC). This has been collated into this document in order to provide one comprehensive ES. A summary list of all the technical documents that support this ES is included in Appendix 2.

2 THE SITE AND ITS SETTING

2.1 The Development Site

- 2.1.1 The Application Site is located within the Pebble Hall Farm building complex, which has planning permission for B8 use and waste management purposes. Pebble Hall Farm is an agriculturally based operation that has been the subject of farm diversification, mainly as a result of the BSE crisis. By a series of grants of planning permission over a number of years, the site has established a variety of industrial/commercial concerns and a waste management operation. The site currently operates a large composting facility with wood waste processing and has various workshops which are rented out. The development area already has existing permission for a gasification renewable energy generation facility (REGF) (08/00053/WAS). The waste wood is sourced from commercial operators and Household Waste Recycling Sites, within a catchment area of approximately 30 mile radius, as required by Condition 14 of the existing planning permission 08/00053/WAS.
- 2.1.2 A planning application has been submitted to Northamptonshire County Council for a Thermal Aerobic Digester TAD) on the site adjacent to the site for the REGF. This application has been withdrawn and will be resubmitted following revision, at the same time as the REGF application.
- 2.1.3 The proposed Application Site is approximately 3.4 ha in size. The Application Site is used for wood reception and processing, workshops/storage and as a general yard area.
- 2.1.4 Pebble Hall Farm is located off the A4304. The Site location is shown on Drawing GPP/TE/W/13/01 and the Application Site is shown on Drawing GPP/C/PH/EFW/13/02. The site has access onto the strategic highway network via the A4304, A5199 and M1.

2.2 Development Site Setting

- 2.2.1 The Application Site is located in a rural context; there are no sensitive receptors within 500 metres of the site. The nearest sensitive receptor is located over 600 metres from the Application Site. The site is located in an area of open countryside. Pebble Hall has been extensively landscaped in recent years.
- 2.2.2 The site is approximately 1.8 km East of the village of Husbands Bosworth and 750 metres South-West of Theddingworth. Existing access to the site, which crosses the Northamptonshire and Leicestershire county boundaries, is surfaced in concrete and is approximately 560 metres long from its junction with the A4304. The site owner currently has a legal agreement with Leicestershire County Council not to exceed 240 vehicle movements per day Mon to Friday, 120 on Saturdays and 65 on Sundays. This is enforced through a traffic counter which has been installed at the site access. This proposal can be carried out within this vehicle limit, which is explained in the Planning Statement that accompanies the application.

2.3 Designations

- 2.3.1 The Application Site is situated on land used for storage and workshops and farm uses. There are no international or European designated nature conservations sites within 2km

of the Application Site. There is one SSSI within 2km of the Application Site, at a distance of 1.98km. There is a Scheduled Ancient Monument in Theddingworth. The Public Right of Way Network in the area is limited. The nearest public footpath is east of the site, through the Hothorpe Hills, which is 1.6km away.

2.4 Benefits of the Development

2.4.1 Overall, the benefits of the facility include:

- Renewable electricity from a sustainable biomass resource.
- The availability of renewable heat for use by existing businesses and industry and for new residential development near Market Harborough.
- The facility will employ up to twenty two people directly and as well as indirect technical/maintenance support operations. Significantly more staff of up to 100 people will be employed during the construction phase.
- A £42 million investment in local industry.
- Resource recovery of wood which would otherwise be landfilled producing significant quantities of greenhouse gas such as methane and carbon dioxide. Use of the waste timber in this manner is in accordance with Government guidance as Best Available Techniques and Best Practicable Environmental Option.¹
- The plant will save 42,000 tonnes of CO₂ per annum².
- The recovery of valuable ferrous and non-ferrous metals from the waste wood.
- Renewable electricity, which is produced continuously, unlike wind farms which typically only produce for 25% of their installed capacity.
- The facility will use rainwater collected from the roof of the facility within the operation.
- Ofgem have predicted that the UK may be subject to blackouts as a result of electricity shortages from 2015. This facility already has an agreement to connect to the grid and thus would work alongside other renewable power plants to make an important contribution to prevent this.

2.5 Planning History

2.5.1 The planning history at Pebble Hall is complex. Only those activities relevant to this planning application are included here, for information.

2.5.2 In December 2000 Daventry District Council granted planning permission for a change of use of the farm buildings to B8 distribution uses; (reference DA/00/1095). This permission has been implemented.

2.5.3 On 21 October 2003 (reference DA/03/725C) planning permission was granted by Northamptonshire County Council for green waste composting. This permission has been implemented. A second permission was granted on 4 October 2005, for an extension to the area to be used for green waste composting, it has also been implemented (reference DA/05/773C). These permissions allow a total throughput of 25,000 tonnes per annum of green waste; composting is to continue at the site alongside any additional consented waste operations.

¹ Source – DEFRA report February 2013: Energy from Waste – a guide to the debate; paragraph 62

² As calculated in a WRATE analysis (see paragraph 4.7.8 of the Planning Statement)

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- 2.5.4 Planning permission DA/07/319 was granted in June 2007 for the construction of an In-Vessel Composting Plant to deal with mixed green and food waste up to 25,000 tonnes per annum; however as the Waste Collection Authority has subsequently abandoned plans to collect the food waste there is no need to provide an in-vessel composting facility. This permission was not implemented.
- 2.5.5 Planning permission 08/00053/WAS was granted in June 2008 for a Renewable Energy Generation Facility (REGF), on the site previously consented for In-Vessel composting as detailed above. The Development Plan that the proposal was assessed against comprised the East Midlands Regional Waste Strategy January 2006 and Northamptonshire Waste Local Plan March 2006. The REGF occupies a similar footprint to the In-Vessel composting plant, and uses waste wood brought in from a 30 mile catchment to generate renewable electricity. The permission was implemented when the hoggin was excavated to create the platform for the proposed REGF and subsequently the wood waste imports and processing commenced. The site now handles 40,000 tonnes of wood waste per annum. However the building has not yet been constructed.
- 2.5.6 Planning permission 09/01593/FUL was granted on 14th June 2010 for the widening of the access track.
- 2.5.7 Planning permission 2010/C262/03 was granted by Daventry District Council on 7th July 2010 for the retention of temporary office buildings in association with the permitted carpet recycling activities on the site.
- 2.5.8 Planning permission 2010/0477 was granted by Daventry District Council on 19th October 2010 for the retention of engineering works associated with the existing distribution uses and waste related activities at the site.
- 2.5.9 Planning permission 10/00038/WAS was granted on 28 July 2010 for the use of one B8 unit for carpet recycling and part of the yard for carpet storage. The carpet recycling operations have now ceased.
- 2.5.10 A planning application was submitted to Northamptonshire County Council in June 2013 for a Thermophilic Aerobic Digester (TAD) and its associated renewable energy generation in an adjacent building previously used as a grain store on site. This application has been withdrawn and will be resubmitted following revision, at the same time as this REGF application. This will provide the opportunity to explain the synergies between the two facilities and to consider the combined impacts. The two proposed facilities will be submitted as two separate planning applications as they have been brought forward by two separate developers.
- 2.5.11 A planning application has been submitted to Leicestershire County Council to carry forward the limitations imposed on a S106 Agreement restricting vehicle movements onto the highway as follows: not to exceed 240 vehicle movements per day Monday to Friday, 120 on Saturdays and 65 on Sundays.; reference 2010/0879/03. This application will not be determined until such time as Northamptonshire County Council determines the application for the TAD.
- 2.5.12 A separate planning application is to be submitted to Leicestershire County Council to link the S106 Agreement to permission for the revised REGF, if granted.

3 ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS

2011

3.1 Introduction

3.1.1 The Town & Country Planning (Environmental Impact Assessment) Regulations 2011 set out descriptions of Schedule 1 developments for which Environmental Impact Assessment (EIA) is mandatory and a list of Schedule 2 developments for which an EIA may be required. An Environmental Statement (ES) and appropriate associated technical documents must accompany every planning application for which EIA is required. An assessment of whether the proposed development falls within Schedules 1 or 2 is set out below.

Schedule 1

3.1.2 Schedule 1 identifies twenty different categories of development in which an Environmental Impact Assessment is mandatory. The proposed development is not listed as Schedule 1 development.

Schedule 2

3.1.3 In terms of Schedule 2 of the EIA Regulations 2011, the proposal falls within Paragraph 11 "Other Projects, (b) Installations for the disposal of waste" and provides that where the site is greater than 0.5 hectare an EIA may be needed. In this case, the site is 3.4 hectares and therefore falls within the indicative thresholds of Schedule 2. In addition, the proposals fall within Paragraph 3(a) "Industrial Installations for the Production of Electricity, Steam and Hot Water (unless included in Schedule 1)". Again the EIA Regulations provide that if the area of the development exceeds 0.50 hectares than an EIA may be needed. Finally, the proposals fall within Paragraph 13(b) "Changes and Extensions" which provide that where there is any change or extension of development listed in Column 1 – 12 of the EIA Regulations 2011 an EIA may be required.

3.1.4 The basic test of the need for EIA in a particular case is the likelihood of significant effects on the environment by virtue of factors such as its nature, size and location. The Government Circular 02/99 (Environmental Impact Assessment) provides guidance on the considerations which should be taken into account in making the determination of whether a proposal is likely to give rise to significant effects. Paragraph 33 of Circular 02/99 (Environmental Impact Regulations) states that an EIA may be needed for Schedule 2 developments in three cases:

- a. for major developments which are of more than local importance;*
- b. for developments which are proposed for particularly environmentally sensitive or vulnerable locations; and*
- c. for developments with unusually complex and potentially hazardous environmental effects.*

3.1.5 The EIA Regulations provide definitions of those areas that are regarded as 'sensitive', and these include Sites of Special Scientific Interest (SSSI), National Parks, Areas of Outstanding Natural Beauty (AONB), World Heritage Sites, Conservation Areas, Scheduled

Monuments, and internationally designated sites. None of these apply in this case.

3.1.6 Paragraph 36 of Circular 02/99 states that:

The relationship between a proposed development and its location is a crucial consideration. For any given development proposal, the more environmentally sensitive the location, the more likely it is that the effects will be significant and will require EIA.

3.1.7 Annex A of Circular 02/99, sets out indicative thresholds and criteria for the identification of Schedule 2 Development requiring EIA. Paragraph A36 states that:

The likelihood of significant effects will generally depend on the scale of the development and the nature of the potential impact in terms of discharges, emissions or odour. For installations for the deposit, recovery and/or disposal of household, industrial and/or commercial wastes EIA is more likely to be required where new capacity is created to hold more than 50,000 tonnes per year or to hold waste on a site of more than 10 hectares.

3.1.8 The proposal exceeds the indicative Schedule 2 threshold of 0.5 hectares. The proposed building is larger than the permitted building; the site area is larger than the permitted area, at 3.4 hectares in size and the facility is to process more waste wood, at 72,000 tonnes of wood waste per annum and will generate energy. The proposal has the potential to have a cumulative impact on the surrounding environment due to the other waste operations present or proposed at Pebble Hall. Consequently, it is considered that the proposal is 'EIA Development' for the purposes of the EIA Regulations 2011; therefore the Applicant is submitting a voluntary Environment Statement.

3.1.9 An Environmental Impact Assessment (EIA) has been undertaken to enable the main environmental impacts of the proposed development to be assessed. The resulting Environmental Statement (ES) is submitted alongside the planning application for the proposed development.

3.2 Scope of Assessment

3.2.1 A Scoping Report was prepared and submitted to Northamptonshire County Council on 24th July 2013; a copy is included in Appendix 3. The Council's Scoping Opinion is also included in Appendix 3.

3.2.2 The impacts considered in the Environmental Impact Assessment relate to noise, air quality and landscape and visual amenity, together with cumulative effects, need and alternatives. Those environmental features that are not likely to give rise to significant environmental effects (i.e. those that are 'scoped-out'), are considered in appropriate detail, and supported by technical reports as necessary in the accompanying Planning Statement. These are:

- Dust
- Ground Conditions
- Archaeology and Cultural Heritage
- Ecology
- Socio-Economics

3.2.3 A table is included in Appendix 3, which sets out how the issues raised in the Scoping Opinion have been included in either this Environmental Statement or in the Planning Statement that accompanies the planning application.

3.2.4 As requested by Public Health England in its response to the Scoping Request, the Environmental Statement includes a separate chapter on the assessment of Health Impacts.

3.3 The Assessment Team

3.3.1 The following consultants have contributed to the Environmental Impact Assessment and the preparation of this Environmental Statement:

- Geoff Fynes of GF Environmental – Air Quality Assessment, including a Health Risk Assessment
- Richard Sharland of Ian Sharland Limited, Walker Beak Mason and Sound Barrier Solutions - Noise Assessment
- Lucy Booth of GP Planning Ltd – Landscape and Visual Impact Assessment
- Ian Brazier of Abington Consulting Engineers – Flood Risk and Drainage
- Del Tester of Origin Transport Consultants – Transport Assessment

3.3.2 Technical details relating to the project have been supplied by the Applicant.

3.4 Documentation

3.4.1 A copy of the ES (main statement only) or the ES (main statement plus technical appendices) can be purchased from GP Planning Ltd for £25 or £50 respectively for printed copies or £5 for a copy on CD. Copies of the Non-Technical Summary are available free of charge.

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4 EIA METHODOLOGY

4.1 General

- 4.1.1 The EIA has been carried out in accordance with the EIA Regulations (2011) and appropriate government guidance.
- 4.1.2 The specific methodologies for the assessment of the individual environmental topics are presented separately in the technical reports in the appendices of this Statement; these are summarised in the individual topic chapters later in this Statement.

4.2 Baseline Survey

- 4.2.1 Baseline survey work has been carried out as part of the EIA process. A series of detailed surveys were undertaken to establish the baseline conditions on the Site. These were conducted during August 2013, and include the following:
- Air Quality data search
 - Noise survey
 - Landscape survey
 - Traffic survey
 - Topographical survey

4.3 Approach to Assessment

- 4.3.1 Independent, suitably qualified consultants working to recognised guidelines, legislation and regulations, have carried out the assessments undertaken for each environmental topic area.
- 4.3.2 The technical assessments have considered the environmental impacts resulting from the maximum development parameters and most unfavourable conditions; in effect the worst case scenario.

4.4 Cumulative Effect

- 4.4.1 A number of environmental impacts may combine to result in a cumulative impact that is of greater significance than the individual impacts. Also, there is the potential for the impacts of the proposed development may have a cumulative impact with other existing and proposed developments within the Pebble Hall complex, particularly the proposed TAD facility.
- 4.4.2 An assessment of cumulative impact resulting from the proposal is included in Section 12.

4.5 Limitations and Assumptions

- 4.5.1 Each individual technical assessment includes discussion on the limitations and assumptions made during the process.

5 CONSULTATION

5.1 Introduction

5.1.1 In accordance with the requirements of the Localism Act (2011) and Northamptonshire County Council's Statement of Community Involvement for minerals and waste developments, a public exhibition was held.

5.2 Pre-application Community Consultation

5.2.1 A Public Exhibition was held in Husbands Bosworth Village Hall on the 23rd July 2013 from 3.30pm – 7.30pm. This event was to provide local residents and officers and councillors of the organisations that will be consulted on the planning application to be informed of the proposed development. A letter extending an invitation to attend the event was sent to the following:

- Lubenham Parish Council
- Theddingworth Parish Council
- Marston Trussell Parish Council
- Husbands Bosworth Parish Council
- Daventry District Council - Environmental Health Officer, Planning Officer and Councillors
- Harborough District Council - Environmental Health Officer, Planning Officer and Councillors
- Northamptonshire County Council - Planning Officer and Councillor
- Leicestershire County Council - Planning Officer and Councillor
- Local Residents

5.2.2 A copy of the exhibition panels are included in Appendix 4.

5.2.3 The event was attended by 17 individuals unconnected with the development.

5.2.4 An opportunity was provided for feedback, but none was received from attendees. However, representatives of the Applicant, the landowner and of GP Planning Ltd answered questions that were raised during the event.

6 THE PROPOSED DEVELOPMENT

6.1 Overview

- 6.1.1 This proposal is for the modification of the existing planning permission for a Renewable Energy Generation Facility (REGF) (08/00053/WAS).
- 6.1.2 The area covered by the planning application is shown on Site Plan GPP/C/PH/EFW/13/02; it is 3.4ha in extent. It includes the area already covered by the existing REGF permission, which is the land area currently utilised for waste timber reception and processing, plus the land occupied by existing workshops and the yard in the southwest corner of the Pebble Hall complex. The REGF building is to be re-sited in the south-west corner of the Pebble Hall complex, beyond the boundary of the consented facility. The location of this building is shown on the Site Layout Plan GPP/C/PH/EFW/13/03. The new location for the energy generation building is proposed for ease of vehicle access and wood fuel management, fire safety and to maximise the screening effect of existing buildings.

6.2 Consented and Proposed REGF

- 6.2.1 The following table compares the principal components of the consented facility with the proposed facility.

Table 6.1 Components of the Consented and Proposed REGF

	Consented REGF	Proposed REGF
Wood waste input	40,000 tonnes per annum	72,000 tonnes per annum
Output	4-5 MW	10.4 MW
Technology	Pyrolysis with gas engines	Gasification with steam boiler
Building footprint	1890 square metres	3295 square metres
Building height	13 metres	18.5 metres
Stack height	15m	30m
Weighbridge number	One	Two
Workshop/storage units	1474 square metres retained	1474 square metres lost.

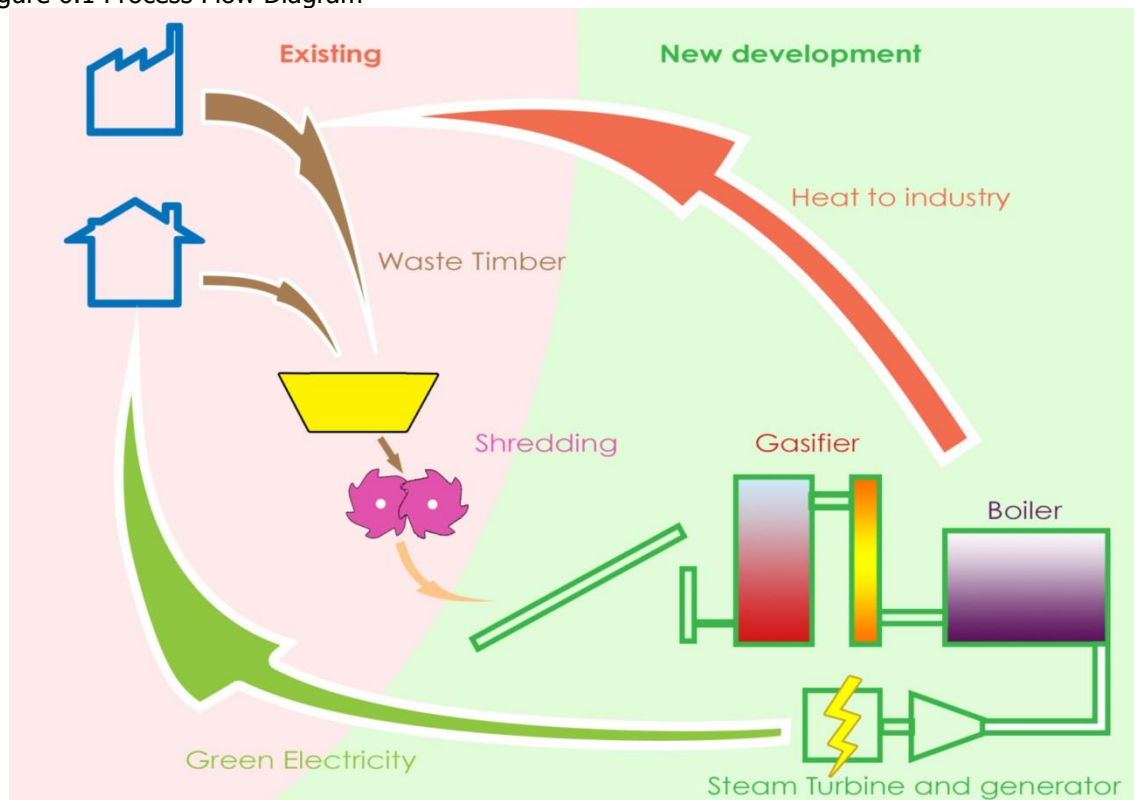
- 6.2.2 The proposed building is larger than the consented building, to accommodate the equipment required to generate 10.4MWe per hour. This will facilitate more than double the consented electrical output from the REGF. The increase in size of the plant and its required wood fuel throughput is to take advantage of greater efficiency offered by the gasification plant and economies of scale. In addition, the stack height needs to be increased from 15m to 30m, to ensure that the emissions can be effectively dispersed.
- 6.2.3 In order to allow the ease of fuel movement from the reception area to the REGF, the workshops will be removed and the ground will be levelled out. This will involve the loss of 1474m² of B8 floorspace. Together with the floor area of the REGF building that will not now be constructed, this totals 3364m², which is less than the proposed new building footprint.
- 6.2.4 The site of the consented REGF building will be used for wood waste reception and processing. This waste timber preparation is already happening on site, within the open

yard area occupying the site of the consented REGF building. A significant proportion of the timber biomass required by the project is already received from local sites and shredded on site as part of the existing operations. This material is currently taken off site; the REGF will use this material.

6.3 Site Operations and Process Description

- 6.3.1 The proposed technology is a gasification process, which is shown in diagrammatic form in Figure 6.1 below. The technology is well established and in operation at other sites in North America and Canada. The process is summarised as follows:
- Material will be delivered to the waste reception area in bulk loads. A proportion of this material will be shredded on site and the balance will arrive pre-shredded.
 - Shredded material will be transferred to the REGF Fuel Hall via front loader or conveyor.
 - The material will be temporarily stored on a storage walking floor and then fed into the gasification chamber to be thermally treated under low oxygen conditions to produce a fuel gas.
 - This fuel gas is then passed to a combustion chamber where it is mixed with air and combusted under carefully controlled conditions and the heat produced used to produce steam within a boiler.
 - This steam is then used within a turbine for the production of 10.4MW renewable electricity per hour.
 - The facility will have the ability to produce renewable heat, which could be used in the adjacent businesses for heating and process uses including drying. Surplus heat will be available to export to other local businesses and residential development.
 - The renewable energy will be transferred to the National Grid. The route and connection point is shown in Appendix 5.

Figure 6.1 Process Flow Diagram



Feedstock Quantities and Outputs

- 6.3.2 The facility will process a total of 72,000 tonnes of timber per annum, which is 32,000 tonnes per annum over the currently consented REGF amount. Most, if not all of this additional material will be brought onto the site pre-shredded to a size of 70-100mm. The 40,000 tonnes of wood waste currently received from the consented 30 mile catchment area; it will be processed to reduce its size to 70-100mm, rather than to its current size of 40mm. It should be noted that the plant will not process any waste material other than waste timber biomass. The plant will recover renewable energy in the form of electricity and heat as a CHP-ready facility, as well as recovery of other recovered recycle streams such as metals.
- 6.3.3 The facility will produce 10.4 MWe of renewable electricity per hour. This is enough to power 17,000 homes or 21% Northamptonshire homes. As a CHP ready facility renewable heat will also be available in the form of hot water to be used in adjacent industrial operations and available to nearby businesses and new residential developments near Market Harborough. The electricity will be exported to the National Grid via underground cables along the route shown on Drawing WPD 1614695.
- 6.3.4 Outputs from the operations will include approximately 1,000 tonnes of contaminants/recyclables from the wood waste (including metals), 960 tonnes of fly ash and 2,375 tonnes of grate ash. The fly ash will be removed off-site to landfill and the grate ash will either be used on the farm as a fertiliser or taken off-site for use elsewhere.

Hours of Operation

- 6.3.5 The facility will employ 22 people, of which around 7 will be on site at any one time. This will reduce personnel traffic movements, as the changeover will be based on a continental shift system resulting in travelling outside peak hours.
- 6.3.6 Delivery and collections vehicles would arrive and leave between the following hours:
- 07.00-18.00 Monday to Friday
 - 08.00-13.00 Saturday
 - No deliveries on Sunday or Bank Holidays.

Building Components

- 6.3.7 The gasification facility will be housed within a new juniper green steel clad building, which will be agricultural in style, the dimensions of which are shown on the Elevations Drawing GPP/C/PH/EFW/13/05. This will be situated South of the existing building currently used as a grain store, but which is proposed for a Thermophilic Aerobic Digester, see Site Layout Plan GPP/C/PH/EFW/13/02. The complex of existing and new buildings is illustrated in two images from a 3D model, in Drawing GPP/C/PH/REGF/13/10.
- 6.3.8 Activities within the building include reception of the prepared wood, recovery of recyclable materials and the production of renewable heat and electricity. The activities will be controlled by the Environment Agency under an Environmental Permit; this permit cannot be issued unless the Environment Agency is satisfied that the process is undertaken and controlled to the highest possible environmental standards.

Plant Hall, Fuel Hall & Turbine Hall

- 6.3.9 The facility will be of a scale typical of modern agricultural buildings such as a grain store. The facility will be constructed with a steel frame and clad with juniper green steel cladding. This building will have 3 fast acting roller shutter doors (6m x 6m) and 6 pedestrian access doors (1m x 2m). The components are of the following sizes:
- Fuel Hall – 25m x 25m x 10.5m(H)
 - Plant Hall – 85m x 25m x 18.5m(H)
 - Turbine Hall – 15m x 18m x 9.5m(H)
- 6.3.10 On the roof of the Turbine Hall there will be three air coolers and adjacent to the wall of the hall there will be a Transformer Compound, 8m by 4.5m with a 2m high security fence.

Office, Control Room, Control Panels & Workshop

- 6.3.11 This two-storey building will house on its ground floor a workshop for maintenance purposes and on its first floor, an administration office with operations and monitoring facilities. This building will be built with a brick base and profiled wall cladding. This building will have 1 fast acting roller shutter door (6m x 6m) and 4 pedestrian access doors (1m x 2m). There will be 8 PVC double glazed window units installed.

Flue Stack

- 6.3.12 The process flue stack will project through the Turbine Hall roof and will be 1.41m diameter and 30m in height from ground level.

Air-Cooled Condenser

- 6.3.13 This will be 15m x 26m x 18m, with an enclosed section above a supporting steel frame. It will be connected to the Turbine Hall via a feed pipe.

Working Yard

- 6.3.14 The outside working yard will be surfaced with concrete. Eleven parking spaces will be provided. There may be a conveyor between the wood waste shredding area and the Fuel Hall. In addition, there will be a slab for the storage of gas cylinders and a small substation for the connection to the electricity cables to be laid for the connection to the grid. A second weighbridge will be constructed on the access road.
- 6.3.15 Two new drainage lagoons will be constructed, with a total capacity of 968m³.

6.4 Construction of the Facility

- 6.4.1 It is anticipated that the construction of the REGF building and the installation of the plant and equipment will take 18 months.
- 6.4.2 Work will take place normally during the following hours
- 07.00-18.00 Monday to Friday
 - 08.00-13.00 Saturday
 - No construction work on Sunday or Bank Holiday
- 6.4.3 It is anticipated that construction works within enclosed structures would be carried
-

outside the hours set out above. This would include installation and commissioning of the plant and equipment provided as part of the proposed facility.

- 6.4.4 Any heavy or external construction work outside these hours would be carried out with the prior agreement of the Local Planning Authority, except in case of emergency.

Site Preparation and Construction Works

- 6.4.5 In order to allow the ease of fuel movement from the reception area to the REGF, the existing workshops/storage units and portacabins to the rear will be removed and the ground will be levelled out.
- 6.4.6 In addition, approximately 31,500m³ of material will be removed from the existing track through the site alongside the workshop/storage buildings that are to be removed; it will not be taken off site but instead will be reused to increase the height of the embankment to the South and West of the yard where the building is now proposed, in order to provide additional landscape and visual impact mitigation. Details of the proposed ground modelling and landscaping are illustrated on Drawing GPP/C/PH/REGF/13/05. The buildings to be removed are shown in the Photopanel in GPP/C/PH/REGF/13/09.
- 6.4.7 Following the provision of a level yard area, the REGF building will be constructed and the outside yard area laid to concrete, with the drainage provided as part of the construction contract.

6.5 Traffic and Vehicle Numbers

- 6.5.1 A summary of the proposed and existing daily vehicle movements associated with the Application Site is provided in Table 6.2.

Table 6.2 Daily Vehicle Movements

	Existing Use Per day	Proposed Use Per day
REGF - HGV	16	(16+12) 28
Staff & Visitors - Cars	2	50
Workshop/ Storage, HGV, LGV and Cars	35 up to 215, of which 23 HGVs	0
Ash Removal - HGV	0	1
Contaminants Removal - HGV	1	1
Total	54 up to 234	82 with half on Saturday

- 6.5.2 Table 6.2 indicates that the proposed removal of the workshop/storage units, which have an unrestricted B8 use, and their replacement with a larger renewable energy generation facility will have the potential to significantly reduce overall traffic generation levels associated with the site. This will result in significantly less LGV movements, with more car movements.
- 6.5.3 The total proposed movements, together with other movements associated with the use of the Pebble Hall complex, will not exceed the limit set by the S106 Agreement with Leicestershire County Council.

6.6 Fire Risk

- 6.6.1 There are two very large water tanks on site to store water for use in the event of a fire, one of which has a capacity of 200,000 litres. This provision has been installed to meet the requirements of the Fire and Rescue service. The gasification process associated with the REGF will use rain water harvested from the building roof, which will be stored in a tank located inside the REGF building; it is also suitable for fire water uses.

6.7 Lighting Scheme

- 6.7.1 Exterior lighting will be confined to downward facing low-energy lights mounted on the building. All proposed lighting will be agreed with Northamptonshire County Council prior to installation in order to protect local amenity.

6.8 Site Security

- 6.8.1 The access to Pebble Hall from the A4304 is closed outside operational hours, using a locked gate. There is an existing CCTV network of cameras around the existing complex, which will be maintained and extended to provide coverage over the whole building complex. A new gate will be installed on the access track beside the building proposed for use as a TAD facility, to prevent access from the surrounding fields. This gate will be kept locked except when required for agricultural access.

6.9 Utilities and Grid Connection

- 6.9.1 The Applicant has been provided with a letter of intent to supply electricity to the local grid, via underground cables to the substation on the outskirts of Market Harborough. A plan showing the proposed route of the cables is included with the application, Drawing WPD 161495 - Grid Connection, in Appendix 5.
- 6.9.2 Foul sewage will be managed by a septic tank and soakaway.

6.10 Environmental Controls

- 6.10.1 The site will be regulated by the Environment Agency through the conditions contained in an Environmental Permit. This will be applied for upon receipt of planning permission; the facility will not be permitted to operate until a Permit is received.

Air Quality

- 6.10.2 An Air Quality Assessment is included in Appendix 6 of the Environmental Statement. The assessment has determined the height of the stack needed to vent to atmosphere the emissions from the power generation plant.

Odour

- 6.10.3 Odour is not an issue associated with the management of waste wood and its use in advanced thermal treatment to produce renewable energy.

Noise

6.10.4 The design of the building takes into account the need not to increase noise levels at the nearest noise sensitive receptors. A Noise Assessment is included in Environmental Statement Appendix 7.

Drainage

6.10.5 The site is located outside an area at risk of flooding and a sustainable drainage scheme has been designed to prevent the risk of run-off leading to flooding downstream on the River Welland. There will also be an interceptor to prevent pollution from yard run-off. A Flood Risk Assessment and Drainage Strategy is included in Appendix 8 of the Environmental Statement.

Landscape and Visual Impact and Ecology

6.10.6 A detailed scheme of landscape improvements and provision of extended woodland habitat has been prepared to mitigate the potential impacts on local ecological interests and on landscape and visual amenity caused by the REGF. A Landscape and Visual Impact Assessment is included in Appendix 9 of the Environmental Statement.

6.11 Employment and the Local Economy

6.11.1 In addition to temporary job opportunities during the plant's construction, further new and permanent jobs will be created. The recruitment process will focus on the local area. The REGF facility will generate 22 employment opportunities during the facilities operation and around 100 temporary jobs during construction.

6.11.2 The facility will involve capital investment of over £40m, which will result in expenditure within the local economy, as well as supporting manufacturing in the UK, from where the specialised technology will be sourced.

7 PLANNING POLICY CONTEXT

7.1 Introduction

- 7.1.1 This section provides an indication of the main Development Plan policies and national planning guidance that has been considered and assessed in the preparation of the planning application and supporting Environmental Statement.
- 7.1.2 The Development Plan in this instance consists of:
- Northamptonshire Minerals and Waste Development Framework Core Strategy, Development Plan Document (2010)
 - Northamptonshire Minerals and Waste Development Framework Locations for Waste Development, Development Plan Document (2011)
 - Northamptonshire Minerals and Waste Development Framework The Control and Management of Development, Development Plan Document (2011)
 - Development and Implementation Principles, Supplementary Planning Document (2011)
 - Daventry District Council Local Plan 1997 (Saved Policies)
- 7.1.3 The main objectives and planning policies that are relevant to the proposal are set out below. The policies are not all included in full; only the relevant parts of the policies are included. The parts that are relevant to this development are highlighted by underlining.

7.2 The Development Plan

Northamptonshire Minerals and Waste Development Framework Core Strategy, Development Plan Document (2010)

- 7.2.1 Objective 5 relates to the spatial distribution of waste development and aims to:
Facilitate the delivery of a strategic urban-focused flexible waste management network which supports the treatment of waste close to where it has been generated, with particular encouragement of integrated waste recovery and treatment facilities.
- 7.2.2 The focus of this objective is to integrate waste sites rather than separating out facilities.
- 7.2.3 Box CS3:
Locational hierarchy
The hierarchy of areas for locating waste management facilities are defined as:
Central spine – in or related to the principal urban area of Northampton; in or related to the urban areas of Corby, Kettering, Wellingborough and Rushden / Higham Ferrers; in or related to the central spine service centres of Burton Latimer, Irthlingborough, Rothwell and Desborough; in or related to other built up local service centres within the central spine between Northampton and Corby.
Sub-regional centre – in or related to Daventry.
Rural service centres – in or related to Brackley, Oundle, Raunds, Thrapston and Towcester.
Rural hinterlands – the rest of Northamptonshire.
Catchment areas

Waste management facilities in Northamptonshire will be designated as having one or more of the following catchments within which waste can be sourced:

- National
- Regional
- Sub-regional
- Local, and
- Neighbourhood

Functional role

The functional role of waste management facilities are defined as:

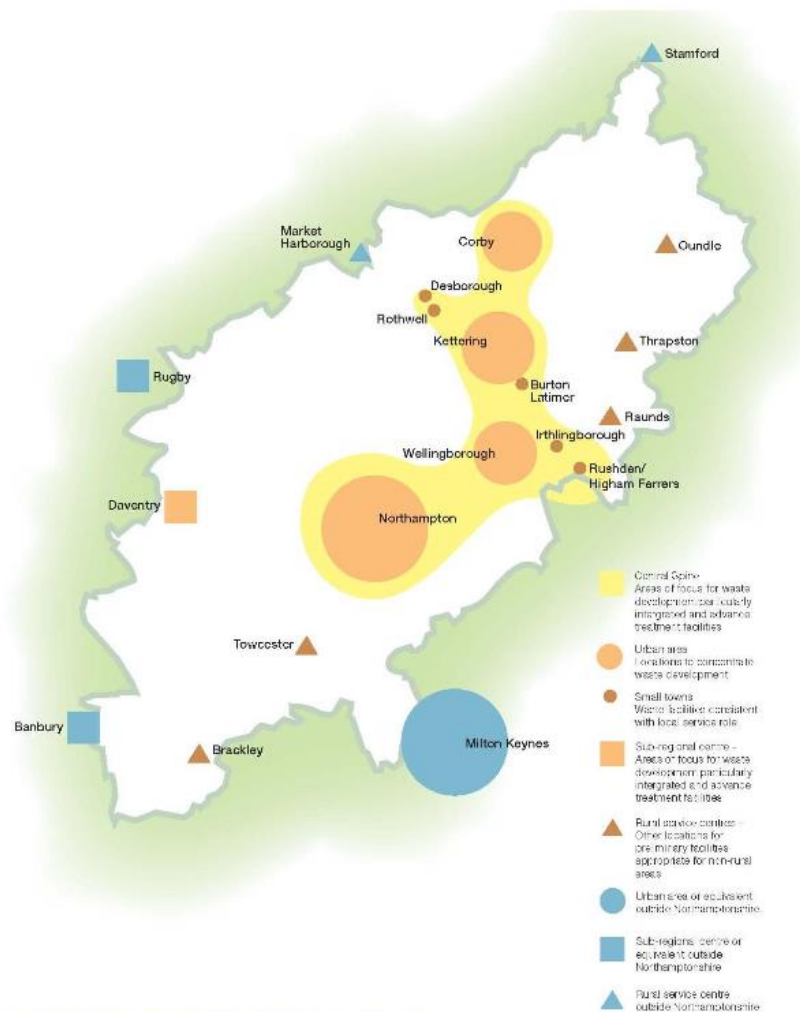
Advanced treatment – thermal, pyrolysis, gasification, plasma arc and other waste to energy processes and other emerging advanced technologies.

Preliminary treatment – household waste recycling centres, materials recycling facilities, composting (open windrow and in-vessel), anaerobic digestion, mechanical biological / heat treatment, inert processing, other recycling facilities and waste transfer stations.

Disposal – non-inert landfill / landraise and inert landfill / landraise.

Sewage and waste water treatment – sewage and waste water treatment plants.

7.2.4 Plan CS3 identifies the spatial strategy for waste management in Northamptonshire.



Plan CS3: The spatial strategy for waste management

7.2.5 Policy CS1 – Northamptonshire’s waste management capacity:

The development of a sustainable waste management network to support growth within Northamptonshire will involve the provision of facilities to meet the following indicative waste management capacities during the plan period:

Waste management or advanced treatment (MSW and C&I) capacity of 392,000 and 456,000 tonnes per annum for 2016 and 2026 respectively.

This provision will come from a mix of extensions to existing sites, intensification or re-development of existing sites and new sites, providing they all meet the spatial strategy for waste management and are assessed as meeting environmental, amenity and other requirements. Allocations that will contribute to meeting provision will be identified in the Locations for Waste Development DPD.

7.2.6 Policy CS2 – Spatial strategy for waste management:

Northamptonshire’s waste management network, particularly advanced treatment facilities with a sub-regional or wider catchment, will be focused within the central spine, and the sub-regional centre of Daventry.

In the rural hinterlands only facilities with a local or neighbourhood catchment providing for preliminary treatment, or that are incompatible with urban development, should be provided. Where it is the latter they should deal with waste generated from identified urban areas and be appropriately located to serve those areas.

Facilities in rural areas should, where possible, be associated with existing rural employment uses.

7.2.7 Policy CS9: Encouraging sustainable transport movements:

Minerals and waste related development should seek to minimise transport movements and maximise the use of sustainable or alternative transport modes.

7.2.8 Policy CS14: Addressing the impact of proposed minerals and waste development: *Proposals for minerals and waste development must demonstrate that the following matters have been addressed:*

- *minimising environmental impact and protecting Northamptonshire’s key environmental designations,*
- *protecting natural resources or ensuring that any unavoidable loss or reduction is mitigated,*
- *ensuring built development is of a design and layout that has regard to its visual appearance in the context of the defining characteristics of the local area,*
- *ensuring access is sustainable, safe and environmentally acceptable, and*
- *ensuring that local amenity is protected.*

7.2.9 Paragraph 4.16 of the Core Strategy provides that:

Inevitably there will be some cross-border flows for reasons of geographical convenience, which may be broadly balanced, or because some waste management facilities can have a highly specialised role that means they have larger catchment areas. The Core Strategy recognises that waste management is becoming more specialised and is also a higher value industry than

previously. It is not appropriate to oppose facilities serving wider catchments when other industries and commercial enterprises are not so constrained. However, in the wider interests of sustainability, it is not envisaged that Northamptonshire should take on a role as a key sub-national location for waste management facilities.

7.2.10 Paragraph 6.17 provides that:

Facilities provided for within the rural hinterlands should have a local or neighbourhood catchment and should mainly be for preliminary treatment. Facilities located within the rural hinterlands may also include those whose siting is incompatible with, or not complementary to, urban development; for example due to facility operational requirements (such as in the case of anaerobic digestion). In such circumstance, the facility should deal with waste generated from identified urban centres and be appropriately located to serve those centres.

Northamptonshire Minerals and Waste Development Framework Locations for Waste Development, Development Plan Document (2011)

7.2.11 This DPD sets out the allocation of specific sites for waste management facilities, and the identification of specific locations where waste management uses would be acceptable in principle. Paragraph 3.2 states that:

It is therefore not appropriate for this DPD to attempt to identify all of the sites that will be required for waste management facilities over a twenty year period. To do so would be too prescriptive and inflexible and could potentially mean that acceptable sites identified outside of the plan-making process could be prevented from being implemented.

7.2.12 Paragraph 3.4 sets out four distinct categories for locations of waste development, one of which is:

Sites for waste management use in rural areas - *specific sites within rural areas where those waste management uses most appropriately located in these areas (particularly composting and anaerobic digestion) would be acceptable.*

7.2.13 The only allocated sites for waste management use in rural areas are listed in Policy W4. These are at Kilsby, Chelveston and Nassington – Kings Cliffe Regeneration Centre. However, in Appendix 2a the list of commitments for waste management include Pebble Hall Farm, for a biomass fuelled power generation facility, due to the planning permission that was granted in 2008 and now implemented. The site is also listed in Appendix 2a for composting (in-vessel and open windrow) due to the planning permission for these uses (see Planning History in Section 2.5).

7.2.14 Appendix 2a also lists as commitments a number of sites that are not located in the Urban Spine and are for similar developments. For example, a biomass plant at Chelveston and in-vessel composting and AD plants at Helmdon.

Northamptonshire Minerals and Waste Development Framework Control and Management of Development, Development Plan Document (2011)

7.2.15 Box CMD1 Indicative (non-hazardous) waste management capacity gaps (2026) identifies

a need for additional advanced treatment capacity, as follows:

- *advanced treatment (MSW and C&I) capacity_of 392,000 and 456,000 tonnes per annum for 2016 and 2026 respectively.*

7.2.16 Policy CMD1: Development criteria for waste management facilities (non-inert and hazardous):

Proposals for waste management facilities on non-allocated sites (including extensions to existing sites and extensions to allocated sites) must demonstrate that the development:

- *does not conflict with the spatial strategy for waste management,*
- *promotes the development of a sustainable waste network and facilitates delivery of Northamptonshire's waste management capacity requirements,*
- *clearly establishes a need for the facility identifying the intended functional role, intended catchment area for the waste to be managed, market base for any outputs, and where applicable the requirement for a specialist facility,*
- *is in general conformity with the principles of sustainability (particularly regarding the intended catchment area),*
- *facilitates the efficient collection and recovery of waste materials, and*
- *where intended for use by the local community, is readily and safely accessible to those it is intended to serve.*

7.2.17 Policy CMD1 within the DPD sets out the need to identify the likely catchment area of waste sources for waste management facilities (non-inert and hazardous) facilities. Paragraph 3.12 of the DPD sets out the definition of the scales of geographic influence that a waste facility may command. Sustainability principles are indicated within the DPD as the core reason for the management of waste streams to occur within the vicinity of its creation. The DPD document states the criteria against which each facility is to be measured with regard to scale. The classifications are National, Regional, Sub-Regional, Local and Neighbourhood facilities. Each of these facilities has a list of criteria that indicate the scale of development and the area the waste is to be derived from, and as such the catchment area for the facility. In this case the sub-regional role is relevant.

Sub-Regional

- *Waste to be managed on site originates from with Northamptonshire or an equivalent geographical area.*
- *May include a wide variety of waste types including municipal solid waste, construction and demolition and green waste.*
- *The facility supports the waste hierarchy and is not for the disposal of waste, unless this is the last available option.*

7.2.18 Policy CMD1 states that particularly in the case of advanced treatment facilities:

- *ensure waste has undergone preliminary treatment prior to advanced treatment,*
- *integrate and co-locate waste management facilities together with complementary activities,*
- *maximise the reuse of energy, heat and residues, and*
- *maximise the use of previously developed land (particularly existing and designated industrial land and derelict, despoiled or brownfield urban land) or redundant agriculture and forestry buildings (and their curtilages).*

7.2.19 Box CMD2: Functional role of waste management facilities:

- *Advanced treatment includes gasification*

7.2.20 Policy CMD7: Natural assets and resources:

Minerals and waste development should seek to (where possible) achieve a net gain in assets and resources, through:

- *delivery of wider environmental benefits in the vicinity where development would adversely affect any regional or locally designated sites or other features of local interest,*
- *protecting and enhancing green infrastructure and strategic biodiversity networks, in particular the River Nene and other sub-regional corridors, and*
- *consider opportunities to contribute towards Northamptonshire Biodiversity Action Plan targets for habitats and species.*

Proposals for minerals and waste development will be required to undertake an assessment (where appropriate) in order to:

- *identify and determine the nature, extent, and level of importance of the natural assets & resources, as well as any potential impacts, and*
- *identify mitigation measures and / or requirement for compensation (where necessary) to avoid, reduce, and manage potentially adverse impacts.*

7.2.21 Policy CMD8: Landscape character:

Minerals and waste development should seek to reflect Northamptonshire's landscape character. Development should mitigate potentially adverse impacts on the local character and distinctiveness of Northamptonshire's landscape where necessary during the development, operational life, restoration, aftercare, and after-use. Opportunities for enhancement should be maximised through restoration, aftercare, and after-use.

Proposals for minerals and waste development will be required to undertake a landscape impact assessment (where appropriate) based on the landscape character assessment in order to identify:

- *the presence of landscape values (including their nature, extent, and level of importance) and determine any potential impacts,*
- *any necessary measures to mitigate potentially adverse impacts, and*
- *opportunities to protect and enhance particular features that create a specific aspect of local distinctiveness or character.*

7.2.22 Policy CMD10: Layout and design quality:

The layout and overall appearance of waste management facilities will be required to demonstrate that the development:

- *supports local identity and relates well to neighbouring sites and buildings,*
- *is set in the context of the area in which it is to be sited in a manner that enhances the overall townscape, landscape, or streetscape (as appropriate)*
- *incorporates specific elements of visual interest, and*
- *builds-in safety and security*

Northamptonshire Minerals and Waste Local Plan: Final Draft Plan (Proposed Submission Document) (September 2013)

7.2.23 This document was made available for consultation on 5 September 2013, with the closing date of 31 October 2013. It retains much of the policy contained in the Local Development Framework documents as described earlier in this section. It incorporates Northamptonshire's Minerals and Waste Core Strategy, Control and Management of Development DPD and Locations for Waste Developments DPD. The spatial strategy for the rural hinterlands remains the same in the Final Draft Plan.

- 7.2.24 It is noted at Paragraph 5.30 that:
The permitted capacity for waste management and disposal is sufficient to meet Northamptonshire's current requirements with the exception of non-inert landfill and advanced treatment.
- 7.2.25 The identified capacity gap for advanced treatment is 530,000 tonne per annum at the end of the plan period in 2031 (Paragraph 5.32 and Table 7). In 2016 the identified capacity gap is 460,000, which is an increase of 68,000 tonnes per annum above the adopted Core Strategy amount and is a similar tonnage to what is proposed in this development.
- 7.2.26 Paragraph 5.33 states that there are opportunities for advanced waste treatment (increased capacity) at various stages through the plan period.
- 7.2.27 Paragraph 5.34 states that:
the waste industry and management technologies are dynamic and being overly prescriptive may stifle innovation and uptake of emerging technologies.
- 7.2.28 Paragraph 5.35 states that:
the Local Plan seeks to secure delivery of the indicative capacity requirements in two ways: (1) identification of specific sites for waste management facilities along with specific locations where waste management uses would be acceptable in principle; and (2) identification of locally specific policies on which the acceptability of proposals for waste-related development that come forward on non-allocated sites can be determined.
- 7.2.29 Paragraph 5.36 states that the first ten years of waste management capacity could:
Advanced treatment (capacity gap 0.47 Mtpa in 2021) – Sufficient allocated sites and industrial locations have been identified through the plan to accommodate the development of facilities to meet the capacity gap by 2021.
- 7.2.30 This assessment takes account of the commitment for an advanced treatment facility at the Application Site, treating 40,000 tonnes a year.
- 7.2.31 Paragraph 5.39 states that:
Proposals for extensions or change in waste-related development on the committed sites (and on other sites on which planning permission for waste use has been subsequently granted) must be in accordance with the Local Plan policies. However, it is accepted that being commitments confers a favourable status on these sites for a continuation of a waste use where this meets the intent of the Local Plan strategy and policies, and is also in accordance with national planning policy.
- 7.2.32 The footnote to paragraph 5.58 states that there is no hierarchical status or preference in the classification of sites by location.
- 7.2.33 The plan seeks to strike a balance between identifying allocations and allowing non-allocated sites to come forward. Policy CMD 1 is replicated as Policy 13 in the Final Draft Plan and sets out the same development criteria for waste management.

West Northamptonshire Joint Core Strategy Pre-Submission February 2011.

7.2.34 Policy S11 provides for development for renewable energy:

Applications for proposals to generate energy from renewable sources (including any associated transmission Lines, buildings and access roads) will be expected to:

- 1. Bring wider environmental, economic and social benefits and contribute to national renewable energy production targets in terms of addressing climate change;*
- 2. Have no significant adverse impact on the historic and natural landscape, landscape character, townscape or nature conservation interests;*
- 3. Have no significant adverse impact on the amenity of the area in respect of flicker, glare, noise, dust, odour and traffic generation; and*
- 4. Provide for the removal of the facilities and reinstatement of the site, should they cease to be operational.*

Daventry District Council Local Plan 1997 (Saved Policies)

7.2.35 The relevant policies are:

- Policy GN1 – Guide to granting planning permission, which sets out the parameters that need to be taken into account.
- Policy GN2 – Criteria for granting planning permission: development will normally be granted provided the proposal will be in-keeping with the locality and does not detract from its amenities.
- Policy GN3 – Availability of services, infrastructure and amenities.
- Policy EM16 – Employment in the open countryside; exceptions to the restriction on employment are for development involving the reuse of buildings.
- Policy EN1 – Special Landscape Areas (now superseded by the Northamptonshire Landscape Character Assessment).

Daventry District Council Energy and Development Supplementary Planning Document (March, 2007)

7.2.36 The SPD recognises that renewable energy provides an increasingly important fuel source. It provides the following:

- *Using wastes as fuel can have important environmental benefits. It can provide a safe and cost-effective disposal option for wastes that could otherwise present significant disposal problems.*

7.3 Other Policy Documents

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives 2008 (The Waste Framework Directive)

7.3.1 The Waste Framework Directive sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. It explains when waste ceases to be waste and becomes a secondary raw material, therefore gaining "end of

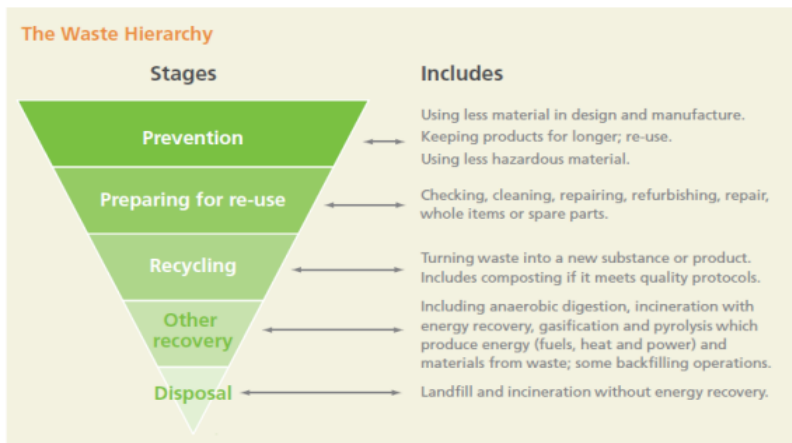
waste criteria". It requires that waste be managed without endangering human health and harming the environment and without adversely affecting the countryside or places of special interest.

Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (Landfill Directive)

- 7.3.2 The Landfill Directive sets the following target:
By 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995.

Waste Strategy for England 2007

- 7.3.3 The main objective of the 2007 Waste Strategy is to significantly reduce the amount of waste that is disposed at landfill. Fundamental to this objective is the concept of the waste hierarchy, where by operators are encouraged through policy, targets and levies to move up the waste hierarchy through more efficient and sustainable waste management.



Government Review of Waste Policy in England 2011

- 7.3.4 The Waste Review 2011 builds upon the waste hierarchy which was the core of the 2007 Waste Strategy for England. The key themes that are discussed within the review are;
- *The need to focus on preventing waste as a priority, as a key component of broader resource efficiency;*
 - *The importance of treating waste as a resource and embedding waste policies into a wider resource and material security policy;*
 - *The need to remove barriers which prevent greater integration of household and business waste policy and service delivery;*
 - *The importance of policies which continue to promote high levels of high quality recycling; and*
 - *The need to continue to reduce the amount of waste going to landfill.*

Waste Management Plan for England July 2013 Consultation Document

- 7.3.5 The Government's latest thinking on waste management was published in July 2013 in the Waste Management Plan for England: Consultation version. It sets out how it will support the implementation of the objectives and provisions of the revised Waste Framework Directive. When adopted it will replace the Waste Strategy 2007 and the Policy Review

document of 2011. It continues to promote compliance with the waste hierarchy.

7.3.6 The document states that

The Government supports efficient energy recovery from residual waste – of materials which cannot be reused or recycled - to deliver environmental benefits, reduce carbon impact and provide economic opportunities. Our aim is to get the most energy out of waste, not to get the most waste into energy recovery.

National Planning Policy Framework, March 2012

7.3.7 The National Planning Policy Framework was published on the 27th March 2012 and came into force immediately with respect to plan and decision making. The NPPF states at paragraph 5 of its introduction that it does not contain specific waste policies *'since national waste planning policy will be published alongside the National Waste Management Plan for England*. However, paragraph 5 goes on to say that local authorities should have regard to the policies in the National Planning Policy Framework in preparing their waste plans.

7.3.8 The NPPF provides a presumption given in favour of development with sustainable credentials. Paragraph 14 of the NPPF states:

At the heart of the planning system is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan making and decision taking. For decision-taking this means

- *Approving development proposals that accord with the development plan without delay and*
- *Where the development plan is absent, silent or relevant policies are out of date, granting planning permission unless:*
 - *Any adverse impact of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole or*
 - *Specific policies in this Framework indicate development should be restricted.*

7.3.9 In paragraph 17, the NPPF states that one of its core planning principles is to:

- *support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy);*

7.3.10 In paragraph 97, it states:

To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should:

- *have a positive strategy to promote energy from renewable and low carbon sources;*
- *design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts;*
- *consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources;*

- *support community-led initiatives for renewable and low carbon energy, including developments outside such areas being taken forward through neighbourhood planning; and*
- *identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.*

7.3.11 In paragraph 98, it states that:

When determining planning applications, local planning authorities should: not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

Planning Policy Statement 10: Planning for Sustainable Waste Management March 2011 and Companion Guide and Updated national waste planning policy: Planning for sustainable waste management – Consultation July 2013.

7.3.12 The National Planning Policy Framework has replaced most Planning Policy Guidance Notes and Statements, but it is noted that PPS 10 and the Companion Guide are extant. Planning Policy Statement 10 considers that positive planning has an important role in delivering sustainable waste management, through the development of appropriate strategies for growth, regeneration and the prudent use of resources. This guidance will be replaced following consultation and adoption of the 'Updated National Waste Planning Policy: Planning for Sustainable Waste Management'.

One of the key objectives of PPS10 is driving waste management up the waste hierarchy and using waste more as a resource. Paragraph 29 states that "waste planning authorities should consider the likely impact on the local environment and on amenity".

7.3.13 The Updated national waste planning policy will replace PPS 10. The Government has not published a revised Companion Guide but it is expected that will be incorporated into the emerging National Planning Practice Guidance. The consultation version of the updated planning policy maintains the core principles of the 'plan led' approach, with a continued focus of moving waste up the waste hierarchy by moving away from traditional landfill towards more sustainable options for waste management. The new guidance will carry forward the factors against which waste planning authorities should use to assess the suitability of sites for waste development.

7.3.14 In determining planning applications, the new guidance urges waste planning authorities only to refuse planning permission for facilities not in line with the local plan if the applicants cannot demonstrate that the facility will not undermine the local waste planning strategy through prejudicing movement up the waste hierarchy.

7.3.15 It brings into national guidance the requirement of the revised European Waste

Framework Directive to have regard to the proximity principle which requires all waste for disposal and mixed municipal waste (i.e. waste from households) to be recovered in one of the nearest appropriate facilities.

- 7.3.16 In respect of the locations of new development, it encourages siting for energy from waste facilities such that waste heat can be used as a waste source, as set out in footnote 4 to Paragraph 4.

Energy from Waste: A guide to the debate, February 2013

- 7.3.17 This guide, published by DEFRA, provides advice on the interpretation of the proximity principle in respect of energy from waste facilities, as follows:
- *this principle must not be over-interpreted. It does not require using the absolute closest facility to the exclusion of all other considerations.*
 - *There is nothing in the legislation or the proximity principle that says accepting waste from another council, city or region is a bad thing and indeed in many cases it may be the best economic and environmental solution and/or be the outcome most consistent with the proximity principle.*
 - *The ability to source waste from a range of locations/organisations helps ensure existing capacity is used effectively and efficiently, and importantly helps maintain local flexibility to increase recycling without resulting in local overcapacity.*

- 7.3.18 The guide also acknowledges that the market-led approach to infrastructure should help to avoid the development of too much or too little energy from waste capacity.

CHP Ready Guidance for Combustion and Energy from Waste Power Plants, February 2013

- 7.3.19 The Environment Agency requires that all applications for Environmental Permits for new installations regulated under the Environmental Permitting (England and Wales) Regulations 2010 demonstrate the use of Best Available Techniques (BAT) for a number of criteria, including energy efficiency. One of the principal ways in which energy efficiency can be improved is through the use of Combined Heat and Power (CHP). The facility will be CHP-Ready and links with the proposed TAD and other commercial buildings is actively being investigated.

National Policy Statements by Department of Energy and Climate Change July 2011

- 7.3.20 The following National Policy Statements published by the Department of Energy and Climate Change are relevant:

EN-1 Overarching National Policy Statement for Energy:

The UK has committed to sourcing 15% of its total energy (across the sectors of transport, electricity and heat) from renewable sources by 2020 and new projects need to continue to come forward urgently to ensure that we meet this target. Projections suggest that by 2020 about 30% or more of our electricity generation – both centralised and small-scale – could come from renewable sources, compared to 6.7% in 2009. The Committee on Climate Change in Phase 1 of its advice to Government in September 2010 agreed that the UK 2020 target was appropriate, and should not be increased. Phase 2 was published in May 2011 and provided recommendations on the post 2020

ambition for renewables in the UK, and possible pathways to maximise their contribution to the 2050 carbon reduction targets

Energy from Waste (EfW) – the principal purpose of the combustion of waste, or similar processes (for example pyrolysis or gasification) is to reduce the amount of waste going to landfill in accordance with the Waste Hierarchy and to recover energy from that waste as electricity or heat. Only waste that cannot be re-used or recycled with less environmental impact and would otherwise go to landfill should be used for energy recovery. The energy produced from the biomass fraction of waste is renewable and is in some circumstances eligible for Renewables Obligation Certificates, although the arrangements vary from plant to plant.

EN-3 National Policy Statement for Renewable Energy Infrastructure :

Given the importance which Government attaches to CHP, for the reasons set out in EN-1, if an application does not demonstrate that CHP has been considered the IPC should seek further information from the applicant. The IPC should not give development consent unless it is satisfied that the applicant has provided appropriate evidence that CHP is included or that the opportunities for CHP have been fully explored. For non-CHP stations, the IPC may also require that developers ensure that their stations are configured to allow heat supply at a later date as described in paragraph 4.6.8 of EN-1 and the guidance on CHP issued by BIS in 2006.

7.4 Assessment of Compliance with Planning Policy

7.4.1 From a review of the relevant planning policy, the main issues to consider for the proposed REGF changes are:

- The Location of the Development in the Countryside and Rural Hinterland
- Non-allocated Site
- Need and Compliance with the Waste Hierarchy
- The Catchment Area
- Compliance with Energy Policy
- The Sustainability Credentials Associated with the Development
- Design of the Buildings
- Synergies from the Co-location of Facilities
- Environmental Considerations

7.4.2 All of these issues are considered in detail in the Planning Statement that accompanies the planning application. The conclusions are as follows:

The national need for renewable energy and the confirmed ability to export it should carry considerable weight in the planning balance and

The proposal is considered to be compliant with the Development Plan.

7.4.3 The policies relevant to the issues considered in the Environmental Impact Assessment are set out in the sub-sections of Chapter 8.

8 ENVIRONMENTAL ASSESSMENT

8.1 Introduction

8.1.1 This Environmental Statement (ES) has been prepared under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011. The Regulations implement EC Directive No. 85/337 on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive No 97/111/EC.

8.1.2 In accordance with the EIA Regulations 2011, and the supporting guidance in Circular 02/99, the proposal has been assessed in terms of the potential for significant environmental effects to arise. In this regard, it is considered that the following environmental features are the subject of the EIA work and therefore form part of the Environmental Statement:

- Air Quality (including Odour and Human Health)
- Noise Assessment
- Landscape and Visual Impact Appraisal (LVIA)

8.2 Air Quality (including Odour, Human Health. Wildlife and Traffic)

8.2.1 An independent Atmospheric Dispersion Modelling exercise has been undertaken, which forms part of this Environmental Statement. The full technical reports can be found at Appendix 6. These include:

- GFE DMRB Screening Air Quality Assessment for Vehicle Emissions – 3rd December 2013
- GFE Atmospheric Dispersion Modelling – Wood Gasification Facility – August 2013 and December 2013 (the later report considering impact on ecological receptors)
- GFE Supplementary Air Quality Assessment – 13th March 2014
- GFE Assessment of potential impact on local Wildlife sites – 22nd April 2014

Policy Context

8.2.2 Policy CS14 Northamptonshire's Minerals and Waste Core Strategy provides that the environmental and amenity impacts of the proposed waste development should be fully assessed.

8.2.3 The NPPF requires that

planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan.

Assessment Methodology

8.2.4 In this regard, the report includes the following topics:

- Detailed atmospheric dispersion modelling of emissions from the wood gasification

facility and other pollutants, including impacts on sensitive receptors including two SSSIs.

- A cumulative impact assessment of the emissions from the wood gasification facility in conjunction with the proposed TAD facility.

8.2.5 The scope of the Air Quality Assessment included a detailed assessment, using the ADMS Version 5.0 atmospheric dispersion model (ADM), of the impact on local air quality of emissions to atmosphere from the REGF. The modelling was based upon the conclusions from a sensitivity analysis to determine which model parameters (buildings, terrain, surface roughness and meteorological data sets) would produce the most realistic set of predictions and then the set of worst-case predictions. Adjacent structures were shown to be likely to have a significant impact on the dispersion of emissions from the REGF stack and therefore the buildings module was included within the modelling. Terrain effects were also shown to be significant and were included in the detailed assessment. It was concluded that a surface roughness factor of 0.3m and the 2008 hourly average meteorological data set for the nearby Coventry Airport measurement station should be used. The effect of air quality from the vehicle movements was also assessed in a further study using the DMRB model.

Baseline Conditions

8.2.6 The ADM used air quality data from the Market Harborough AURN and background concentrations for NO_x, NO₂, PM₁₀ and PM_{2.5} provided by DEFRA, plus meteorological data from Coventry Airport.

8.2.7 The model used local environmental conditions such as surface roughness and nearby buildings and structures. Ten specific receptors were modelled, comprising 8 houses and the two nearest SSSIs:

- Coombe Hill Hollow SSSI
- Hothorpe Hall
- Pebble Hall
- Dene Lodge
- Woodside Farm
- Home Farm
- Bosworth Hall
- Bosworth Mill Meadow SSSI
- Theddingworth Lodge
- Residence (S.E. Theddingworth)

8.2.8 There are no Air Quality Management Areas designated in the locality.

Identification and Evaluation of Key Impacts

8.2.9 The following pollutants were assessed:

- Oxides of Nitrogen (NO_x)
- Sulphur Dioxide (SO₂)
- Particulates
- Carbon Monoxide (CO)
- Hydrogen Chloride (HCl)
- Hydrogen Fluoride (HF)
- Volatile Organic Compounds (VOCs)
- Cadmium and Thallium and their compounds (Cd & Tl)

- Mercury and its compounds (Hg)
- Other Metals
- Dioxins and Furans.

8.2.10 The results showed that pollutant emissions from the wood gasification facility would not result in exceedences of the objective limits defined within the Air Quality Regulations or relevant Environmental Assessment Levels from Environment Agency Horizontal Guidance Note H1 Annex F.

8.2.11 Annual average NO_x Process Contributions at the two nearby SSSIs, Receptor 1 and Receptor 8, are ~0.1 µg m⁻³ which represent values that are <1% of the Critical Level of 30 µg m⁻³, specified for the protection of ecosystems, and are therefore unlikely to have a significant impact on the designated species at the two habitat sites. A similar conclusion was drawn from the assessment of impacts on Deciduous Woodland BAP Priority Habitats in the locality.

8.2.12 The DMRB study indicated that there was no effect upon the air quality from the proposed vehicle movements associated with the REGF facility.

Incorporated Enhancement and Mitigation

8.2.13 These include the advanced abatement techniques to meet European Directive standards and a stack height that has been calculated at 30m.

Cumulative Impact

8.2.14 A cumulative impact assessment was undertaken for emissions from the wood gasification facility in conjunction with those from the proposed Thermophilic Aerobic Digestion facility to be developed at the Pebble Hall complex. The results from modeling confirmed that the cumulative impact of emissions from the two facilities would be well within relevant Air Quality Standard objective values, and can be screened out as insignificant in relation to relevant Environment Agency guidance.

8.2.1 There is no net impact from the associated vehicle movements with the REGF facility.

Residual Impact

8.2.2 Provided that the stack is constructed as modelled, with the appropriate air emission treatment equipment to meet Waste Incineration Directive standards, there will be no residual impacts.

Conclusions

8.2.3 The overall conclusion from the Air Quality Assessment is that the operation of the proposed gasification facility will have an insignificant impact on local air quality and will not pose a significant risk to the health of people living and working nearby nor pose a risk to the SSSIs in the vicinity of the site. In the light of the above, it is concluded that the proposal is therefore considered to be compliant with CS14 of the Northamptonshire Minerals and Waste Core Strategy and the objectives of the NPPF.

8.2.4 It should be noted that the results of the Air Quality Assessment will be a key part of the determination of the Environmental Permit for the facility undertaken by the Environment Agency. Unless the Environment Agency is satisfied that there will be no risk to human

health or the environment, a permit will not be issued.

8.3 Noise Assessment

8.3.1 The proposed development has been assessed for the potential noise emissions and the potential impact of those emissions upon surrounding receptors; a copy of the full report is included in Appendix 7. The work has taken into consideration the existing and proposed uses on the Pebble Hall site. A further independent report has also been prepared, commissioned by Welland Waste Management for the concurrent planning application for a Thermal Aerobic Digestion Facility, by Sound Barrier Solutions Limited which also examines the impact of the combined TAD and REGF developments. This report is also included within the Appendix 7.

8.3.2 The technical reports included in Appendix 7 include:

- Sound Barrier Solutions Report and Covering note – 20th March 2014
- Ian Sharland v5 Assessment of Environmental Impact – 6 January 2014
- Ian Sharland – Addendum Considering the acoustic impact on Hothorpe Hall Ecolodges – 7th April 2014
- Walker Beak Mason Noise Report - 28th May 2013

Policy Context

8.3.3 Policy CS14 of Northamptonshire's Minerals and Waste Core Strategy provides that the environmental and amenity impacts of the proposed waste development should be fully assessed.

8.3.4 The recently introduced National Planning Policy Framework (March 2012) defines the Government's planning policies for England and how these are expected to be applied. It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so.

8.3.5 Paragraph 123 states:

Planning policies and decisions should aim to:

- *avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
- *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*
- *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and*
- *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

8.3.6 The NPPF states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels.

Assessment Methodology

- 8.3.7 In accordance with the approach set out in the documents BS4142 and BS8233 and taking into account the World Health Organisation guidelines, the report includes the following topics:
- A prediction of the external noise levels
 - An assessment of the predicted noise levels
 - An assessment of site related traffic noise
 - Cumulative impacts

Baseline Conditions

- 8.3.8 The report has considered the baseline noise levels. Noise measurements were taken from the following locations:
- Pebble Hall Farm
 - Husbands Bosworth – south of the village centre
 - Hothorpe Road
 - West of Woodside Farm
- 8.3.9 Locations further away and properties on the outskirts of the village of Theddingworth have not been assessed due to their distance of more than 600m from the site. If it can be shown that adverse noise impacts are not likely at the nearest properties, properties further away will not be at risk of adverse impacts as noise reduces with distance.

Identification and Evaluation of Key Impacts

- 8.3.10 The key impacts are likely from the requirement for the energy generation plant to operate 24 hours per day. Therefore, in addition to the assessment of day-time noise impacts, it has considered the impact on night-time noise at the measured locations.

Incorporated Enhancement and Mitigation

- 8.3.11 The shredding operation is already undertaken on site and the development will limit the hours of shredding to those operational hours agreed for timber deliveries. There will be no evening or night-time shredding operations.
- 8.3.12 The walls and roof of the new buildings (including Reception Hall and will be constructed with composite panels, such as the Kingspan KS1000 Rw or acoustically equivalent similar product. In the main hall, the walls and roof will be lined with a 12.5kg/m² mass barrier board, set on sheeting rails. These will create a void of nominally 100mm, into which there will be installed 50mm insulation slabs.
- 8.3.13 External access doors to all process areas should as a default be specified to be rated at Rw 30 dB (inferring a solid core leaf, set into a rebated timber frame, with acoustic seals to the perimeter). Roller shutter doors will be a standard construction, with nominal acoustic performance only.
- 8.3.14 The Dry Air Coolers are selected with a nominal sound pressure level of 66 dB(A) @10m. An acoustic package or other treatment will need to be designed, to provide an attenuation of 15 dB on this figure.
- 8.3.15 The main stack will require an in-line attenuator, and the required performance of this is quoted in the calculations in the assessment.

- 8.3.16 The Air Cooled Condensers are specified with an overall sound power level of 90 dB(A) L_w (from the six fans operating together). An acoustic package or other treatment will need to be designed, to provide an attenuation of 10 dB on this figure.
- 8.3.17 Roof extract and main supply Air Handling Units have yet to be designed. These fans will be suitable for attenuation by means of atmospheric side silencing. The calculations define that the sum total of noise from these units will be limited to 23 dB(A) at each residential property.

Cumulative Impacts

- 8.3.18 In conjunction with the likely noise from the proposed TAD facility, daytime noise levels will not be increased to any material degree by the development and the TAD project. At night, the TAD will increase the noise level by 3dB above that likely to be generated by the REGF project. This change is regarded as negligible to minor adverse. This negligible impact has been verified within the Sound Barrier Solutions report.

Residual Impacts

- 8.3.19 Provided that the mitigation measures set out above are implemented, there will be no residual impacts. The efficacy of the sound reduction measures will be demonstrated at commissioning and the operator is prepared to accept a post construction planning condition to this effect.

Conclusions

- 8.3.20 Following the assessment of the predicted noise levels at the nearest sensitive receptors against the recommended criteria, it is confirmed that the residual noise will be within the appropriate design criteria. It has also been concluded that the site-related traffic will generate less noise than the existing traffic which passes the farm, as the operation of the facility will not increase the vehicle movements from the site above those already permitted.
- 8.3.21 The combined noise levels would remain significantly below the limits of BS8233 and the WHO guidelines.

8.4 Landscape and Visual Impact Assessment

- 8.4.1 An assessment of the impact of the development on landscape character and visual amenity has been carried out. The Landscape and Visual Impact Assessment (LVIA) technical documents that form part of the Environmental Statement are included in Appendix 9. These include:
- GP Planning LVIA – September 2013
 - GP Planning Addendum LVIA – January 2014
 - GP Planning Supplementary LVIA – April 2014

Policy Context

- 8.4.2 Section 7 of the National Planning Policy Framework provides guidance on good design, and Section 8 on promoting health communities. Paragraph 58 states that *Planning policies and decisions should aim to ensure that developments...are visually attractive as a*

result of good architecture and appropriate landscaping. It goes on to state in Para 61 that *planning policies and decisions should address the connections between people and places and the integration of new development into the natural, built and historic environment.*

- 8.4.3 Section 11 of the NPPF provides guidance on conserving and enhancing the natural environment. In paragraph 109 it states *the planning system should contribute to and enhance the natural and local environment by: protecting and enhancing valued landscapes.*

Northamptonshire Minerals and Waste Core Strategy (2010)

- 8.4.4 Policy CS14: Addressing the impact of proposed minerals and waste development *Proposals for minerals and waste development must demonstrate that the following matters have been addressed:*

- *minimising environmental impact and protecting Northamptonshire's key environmental designations,*
- *protecting natural resources or ensuring that any unavoidable loss or reduction is mitigated,*
- *ensuring built development is of a design and layout that has regard to its visual appearance in the context of the defining characteristics of the local area,*
- *ensuring access is sustainable, safe and environmentally acceptable, and ensuring that local amenity is protected.*

- 8.4.5 The Control and Management of Development, Development Plan Document (2011) contains a number of relevant policies including Policy CMD7: Natural assets and resources, Policy CMD8: Landscape character and Policy CMD10: Layout and design quality.

- 8.4.6 The Development and Implementation Principles Supplementary Planning Document (2011) provides further policy in relation to the layout and design of facilities, in Box SPD 3. In particular, it makes reference to environmental protection and enhancement, and high quality landscape and boundary treatments.

Daventry District Council Local Plan 1997 (Saved Policies)

- 8.4.7 The relevant policies are:

- Policy GN2 – Criteria for granting planning permission
- Policy EN1 – Special Landscape Areas

- 8.4.8 The Northamptonshire Control and Management of Development DPD states that *Special Landscape Areas (SLAs), which have local status, only remain over parts of Daventry and South Northamptonshire local authority areas (as of 1 January 2009). National guidance states that such designations should only be maintained or, exceptionally, extended where it can be clearly shown that the necessary protection cannot be provided by policy alone. Where designated in an adopted LDF (DPD) they will form a material planning consideration.*

- 8.4.9 An adopted LDF is not available at a local level, from Daventry District Council, and therefore the value of the landscape is determined using the Northamptonshire Landscape Character Assessment.

Assessment Methodology

- 8.4.10 The approach to assessing landscape and visual impacts is informed by the following guidance documents:
- Guidelines for Landscape and Visual Impact Assessment Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013)
 - Landscape Character Assessment Guidance for England and Scotland, published by the Countryside Agency, 2002
 - Photography and photomontage in landscape and visual impact assessment, Advice Note 01/11, published by the Landscape Institute, 2011
- 8.4.11 The following data sources have been used to compile the LVIA:
- Ordnance Survey Landranger (1:50,000) and Explorer (1:25,000) maps
 - Countryside Agency (1999), Countryside Character Volume 4
 - Natural England, Nature on the Map
 - MAGIC Interactive Map, Defra and Natural England
 - Site Survey Data
- 8.4.12 The Landscape and Visual Impact Assessment
- Defines the existing landscape environment.
 - Identifies the existing visual resource and Zone of Theoretical Visibility.
 - Indicates the sensitivity to change of the existing landscape and visual resource.
 - Describes the key landscape and visually related aspects of the development.
 - Describes the nature of the anticipated change upon the existing landscape, visual resource and visual receptor groups.
 - Assesses the magnitude and significance of the changes as a result of the proposed development.
 - Describes the mitigations measures that will be incorporated within the proposed development.

Baseline Conditions

Baseline Landscape Environment

- 8.4.13 The baseline landscape environment can be described in terms of:
- Landscape character
 - Landscape elements
 - Landscape designations
- 8.4.14 The Application Site is located within the following landscape character areas:
- National Character Area 89: Northamptonshire Vales
 - Broad Unwooded Vale Landscape Type (19)
 - Welland Vale Landscape Character Area (19C)
 - Laughton Hills Landscape Character Area
- 8.4.15 The Application Site is located near the boundaries of National Character Areas 95 Northamptonshire Uplands and 94 Leicestershire Vales.
- 8.4.16 Notable landscape elements within the Application Site include the landform and banks, hedgerows, arable fields and hardstanding and concreted yard.
- 8.4.17 The Application Site is situated within an area 'washed over' by planning policy in relation to the 'Special Landscape Area'. There are no National Parks, Areas of Outstanding Natural

Beauty or Registered Parks and Garden or Battlefields within the area.

8.4.18 The Public Right of Way Network in the area is limited. However, the Jurassic Way long distance footpath passes approximately 2km south east of the Application Site in a north east - south west orientation from Weldon to Northamptonshire. There are no National Cycle Regional Routes within proximity to the Application Site. However, the towpath along the Grand Union Canal is noted as a recreational route.

Baseline Visual Environment

8.4.19 The Application Site is located on the north west facing slope of a localised area of high ground, north of the Hothorpe Hills. Consequently, there are very limited views to or from the Application Site to the south. Existing embankments to the south, south west and north east of the Application Site also limit views from within the site and provide visual screening of the Pebble Hall complex in views from these directions.

8.4.20 The landscape is vegetated and wooded in parts, particularly along the A4304 to the north of the Application Site, and around the settlements of Husbands Bosworth, Theddingworth and Hothorpe Hall, which reduce the visibility, particularly during the summer months.

8.4.21 From the north the site is intermittently visible from the A4304; views are blocked by the evergreen hedge and trees that line the A4304 and the rising land positioned in between. There are long distance views of Pebble Hall from Mowsley Hill Farm and the Public Footpath located nearby. These are located approximately 2.5 miles north of the Application Site. The site is visible from these locations due to the fact that they are on high ground. Despite this, the existing agricultural style buildings blend into the landscape as they are not skyline development and have a backdrop of a cluster of trees. This is an undulating landscape and there are local ridgelines in all directions from the Application Site which serve to shorten and contain views to within close proximity to the site.

8.4.22 The Zone of Theoretical Visibility (ZTV) extends north of the Application Site by up to 8km, but only 2km to the south and 4km to the east and west. To the north the ZTV extends to the Mowsley Hills and to the Hothorpe Hills to the south. To the west and east the ZTV extends towards the settlement edges of Husbands Bosworth and Theddingworth.

8.4.23 Within the ZTV visual receptors have been identified which include local residents, workers, the travelling public, and visitors and recreational users of the area.

8.4.24 A viewpoint analysis has been undertaken to identify the baseline visual environment and to understand the effects of the development on the visual environment and amenity. 5 viewpoints have been identified, and include:

- Viewpoint 1 A4304 Woodside Farm
- Viewpoint 2 A4304 Red Barn (western edge of Theddingworth)
- Viewpoint 3 Home Farm Hothorpe
- Viewpoint 4 Hothorpe Road
- Viewpoint 5 Mowsley Hills Bridleway

Identification and Evaluation of Key Impacts

8.4.25 The potential impacts of the proposed AD Facility on the landscape and visual amenity have been identified and evaluated. They are summarised in the following table.

Table 8.1: Summary of Impacts

Feature	Sensitivity	Magnitude of Change	Significance of Impact
Landscape			
National Character Area 89 Northamptonshire Vales	Medium	Low	Minor
National Character Area 95 Northamptonshire Uplands	Medium	Negligible	Negligible
National Character Area 94 Leicestershire Vales	Medium	Low	Minor
Broad Unwooded Vale Landscape Type (19)	Medium	Low	Minor
Welland Vale Landscape Character Area (19C)	Medium	Low-Medium	Minor-Moderate
Laughton Hills Landscape Character Area	Medium	Local	Medium
Landform and Banks	Low	Medium	Minor
Hedgerow	Low	Medium	Minor
Arable Field	Low	Medium	Minor
Hardstanding and Concreted Yard	Low	Low	Minor
Visual Amenity			
Viewpoint 1	Low	Moderate	Minor
Viewpoint 2	Low	Low	Minor
Viewpoint 3	Medium	Low	Minor
Viewpoint 4	Medium	Low	Minor
Viewpoint 5	Medium	Low-Medium	Minor - Moderate

Cumulative Impacts

8.4.26 Cumulative Landscape and Visual Impact Assessment (CLVIA) is concerned with the impact of the proposed development in combination with other similar developments in the study area.

8.4.27 Within the Pebble Hall complex there are a range of other types of commercial activities. Existing activities at the site have been taken into account in the Landscape and Visual Impact Assessment. There are two proposed or potential developments in the immediate vicinity of the Application Site which are considered as part of this CLVIA. This is:

- the change of use of one existing building for food waste processing by means of Thermophilic Aerobic Digestion (TAD) with an extension to the building to accommodate the required technology
- Planning Permission 08/00053/WAS for a Renewable Energy Generation Facility

8.4.28 There is considered to be no cumulative impact as a result.

Incorporated Enhancement and Mitigation

8.4.29 A detailed scheme of landscape improvements and biodiversity enhancement has been prepared to mitigate the potential for impacts on the landscape and visual amenity caused as a result of the REGF Facility.

8.4.30 The material arising from the preparation of the site (31,500m³) will be placed around the south and west part of the Application Site, creating a raised bank. The recontoured ground will be planted with native woodland and shrubs, to extend the existing woodland block around the west, north and east parts of the Pebble Hall complex. The planting will also extend down the top part of the bank facing the yard. The increase in the height of the bank and the extensive planting will provide screening to the REGF building from the south and west and a wooded backdrop to views from the north. The woodland will complete a green corridor around the Pebble Hall complex, which will link to the larger areas of woodland along the River Welland valley, via the existing field boundary hedgerows. An additional hedgerow, hedgerow trees and two additional areas of planting have also been proposed.

Residual Impacts

8.4.31 The mitigation measures have been taken into account throughout this assessment. However, it is noted that a Minor-Moderate Significant Impact has been identified as a result of the proposed development on the Welland Vale Landscape Character Area 19(C) visual amenity at Viewpoint 5. It is noted that the identified potential impact on the Welland Vale Landscape Character Area 19(C) and on the visual amenity at Viewpoint 5 will be mitigated over time through the extensive landscape planting proposed. Therefore, the level of impact identified will only result in the short term as the landscape planting becomes established.

Additional Information

8.4.32 In the consultation process, it was requested that the LVIA assessment was updated in order to include further proposed landscaping and winter photographs. Consequently, further landscaping has been proposed and winter photographs have been prepared, shown on Drawing GPP/C/PH/REGF/14/19. A commentary to the winter photographs is included in the Addendum Report to the LVIA, included in Appendix 9. Additional landscaping has also been proposed in this report, along with a response to the consultation comments.

Conclusions

8.4.33 The impacts identified for the landscape character and resource are minor and therefore are not significant, with the exception of one identified as minor-moderate which can be mitigated. The majority of the impacts on the visual amenity are minor and therefore not significant, with the exception of one identified as minor-moderate which can be mitigated.

8.4.34 In conclusion, the overall impact of the proposed REGF is considered to be not significant, principally because of the incorporated mitigation measures.

8.5 Flood Risk Assessment

8.5.1 A Flood Risk Assessment has been carried out. A copy of the report by Abington Consulting Engineers Flood Risk Assessment, Rev C – 30th December 2013 is included in Appendix 8.

Policy context

- 8.5.2 Planning policy for flood risk is set out in the National Planning Policy Framework (NPPF) technical guidance published in March 2012. This policy guidance document sets out key planning objectives in relation to land use and flood risk management. The development proposals are designed to be compliant with the requirements of the National Planning Policy Framework.

Impacts

- 8.5.3 The impact of the proposed REGF has been examined in the assessment report by Abington Consulting Engineers. The updated attached report addresses the issues raised during the consultation process by the Statutory consultees. The revised report concludes that there is no impact from the facility in terms of foul or process drainage and indeed that the REGF will have a beneficial effect on drainage, floodrisk and upon river quality over the existing permitted operations.

Residual impacts

- 8.5.4 There will be no residual impacts.

8.6 Traffic

- 8.6.1 A transport assessment has been prepared to assess the impact of the development on the local highway network. A copy of the Transport Assessment (Origin Transport Statement v3, January 2013) is included in Appendix 10.

Policy ContextNational Planning Policy Framework

- 8.6.2 The National Planning Policy Framework was published by the Department for Communities and Local Government in March 2012 to replace National Planning Policy Guidance Notes and Planning Policy Statements. It states that:
All development that generates significant amounts of movements should be supported by a Transport Statement or Transport Assessment.
- 8.6.3 The document states the need to promote sustainable transport stating that local planning authorities should support a pattern of development which facilitates the use of sustainable modes of transport. However it is also recognised that opportunities for using sustainable modes vary in different locations.
- 8.6.4 'the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.'
- 8.6.5 The document states that developments that generate significant movements should be located where the need to travel will be minimised and the use of sustainable modes will be maximised. It should however be noted that this is not a major employment or residential development or a significant generator of trips, but rather comprises changes to an existing facility to ensure the longer term viability of the site. It is therefore necessary to consider the development site in the context of the existing use potential.

Leicestershire's Local Transport Plan 3

8.6.6 Leicestershire's third Local Transport Plan was published in April 2011 and sets out a long term strategy and a short term implementation plan for transport in Leicestershire.

8.6.7 The long term vision for the transport system over the course of the plan is stated as:

Leicestershire to be recognised as a place that has, with the help of its residents and businesses, a first class transport system that enables economic and social travel in ways that improve people's health, safety and prosperity as well as their environment and their quality of life.

8.6.8 The document recognises the excellent access to the strategic road network in Leicestershire and the economic significance of freight movements and the lorry route network that has been introduced, reducing the number of goods vehicles routing through communities.

8.6.9 The document sets out a number of strategic transport goals for the plan period. These include:

Goal 1: A transport system that supports a prosperous economy and provides successfully for population growth.

Goal 2: An efficient, resilient and sustainable transport system that is well managed and maintained.

Goal 3: A transport system that helps to reduce the carbon footprint of Leicestershire

Goal 4: An accessible and integrated transport system that helps promote equality of opportunity for all of our residents.

Goal 5: A transport system that improves the safety, health and security of our residents.

Goal 6: A transport system that helps to improve the quality of life for our residents and makes Leicestershire a more attractive place to live, work and visit.

8.6.10 Whilst the development proposal will be predominantly served by road due to its nature, the proposals will not result in a noticeable increase in vehicle trips, and may result in a reduction in trips generated by the site. The development is located adjacent to the A4304 with direct links to the strategic road network at Market Harborough and Lutterworth.

Assessment Methodology

8.6.11 2.6.10 A worst case approach has been taken to assessing how many additional vehicle movements the proposal would result in per hour.

8.6.12 A PICADY analysis has been undertaken to assess whether the site access junction can operate well within capacity in both peak periods in the worst case situation.

Baseline Conditions

Existing Traffic Situation

8.6.13 Historic traffic data was obtained from Leicestershire County Council for the A4304 just south of Toms Close in Theddingworth, east of the site. A manual classified count was undertaken on Thursday 10 June 2010. The peak hour and 12 hour observed traffic flows

have been tabulated in the traffic report.

- 8.6.14 The trip generation associated with the existing uses at the site has been obtained from the ATC at the site access. A full breakdown of result is contained within a table in the main Traffic Assessment.

Identification and Evaluation of Key Impacts

- 8.6.15 The key impacts are likely to be from the delivery of material to the site. Therefore, the traffic assessment has considered the capacity of the access at peak hours for the whole site, including the proposed TAD facility and REGF facility.

Incorporated Enhancement and Mitigation

- 8.6.16 It is proposed that the speed limit is changed on the A4304 from 60 mph to 50 mph although this is not a mitigation requirement. It is a desirable change that would reduce the risk of accidents from turning movements at the access.

Cumulative Impact

- 8.6.17 The Traffic Assessment, included in Appendix 10, has considered the capacity of the access road to accommodate the existing traffic and the proposed traffic relating to the TAD application and the application for the modification to the REGF.

Residual Impacts

- 8.6.18 Provided that the mitigation measures set out above are implemented, there will be no residual impacts.

Conclusions

- 8.6.19 The Traffic Report, included in Appendix 5 concludes that:

The assessment has shown that in the worst case situation the proposals would result in up to three additional vehicle trips per peak hour on a weekday. The resulting net daily trip generation from the site would increase from 189 to 219 vehicles and therefore remain within the 240 vehicles per weekday limit imposed by Leicestershire County Council. Indeed if the B8 uses that will be removed currently generate more than 66 movements per day then the total number of trips generated by the site could reduce significantly.

A PICADY analysis has been undertaken and has shown that the site access junction can operate well within capacity in both peak periods in the worst case situation whereby the existing B8 uses generate 66 movements per day.

It can therefore be concluded that the proposals will have a negligible impact on the operation of the local road network.

- 8.6.20 2.6.19 Following the assessment of the existing and predicted traffic associated with the site, it is confirmed that the proposals will have a negligible impact on the operation of the local road network.

9 HEALTH IMPACT ASSESSMENT

9.1 Introduction

- 9.1.1 Public Health England (PHE), in its response to consultation on the Scoping Report, stated that its interest focuses on health protection issues relating to chemicals and radiation. The focus in this case is on the risks associated with chemicals, however the risk of an electromagnetic field is also considered. The response also clearly states that PHE's interest does not extend to wider health matters as these fall under the remit of other stakeholders. However, the response goes on to request assessment of the risks to public health in respect of noise, air quality, emissions to water, waste, contaminated land, accidents and electromagnetic fields. It also asks for consideration of the cumulative impact of the development with the proposed TAD facility in the adjacent building.
- 9.1.2 The risk to public health posed by this development is assessed in the Air Dispersion Modelling and supporting reports. This is considered in detail in Section 9.2. A short statement on each of the other issues is included in Sections 9.3 to 9.8. Cumulative impact with other development at the site has been considered where relevant in the technical reports and in detail in Section 12.
- 9.1.3 The receptors that might be affected by any aspect of this development have been identified in the accompanying technical reports. It should be noted that as a result of this proposed development, the number of employees working within the Pebble Hall complex not connected with the development will be reduced as the range of workshop/storage buildings are to be removed.
- 9.1.4 The facility will be required to apply for an Environmental Permit form the Environment Agency before the commencement of operations. This application will be subject to detailed review by stakeholders and statutory consultees including Health Authorities and the EA are legally bound not to issue a permit unless it is satisfied that there are no risks to public health.

9.2 Air Quality

- 9.2.1 The impact of air emissions from a REGF is primarily the responsibility of the Environment Agency during its determination of the application for an Environmental Permit for the facility. During consultation on the Environmental Permit application, the Environment Agency will consult with Public Health England to ensure that there is no risk of an adverse impact on human health.
- 9.2.2 It should be noted that the Environmental Permit would require continuous monitoring of the emissions from the plant and for this monitoring to be recorded, for reporting to the Environment Agency and independent checks approximately 4 times per annum. All emissions data must be reported to the EA, which checks compliance and places it on the public registers. Any breaches have to be notified to the EA and measures agreed to prevent re-occurrence. If emission monitoring systems break down and cannot be fixed within a limited time, the gasification plant has to be shut down until the system has been repaired.

9.2.3 Two health impact assessments have been carried out and the full reports are included in Appendix 6, together with the Atmospheric Dispersion Modelling report. These reports are as follows:

- Dioxin Health Risk Assessment – August 2013
- Health Impact Assessment – August 2013
- GFE Atmospheric Dispersion Modelling – August 2013

9.2.4 A summary of the Health Impact Assessment is set out below:

- *A worst case assessment has been undertaken of the potential impact on the health of local residents resulting from exposure to pollutants release from the proposed wood gasification facility to be built on land at Pebble Hall near Theddingworth, Leicestershire.*
- *The assessment included the pollutants prescribed for co-incineration plants by the EC Industrial Emissions Directive for which the proposed wood gasification facility will be regulated by the Environment Agency when it becomes operational. The assessment compared the maximum Process Contribution (PC) to ground level pollutant concentrations against the Air Quality Standard (AQS) or Environmental Assessment Level (EAL), based upon a factor calculated from the ratio of the PC value to the AQS.*
- *A COMEAP assessment, undertaken for nitrogen dioxide, sulphur dioxide and particles (PM10), also considered the potential increase in hospitalisation as a result of respiratory complaints associated with exposure to these pollutants in the emissions from the proposed wood gasification facility. Increases in hospital admissions due to respiratory complaints of between 0.2% and 0.02% of the population were predicted for the three pollutants at the point of the maximum Process Contribution (~200 metres to the north-east of the chimney of the wood gasification facility); values which are considered to be low and probably not significant. Values at nearby residential properties were likely to be significantly lower in relation to their distance from the wood gasification facility development site, with values for Receptor No.2 (~900m to the east) estimated to be between 0.05% and 0.006% of the population likely to be affected.*
- *An assessment of the potential uptake of dioxins as a result of inhalation and dietary factors showed that the exposure to dioxins released from the chimney of the proposed wood gasification facility was likely to represent <1% of the Tolerable Daily Intake for adults and infants living at the nearest downwind residential receptor location (Receptor No.2), and was considered to be insignificant.*
- *The overall conclusion of the health impact assessment is that the magnitude of potential health effects associated with exposure to pollutants released from the chimney of the proposed wood gasification facility is very low and will not have a significant impact on the health of people living and working nearby.*

9.2.5 A summary of the Dioxin Health Risk Assessment is set out below:

- *The US EPA Human Health Risk Assessment Protocol has been used to assess the potential risk to health of residents living in the locality of the proposed wood gasification facility to be built by Carbonarius Ltd on the Pebble Hall site, near Theddingworth in Leicestershire. The assessment considered the potential*

health risks associated with the intake of dioxins due to emissions to atmosphere from the chimney of the proposed wood gasification facility to be built by Carbonarius on the Pebble Hall site, near Theddingworth. The assumptions used within the assessment are conservative and therefore the study was undertaken on a conservative worst case basis.

- Using equations from the US EPA HHRAP (Human Health Risk Assessment Protocol), a value was calculated for the incremental annual average increase in dioxin concentrations in soils in the vicinity of the proposed wood gasification facility. Based upon expected typical emissions of dioxins from the proposed wood gasification facility a value of $0.0001 \text{ ng kg}^{-1}$ for the increase in concentration due to deposition at a nearby residential receptor ~ 830 metres to the north-east of the chimney.*
- Estimates of the intake of dioxins by members of the local population deriving all of their dietary requirements for eggs and chicken meat from this location indicate that daily values for adults and children would be well within the Tolerable Daily Intake of 2 pg kg^{-1} . The estimated daily intake of dioxins arising from the consumption of eggs chicken meat, based upon the incremental annual average increase in dioxin concentration in the soil due to the operation of the proposed wood gasification facility, represent values that are $\sim 0.01\%$ of the Tolerable Daily Intake for both adults and infants.*
- The estimated daily intake of dioxins arising from the ingestion of soil, based upon the incremental annual average increase in dioxin concentration in the soil due to the operation of the proposed wood gasification facility, represent values that are $\sim 0.00001\%$ of the Tolerable Daily Intake for adults and $\sim 0.0001\%$ for infants.*
- The estimated daily intake of dioxins arising from the consumption of fruit and vegetables, based upon the incremental annual average increase in dioxin concentration in the soil due to the operation of the new wood gasification facility, represent values that are $\sim 0.005\%$ to $\sim 0.01\%$ of the Tolerable Daily Intake for adults and infants.*
- The estimated daily intake of dioxins arising from the consumption of milk, based upon the incremental annual average increase in dioxin concentration in the soil due to the operation of the proposed wood gasification facility, represent values that are $\sim 0.7\%$ and $\sim 0.4\%$ of the Tolerable Daily Intake for adults and infants respectively. The contribution of milk to the above figures is significantly higher in comparison to the other factors, but is based upon a series of worst case estimates, and probably reflects the fact that dioxins tend to concentrate in fats and fatty tissues, which includes an animal's lactate system.*
- The results for other nearby receptors where foodstuffs may be grown, were significantly lower in relation to their distance from the site. The assessment indicates that the risk to health of the local population due to exposure to dioxins in emissions from the proposed wood gasification facility is likely to be low. Furthermore, it should be noted also that the assessment was based upon emissions at the WID ELV of 0.066 ng Nm^{-3} ($11\% \text{ O}_2$, dry & STP) and that when operational emissions of dioxins are likely to be at significantly lower, with proportionate benefits for lower exposure levels for individuals living in the vicinity*

of the site.

- *In conclusion, there is no significant health risk associated with emissions of dioxins from the proposed wood gasification facility to be built by Carbonarius on the Pebble Hall site, near Theddingworth. The proposed TAD facility to be built on the Pebble Hall site was excluded from the assessment as there will be no dioxin emissions associated with emissions from the CHP engines that may be installed to utilise the biodiesel feedstocks produced by the process.*

9.2.6 Traffic impacts on air quality and thus human health have not been assessed; not for the on-going site operations nor for the construction and decommissioning stages as the Pebble Hall site has a legal limit on the total amount of traffic using the access daily. This development will not result in this limit being exceeded; therefore, there will be no increase in emissions from traffic.

9.2.7 Air quality is also affected by dust from site operations. However, dust from wood processing operations is not generally regarded as having an adverse impact on human health other than in the workplace; it is however a significant amenity issue that has been considered in the Planning Statement, but scoped out of the Environmental Impact Assessment. Dust emissions will be controlled by an Environmental Permit and in any case will be reduced compared with existing operations, as the shredding operation would in future have to produce a product 70-100mm in size, rather than the 40mm product now produced, as larger chips requires less shredding.

9.3 Emissions to Water

9.3.1 Emissions to water are fully covered in the Flood Risk Assessment and Drainage Strategy (30th December 2013, Revision C). A copy of the technical document is included in Appendix 8. The REGF will be fitted with rainwater harvesting and will reuse a significant amount of process water within the process, and discharge will be treated by a dedicated effluent treatment plant before discharge in accordance with Severn Trent Water and Environment Agency discharge permits.

9.3.2 New regulations requiring the run-off from the existing wood reception and processing area will mean that surface water run-off will be fully contained and drained to a separate containment lagoon, as explained in the Drainage Strategy. The statutory responsibility for the control of water run off discharges lies with Severn Trent Water and the Environment Agency. Detailed applications for the appropriate permits to discharge to each Regulator will be made subsequent to the planning process.

9.3.3 Surface water from the yard around the REGF building and structures and run-off from the building roof will be collected into a lagoon, via an interceptor to prevent contamination of the River Welland in line with the latest updated Environment Agency Guidance in the area; this arrangement is also explained in the Drainage Strategy.

9.3.4 Process water from the gasification and power generation process will be collected into a tank and either processed on site to the requirements of the appropriate discharge consent or Environmental Permit or tankered off-site, thus ensuring that there will be no impact on surface or groundwater in the locality of the site. It is possible that the TAD facility, if consented, could use this water in its processes, thus avoiding the need for on-site or off-site treatment.

9.3.5 Therefore, there will be no risk to public health as a result of discharge of water from the site.

9.4 Noise

9.4.1 Noise is the responsibility of the District Council's Environmental Health Officer and is also within the statutory responsibilities of the Environmental Permit as issued by the EA and within the HSE responsibilities for workplace. An assessment of external noise impacts, including existing background from the current wood waste management and shredding operations, as well as the separate impact of the REGF and the cumulative impacts of the REGF and TAD has been carried out and is reported in Section 8.3 and the supporting technical report in Appendix 7.

9.5 Waste

9.5.1 The facility is designed to utilise waste wood to produce renewable energy. The operation and management of the REGF facility will be controlled by an Environmental Permit, which will be monitored by the Environment Agency. Controls are already in place for the existing wood waste deliveries, such as loads arriving sheeted or fully contained. Acceptance procedures ensure that wood comes from known sources, accompanied by Waste Transfer Notes. All loads are inspected upon delivery to ensure compliance with the Environmental Permit requirements and the Environment Agency approved Working Plan for the site.

9.5.2 The gasification process will also be controlled by an Environmental Permit, which will be enforced by the Environment Agency.

9.5.3 It is of particular importance that the use of the waste timber in this manner is in accordance with Government guidance as Best Available Techniques and Best Practicable Environmental Option.³

9.5.4 Any other waste materials from the process such as ash from the gasification of the wood, or air pollution control residue will be controlled, recovered and disposed in accordance with the requirements of the Environmental Permit.

9.6 Contaminated Land

9.6.1 The site does not involve the development of any land with a risk of contamination; therefore assessment in respect of human health impacts is not relevant in this case.

9.6.2 The whole Application Site has been created by the removal of hoggin, to create an extended farm yard. The site is underlain by hoggin and is surfaced with concrete at the Eastern end and hardstanding at the western end, with the workshop/storage units on concrete bases.

³ Source – DEFRA report February 2013: Energy from Waste – a guide to the debate; paragraph 62

9.6.3 The concrete yard at the Eastern end will be retained, but the workshop building and bases will be removed. The material arising from the levelling of the site to link the Western end with the Eastern end will be utilised to raise the slope to the South and West of the site. The Western end will be built on and the yard area concreted.

9.7 Accidents

9.7.1 The facility will be controlled by the Environment Agency under an Environmental Permit and they require the development of procedures to deal with accidents and spills, to be set out in an Accident Plan for the site.

9.8 Electromagnetic Field

9.8.1 All electricity to be produced by this REGF will be exported to the grid via underground cables, to be laid by the National Grid or its contractors in accordance with the appropriate guidance. Therefore, there will be no risk associated with the creation of an electromagnetic field that could have an impact on human health, as electromagnetic fields are only associated with overhead cables.

10 NEED

10.1 Introduction

10.1.1 Paragraph 98 of the NPPF states that

when determining planning applications, local planning authorities should (inter alia) not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also to recognise that even small-scale projects provide a valuable contribution to cutting down greenhouse gas emissions.

10.1.2 Notwithstanding this position, the EIA Regulations require consideration of need for the proposed development.

10.2 Waste & Energy Planning Policy Context

10.2.1 There is a compelling case for developing gasification facilities across the UK supported by both European regulations and UK legislation together with Government guidance. The key documentation being:

- Landfill Diversion Driver
- National Strategy and the Waste Hierarchy
- Northamptonshire Local Development Framework
- Energy Requirements

Landfill Diversion Driver

10.2.2 One of the main objectives of the European Landfill Directive is to reduce reliance of the disposal of waste to landfill. Instead, the waste should be recovered, re-used or recycled.

National Waste Strategy and the Waste Hierarchy

10.2.3 The Government Review of Waste Policy in England 2011 (WPR2011) was published in June 2011 and includes commitments to prioritise efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste. It states that we need to move beyond our current throwaway society to a "zero waste economy" in which material resources are re-used, recycled or recovered wherever possible, and only disposed of as the option of very last resort.

10.2.4 The Government's latest thinking on waste management was published in July 2013 in the Waste Management Plan for England: Consultation version. It sets out how it will support the implementation of the objectives and provisions of the revised Waste Framework Directive. When adopted it will replace the Waste Policy Review document of 2011. It continues to promote compliance with the waste hierarchy.

10.2.5 The document states that

The Government supports efficient energy recovery from residual waste – of materials which cannot be reused or recycled - to deliver environmental benefits, reduce carbon impact and provide economic opportunities. Our aim is to get the most energy out of waste, not to get the most waste into energy recovery.

- 10.2.6 Waste wood is classed as a residual waste and its use within the REGF as a CHP-R facility represents BAT and BPEO.

Northamptonshire Local Development Framework

Northamptonshire Minerals and Waste Development Framework Core Strategy

DPD (May 2010)

- 10.2.7 In May 2010 the Northamptonshire Minerals and Waste Development Framework Core Strategy DPD was adopted. This document sets out the strategy for minerals and waste in Northamptonshire based upon 'The Waste Hierarchy' as outlined in the European Waste Framework Directive (1975) (75/442/EEC). The aim of the Waste Hierarchy is to reduce the reliance on waste disposal by favouring methods of reuse, recycling and energy recovery.
- 10.2.8 Policy CS1 identifies the target capacity for waste management facilities providing advanced treatment such as the proposed gasification facility at Pebble Hall. The target is to provide the capacity to process Municipal Solid Waste and Commercial and Industrial Waste at the rate of "392,000 and 456,000 tonnes per annum for 2016 and 2026 respectively." The proposed facility at Pebble Hall would contribute to achieving these goals.

Energy Issues

- 10.2.9 The Renewable Directive (2009/28/EC) and Government energy policies establish a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and to promote cleaner transport.

10.3 Availability of Waste Feedstock

- 10.3.1 The existing wood waste operations at the site demonstrate that there is availability of suitable material in large volumes within a sub-regional catchment area. These operations have been built up by the landowner in the expectation that a facility will be built to use the wood waste as a fuel for the generation of renewable energy. The landowner now has a good understanding of the supply opportunities in the sub-regional, therefore is confident that there is a sustainable supply of waste available for the facility.
- 10.3.2 The population of the designated area catchment area is in excess of 2.2 million based upon summing the population of the major conurbations and the 2011 Census. The UK arisings of waste wood timber were estimated at conservatively 4.1 million tonnes (DEFRA WRAP 2012). Prorating the arisings based upon population gives a conservative waste wood arising in the catchment area of 146,000 tonnes per annum, which is over twice the consumption of the facility. This calculation affirms that the facility is locally focused and sustainable within the proposed catchment area

10.4 Conclusions

- 10.4.1 The NPPF clearly states that local planning authorities should not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy. Nevertheless, the identified support for renewable energy schemes like gasification can make a significant contribution to minimising greenhouse gases and meeting climate

change objectives.

- 10.4.2 There is an urgent requirement to meet targets for diverting biodegradable material from landfill. The proposal will represent a significant benefit in this regard diverting up to 72,000 tonnes of biodegradable waste and creating renewable and low carbon energy.
- 10.4.3 In the light of the above it is concluded that there is a clear and compelling need for the proposal in diverting waste from landfill, reducing greenhouse gas emissions, and contributing to the generation of renewable energy targets.

11 ALTERNATIVES

11.1 Introduction

11.1.1 Although it is a requirement of the Environmental Impact Assessment Regulations 2011 to consider the alternatives to the proposed development, in this case the only reason why this development is being proposed at this site is due to the existence of an existing permission for this type of activity. The application is a modification of details of this permission. Therefore, it is not considered necessary to undertake a comprehensive assessment.

11.2 Is the site suitable for an energy from waste development?

11.2.1 Planning permission for this use already exists at the site; therefore the principles of the activity have been accepted as appropriate at this site.

11.2.2 The proposal has been assessed in the light of the Development Plan and other relevant planning/environmental policy documentation. From this assessment it is clear that the site does not contain any important designations such (as SSSI, SAC, SPA, ANOB, National Park, Greenbelt etc.) that will require the applicant to consider alternative options because of the sensitivity of the site.

11.2.3 The Application Site does, however, sit within an area designated as an area of 'Special Landscape' under Policy EN1 of the Daventry Local Plan (saved policies). Despite this designation, the Application Site is used for a mixture of waste related and B8 use.

11.2.4 In the light of the above, it is considered that because there is no in principle constraints to the proposal and that detailed environmental assessment work indicates that the scheme could operate in an environmentally acceptable manner, the site is considered to be suitable for a renewable energy from waste facility.

11.3 Site Specific Alternatives

11.3.1 Site specific alternatives have been considered, with the design of the facility responding to environmental considerations, technical and commercial considerations.

11.3.2 Within the land available at Pebble Hall, the rationale for the location and layout of the REGF Facility includes:

- Location of the Gasification Facility between the existing Grain store/proposed TAD building and embankment to provide visual screening from the north and the A4304.
- Location of the wood reception and shredding area is the area that is already used for this purpose.
- Engineering constraints associated with each piece of the Gasification Facility, to ensure efficient operation, maintenance and appropriate safety controls.
- Engineering constraints to ensure appropriate vehicle turning movements can be accommodated.
- Process constraints to ensure adequate and easy timber reception and preparation within the existing process areas.

11.3.3 In addition, the design of the facility was reviewed to minimise the potential for impacts on visual amenity. Significantly the position of the consented REGF building has been moved in order to provide additional screening as detailed above.

11.4 Conclusions

11.4.1 The Pebble Hall site already undertakes wood waste preparation and has an existing permission for an REGF. Within the existing permissions there is already scope for sufficient vehicle movements for the proposed development.

11.4.2 The Application Site is considered to be good for a renewable energy facility, as evidenced by the existing permission for an REGF. There are no nationally important designations that provide a constraint to development and the potential impact of the proposal upon the local amenity is not significant.

12 CUMULATIVE EFFECT

12.1 Introduction

12.1.1 Schedule 4 of the EIA Regulations 2011 relates to information for inclusion in environmental statements and requires

*A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, **cumulative**, short, medium and long term, permanent and temporary, positive and negative effects of the development...*

12.1.2 In addition to the above requirements, planning policies contained within the Northamptonshire Local Development Framework also require consideration of the 'cumulative effects' of development. The main policies are outlined below.

12.1.3 Policy CS14 of the Northamptonshire Core Strategy seeks to minimise the impacts of new waste development.

12.1.4 Policy GN1 of the Daventry District Local Plan (1997) sets out a guide to granting planning permission, which sets out the parameters that need to be taken into account, including impact on local amenity. Policy GN2 sets out that development will normally be granted provided the proposal will be in-keeping with the locality and does not detract from its amenities. Policy EN1 provides that development in Special Landscape Areas is acceptable providing that it relates to settlements within the area and it does not adversely affect the character of the local landscape.

12.1.5 The planning policy context of the Northamptonshire Local Development Framework therefore requires that proposals for waste management development avoid unacceptable cumulative effects associated with past, present and future operations. Accordingly, assessments of the potential cumulative effects of the proposal are considered below.

12.2 Assessment Methodology

12.2.1 There is no national or local policy guidance as to how the cumulative effects of a proposed development should be carried out. In the absence of any such policy guidance, what constitutes a robust assessment of cumulative effects has been considered by the High Court in the case of *The Queen (on the application of Leicestershire County Council) v. the Secretary of State for Communities and Local Government and UK Coal Mining Ltd* (2007) EWHC Admin 1427. The case, known as the "Long Moor Judgement" was heard before Lord Justice Burton and was focused on the Secretary of State's granting of planning permission upon appeal for surface coal mining at UK Coal's Long Moor site in Leicestershire.

12.2.2 The background to the case was that Leicestershire County Council had originally refused planning permission on the grounds of the potential adverse cumulative impact. At appeal, however, the Inspector and the Secretary of State accepted that none of the individual effects was of sufficient adverse impact to justify the refusal of permission and accepted that in the absence of a further 'proper assessment', there was nothing to suggest that the cumulative impact was such as to warrant the refusal of permission.

12.2.3 When the decision was challenged in the High Court, Mr Justice Burton criticised the Council's evidence as being based on conclusions which were simple value judgements, with no supporting reasons. Importantly, he concluded that reasons underpinning any conclusions on cumulative effects must be provided by the MPA if an assessment is to be considered 'proper' in the context of MPS 2 (now superseded by the NPPF). In paragraph 41 of his judgement he gives examples of such reasoning as including 4 possible scenarios:

(1) even though each individual area of potential impact was not objectionable yet each such feature was so close to objectionability that, although none could be said to be individually objectionable, yet because each was nearly objectionable, the totality was cumulatively objectionable; or

(2), one, two, three or four of the particular features were close to being objectionable and that would be an important matter to take into account when looking at the totality; or

(3) one particular combination of two or three otherwise objectionable features could cause objectionability in their totality; or

(4) as was specifically addressed by the Interested Party and by the Inspector here, and found not to be the case, there could be some unusual feature or some unusual combination of features such as to render that combination objectionable when the individual feature was not...

12.2.4 The methodology for assessing cumulative effect in regard to this proposal therefore takes account of the above cases and specifically adopts the approach taken by the Inspector in the Telford case. This is the most recent case to deal with this issue and, in terms of approach, has also received the approval from the Secretary of State.

12.2.5 In that regard this assessment of cumulative effects will have regard to:

- successive effects;
- simultaneous effects from concurrent developments, and
- combined effects from the same development.

12.2.6 It is proposed that the first and second elements of cumulative impact (successive and simultaneous effects from concurrent developments) are considered in parallel given that this assessment requires the identification of previous and new developments in the locality (as well as other forms of development that might give rise to similar types of impact). The third element, combined effects from the same development, will be considered separately and will have regard to how potentially close each individual environmental impact is to being unacceptable or objectionable. This then enables a professional judgement to be made on the potential accumulated totality (i.e. the judged acceptability or otherwise of their combined environmental effect).

12.2.7 Regard will also be had to the potential for the proposal to give rise to a series of benefits (positive impacts) which could potentially offset or outweigh any harm which might be brought about by the proposed development. In this regard, the cumulative impact assessment will therefore consider the potential cumulative benefits of the scheme.

12.3 Successive and Simultaneous Effects

12.3.1 The assessment of successive and simultaneous effects considers the potential cumulative impact of past and potential future development on the local community.

- 12.3.2 In terms of successive effects, the Application Site is located on land that is currently used for a mixture of B8 and Sui Generis waste use. The Pebble Hall complex is currently used for composting and various workshops and for the storage of grain. Wood waste reception and wood shredding is already taking place within the Application Site, in compliance with the existing REGF planning permission. A planning application for the use of an existing building for a TAD system to process food waste into renewable energy will be re-submitted at the same time as the application for the proposed changes to the REGF.
- 12.3.3 In the rural locality around the Pebble Hall complex there are no significant planning permissions or applications that need to be taken into account in this assessment.
- 12.3.4 The site has been altered in several ways over recent years; a significant amount of landscape planting and re-contouring has taken place; buildings have been refurbished; two buildings have been demolished and one agricultural building on site has been reduced in length. Despite these changes, it is considered that the surrounding area has not been the subject of considerable development over recent years and therefore there are no adverse successive effects. Given that the Application Site benefits from being well distanced from main residential areas and that planning permission exists for an REGF and for B8 use of the site it is considered that no significant adverse cumulative impacts will occur.
- 12.3.5 In terms of future development that has the potential to give rise to adverse simultaneous effects, the proposal will sit within the Pebble Hall complex, which is limited in size. In the event that planning permission is granted for the TAD facility and this proposal, there will be no space to develop any further energy generation development that would aggregate with the proposed gasification facility and thus give rise to unacceptable simultaneous effects.
- 12.3.6 Welland Waste Management is applying to Northamptonshire County Council to use the adjacent building for a TAD facility that will generate renewable energy and agricultural granules from food waste. The technical noise report, landscape and visual impact and air quality assessment have considered the combined effect of the individual developments and of both facilities operating together. The conclusion is that the cumulative effect of both facilities operating together will not cause any unacceptable cumulative effect. Considering the limited amount of land left on site to further develop renewable energy or waste operations and the limited amount of traffic movements left within the total agreed traffic amount for the site, it is not considered that any further developments will take place on the site that could give rise to cumulative impacts.

12.4 Combined Effects

Approach to Potential Levels of Objectionability

- 12.4.1 Waste management operations (like other forms of complex development proposals) can produce effects that occur together and when combined can potentially give rise to significant impacts. In terms of the methodology for assessing cumulative environmental effects from such operations this section follows the approach taken by the Planning Inspector in the consideration of UK Coal's surface mining operation at Huntington Lane, Telford. The Inspector's approach in regard to this was subsequently endorsed by the Secretary of State on 6th October 2009.

12.4.2 In paragraph 552 of the Inspector's Report into the Telford proposal he noted *For individually acceptable impacts to be elevated together to unacceptable impacts, they must have a synergistic effect.* In order to assess the combined effects properly it is necessary to consider whether some or all of the individually acceptable effects are so close to being unacceptable, that when combined together, the totality is unacceptable. In this regard, the approach set out by Mr Justice Burton is considered appropriate to follow, the methodology of which is outlined in section 12.2 above.

12.4.3 The potential benefits of the proposal are identified so that they can be combined allowing the cumulative assessment to balance both positive and negative effects.

Consideration of the Potential Impacts

12.4.4 Before attempting to combine the potential impacts and adopting the approaches outlined it is first necessary to establish the potential level of objectionability for each area of potential impact. In doing so, careful regard has been had to the subject specific technical/professional reports of the various specialists appended to this statement and contained in the Appendices of the Environmental Statement. Set out below is a summary of the findings on each aspect and a view taken on the level of objectionability.

Landscape and Visual Impact Appraisal (LVIA)

12.4.5 The potential landscape and visual impacts of the proposal are set out in detail within the LVIA report (Appendix 9 to the ES). The report concludes that overall, the potential landscape and visual impacts of the proposal are minor in terms of significance, provided that the proposed mitigation measures are carried out. For the purposes of cumulative impact assessment the potential landscape and visual impacts of the development are not considered to be close to thresholds of acceptability.

Air Quality (including Human Health)

12.4.6 Having regard to the Air Quality Assessment (Appendix 6), it is concluded that the potential impacts of the proposal on air quality issues are likely to be minor, even taking into account the impacts from the TAD proposal. The proposal will also not pose a significant risk to the health of people living and working nearby. Therefore, for the purposes of cumulative impact assessment the potential air quality impacts of the development are not considered to be close to thresholds of acceptability.

Noise

12.4.7 Having regard to the detailed noise assessment report (Appendix 7), it is concluded that noise from the proposal is unlikely to give rise to significant adverse effects, even taking into account the impacts from the TAD proposal. This conclusion has been reached having regard to the proposed operational times of the development, the noise control measures, predicted noise levels and the relative position of the nearest existing residential properties to the development. Therefore, for the purposes of cumulative impact assessment the potential noise impacts of the development are not considered to be close to thresholds of acceptability.

Drainage and Flood Risk Assessment

12.4.8 Having regard to the detailed flood risk and drainage report (Appendix 8), it is concluded that drainage and flood risk will not give to significant adverse effects, even taking into

account the impacts from the TAD proposal. This conclusion has been reached having regard to the extent of all proposed new building and all existing and proposed handcored areas. Therefore, for the purposes of cumulative impact assessment, the risk of flood as a result of the development are not considered to be close to thresholds of acceptability.

Traffic

- 12.4.9 The capacity of the access to accommodate the additional vehicle movements associated with the two new proposals has been assessed. Even when including the existing vehicle movements and the proposed vehicle movements associated with the REGF and TAD, it has been concluded that the impacts of the development are not considered to be close to thresholds of acceptability.

Conclusions on the Potential Impacts

- 12.4.10 In terms of individual areas of potential impact, it is concluded that there would be no individual areas of objectionable environmental impact arising from the proposal. In addition, none of the potential environmental impacts are considered to be close to thresholds of acceptability and therefore make no significant contribution to cumulative harm, either when considered in isolation or with the operation of the adjacent TAD facility. These issues will be examined in depth during the application and determination of an Environmental Permit for which Northamptonshire County Council are statutory consultees

12.5 Assessment of the Combination of Potential Impacts

- 12.5.1 In his judgement (reference EWHC Admin 1427 2007) Mr Justice Burton took the view that to make an assessment of cumulative impact on the basis of simple value judgements with no supporting reasons is inappropriate. In his judgement he gave examples of such reasoning as including 4 possible scenarios (see paragraph 12.2.3 above). The 4 tests are considered below.
- 12.5.2 Test 1 - *Even though each individual area of potential impact was not objectionable yet each such feature was close to objectionability that, although none could be said to be individually objectionable, yet because each was nearly objectionable, the totality was cumulatively objectionable.*
- 12.5.3 In this case, it is considered that none of the environmental areas are close to being unacceptable. It is therefore concluded that, because none of the individual environmental areas are nearly unacceptable, the totality will not be cumulatively unacceptable.
- 12.5.4 Test 2 - *One, two, three or four of the particular features were close to being objectionable and that would be an important matter to take into account when looking at the totality.*
- 12.5.5 It is considered that none of the environmental areas are close to being unacceptable and therefore there is no important consideration when looking at the totality.
- 12.5.6 Test 3 – *One particular combination of two or three otherwise unobjectionable features could cause objectionability in their totality.*

12.5.7 There are individual effects which are related in terms of subject matter or in regard to the receptors in which they have the potential to impact upon and could therefore be considered in combination, namely:

- Landscape and Visual Impact
- Noise
- Air Quality
- Flood Risk and Drainage
- Traffic

12.5.8 In relation to the noise and air quality, neither are likely to give rise to exceed nationally recognized thresholds of potential nuisance related impacts. It is therefore considered that the potential impacts of noise and air quality on local communities and individual properties (i.e. the nearest sensitive receptors) individually would each be well within the thresholds of objectionability and their combined totality would not be objectionable.

12.5.9 In relation to traffic or flood risk and drainage none of the predicted effects are close to being unacceptable (or objectionable). It is therefore concluded that these features do not make a significant contribution to cumulative harm.

12.5.10 It is not considered that the predicted landscape and visual effects are close to being unacceptable (or objectionable). It is therefore concluded that these features do not make a significant contribution to cumulative harm.

12.5.11 In relation to the noise and air quality, neither are likely to give rise to exceed nationally recognized thresholds of potential nuisance related impacts. It is therefore considered that the potential impacts of noise and air quality on local communities and individual properties (i.e. the nearest sensitive receptors) individually would each be well within the thresholds of objectionability and their combined totality would not be objectionable.

12.5.12 Test 4 – *As was specifically addressed by the Interested Party and by the Inspector here, and found not to be the case, there could be some unusual feature or some unusual combination of features such as to render the combination objectionable when the individual feature was not.*

12.5.13 The environmental features that have been assessed as part of the EIA are not considered to be unusual having regard to Test 4. It is also considered that there is no particular combination of features that would, in some way, render the potential combination unacceptable when the individual features were not.

Conclusions

12.5.14 It is considered the approach and methodology to assessing the combined negative effects is thorough and robust. Following an assessment of each of the four tests it has been concluded that no objectionable combined negative effects would be brought about by the proposed REGF.

12.5.15 In terms of individual areas of potential impact, it is concluded that there would be none with objectionable environmental impact arising from the combined impacts of the TAD facility and the REGF proposal. In addition, none of the potential environmental impacts are considered to be close to thresholds of acceptability and therefore make no significant contribution to cumulative harm even when considered additional to the TAD. These

issues will be examined in depth during the application and determination of an Environmental Permit for which Northamptonshire County Council and others are statutory consultees.

12.6 Assessment of Potential Positive Effects

12.6.1 In order to assess the overall cumulative impact of the proposal in a balanced manner it is logical that the potential positive impacts of the scheme are identified and aggregated to indicate a potential cumulative positive effect. This enables them to be weighed, in combination, into an overall judgement of cumulative acceptability or otherwise.

12.6.2 The key positives effects in relation to the proposal are:

- Up to 10.4MW of renewable/low carbon energy generation
- Contributing to climate change objectives by minimising the generation of greenhouse gases
- BAT and BPEO for diversion of waste timber from landfill
- CHP-ready
- Savings of 42,000 tonnes of CO₂ per annum, based on a WRATE analysis
- Contributing to economic prosperity
- Generating employment opportunities
- Improved site security
- Enhanced landscaping and habitat creation

Conclusion

12.6.3 The above benefits of the proposal are considered to combine to provide a significant positive effects.

12.7 Overall Conclusions on Cumulative Effects

12.7.1 In accordance with Northamptonshire County Council's Scoping Opinion, the EIA Regulations 2011 and Development Plan Policy, an assessment of the potential cumulative impact has been carried out to support this planning application. The approach to assessing cumulative impact has followed the advice of Mr Justice Burton (in the Long Moor case) by considering the three categories of potential cumulative effects: successive effects; simultaneous effects from concurrent developments; and combined effects from the same development and then sets out reasoning behind the judgements reached. The assessment of cumulative impact has had regard to positive and negative effects to ensure that an overall balanced judgement is reached.

12.7.2 The potential positive impacts are particularly relevant when considering the combined effects from the same development. Care has been taken to ensure that any positive effects have not been double counted in the assessment work.

12.7.3 The assessment has concluded that no unacceptable successive or simultaneous effects are likely to occur as a result of the development of the proposal.

12.7.4 In terms of the combined effects from the same development, it is considered that none of the environmental areas are close to being unacceptable. It is therefore concluded that,

because none of the individual environmental areas are nearly unacceptable, the totality will not be cumulatively unacceptable.

12.7.5 In the light of the above it is concluded that the lack of a cumulative effect of the proposal means that the Council should not object to the proposal on the basis of cumulative effect.

13 SUMMARY AND CONCLUSIONS

Summary

- 13.1.1 In accordance with the EIA Regulations 2011 and Scoping Opinion issued by Northamptonshire County Council, this Environmental Statement has considered the main potential environmental effects of the proposal and has concluded that, subject to the imposition of conditions to secure appropriate mitigation measures, no unacceptably adverse impacts will arise from the REGF facility when considered by itself or alongside the operation of the TAD facility. In terms of the main constraints the assessment work has concluded that the proposal will not affect any nationally or regionally important designations (such as SSSI, SPA, AONB, etc).
- 13.1.2 The LVIA identifies that there will be no overall significant adverse landscape and visual impacts that arise from the proposal, provided that the proposed re-contouring and additional landscape planting mitigation measures are implemented.
- 13.1.3 The conclusion from the Air Quality Assessment is that the operation of the proposed facility will have an insignificant impact on local air quality and will not pose a significant risk to the health of people living and working nearby nor to the SSSIs in the locality.
- 13.1.4 There will be no adverse impact from noise from the proposed REGF development.
- 13.1.5 The conclusion from the FRA is that there will be no negative impacts as a result of the proposed development.
- 13.1.6 The Traffic Assessment confirms that the proposals will have a negligible impact on the operation of the local road network.
- 13.1.7 There will be no adverse impact from noise from the proposed REGF development.
- 13.1.8 The assessment of cumulative impact has concluded that no unacceptable successive or simultaneous effects are likely to occur as a result of the proposal, nor from cumulative impact including TAD operation. In terms of the combined effects from the same development, it is considered that none of the effects are close to being unacceptable. It is therefore concluded that the totality will not be cumulatively unacceptable.
- 13.1.9 The assessment of alternatives has concluded that the Application Site is a good alternative for the provision of a REGF (with corresponding grid connection) and that the preferred site layout of the proposal has been achieved to minimise the potential environmental effects of the scheme and to maximise the site safety.
- 13.1.10 The Government has highlighted its support for renewable energy generation as an important role for avoiding greenhouse gas emissions that are associated with waste disposal to landfill. Gasification is one of the most efficient means of generating renewable energy. The benefits also include producing renewable/low carbon energy. These benefits have been calculated using the WRATE model and are of the order of 42,000 tonnes CO₂ per annum. They are considered to attract significant weight in the planning balance.

Conclusion

13.1.11 In overall conclusion, it is considered that the proposal will not give rise to unacceptable environmental effects and that the potential benefits of the scheme are substantial such that they clearly outweigh any negative harm that might result from the proposal. In this regard, the proposal is considered to be compliant with the Development Plan and Government Policy.

APPENDIX 1: NCC Regulation 22 Requests

- **Regulation 22 Request – 9th January 2014**
- **Regulation 22 Request – 15th April 2014**

APPENDIX 2: Environmental Statement Documents

REGF	
REPORT NAME	DATE
Planning Form	17 October 2013
Environmental Statement	July 2014
Non-Technical Summary	July 2014
Origin Transport Consultants Transport Statement v3	January 2014
Abington Consulting Engineers Flood Risk Assessment Rev C	30 th December 2013
Walker Beak Mason Noise Report	28 th May 2013
Sound Barrier Solutions and covering note	20 th March 2014
GFE Atmospheric Dispersion Modelling, Wood Gasification Facility	December 2013
Dioxin Health Risk Assessment	August 2013
Health Impact Assessment	August 2013
Ian Sharland Ltd v5 Assessment of Environmental Impact	6 January 2013
GP Planning LVIA	September 2013
Addendum LVIA	January 2014
Supplementary LVIA	April 2014
GFE DMRB Screening Air Quality Assessment for Vehicle Emissions	3 rd December 2013
Ian Sharland–Addendum Considering the acoustic Impact on Hothorpe Hall Eco-Lodges	7 th April 2014
GFE Supplementary Air Quality Assessment	13 th March 2014
GFE assessment of potential impact on local Wildlife sites	20 th April 2014

APPENDIX 3: Scoping Report and Opinion

APPENDIX 4: Exhibition Panels

APPENDIX 5: Grid Connection

APPENDIX 6: Air Quality Assessment and Health Impact Assessments

- **GFE DMRB Screening Air Quality Assessment for Vehicle Emissions – 3rd December 2013**
 - **GFE Atmospheric Dispersion Modelling – Wood Gasification Facility – December 2013**
 - **GFE Supplementary Air Quality Assessment – 13th March 2014**
 - **GFE assessment of potential impact on local Wildlife sites**

APPENDIX 7: Noise Assessment

- **Walker Beak Mason Noise Report: 28th May 2013**
- **Sound Barrier Solutions and covering note: 20th March 2014**
- **Ian Sharland Ltd v5 Assessment of Environmental Impact: 6 January 2013**
- **Ian Sharland Addendum considering the acoustic impact on Hothorpe Hall Eco-Lodges: 7th April 2014**

APPENDIX 8: Flood Risk Assessment and Drainage Strategy

Abington Consulting Engineers Flood Risk Assessment, Rev C – 30th December 2013

APPENDIX 9: Landscape and Visual Impact Assessment

- **GP Planning LVIA – September 2013**
 - **Addendum LVIA – January 2013**
 - **Supplementary LVIA – April 2014**

APPENDIX 10: Traffic Assessment