Origin Renewable Energy

Magnetic Park Energy Centre

EIA Scoping Report

09 February 2012

AMEC Environment & Infrastructure UK Limited
Magnetic Park Energy Centre: EIA Scoping Report

1. Introduction

AMEC Environment & Infrastructure UK Ltd (AMEC) has been instructed by Origin Renewable Energy (Origin) to prepare a Scoping Report in relation to a planning application for an Energy Centre (using the ENERGOS Gasification Technology) at Magnetic Park, Desborough, Northamptonshire.

The nature of the potential development means that an Environmental Impact Assessment (EIA) would need to be undertaken to support any planning application that would be submitted for development at the site. The results of the EIA would be presented in an Environmental Statement (ES).

This Scoping Report presents a request to Northamptonshire County Council for its formal view (its ‘scoping opinion’) on the information that should be supplied in the ES which will be submitted under The Town and Country Planning (Environmental Impact Assessment) Regulations 2011, hereafter referred to as the EIA Regulations. The report identifies the potential significant effects of the development that need to be considered in depth as part of the EIA and the proposed scope of the assessment in relation to these effects (insofar as this scope can be determined at this early stage in the EIA process). It is hoped that this information will provide a basis for agreement with the planning authority and consultees on the approach to be taken in preparing the ES.

1.1 Purpose of the Report

The ES is required to describe the likely significant environmental effects of the proposed development and evaluate their significance using clearly defined criteria. The findings are then available to assist decision-makers in determining the planning application and drafting the planning conditions. However, before the ES is produced, the EIA must fulfil other important purposes, notably:

- At the outset, it should consider the reasons for the development and any alternatives considered;
- It should identify opportunities to modify the design of the scheme to:
  - avoid or reduce adverse effects, with a focus on those effects that are likely to be significant; and
  - increase the environmental benefits through environmental enhancements;
• Where significant adverse effects are unavoidable, consideration should be given to the opportunities to implement measures that will, at least in part, compensate for the effects.

EIA is an iterative ‘process’ that is used to help refine a scheme, with the objectives of reducing any adverse environmental effects that could be caused by the development and increasing its positive effects. At stages in the process, mitigation and enhancement opportunities may be identified as defined by Box 1.1.

**Box 1.1 Definitions of Mitigation and Enhancement**

<table>
<thead>
<tr>
<th>Mitigation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Avoidance</strong></td>
<td>Measures taken to avoid adverse effects.</td>
</tr>
<tr>
<td><strong>Reduction</strong></td>
<td>Measures taken to reduce adverse effects.</td>
</tr>
<tr>
<td><strong>Compensation</strong></td>
<td>Measures taken to offset/compensate for significant adverse effects. These usually take the form of attempting to replace what will be lost.</td>
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</table>

<table>
<thead>
<tr>
<th>Enhancement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The genuine enhancement of environmental interests, unrelated to any avoidance, reduction or compensation, is not considered to be mitigation. However, it will still be relevant to the ES if it is proposed as part of the development.</td>
<td></td>
</tr>
</tbody>
</table>

**1.2 The Applicant**

Origin Renewable Energy Limited was formed in 2008 by a group of property developers, who wished to ensure the sustainability of the new developments and communities that they are creating. The company directors personally undertook their own research across Europe in order to shortlist the renewable technologies available that would allow new developments to benefit from decentralised local energy generation.

Origin currently supports small-scale gasification as the best available and proven technology to ensure localised energy generation for community developments, local grid re-enforcement and an alternative to waste landfilling. The company’s founders have extensive experience of master-planning projects with an established development portfolio background across the UK.

**2. The Proposed Development**

**2.1 Location**

The location of the proposed development is shown on Figure 1. It is centred on National Grid Reference (NGR) SP799844.

The site is bordered to the north and west by Stoke Road and commercial and industrial premises at Millbuck Industrial Estate such as Rigid Containers Ltd and Mainstream Motors; to
the immediate east by the Great Bear Distribution Ltd warehouse and O Kay Engineering, with housing and undeveloped greenfield land further to the east; and to the south by the B576 (Harborough Road) and the northern outskirts of Desborough.

The site occupies an area of approximately (~) 1.8 hectares (ha) and is currently vacant, having been prepared for development as part of the regeneration of land known as ‘The Grange’ – formerly agricultural land – and as such comprises recently disturbed ground. A dedicated internal access road is located immediately adjacent to the site of proposed development to the east, which will be shared with the other properties at Magnetic Park (O Kay Engineering and Great Bear Distribution Ltd).

2.2 The Development Proposals

In April 2011 an outline planning application was submitted to Kettering Borough Council (KBC) for a residential-led mixed use development on land to the North of Desborough\(^1\). The application highlighted an Energy Centre as a sustainable option for the supply of heat and power for this site.

The development proposed by Origin will provide an “Energy from Waste” (EfW) facility within the industrial area of Magnetic Park which will convert municipal and/or commercial & industrial waste into heat and power for the adjacent housing developments and nearby commercial enterprises, as well as electricity into the National Grid.

The proposed 96 000 tonne EfW facility will form part of an energy centre and will use a process known as ‘gasification’ developed by ENERGOS. The technology involves a two-stage system, which initially gasifies the waste to produce synthetic gas. This gas is then transferred to a second stage where it burns more efficiently as a fuel than would be the case from a basic waste incineration system. Importantly, the process allows for efficient control of emissions and improved performance generally as an energy solution.

The facility would accept a variety of non-hazardous waste comprising primarily commercial & industrial waste, but will also be capable of accepting municipal/household waste (MSW).

The development will comprise a main building that would include waste reception and processing, a boiler and stack; together with ancillary buildings and infrastructure, including air cooled condensers, a turbine hall and boiler room, and an electricity substation. It is also proposed to include a Visitor Centre at the site.

The nature of the operations means that the site would operate for 24 hours per day and seven days per week. The timing of deliveries to and from the site would be considered as part of any planning application, however, the site is not considered to be sensitive from a transportation or amenity perspective.

The site has good potential access to the road network. Although transportation routes have yet to be confirmed and would be the subject of assessment, it is envisaged that heavy goods vehicles (HGVs) delivering waste to the site and taking recyclable materials (mainly metals)

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\(^1\) An Outline Application With All Matters Reserved For Residential Development Of Up To 700 Dwellings Including Provision Of A Local Centre, Primary School, Green Infrastructure and Creation Of Accesses On Land To The North Of Desborough (CJC Development Co. Ltd)
and residues off-site would travel to the site via the A14 and A6, and access the site using an existing access point from the junction of the B576 (Harborough Road) and Stoke Road.

2.2.1 Alternatives
The ES will describe the alternatives to the proposed development considered by the applicant as well as the alternative options for the site design that have been considered.

3. Approach to the EIA

3.1 Legislative Requirements
Annex C to Circular 2/1999 summarises the information to be included in an ES based on Schedule 4 of the EIA Regulations. In short, the information comprises:

• A description of the development;
• An outline of the main alternatives to the development;
• A description of the aspects of the environment likely to be significantly affected by the development; and
• A description of the measures to prevent, reduce and where possible offset, any significant adverse effects on the environment.

Information will be collated by technical area ensuring a comprehensive assessment of the potentially significant effects.

3.2 Assessment Approach
At this stage and subject to changes in policy and best practice it is envisaged that an EIA would consider and set out the following:

• Introduction;
• Context: This provides a ‘pen-picture’ of the relevance of each environmental topic and includes details of the terminology and technical and planning context relevant to technical discipline;
• Assessment Approach: This summarises the data gathering and survey work that was undertaken to inform the proposed scope of the EIA;
• Baseline Conditions: This provides a detailed description of the receptors and draws conclusions in respect of their sensitivity or value based on the evaluation of relevant criteria;
• Proposed Mitigation: This section deals primarily with the ways in which the scheme design has been modified to avoid or reduce the effects that could
potentially be significant during the key phases of the development. Measures
designed to compensate for or offset likely significant effects are also provided;

- **Assessment of Effects**: The results of the detailed assessment are described in this
  section and are related to each of the receptors. It therefore takes account of the
  sensitivity (or value) attributed to a particular receptor and relates to it the
  predicted magnitude of environmental change from the various development-
  related activities. Information about the effects of all the environmental changes is
  then drawn together and a conclusion reached about the overall effect, as to
  whether it is “significant” or “not significant”. Broadly, an effect that is considered
  significant is of such weight that it could influence the development consent
  decision; and

- **Conclusions**: This concludes the overall findings of the assessment in respect of
  the environmental topic or specific receptors. This is demonstrated in tabular form
  and summarises the predicted effects in relation to each receptor. It therefore
  provides a useful checking device to the findings of the preceding detailed
  assessments, which has determined whether the effects are “significant” or “not
  significant” as defined by the EIA Regulations.

### 3.3 Technical Scope

The technical scope of the EIA will be reviewed throughout the project development stage and
will be informed by the responses to this scoping report. Should changes in scope occur then
these will be discussed and agreed with consultees. It is not the intention to reissue this scoping
report but instead to report on any changes in the main body of the ES.

### 4. Policy and Legislation

#### 4.1 National Planning Policy

The ES will include a review of key policies (national, regional and local), that will need to be
addressed as part of the EIA. The focus will be on those policies that may influence the
assessment of effects and the weight given to land-use designations. In setting out the reasons
for the development the ES will address the requirements of European legislation and the
principal Directive is the EU Framework Directive on Waste (75/442/EEC as amended by
91/156/EEC). It requires Member States to:

- Encourage waste prevention or reduction and encourage reuse and recovery of
  waste;
- Ensure that waste is recovered or disposed of without endangering human health
  and without using processes which could harm the environment;
- Prohibit the uncontrolled disposal of waste;
• Establish an integrated and adequate network of disposal installations taking account of the Best Available Technology, Not Involving Excessive Cost;

• Prepare waste management plans;

• Ensure that any establishment or undertaking carrying out waste disposal or recovery is appropriately licensed; and

• Ensure that the cost of disposal is borne by the waste holder in accordance with the polluter pays principle.

The Directive sets out the concept of a waste management hierarchy that permeates through all UK waste policy and legislation. This framework indicates that:

i. The most effective environmental solution will normally be to reduce the generation of waste;

ii. Where further reduction is not practicable, products and materials should be re-used, either for the same or a different purpose;

iii. Failing that, value should be recovered from waste through recycling, composting or energy recovery;

iv. If none of the above offers an appropriate solution, waste should be disposed of.

The Waste Framework Directive is backed up by a number of waste specific ‘daughter’ Directives, the most notable of which is the Landfill Directive (99/31/EC). This is the most significant driver affecting how wastes are managed and was transposed into UK law through the Landfill (England and Wales) Regulations 2002. The Directive requires the diversion of wastes away from landfill and to maximise the recovery of value from waste.

4.1.1 National Policy Guidance

The review of national planning policy will focus on the following:

• The Waste Strategy for England 2007 (DEFRA, May 2007);

• Planning Policy Statement 1 (PPS 1) Delivering Sustainable Development (2005);

• PPS 4 Planning for Sustainable Economic Growth (2010);

• PPS 5 Planning for the Historic Environment (2010);

• PPS 9 Biodiversity and Geological Conservation (2005);

• PPS 10 Planning For Sustainable Waste Management (2005);

• PPS 11 Regional Spatial Strategies (2004);

• PPS 13 Transport (2001);

• PPS 22 Renewable Energy (2004);

• PPS 23 Planning and Pollution Control (2004);

• PPG 24 Planning and Noise (1994); and

PPS10 and PPS22 are particularly relevant. PPS10 states that waste planning authorities should consider opportunities for on-site management of waste where it arises and if this is not possible a broad range of locations including industrial sites. In identifying sites and areas for waste development in the development plan or considering planning applications for sites which have either not been identified or are not located in an area identified in the development plan, waste planning authorities should:

(i) “assess their suitability for development against each of the following criteria:

• the extent to which they support the policies in PPS10;
• the physical and environmental constraints on development, including existing and proposed neighbouring land uses;
• the cumulative effect of previous waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economical potential;
• the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport;

(ii) give priority to the re-use of previously developed land, and redundant agricultural and forestry buildings and their curtilages” (paragraph 21, PPS 10).

PPS22 confirms that the development of renewable energy will make a vital contribution to the aims of the national energy policy set out in a 2003 White Paper. Increased development of renewable energy sources is thus seen as essential to the delivery of the commitments on climate change, and the PPS goes on to state that positive planning which facilitates renewable energy developments can contribute to all four elements of the Government’s strategy on sustainable development. A key change of approach in the planning context is the stress that is laid on promoting and encouraging renewable energy developments rather than taking a restrictive approach to them. It states that development proposals should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through careful consideration of location, scale, design and other measures.


4.1.2 National Planning Policy Framework

On 25 July 2011 the UK Government published its draft National Planning Policy Framework (NPPF) for England which will replace all current Planning Policy Statements and Guidance Notes. Once adopted, local planning authorities will need to ensure that planning decisions are made in accordance with this overriding national planning policy guidance. The draft closed for consultation on 17 October 2011 and is expected to be in place by April 2012.
4.2 Regional Policy

In addition to the national planning policy framework, it will also be important to undertake a review of existing regional planning policy.

Currently the Regional Spatial Strategy (RSS) for the East Midlands forms part of the Development Plan. The RSS was first published in March 2005 and set out the planning strategy for the East Midlands region up to 2021.

All regional planning guidance documents were revoked by the Secretary of State for Communities and Local Government with immediate effect on 06 July 2010. This decision was however later quashed in the High Court, and therefore the RSS currently remains as part of the development plan. The RSS may not be withdrawn before determination of the application.

Other regional policy that will be taken into consideration includes the *East Midlands Regional Waste Strategy (January 2006).*

4.3 Strategic and Local Policy

The strategic and local planning policy framework is provided by the following:

**Adopted Plans**
- Local Plan for Kettering Borough - Supplementary Planning Guidance 11: Industrial and Commercial Layout and Design; and

Key policies from the above that were saved as part of the Local Development Framework (LDF) are set out in Table 4.1. One document, the North Northamptonshire Core Spatial Strategy (2008), has already been adopted from the LDF process, and its key policies (in relation to the proposed development) are also outlined in Table 4.1.

It should be noted that this is not intended to be a definitive list of all the policies that will need to be considered. Rather, it seeks to highlight the most relevant policy considerations for the EIA.
Table 4.1 Summary of Relevant Development Plan Environmental Policies

<table>
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<tbody>
<tr>
<td>The Local Plan for Kettering Borough</td>
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<tr>
<td>Policy 1 Development: Supplementary Planning Guidance</td>
<td>The supplementary planning guidance published by the Local Planning Authority will be an important consideration in the determination of planning applications for development in the Borough.</td>
</tr>
<tr>
<td>Policy D2 Desborough: Environmental Improvement</td>
<td>Provision will be made for the implementation of environmental improvement schemes for sites in Desborough: D2.2: Stoke Road Rural Employment Area - Screening and landscaping especially to road frontages to enhance rural character.</td>
</tr>
<tr>
<td>Northamptonshire Structure Plan</td>
<td></td>
</tr>
<tr>
<td>Policy SDA1: Strategic Development Areas</td>
<td>The objective of the policy is to create high quality, mixed-use developments which provide a wide range of facilities and services and are well served by public transport.</td>
</tr>
<tr>
<td>North Northamptonshire Core Spatial Strategy</td>
<td></td>
</tr>
<tr>
<td>Policy 1: Strengthening the Network of Settlements</td>
<td>To achieve greater self-sufficiency for North Northamptonshire as a whole, development will be principally directed towards the urban core, focused on the three Growth Towns of Corby, Kettering and Wellingborough. The smaller towns of Burton Latimer, Desborough, Higham Ferrers, Irthingborough, Rothwell and Rushden will provide secondary focal points for development within this urban core.</td>
</tr>
<tr>
<td>Policy 5: Green Infrastructure</td>
<td>A net gain in green infrastructure will be sought through the protection and enhancement of assets and the creation of new multi functional areas of green space that promote recreation and tourism, public access, green education, biodiversity, water management, the protection and enhancement of the local landscape and historic assets and mitigation of climate change, along with green economic uses* and sustainable land management.</td>
</tr>
<tr>
<td>Policy 6: Infrastructure Delivery and Developer Contributions</td>
<td>New development will be supported by the timely delivery of infrastructure, services and facilities necessary to provide balanced, more self-sufficient communities and to secure a modal shift away from car use and road freight haulage.</td>
</tr>
<tr>
<td>Policy 8: Delivering Economic Prosperity</td>
<td>[A] net increase in jobs… will be sought in order to maintain a broad balance over time between homes and jobs and to create a more diverse economic base.</td>
</tr>
<tr>
<td>Policy 9: Distribution &amp; Location of Development</td>
<td>Development will be distributed to strengthen the network of settlements as set out in Policy 1.</td>
</tr>
<tr>
<td>Policy 10: Priority will be given to the reuse of suitable previously developed land and buildings within the urban areas, followed by other suitable land in urban areas.</td>
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</tr>
<tr>
<td>Policy 11: Distribution of Jobs</td>
<td>New sites will be allocated to meet any identified shortfall in supply.</td>
</tr>
<tr>
<td>Policy 13: General Sustainable Development Principles</td>
<td>Development should meet the needs of residents and businesses without compromising the ability of future generations to enjoy the same quality of life that the present generation aspires to.</td>
</tr>
<tr>
<td>Policy 14: Energy Efficiency and Sustainable Construction</td>
<td>Development should meet the highest viable standards of resource and energy efficiency and reduction in carbon emissions.</td>
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</table>

Kettering Borough Council works in partnership with East Northamptonshire, Corby and Wellingborough Councils together with Northamptonshire County Council under a Joint
Planning Unit (JPU) for North Northamptonshire. The JPU has been established to consider strategic and cross-boundary development and co-ordinates the preparation of the Local Development Framework for North Northamptonshire.

Under the Planning and Compulsory Purchase Act 2004, KBC is required to prepare a portfolio of new Local Development Documents (LDDs) which together will form the Local Development Framework (LDF). This will ultimately replace the extant Structure Plan and Local Plan. Whilst it is not anticipated that the LDF will be adopted when this planning application is submitted, it is recognised that a number of relevant adopted and draft documents will be available. In this context, cognisance will be taken of the following:

- North Northamptonshire Local Development Framework: Statement of Community Involvement (2006);
- North Northamptonshire Local Development Framework: Core Spatial Strategy (2008);
- North Northamptonshire Local Development Framework: Sustainable Design Supplementary Planning Document (2009);
- The Minerals and Waste Development Framework Core Strategy Development Plan Document (DPD) (2010);
- The Minerals and Waste Development Framework Locations for Waste Development DPD (2011);
- The Minerals and Waste Development Framework Control and Management of Development DPD (2011); and

More specific to waste and minerals is the which was adopted in May 2010. Policies from the Northamptonshire Minerals and Waste Development Framework Core Strategy DPD which the proposal will have to accord with include:

- Policy CS1 Northamptonshire’s Waste Management Capacity;
- Policy CS2 Spatial Strategy for Waste Management;
- Policy CS3 Strategy for Waste Disposal.

Adopted in June 2011, Northamptonshire also have a Control and Management of Development DPD with the following policies being relevant to this proposal:

- Policy CMD1 Development Criteria for Non-Inert Waste Management Facilities;
- Policy CMD7 Natural Assets and Resources;
- Policy CMD8 Landscape Character;
- Policy CMD10 Layout and Design Quality;
- Policy CMD12 Preventing Land Use Conflict.
Another document worthy of consideration is Northamptonshire’s *Development and Implementation Principles SPD* which was adopted in September 2011. This document provides detailed guidance on waste minimisation and the provision of waste management facilities in new development, as well as the design and restoration of minerals and waste facilities, preventing land use conflict and catchment areas for waste management facilities.

This Scoping Report now considers the technical content of the EIA.

5. **Proposed Scope of the Technical Assessments**

5.1 **Introduction**

The aim of this section is to clearly set out the proposed scope of the technical assessments in the ES and the likely environmental effects that have the potential to be significant as a result of the proposed development. Origin Renewables encourages consultees to provide comment on the scope, whether those comments are in agreement or are recommending additional items to be covered.

5.2 **Ground Conditions and Hydrogeology**

5.2.1 **Baseline Conditions**

As discussed in Section 2.1, the site of the proposed development is currently vacant and has been prepared for redevelopment and as such comprises recently disturbed ground. Prior to this the land consisted of agricultural land predominantly used for cattle grazing.

A site investigation was undertaken at the site by Eastwood & Partners in 2005 and reported in 2006\(^2\). The report suggests that the majority of the site of proposed development is outside the expected highwall/edge of the opencast workings. The quarry had been abandoned and infilled by 1972. The site investigation revealed that natural ground at the proposed development site was found to comprise turf over topsoil of approximately 0.3 m depth, overlying stiff brown and grey clays. The deeper grey clays contained gravel of flint, chalk, oolitic limestone and occasionally sandstone. The fill in the quarry, to the east of the site of proposed development, consists of a variety of materials, predominantly clayey sands with sandstone, ironstone and flint gravels. Topsoil and fill were found to have elevated arsenic concentrations, although testing of the materials suggests no significant risk to human health. There is also negligible risk to groundwater contamination. The report does suggest that although significant contamination is not anticipated at the site, it is possible that some localised zones of contamination are present.

The solid geology beneath the site comprises Boulder Clay over Northampton Sand of the Inferior Oolite Series of the Jurassic, which overlies clay of the Upper Lias. This bedrock is

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\(^2\) *Report on a Site Investigation of Land at the Grange, Desborough, Northamptonshire; Eastwood & Partners, 2006.*
classified as a ‘Secondary A’ aquifer, defined as “permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers”\(^3\). The Upper Lias clay and Boulder Clay however are Unproductive Strata. The site investigation found the water table to be at a depth of ~ 5.0 m below ground level (bgl). According to the Environment Agency (EA) website there are no Groundwater Source Protection Zones within or adjacent to the proposed site boundary.

**5.2.2 Assessment Scope**

The chapter will assess the effect of the development on ground conditions and hydrogeology. The assessment will build on the findings of previous site investigations and will be based on a final scheme design. The assessment will include the following:

- An assessment of the risk of exposure to potential historical contamination and ground gas through excavation during development works;
- An assessment of the risk of creating contaminant-receptor linkages between users of the new development and any existing, site-derived contaminants;
- Potential effects associated with the introduction of contaminant pathways through excavation and construction works and introduction of materials during development, including pathways linked to ground and/or groundwater containing potential contamination;
- Leaching of contaminants into controlled waters on or beneath the site and to surface ditches. Off-site migration of contaminants within groundwater and site drainage impacting off-site surface water receptors;
- Changes to the distribution of land-uses which may increase exposure to site workers; and
- Location of buildings and services which may create pathways and may be affected by existing and introduced contaminant sources.

A qualitative assessment of the identified potential pollutant linkages will be used to identify potentially significant effects of the development. Each pollutant linkage will be assigned a risk classification based on a combination of the magnitude of the effect and the probability of its occurrence or likelihood of the pollutant linkage.

For each of the identified receptors that could be affected by the proposed development, the likelihood of these being significant effects will be reviewed in the context of the magnitude or consequence and other characteristics of the environmental changes that are expected to be caused by the development.

Appropriate measures to mitigate significant effects will be identified based on our previous experience and relevant guidance. It is evident from the previous work carried out at the site that some form of remediation will be required. The mitigation proposals will be discussed with the Local Planning Authority and the Environment Agency, as appropriate. Following the design of agreed mitigation measures, the residual effects of the scheme on the land and water environment will be evaluated.

\(^3\) [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)
5.3 Hydrology, Drainage and Flood Risk

5.3.1 Baseline Conditions
There are no major surface watercourses within 500 m of the site of proposed development. According to the Environment Agency Flood Zone maps the site is not within an area at risk from fluvial or tidal/coastal flooding.

The 2006 site investigation report suggests that soakaways will not be suitable for use on the site as clay soils predominate and discharges of water could cause localised settlement, and recommends that surface water discharges from development on the site would need to be taken into an appropriate drainage system.

5.3.2 Assessment Scope
The assessment of effects on the hydrology of the site and the surrounding area will be based on data collated from a desktop data review, including the Strategic Flood Risk Assessment for the Boroughs of Kettering and Wellingborough, and a visit to the site.

The assessment method will be a qualitative risk assessment based on the probability of an impact occurring and the predicted magnitude of the impact. This approach provides a mechanism for identifying areas where mitigation measures are required and to identify the most appropriate measures to alleviate the risk presented by the development.

The development has the potential to affect water quality through the spillage or release of chemicals such as fuels or oils in the construction phase or through the release of sediment entrained run-off into the local surface water network in the construction phase. To ensure the protection of the water environment the development would incorporate measures based on appropriate legislation and guidance (e.g. Environment Agency Pollution Prevention Guidelines and CIRIA best practise documentation). This would include the incorporation of measures such as pollution incidence response planning, and the maintenance and refuelling of machinery on areas of hardstanding during the construction phase. The development of mitigation measures will also include an assessment of the risk of contaminants permeating into any perched groundwaters or the Secondary Aquifer beneath the site. When assessing the drainage requirements for the site, care will be taken to ensure that any existing contaminants area will not be mobilised by, for example, the use of infiltration based drainage which could affect the aquifer.

Although the EA flood maps indicate the site is not at risk of fluvial or coastal flooding, given that the site is greater than 1 ha in size a mandatory Flood Risk Assessment (FRA) will be undertaken as per the requirements of Planning Policy Statement 25 Development and Flood Risk. This assessment is likely to focus primarily on drainage impacts and would assess the potential for development on the site to increase flood risk within the development area, or in adjacent areas, and the scope of any mitigation measures needed to remove this risk. This could include the incorporation of attenuation areas to allow for the controlled release of water in storm events or the use of Sustainable Drainage Systems (SuDS) techniques to slow run-off from the site. The incorporation of SuDS as part of the scheme would also help to remove any sediments from site run-off.

4 www.environment-agency.gov.uk
The incorporation of standard mitigation measures should be sufficient to ensure that there is no significant effect on water quality, however, the effects associated with the construction and operation of the development on the quantity of site run-off and water quality will be assessed. This detailed assessment will involve collection of baseline information on licensed abstractions and discharges; groundwater levels and gradients (if appropriate); surface water flows; water supply; and drainage and foul water services.

As part of the assessment, the relevant bodies including the Environment Agency would be consulted as appropriate. Anglian Water will also be consulted with regards to capacity in the local sewer network, and to gather any information on incidences of sewer flooding. This would inform the baseline and would enable the key water receptors to be confirmed.

A conceptual drainage strategy would also be developed as part of the FRA.

5.4 Air Quality

5.4.1 Baseline Conditions
The gasification plant process will be covered by the Environmental Permitting Regulations (England and Wales) 2010. A valid Environmental Permit (EPR) issued by the Environment Agency will therefore be required which will cover all aspects of the operation of the process and the potential air emissions. The permit will need to be in place before commissioning of the gasification process commences. The plant will be designed to ensure that the emissions are within the emission limit values required by the EPR permit. These limits are derived from the limit values given in the Waste Incineration Directive (2000), which have been set for the protection of human health and ecosystem. They cover a wide range of polluting emissions including combustion gases, heavy metals, acid gases and complex organic species, such as dioxins.

A provisional review of baseline air quality has shown that the proposed development site is not located within an Air Quality Management Area (AQMA).

The background mapped concentrations for the 1 km² covering the site are given in Table 5.1. Where data are unavailable for the year considered, the concentrations have been predicted from the nearest year based on the methodology set out in Local Air Quality Management technical guidance (DEFRA, 2009).

<table>
<thead>
<tr>
<th>Year</th>
<th>PM$_{10}$ Annual Mean ($\mu$g m$^{-3}$)</th>
<th>NO$_2$ Annual Mean ($\mu$g m$^{-3}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>16.0</td>
<td>9.8</td>
</tr>
<tr>
<td>2010</td>
<td>15.7</td>
<td>9.0</td>
</tr>
<tr>
<td>2011</td>
<td>15.6</td>
<td>8.7</td>
</tr>
</tbody>
</table>

Source: http://laqm.defra.gov.uk/

The DEFRA website has made available estimates of background pollution concentrations on a 1km² grid for the UK for seven of the main pollutants, with a 2001 base year. For NO$_2$ and PM$_{10}$ an updated version is available with a 2008 base year.
Kettering Borough Council conducted a Review and Assessment of air quality in 2003\(^5\). The report concluded that air quality in the borough of Kettering is generally good, and that of the seven pollutants that were addressed (CO; Benzene; 1,3-Butadiene; NO\(_2\); Lead; PM\(_{10}\); and SO\(_2\)) only NO\(_2\) was identified as requiring a detailed assessment, around Newlands Street in Kettering town centre.

5.4.2 Assessment Scope

Process Emissions

A quantitative assessment of the air quality effects resulting from the proposed development will be undertaken (both during the construction and operational phases). This assessment will address the extent to which the proposed development complies (or otherwise) with the requirements of the relevant air quality guidance and legislation. The air quality assessment would be informed by a review of the National Air Quality Archive and Kettering Borough Council Air Quality Review and Assessment reports.

The air quality assessment will be undertaken with reference to the predicted effects on a provisional list of residential, recreational and ecological receptors. It is proposed to adopt the same sensitive receptors agreed for the noise assessment, with the addition of any further potential human residential receptors identified as requiring inclusion in the detailed assessment. Particular attention will be paid to locations where people may be present for the relevant assessment periods. These receptors, plus any additional ones will be agreed in advance with the waste planning authority. In accordance with Environment Agency guidance the ecological receptors will include any European designated sites situated within 10 km of the site and Sites of Special Scientific Interest (SSSIs) situated within 2 km of the site. The final selection of receptors will be refined through dispersion modelling and agreed in advance with Northamptonshire County Council and Natural England.

A comprehensive assessment of the emissions from the facility will be carried out using an Appropriate Dispersion Modelling System (ADMS 4) with the emissions being compliant with the emission limit values given for processes regulated under the Waste Incineration Directive. The evaluation criteria used to assess the results of the modelling will be based on the Air Quality Standards Regulations 2010 and The 2007 Air Quality Strategy for England, Scotland, Wales and Northern Ireland (DEFRA, 2007). In the absence of statutory standards for the other prescribed substances that may be found in the emissions, there are several sources of applicable air quality guidelines, namely World Health Organisation or environmental assessment levels published by the Environment Agency.

In order to address such wider air quality issues, the level of energy usage by the proposed facility will be assessed in relation to the emissions of carbon dioxide equivalents, together with the direct emissions of Greenhouse Gases (GHG) (i.e. carbon dioxide, methane, nitrous oxide). Emissions of substances likely to contribute to photochemical ozone creation (POCP) would also be evaluated. The assessment will also include the indirect impacts of the facility, namely the offsetting of emissions potentially generated by fossil fuel due to the export of electricity from the recovered heat generated by the combustion of waste.

In addition to the potential effects of process emissions, particulate and oxides of nitrogen emissions will be assessed on the basis of accepted methodologies (Highways Agency Design

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\(^5\) Air Quality Review and Assessment Updating and Screening Assessment, July 2003
Manual for Roads and Bridges (DMRB)) during the construction and operational phases, and the assessment will consider the risk of a significant increase in PM$_{10}$ and NO$_x$ levels against the Air Quality Objectives. PM$_{10}$ levels in relation to any earthworks operations during the construction phase of the proposed operations will, however, be addressed as part of a separate dust assessment (see below). Potential effects on ecological receptors will be addressed as set out above.

There is generally no accepted way to assess the significance of a change in air quality resulting from a new development. The NSCA (now Environmental Protection UK) has published technical guidance (Development Control: Planning for Air Quality (2010 Update)) on dealing with air quality concerns within the development control process, which suggests how this can be addressed. This guidance classifies the magnitude of change using a number of descriptors (very large, large, medium, small, very small, etc). These descriptors are then applied to determine the relevant significance of the change in air quality.

**Odour**

The receipt and handling of waste has the potential to generate malodours and as such an odour assessment will form part of the EIA. However, the operation of the development would seek to ensure that wastes would be delivered to the site in enclosed vehicles, which would then enter the reception part of the main building through roller shutter doors (closed at all times except for access) where the waste materials would be removed from the vehicles and stored prior to being loaded into the gasification plant. The building would be kept under negative pressure and there would be no outdoor storage of waste. Air from this waste reception hall would be extracted to provide secondary combustion air, hence ensuring that any odorous compounds are combusted before being emitted via the main stack. In this context, it would only be necessary for an odour assessment to focus on an evaluation of fugitive odour i.e. odour emanating from the main plant building.

Odour emissions from waste reception, handling and processing will be assessed quantitatively with reference to the recently-published work by ADAS and Cranfield University on the level of odour generated by municipal waste management facilities. In this assessment, account will be taken of the design of the facility, in terms of enclosures, ventilation rates and the incorporation of a backup odour abatement system for the waste reception area. For normal operation odorous air will be used as combustion air for the high temperature oxidation units. The ES will also include recommendations for the formulation and operation of a site Odour Management Plan. The odour assessment will focus on the potential increase over any existing local odour from the proposed installation.

**Dust**

In respect of nuisance dust that could be generated by the proposed development, it is anticipated that as all vehicles delivering and despatching materials to and from the site would be covered and as all material would be handled within a fully enclosed building, nuisance dust generated during the facility’s operational phase would be minimal. In this context, it is proposed that the EIA will only assess the effects of nuisance dust in relation to the construction phase of the proposed development. A detailed qualitative assessment of the dust effects resulting from construction operations at the site will be carried out and it is proposed to adopt the same sensitive receptors agreed for the noise assessment (although as with the process emissions receptors, consultations with the County Council will aim to agree an exact scope of work for the dust and odour assessment).
The National Air Quality Archive and Kettering Borough Council Air Quality Review and Assessment reports will provide some useful information on existing background air quality in the area, although dust and odour would not be covered in any detail. The reported levels of fine particulate matter ($PM_{10}$) can be used to infer an ambient level of dust. It is therefore not considered necessary to undertake background dust monitoring around the site, since such data is not considered to be particularly informative to this assessment.

5.5 Noise

5.5.1 Baseline Conditions

The site is located adjacent to a number of existing noise sources including other commercial and industrial premises at Magnetic Park and Millbuck Industrial Estate such as O Kay Engineering, the Great Bear Distribution Ltd warehouse, Rigid Containers Ltd and Mainstream Motors. Other noise sources include the B576 (Harborough Road), the A6 and the Leicester to Bedford railway line. The current noise climate in the vicinity of the proposed site is therefore likely to be dominated by commercial and transportation related noise sources.

5.5.2 Assessment Scope

In order to assess the potential noise effects from the development, and to determine current, baseline noise levels, it is proposed to undertake noise monitoring at key locations surrounding the proposed development site. Measurement of existing noise levels due to road and rail traffic will be undertaken at key receptors surrounding the proposed development site to be agreed with the local Environmental Health Officer. It is proposed that spot measurements are also taken adjacent to industrial/commercial properties deemed to be significant sources of noise.

Noise levels will be monitored using a series of Rion NL-31 class 1 integrating sound level meters (SLMs), housed in environmental protection apparatus. It is anticipated that monitoring would commence on a Thursday afternoon/ evening and would be undertaken on a continuous basis until the following Tuesday afternoon. In this scenario the instruments would only be attended intermittently during the survey in order to verify the results and make observations regarding weather conditions, sources of significant existing noise, etc. The noise measurements would simultaneously log $L_{Aeq}$, $L_{A90}$, $L_{A10}$, $L_{Amin}$ and $L_{Amax}$, and wherever possible all measurements would be undertaken in accordance with BS 7445: Part 1:2003.

The baseline data will allow appropriate operational noise limits for the site to be determined based on the advice given in Planning Policy Guidance Note 24 Planning and Noise (1994) which describes the use of BS4142:1997 Rating Industrial Noise Affecting Mixed Residential and Industrial Areas for this type of development. Noise predictions for both the construction and operational phases of the proposed development will also be undertaken in accordance with current Government guidance (British Standard BS5228:2009: Code of Practice for Noise and Vibration Control on Construction and Open Sites, Part 1: Noise and BS4142:1997). The predictions will be based on the proposed plant complement, together with the proposed hours of working and the mitigation measures incorporated into the proposals. Noise levels from similar items of plant operating at existing sites will be used within the prediction exercise.

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5.6 Ecology

5.6.1 Baseline Conditions
There are a number of Sites of Special Scientific Interest (SSSI) within approximately 5 km of the site:

- Stoke and Bowd Lane Woods (~ 1.5 km to the north of the proposed development);
- Pipewell Woods (~ 2.7 km to the northeast); and
- Alder Wood and Meadow (~ 3.5 km to the east).

There are internationally designated areas - Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) - within 10 km of the proposed development.

The site of proposed development is not located within any statutorily or non-statutorily designated site of nature conservation value. A non-statutory site, The Plens Local Wildlife Site, a former mineral railway which has reverted to nature, is located ~ 600 m to the southeast of the site, whilst Tailby Meadow Local Nature Reserve (LNR) is located ~ 2 km to the southeast of the site.

As already discussed the site itself has recently been prepared for development and comprises primarily of recently disturbed ground which, although it supports a reasonable amount of ephemeral vegetation, is of little ecological value.

5.6.2 Assessment Scope
The ecological assessment component of the EIA will be undertaken in accordance with good practice guidance (IEEM 20067 and IEA 19958) and will be informed by the following:

- A desk study to collate/review details of protected and notable habitats and species and designated sites that are known to occur, or have previously been recorded, within the site and surrounding areas; and
- An extended Phase 1 Habitat survey of the site, based on the standard survey methodology (JNCC 20079).

The results of the Phase 1 survey will determine the need for further protected species surveys at or surrounding the site.

At this stage it is anticipated that the assessment would primarily focus on the potential effects summarised below:

• Effects of air borne emissions from the site on UK BAP habitats and the habitats and species associated with locally and nationally designated sites that are situated within a 2 km radius of the site. This assessment would be informed by dispersion modelling of the plume emitted from the stack, and comparison of predicted pollutant concentrations at designated sites with published thresholds for key habitats;

• Effects of the proposed development on Stoke and Bowd Lane Woods SSSI;

• Effects of the construction and operation of the waste facility on locally-designated, non-statutory sites situated within 2 km of the site;

• Effects of the construction and operation of the waste facility on any protected species on and in the immediate vicinity of the site;

• Effects of an increase in numbers of pest species, such as rats, gulls and corvids on birds within designated sites. It is possible that this effect could be ‘scoped-out’ once full details of the measures that would be incorporated into the scheme to minimise this effect are finalised; and

• Potential cumulative effects from other nearby developments.

Mitigation for ecological features will need to be incorporated into future development plans to meet legislative requirements for any protected species found from further survey work.

5.7 Traffic and Transport

5.7.1 Baseline Conditions

The site is located off Stoke Road via the B576 (Harborough Road) to the north of Desborough, which provides a link to the A6 to the north and subsequently the wider strategic road network via the A14 to the south. A new roundabout junction was constructed on the B576 as part of the redevelopment of land formerly known as ‘The Grange’ for industrial use, now known as Magnetic Park. An internal access road within Magnetic Park will be used to access the proposed development.

5.7.2 Transport Assessment

The Department for Transport (DfT) Guidance on Transport Assessment (GTA) document provides the necessary scope and guidance on when a TA is required in support of a proposed development in England. A TA is required where a proposed development would generate significant vehicle movements or have significant effects on existing vehicle movements. The guidance also sets out recommended size thresholds of different developments that are likely to generate significant traffic movements. The GTA document does not include a specific size threshold for waste facilities, however B2 ‘General industrial’ developments of 4 000 m² floor area are likely to require a TA. Given its likely size, a TA of the proposed Magnetic Park Energy Recovery Centre is therefore likely to be required.

The TA would be guided by the GTA document and would include early engagement with Northamptonshire County Council Highways department to identify any sections of the
proposed haulage routes that are constrained in terms of capacity, or would be subject to potential significant effects.

The likely haulage route from will be as follows:

- Right turn from Stoke Road onto the B576;
- B576 northbound to the A6;
- A6 southbound towards the A14; and
- A14 westbound towards the M6 and M1 or eastbound towards the A1 and M11.

It is reasonable to expect that the wider strategic road and motorway network has the capacity to absorb the additional traffic generated by the proposed development. It is therefore not considered necessary to evaluate the effects of the development on these parts of the wider network, notably the A6 and A14, and M1, M6 and M11 motorways. This however will be confirmed through consultation with the local Highways Authority.

The assessment of traffic effects will also focus on potential ‘pinch-points’ in the road network, i.e. the associated junctions and access including the B576 (Harborough Road)/Stoke Road roundabout. It should be noted however that this junction has been improved as part of the regeneration of ‘The Grange’ and is likely to be capable of accommodating the additional traffic from the proposed development. The TA will assess the cumulative effects on traffic of the operational waste site and nearby industrial developments, taking into account the potential for future expansion of these developments.

In order to carry out an assessment of transport effects, traffic count and accident data would be acquired from existing sources (e.g. Northamptonshire County Council, Highways Agency). Should such data prove to be inadequate, traffic counts would be undertaken. The TA will establish: current traffic flows and determine the routes and volumes of construction and operation traffic; collate Personal Injury Accidents (PIA) data; identify sensitive areas along the routes to be used by construction and operation traffic; review the final details of construction and operation programme/ timetable (inc. duration, working hours and days etc.); and the site access will also be considered to identify the need for any potential improvements. Predicted traffic generated by the development, during construction and operation, will be compared against baseline traffic flows to establish any potentially significant traffic related environmental effects that would require assessment.

5.7.3 Environmental Assessment

As well as a TA, an environmental assessment of potential traffic effects will be included within the ES. It will be carried out in accordance with the Guidelines for the Environmental Assessment of Road Traffic. The methodology refers to two rules, which delimit the scale and extent of the assessment:

- Highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); and
- Any specifically sensitive areas where traffic flows have increased by 10% or more.
Where further assessment is required this will focus on potential effects on pedestrians and other road users.

5.8 Cultural Heritage

5.8.1 Baseline Conditions
There are no designated heritage assets, such as scheduled monuments of Registered Parks & Gardens, within the site or within 2 km of the site boundary.

There are seven listed buildings within Desborough to the southeast of the site, five of which are Grade II listed, and one, the Anglican and Methodist Church of St Giles, Grade I listed. The nearest listed building to the proposed development is the Grade II listed Joseph Cheaney & Sons Boot and Shoe Factory ~ 900 m to the southeast.

5.8.2 Assessment Scope
It is proposed to undertake a data search to provide more detailed baseline information on the historic environment – both built heritage and buried archaeology – within the vicinity of the proposed development. A range of historical and technical data will be collected and analysed as part of the EIA and it is also propose to consult with relevant third party bodies. In summary the cultural heritage section of the EIA will draw on the following data sources:

- The National Monuments Record (NMR), including aerial photographs;
- Official registers of designated sites from English Heritage (including www.english-heritage.org.uk) and www.magic.gov.uk (Multi-Agency Geographic Information for the Countryside);
- Northamptonshire Historic Environment Record data; and
- Published sources.

It is also proposed to consult with the archaeology planning advisor for Kettering Borough Council. The assessment will be completed in light of the policy requirements set out in Planning Policy Statement 5: Planning for the Historic Environment, which was published in March 2010 and will take the form of a desk-based assessment supplemented by a site walkover. All work will be completed in accordance with the Institute of Field Archaeologists Standard and Guidance for Archaeological Desk-Based Assessments (2008).

5.9 Landscape and Visual Assessment

5.9.1 Context
The Landscape and Visual Assessment (LVA) essentially consists of two related assessments which look at the effects on the landscape as a whole, as well as those of potential visual receptors located in the vicinity of the site. The LVA will be conducted in accordance with the ‘Guidelines on Landscape and Visual Impact Assessment, Second Edition’ (GLVIA) produced by the Landscape Institute and the Institute of Environmental Management and Assessment.

The assessment will be prepared with reference to the following publications and guidelines:

- Ordnance Survey Maps;
- Kettering Borough Council Development Plan;
- North Northamptonshire Environmental Character & Green Infrastructure Plan;
- Character Map of England;
- The East Midlands Regional Landscape Character Assessment, April 2010;
- www.magic.gov.uk; and
- Aerial photographs.

The study area for the project will be based on a minimum 2 km radius circle, which will be centred within the application boundary.

Consultation will be undertaken with the relevant statutory and non-statutory consultees and key viewpoints and sensitive receptors agreed with the Local Planning Authority Landscape Officer.

5.9.2 Landscape

The proposed development site is situated on the northern outskirts of the town of Desborough. The site itself has been prepared for development as part of the regeneration of land known as ‘The Grange’, and contains no landscape features of note. The proposed development is therefore unlikely to result in the loss of any naturalistic landscape elements.

A review of the proposals map on the Kettering Borough Council website indicates that there are no local landscape designations that could potentially have their settings affected by the proposed development. A Country Park is proposed for land ~ 850 m to the east of the proposed development, beyond the existing Great Bear Distribution Ltd warehouse. This will be designed for casual recreation with emphasis on diverse habitat creation.

The landscape assessment will consider the potential direct and indirect effects of the proposed development on existing landscape character and patterns within the defined study area.

5.9.3 Visual

The assessment of visual effects will quantify the effect of the construction and operation (or occupation) of the proposed development on the views potentially available to key receptors within the study area. The assessment will consist of a desk study and fieldwork to identify potential visual receptors.

The assessment will include mapping of the Zone of Theoretical Visibility (ZTV) of the taller element of the proposals; specifically the top of the stack for a minimum 2 km radius, extending beyond this radius where any potentially sensitive receptors may be identified outside of this zone. Photomontages will be prepared (3 No.) of the proposed development from locations to be agreed with the local Landscape Officer. The assessment will determine the visibility of the proposed development and its effect on the identified receptors and will consider the daytime
and night-time scene and the effects of the development over the short term (at year 1 in winter) and long term (at year 15 in summer once any landscaping has established).

Visual receptors include: users of recreational landscapes/ public footpaths, bridleways and cycleways; residents; visitors; users of public sports grounds and amenity open spaces; users of public roads and railways; and people employed in Desborough. Potential receptors identified at this stage include residents of Desborough such as those around Desbeau Park, Ironwood Avenue and Braybrooke Road. Further potential receptors include users of the PRoW network in the local area including the Brampton Valley Way and Macmillan Way/ Midshires Way/ Jurassic Way long-distance footpaths to the north of the site, and users of amenity spaces such as the proposed Country Park to the east, Desborough Town Cricket Club to the northeast and Desborough Town Football Club to the south. Receptors will be finalised based on final designs for the scheme and consultation with the local authority.

5.10 Socio-economics

This section will be primarily concerned about the effect on residents and employees of Desborough including:

- Change in the local employment structure and effect on the local employment market;
- Employment opportunities and displacement;
- Increased local expenditure; and
- Effects on the ‘quality of life’ enjoyed by the local population.

The receptors to be assessed are assessed as being existing residents, future residents and local employers. The sources of information will include the relevant policies and standards of adopted planning policies in the Local Development Plan and other stakeholders where these have implications for the scoping of the EIA. The evidence base to the Core Strategy will also be utilised together with statistics provided by the NOMIS and ONS websites.

5.11 Health Impact Assessment

The general approach to assessing the risk posed to human health due to emissions from the proposed facility will follow the methodologies contained within the HMIP’s *Risk Assessment of Dioxin Releases from Municipal Waste Incineration Processes* (HMIP, 1996) and the US EPA’s *Human Health Risk Assessment Protocol (HHRAP) for Hazardous Waste Combustion Facilities* (US EPA, 2005). The impacts calculated will be compared against the Tolerable Daily Intake (TDI) recommended by the Food Standards Agency’s (FSA) Committee of Toxicity (COT).

The assessment will follow a structured approach comprising of four main steps:

- Hazard Identification;
- Dose-Response Evaluation;
- Quantification of the Exposure; and
• Risk Characterisation.

The assessment will consider the risks and potential intake of pollutants for an adult hypothetical maximum exposed individual (HMEI). The concept of a HMEI assumes that this individual:

• Lives for his/ her entire life at the location of maximum predicted ground level dioxin concentration;
• Breathes the air at this maximum concentration for his/ her entire life;
• Drinks water exposed to this maximum concentration/ deposition of dioxin for his/ her entire life;
• Eats crops grown in the soil at this location of maximum concentration/ deposition of dioxin for his/ her entire life;
• Eats meat and produce from animals grazing on vegetation grown in the soil at this location of maximum concentration/ deposition of dioxin for his/ her entire life; and
• Eats fish that have grown in a closed water body (such as a reservoir) exposed to this maximum concentration/ deposition of dioxin for his/ her entire life.

Thus, exposure of the HMEI to emitted concentrations in environmental media resulting from emissions from the plant will be assumed to be as high as theoretically possible, to the extent of being an extreme worst-case assessment.

6. Cumulative Effects

In addition to the topics identified above, due consideration must also be given to cumulative effects in the ES of the proposed development and other similar developments in the area in order to fulfil the requirements of the EIA Regulations 2011. The individual technical assessments will assess the effects based on individual receptors, e.g. in terms of the static visual effects from a viewpoint or potentially the sequential effects from a road that would be affected by the proposed development and other similar developments. Specifically, it is envisaged that the consideration of cumulative effects will be a key component of the following technical assessments:

• Landscape and visual assessment;
• Noise;
• Traffic; and
• Air quality.

A stand alone chapter of the ES will also be prepared at the end of the ES, which will reflect on the conclusions of the in-combination effects of the individual technical assessments.
7. Conclusions

The applicant would welcome the Council's comments on the proposed scope of the EIA so that any suggestions on potential mitigation and enhancement can be incorporated into the proposed development as we proceed through the EIA process.

Author: Chris Prydercher

Reviewer: Ian Cronie