

**Appendix L:**  
**EIA Scoping Report**



**Proposed Energy from Waste  
Plant  
Invergordon, Highland**

EIA Scoping Report

July 2007

**Terence O'Rourke**  
creating successful environments

# Proposed Energy from Waste Plant Invergordon

## EIA Scoping Report

*Cyclerval UK Ltd*

July 2007

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## **1. Introduction**

- 1.1 Cyclerval UK Ltd intends to submit a planning application on behalf of their Client Combined Power and Heat (Highlands) Ltd (CPH) to Highland Council for the development of an energy from waste plant (EfW) at Cromarty Firth Industrial Estate, Invergordon. The facility, capable of processing approximately 100,000 tonnes per annum (tpa) of non-hazardous waste (NHW) from the Highland region, is planned to become operational in late 2010.
- 1.2 The proposal for the EfW falls within the types of developments listed under Schedule 1 (10) of the Environmental Impact Assessment (Scotland) Regulations 1999 (hereafter referred to as the 'Regulations'). Environmental impact assessment (EIA) is required in every case to support a planning application for waste disposal installations for the incineration of non-hazardous waste with a capacity exceeding 100 tonnes per day.
- 1.3 This report represents the first stage of the EIA process (scoping), which outlines the preliminary scope, or key issues, that need to be examined in the EIA. A formal scoping opinion is being sought from Highland Council in accordance with procedures outlined in Regulation 10 of the Regulations, through the consultation with various organisations, including Highland Council and other statutory consultees. Responses to this report will help to define what information will be included in the final environmental statement (ES). Comments will be given due consideration and the scope of the EIA amended appropriately.
- 1.4 Terence O'Rourke has prepared the scoping report for Cyclerval UK Ltd. This scoping report includes a brief description of the site and the proposed development, followed by information on the need for an EIA and the scoping process undertaken. The results of the scoping process are set out along with provisional conclusions on the nature of the primary and secondary issues to be addressed during the formal assessment process, and any issues that have been scoped out.

## **2. Site description and history**

- 2.1 The proposed EfW would be situated on land (approx 1.8 hectares) at Cromarty Firth Industrial Estate, which is located on the northeastern edge of the town of Invergordon, approximately 25 km north of Inverness (see figure 1).
- 2.2 The facility will be constructed on an area of brownfield land that has been identified for industrial development in the Ross and Cromarty East Local Plan (February 2007).
- 2.3 The site itself is not covered by any national, regional or locally important environmental designations. Within two kilometres of the proposed site is the Cromarty Firth, which is notified at national level as a site of special

scientific interest (SSSI) and designated at European level as a special area of conservation (SAC).

### **Planning policy context**

2.4 At national level, the key policy documents include:

- NPPG10 Planning and Waste Management, 1996
- SPP10 Planning for Waste Management (consultation draft) due 2007
- SPP6 Renewable Energy, 2007

#### ***NPPG10 – Planning and Waste Management***

2.5 The current national policy on Planning and Waste Management is NPPG10. NPPG10 highlights five key principles:

- The proximity principle
- Regional self sufficiency
- The precautionary principle
- The polluter pays
- Best practicable environmental option (BPEO)

2.6 The guidance also suggests that new waste incinerators that also recover energy from waste may in time become more cost effective, with tighter pollution control for new sites mitigating against the use of existing incinerators for most controlled waste.

#### ***SPP10 – Planning for Waste Management***

2.7 A draft SPP10 is currently being consulted on, and draws attention to sustainable development principles such as supporting the waste hierarchy (reduce, reuse, recycle), reducing the reliance on landfill and the proximity principle in planning for waste management.

2.8 SPP10 states that although the Area Waste Plan is a material consideration in planning decisions, it is the development plan that provides a spatial dimension and the location of waste facilities. In assessing applications, regard should be had for the footprint of the proposal, the layout, appearance, design and operational features. Working with the community and public participation are also increasingly important features in waste management.

2.9 With specific regard to EfW, plants must comply with Waste Incineration (Scotland) Regulations 2003, which implement the Waste Incineration Directive.

### ***SPP6 – Renewable Energy***

- 2.10 SPP6 also highlights the national drive to reduce the amount of waste going to landfill. It reiterates the National Waste Plan, which states that waste should only be considered for energy recovery once prevention, including reuse, and recycling and composting options have been realised.
- 2.11 SPP6 confirms that local authorities should refer to the Area Waste Plan. The location of new EfW facilities will be dependent on the source of waste used and the guidance suggests that these are likely to be more appropriately developed within industrial/brownfield sites close to the electricity grid or other potential users.
- 2.12 The current development plan covering the site comprises:
- Highland Structure Plan, 2001
  - Ross & Cromarty East Local Plan, adopted February 2007

The key policies from these two documents are summarised below.

### ***Highland Structure Plan***

- 2.13 Policy B1, Industrial and Business Sites, states that local plans will safeguard and support a portfolio of industrial sites including the Cromarty Firth Industrial Park which is considered a strategic industrial and business development site.
- 2.14 The Council supports the utilisation of the region's distributed renewable energy resource (Policy E1 Distributed renewable energy developments). Proposals will be assessed against the provisions of the General Strategic Policies:
- Policy G1 Conformity with strategy
  - Policy G2 Design for sustainability
  - Policy G3 Impact assessments
  - Policy G4 Community benefit and commitment
  - Policy G5 Integration of environmental and community interests
  - Policy G6 Conservation and promotion of the Highland heritage
  - Policy G7 Partnerships and community planning
  - Policy G8 Precautionary principle
- 2.15 The Council will support the development of centralised renewable energy facilities (Policy E7), including energy from waste, provided that proposals conform with Strategic Policy G2 (Design for sustainability) and that:
- Schemes are compatible with existing land uses
  - Traffic movements can be satisfactorily accommodated
  - Methods of disposal of any by-products are acceptable

- Satisfactory connections to the grid or other utiliser are provided
- 2.16 Developments that enable locally generated non-nuclear waste to be reused or recycled will be supported where these are both viable and sustainable (Policy W3 Reuse and recycling).
- 2.17 With regards to air quality, the Council will work closely with partner agencies to ensure that high standards of air quality are maintained within the Highland area. Where appropriate, new developments will be required to submit an environmental assessment, which addresses the subject of air pollution (Policy W12).

### ***Ross and Cromarty East Local Plan***

- 2.18 Proposals for waste management facilities will be assessed in the context of the policies set out in the Highland Structure Plan and the Local Plan and must demonstrate conformity with National and Area Waste Plans.
- 2.19 The local plan identifies the sites for sorting, processing (except EfW) and transfer of Municipal Solid Waste that are required to implement the Area Waste Plan, and these will be safeguarded for this purpose. Proposals for other waste management facilities, including for commercial and industrial waste, will be assessed against policies in the Structure Plan, and in this local plan, guided by the Area Waste Plan.
- 2.20 The land at Cromarty Firth Industrial Estate is allocated within the local plan for mixed industrial uses and a small area of the eastern part of this allocation has also been safeguarded for a waste management site.
- 2.21 Two of the key issues for the local plan area include renewable energy and waste management. In terms of renewable energy, the local plan suggests that other energy efficient technologies may also be of benefit including waste to energy and biomass/wood fuel plants, wave/tidal, offshore wind generation and small-scale hydro schemes, subject to detailed environmental issues being satisfactorily addressed.
- 2.22 The local plan states that over the 20-year period of the Plan, Energy from Waste will be introduced from 2010 at a rate of 27%. The Inner Moray Firth area will require an EfW Plant (from 2010 onwards) and a new landfill site for those wastes from which no further value can be obtained.
- 2.23 Background Policies, BP1 – BP4 state that the Council will favour development subject to a number of factors including siting, design, adverse effects, social / economic benefits and overriding public interest.
- 2.24 Other plans of significance are:
- Highland Area Waste Plan, 2003
  - Highland Renewable Energy Strategy and Planning Guidelines, 2006

***Highland Area Waste Plan***

- 2.25 The Highland Area Waste Plan outlines strategic vision for waste management in the Highlands over the next 20 years. This plan also highlights the requirement for an EfW plant in the Inner Moray Firth as outlined in the local plan.

***Highland Renewable Energy Strategy and Planning Guidelines***

- 2.26 The strategy and guidelines provide a detailed set of criteria for renewable energy developments, including specific detailed planning requirements for bio-energy development. Highland Council is supportive of centralised renewable energy facilities subject to the management and disposal of materials and by-products and mitigation of environmental effects.
- 2.27 Highland Renewable Energy Strategy and Planning Guidelines 2006, shows there is a major opportunity for EfW facilities in the Inner Moray Firth. The renewable energy strategy supports EfW facilities so long as local nuisance issues are dealt with.

### 3. Development proposals

3.1 The project for which planning permission will be sought will comprise the following EfW facility elements to be constructed on the site:

- 
- Unloading hall and storage bunker
- Waste handling system and feed hopper
- Oscillating kiln furnace
- Bottom ash handling system including ferrous metals for recycling
- Boiler, steam turbine and air condenser
- Heat export system (closed loop steam / hot water pipes)
- Transformers and cables to connect electricity generated to local user or to the grid, and to supply electricity to the plant itself
- Flue gas treatment system
- Control room, offices and mess facilities
- Stack
- Clinker treatment and maturation area
- Lagoons for surface water, and industrial water
- Condensers

3.2 All of the above will be contained within a new industrial building with a footprint of approximately 80 metres by 50 metres.

3.3 The site will also contain an internal roads system, parking areas and landscaping.

3.4 The building will be divided into different sections dealing with unloading, combustion and other operations. There will be an internal wall between the unloading hall/bunker and the combustion area.

3.5 The fully enclosed unloading hall will be accessed by refuse collection vehicles (RCVs) and bulk-loaded articulated vehicles, which will unload household waste into the bunker. Other lorry movements to and from the site will comprise ash and scrap removal, boiler water treatment and flue gas treatment chemical deliveries, and bottom ash removal.

3.6 The unloading hall roller shutter doors will be kept in a closed position at all times, except when a vehicle is entering or leaving the unloading hall. Process air will be drawn from the unloading hall, thus keeping this area slightly below external atmospheric pressure in order to ensure that air does not escape through the unloading hall doors. This extracted air will form the primary air feed supply to the furnace, enabling combustion of odourous gases.

3.7 Waste will be removed from the bunker into the feed hopper by a remotely operated claw action crane. The crane operator will be housed in an elevated control room, which will have an internal window overlooking the unloading

hall and bunker. The same operator will also have closed circuit television (CCTV) sight of other plant areas, and direct sight of the weighbridge at the entrance to the plant.

- 3.8 The feed hopper will take waste through the internal wall and into the combustion unit, where it will be combusted at temperatures in excess of 850° Celsius. The furnace will be an oscillating kiln, which will ensure very good mixing of the waste and complete combustion. Residence time in the kiln will be approximately 70 minutes.
- 3.9 Volume reduction by incineration will typically be over 90%, with a decrease in weight of approximately 75% when bottom ash is compared to raw waste. Bottom ash will be inert and dense.
- 3.10 The bottom ash will be removed by an ash conveyor and fed through an electromagnetic field, which will separate out ferrous scrap for recycling. This will further reduce the weight of ash by approximately 4%, when compared to the raw waste.
- 3.11 Bottom ash will be stored for a short period and removed from the site by covered lorry. It will either be recycled as an aggregate (for example as a capping layer for road construction) or will be landfilled in an appropriately licensed site.
- 3.12 Hot gases from the furnace will be used via a specially designed boiler to create steam to drive a turbine generator set. Steam extracted from the turbine may be transferred to the nearby industrial user via a closed steam loop pipeline system. Any remaining heat will be removed by air condensers and the resulting water will be returned to the boiler as condensate.
- 3.13 Flue gases exiting the boiler will be subject to a variety of chemical and physical treatments to reduce pollutants such as oxides of sulphur (SO<sub>x</sub>), hydrogen chloride, hydrogen fluoride, cadmium, mercury, other metals, dioxins and particulates to stringent European and domestic standards (the Waste Incineration Directive 2000/76/EC and Waste Incineration (Scotland) Regulations 2003). Other processes will reduce levels of oxides of nitrogen (NO<sub>x</sub>) to the same standards. After treatment, flue gases will be released to the atmosphere via the stack. The stack will contain sophisticated continuous monitoring equipment to ensure that the flue gas cleaning processes are working correctly.
- 3.14 Gas treatment will create further solid residues in the form of 'flue gas treatment residue' (FGT residue), which will typically be around 4% by weight of the raw waste input. FGT residue will be precipitated out of the flue gas by a sophisticated filter and chemical scrubbing processes. This material is currently classified as hazardous waste and will either be sent to an appropriately licensed landfill site or may in future be recycled as a raw material for the chemical industry.

- 3.15 There will be no emissions to controlled waters as the steam and water systems used will be closed loops. Water used in toilets will be discharged to a cess pit or foul sewer and water from showers and basins will be discharged to the industrial water lagoon. The bottom ash cooling system water will be recycled via a closed loop settlement pond. The current intention is to retain rainwater falling on the site for use within the process.
- 3.16 The principal fuel source in the plant will be commercial and domestic non-hazardous waste. During normal operations no other fuel will be burned. However, the furnace will be fitted with gas burners to ‘cure’ the refractory lining on first start-up, to provide the initial and maintaining heat during subsequent start up and shut downs and to assist combustion if the furnace temperature should ever drop towards the minimum required by SEPA. Gas may also be used to maintain heat and electricity supplies during shut-down periods.

#### **4. Environmental impact assessment (EIA)**

##### **Background**

- 4.1 The Regulations apply to projects which require planning permission in response to an application under Part III of the Town and Country Planning (Scotland) Act 1997 (Part II of the Regulations) and in order to support a specified range of major development proposals. EIA is defined in the Scottish Executive Circular 15/99 as:

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

- 4.2 The information gathered by a developer and put forward in conjunction with a planning application is referred to as an environmental statement (ES). Information that must be included within the ES is defined in Schedule 4, Part II of the Regulations (reproduced in Appendix 1). In addition, Schedule 4, Part I sets out further information that the ES may include by way of explanation or amplification (Appendix 1).
- 4.3 The Regulations define the type and size of developments where EIA is required. Projects are classified as either Schedule 1 or Schedule 2 projects:
- i. Schedule 1 development - development of a type listed in Schedule 1 always requires EIA
  - ii. Schedule 2 development - development listed in Schedule 2 requires an EIA if it is likely to have significant effects on the environment, by virtue of factors such as its size, nature or location. Exclusive and indicative

thresholds / criteria for the purpose of classifying development as Schedule 2 development are set out in the Regulations and Circular 15/99 respectively.

#### **Determining the need for EIA**

- 4.4 The EIA Regulations state in subsection 10 of Schedule 1 that a non-hazardous waste incinerator requires EIA in every case if its capacity exceeds 100 tonnes of waste per day. The EfW proposed for Invergordon will be designed to process 12.5 tonnes of waste per hour. Hence, the maximum designed operating capacity will be 300 tonnes per day.

## 5. Scoping an environmental impact assessment

### Introduction

5.1 Scoping is the first stage of an EIA and is the key to a good quality environmental statement. The main function of the exercise is to determine:

- The nature / characteristics of the development
- The alternatives under consideration
- The breadth of the EIA
- The broad range and complexity of key issues
- The extent to which each environmental topic area needs to be investigated

5.2 Through determining the above, the EIA is focussed and issues are subject to assessment at an appropriate level. If the scope of an EIA is defined too narrowly some critical area of uncertainty or an adverse impact may emerge late in the process. If scoping is too loosely defined, then much time, effort and money can be spent on unnecessary detail.

5.3 The scoping process should therefore identify the important environmental factors which are most likely to be affected by the scheme, so that all potential effects are taken into account and that only those which are potentially significant are examined in more detail.

### Scoping methodology

5.4 To define the scope of the EIA, the proposal and the site were examined in detail to identify the key issues and sensitivities for consideration. This was the initial stage of the scoping exercise and involved a site visit and a 'scoping' meeting with key members of the project team. A checklist of potential environmental issues was used (Appendix 1) to aid the process. This checklist is based on guidance included in the '*Preparation of environmental statements for planning projects that require environmental assessment - a good practice guide*' (Department of Environment, 1995) and it covers all aspects of the environment referred to in the Regulations.

5.5 Once the issues and sensitivities of the proposal and the site were identified, their level of potential significance was determined. The significance of the issues was assessed by comparing the magnitude of the likely changes (classified as large, medium, small or negligible), to the sensitivity of the receptors (classified as high, medium, low or negligible). The overall significance classifications are primary, secondary and none (see Appendix 2).

5.6 By examining the significance of every issue and sensitivity, the overall ranking of each environment topic (eg air quality, community and social effects, and traffic and transport) was determined. Each environmental topic

was ranked as a primary or secondary issue. Issues deemed to be of negligible importance to the development are proposed to be scoped out, and will not be covered in the EIA. This ranking helps to determine the type and level of detail of the specialist studies required for the EIA.

- 5.7 The results of the scoping exercise are summarised in the scoping tables in Section 6. The tables show the potential issues and their likely significance. The EIA will focus on the primary issues and to a lesser extent on the secondary issues.

### **Consultation exercise**

- 5.8 This scoping report has been produced in order to present the findings of the scoping exercise to Highland Council and interested consultees, and to prompt discussion and agreement over the nature and significance of the likely environmental implications of the proposals.
- 5.9 In accordance with the Regulations, Highland Council will undertake consultations on this scoping report and then provide Cyclerval on behalf of CPH with a scoping opinion. Consultation will be with organisations set out in the Regulations as a minimum (statutory consultees), along with any other organisations considered relevant by Highland Council. A period of five weeks is allowed for responses.
- 5.10 Responses from the consultees will ensure that the issues considered in the ES are comprehensive and are given the correct degree of emphasis. A list of potential consultees is included in Appendix 3.

### **General structure of the ES**

- 5.11 The proposed structure of the ES is shown below. The document will be divided into two main sections. Part one (chapters 1-5) will provide the background to the development proposals for which planning permission is being sought, and the details of the application site, and will describe the development proposals and highlight the environmental topic areas identified by the scoping process as likely to result in significant environmental effects.
- 5.12 Part two (chapters 6 to 15) will set out the potential environmental effects of the proposed development and highlights proposed mitigation measures which need to be employed to reduce the overall environmental effects of the proposals. The environmental topic areas identified by the scoping process for the Invergordon EfW proposals, likely to result in significant environmental effects, are detailed in the ES structure below. A glossary will be included in the ES to explain essential terminology used in the text.
- 5.13 The ES will include a non-technical summary (NTS), which will provide a summary of the EIA process and ES in non-specialist language. This is aimed at a wide audience and will also be available as a separately bound document to ensure a widespread circulation.

***Proposed structure of the ES***

Non-technical summary

1. Introduction
2. Site description
3. Development proposals
4. Alternatives
5. Defining the issues

*Other chapters (order not confirmed as yet)*

6. Air quality
  7. Community and social effects
  8. Cultural heritage
  9. Ground conditions
  10. Hydrology and water quality
  11. Landscape and visual effects
  12. Natural heritage
  13. Noise and vibration
  14. Traffic and transport
  15. Waste
- Glossary

**EIA methodology**

- 5.14 The assessment will examine the construction and operational effects of the proposals for each topic area. The guidelines and methods used in determining the scale and significance of any impacts, together with the basis on which predictions have been made, will be identified in each chapter of the environmental statement.
- 5.15 Evaluation of the significance of an environmental effect is an essential part of the EIA process. The level of significance determines the resources that should be deployed in avoiding or mitigating an adverse effect, or identifying the actual value of a positive effect. It is the combined significance of the mitigated effects that determine the overall environmental acceptability of a proposal.
- 5.16 The significance of effects in the ES will be determined by the interaction of two factors: the first is the value, importance or sensitivity of the environmental receptor or resource being affected; the second, is the scale of magnitude, or severity of the impact or change. Criteria have been developed by Terence O'Rourke to determine the sensitivity of a receptor and the magnitude of change for each environmental topic.
- 5.17 Account will also be taken of timescale, permanence and whether the effects are adverse or beneficial. Where significant adverse environmental effects

are identified, mitigation measures will be proposed where possible: these aim to either alleviate the adverse effects, or reduce their significance. The residual effects remaining after mitigation will also be assessed and summarised in the ES.

### **Alternatives**

- 5.18 The Regulations provide detailed guidance on the need for and content of EIA. With regards to alternatives, Schedule 4 (Part II) of the Regulations states that an ES should include:

*“An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects”.*

- 5.19 An alternative sites assessment will be included within the planning application, and those alternatives considered will be reported within the ES with respect to their potential environmental effects.

### **Cumulative effects**

- 5.20 The EIA will also consider the cumulative effects of the proposed EfW and other proposed developments in Invergordon and the surrounding area during the construction and operational phases of the project. The potential cumulative effects of issues such as traffic, emissions to air and visual impact are considered to be of particular importance. The scoping process provides the opportunity for consultees to make the applicant aware of any other developments that may be relevant to the EIA process.

## 6 Results of scoping

- 6.1 The environmental issues that have been identified as being likely to require investigation and evaluation are set out below, alongside the relevant significance tables. In advance of conclusions regarding the respective significance of each issue, these are considered in alphabetical order.

### **Air quality and climate**

- 6.2 Under well-controlled combustion conditions, the principal emissions from an EfW process are combustion products, including oxides of nitrogen and carbon dioxide. Whilst the release of carbon dioxide is of concern in the context of global climate change, and its minimisation will be sought in accordance with Government objectives, it is those emissions that have the potential to give rise to human health effects that are primarily considered at a local level.
- 6.3 Emissions would be controlled and regulated by the Scottish Environmental Protection Agency (SEPA) through the implementation of the Pollution Prevention and Control (PPC) regime.
- 6.4 The baseline conditions in the vicinity of the proposed development will be determined through reference to available information obtained from Highland Council, available national datasets and primary monitoring.
- 6.5 An initial review of the available data has suggested that there is not a substantial amount available at a local level that could be used within the EIA, and hence site-specific air quality monitoring will be required. The scale and nature of monitoring required will be agreed with Highland Council and SEPA, as these data will also form an important part of the application for PPC consent for the site. Potential residual impacts from both primary and secondary emissions will be assessed in detail against relevant national standards and guidelines utilising computer dispersion modelling in consultation with SEPA. Sensitive receptor locations will be identified. A review of emissions from other industrial and traffic sources in the area will be undertaken to examine the potential for cumulative impacts within a 10 km radius of the site.
- 6.6 As is the case for all EfW proposals, modelling of predicted emissions from the proposed development will form a significant component of the ES, the PPC application and the Health Risk Assessment. In addition to the process emissions, the assessment will predict and model changes in road traffic during the construction and post-construction phases (see further information on traffic and transport below) and its impact on air quality within the vicinity of access routes close to the site.
- 6.7 For short-term (construction) impacts, it is proposed to undertake a qualitative approach based on the proposed Schedule of Works and relevant information on Construction Methods. Reference will be made to

Construction Industry Research Information Association Guidance and latest Building Research Establishment research on appropriate mitigation measures for minimising the likelihood of nuisance occurring through elevated levels of dust arising from construction activities.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in environmental
						Importance/ Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
AIR AND CLIMATE	Odour	Release of odorous substances	Waste loading/storing /chimney	Air	Local population	Medium - High	Medium	Secondary	✓
	Local air quality	Change in local air quality and impact on human health due to emissions of pollutants, primarily NO <sub>2</sub> , NO <sub>x</sub> , SO <sub>2</sub> , PM <sub>10</sub> , heavy metals, dioxins & furans	Emissions from plant	Air	Local population flora and fauna	High	Medium	Primary	✓
		Traffic emissions (NO <sub>2</sub> , PM <sub>10</sub> )	Operation /Construction	Air	Local population and flora / fauna	High	Medium	Primary	✓
		Cumulative traffic emissions with other developments	Operation / construction traffic	Air	Local population and flora / fauna	High	Medium	Primary	✓
		Plant breakdown/shutdown	Plant operations	Air	Local population and flora and fauna	High	High	Primary	✓
	Global air quality / climate	Change in CO <sub>2</sub> production	Traffic and Efw operation	Air	Troposphere / directly humans flora/fauna	High	Small	Secondary	✓
		Replacement of use of fossil fuels in electricity generation/energy	Efw	Air	Troposphere/ directly humans	High	Small	Secondary	✓
	Particles and dust	Deposition/inhalation of wind blown dust	Construction and Operation	Air	Local population	High	Medium	Primary	✓

(1) Categories = High, Medium, Low, Negligible.

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

### **Community and social effects**

- 6.8 The EfW will be located within the Cromarty Firth Industrial Estate and will not result in significant population changes, so there is a low likelihood of there being any significant effects on demographics or demand for local services.
- 6.9 The EfW development will result in both temporary and permanent employment in the area for local people. There will be a temporary increase in employment of workers during the site preparation and construction phases. Approximately 25 new jobs will be directly created by the EfW associated with the general operation and maintenance of the plant. The project also has potential for increased revenue for the local community primarily through indirect effects (local spending) and potential financial benefits associated with energy recovery.
- 6.10 The principal areas to be covered in the assessment will include impacts on economic activities and tourism, community facilities, and risk to public health. The assessment will comprise a desk-based study and consultations with relevant organisations to obtain data on the local population and economy and the impacts of comparable schemes. It will examine the potential impacts of the proposed development on present and future businesses and residential development locally, and will consider future employment and socio-economic impacts for the local and wider community. The specific community impacts of associated traffic, noise and air quality assessment (evaluation in other sections of the ES) will be summarised.
- 6.11 The air quality assessment will also include a health risk assessment that will consider the potential health effects of emissions from the plant. The assessment will take into account the current knowledge, present technology, the European Air Quality Limit values plus the limitation and necessary restrictions imposed by legislation, SEPA and the PPC permit that are applicable to such a proposal. It will also review recent studies and Government advice concerning the potential health effects of incineration. Public perception has also been identified as a material consideration to be reviewed in the ES.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in Environmental
						Importance/Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
COMMUNITY AND SOCIAL EFFECTS	Employment	Provision of employment	Construction of the EfW Operation of the EfW	-	Construction workers Plant operators/drivers	Medium Medium	Medium Small	Primary Secondary	✓ ✓
	Lifestyle local amenities	Improved household waste management practices	Recovery of energy from waste by EfW process	-	Households within the LPA area	Low	Small	Secondary	✓
	Education, health and other local services	Effects on local facilities and amenities	Presence of EfW	-	Local population	High	Small	Primary	✓
	Public health and safety	Emissions from EfW and traffic Highway safety	Construction and operation	Air	Local population	High	Medium	Primary	✓
		Effect on local businesses	Construction and operation	-	Drivers, pedestrians and cyclists Local businesses and agricultural activities	High	Small	Secondary	✓
	Economy	Influence of temporary construction on population and spending on local services Generation of renewable energy for use by industry and transfer to local grid	Construction Operation	-	Local businesses, shops, restaurants and temporary accommodation Local industry and wider population	Medium Medium	Small Small	Secondary Secondary	✓ ✓

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in environmental
						Importance/ Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
	Economy	Decrease in house prices and commercial investment	Construction / operation	-	Local population, home owners and businesses	High	Small	Secondary	✓

- (1) Categories = High, Medium, Low, Negligible.
- (2) Categories = Large, Medium, Small, Negligible.
- (3) Categories = Primary, Secondary, Uncertain, None.

## Cultural heritage

- 6.12 The assessment of cultural heritage considers both buried archaeology and built heritage (eg Scheduled Monuments and Listed Buildings). The proposed EfW site is located on a brownfield site, within an industrial context and hence there is potential for any buried archaeology to have been previously disturbed or destroyed. The cultural heritage assessment in the ES will, however, need to identify any areas of archaeological potential and listed structures to enable assessment of the potential effects of the proposed development on such features, both directly and indirectly, in terms of setting
- 6.13 Owing to the scale of the proposed EfW and its previously developed setting, the assessment of cultural heritage interest and impact would be initially undertaken as a detailed desktop survey that will identify all known archaeological and historical sites within the vicinity of the site and wider area using the Sites and Monuments Record. Other published sources will also be used, including aerial photographs, information from Historic Scotland and information held by Highland Council. The desk study will also draw together information from any previous or proposed site investigations to determine whether there are any archaeological deposits and their significance.
- 6.14 An initial desktop search has been undertaken, including the Historic Scotland ([www.pastmap.org.uk](http://www.pastmap.org.uk)) and Highland Council ([www.ambaile.org.uk](http://www.ambaile.org.uk)) websites. Protected sites within the vicinity of the site are shown on figure 2. There are five SAMs within 5 km of the site:
- Newhall Point Chapel and burial ground 3 km to the south of the site, across the Cromarty Firth
  - Clach a'Mheirlich symbol stone, just over 3 km to the southwest of the site
  - St Michael's Church, 4.5 km to the south of the site, across the Cromarty Firth
  - Liath Cairn, Obsdale, 4.5 km west of the site
  - St Ninian's Chapel, Nonaklin, 5 km west of the site
- 6.15 The relative separation between the proposed development and the identified SAMs is such that it is unlikely that the EfW would adversely affect their setting. Given the proposed depth of the excavations for the waste bunker and likely construction of the EfW there is potential to encounter buried archaeology. The setting of the scheduled and unscheduled archaeological sites within the zone of influence of the EfW will be defined within the assessment. The landscape and visual assessment section of the ES will also highlight any issues associated with listed buildings and conservation areas that may be affected.
- 6.16 As can be seen on figure 2, there are no currently designated conservation areas within 3 km of the site, and there are no registered historic parks or gardens that will be affected indirectly by changes to their historic landscape

setting. In the ES, there will be appropriate cross referencing to integrate results from the landscape and visual, and noise and vibration assessments to ensure setting issues on and affected listed buildings are properly considered. Appropriate mitigation measures will be recommended to minimise unavoidable adverse effects.

- 6.17 The results of the desk study, walkover assessment and consultation with Highland Council (as the competent authority), regarding the predicted impacts will be used to evaluate any further requirement for more detailed assessment of discrete areas of the site, potentially involving evaluation or geophysical investigation to inform the likely impact of the proposals.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in
						Importance/ Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
CULTURAL HERITAGE	Historical setting	Change to the historical setting of Listed Buildings	Presence of development / construction activities / traffic	-	Cultural / historical setting	Medium	Small	Secondary	✓
	Archaeology	Destruction of unidentified archaeological finds	Construction	-	Archaeological finds	Low - High	Small to Large	Uncertain	✓

(1) Categories = High, Medium, Low, Negligible.

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

### **Land and contamination**

- 6.18 The proposed EfW site is brownfield and, in common with many such sites, has the potential for existing contamination. Development of the site, including ground clearance and excavation, has the potential to bring receptors into contact with contaminants, and activities such as piling and excavation for the waste bunker present potential for the mobilisation of contaminants and creation of pathways, thus completing a pollutant linkage.
- 6.19 A desk study and site walkover would be undertaken in the first instance to determine the historical use of the site and its surroundings regarding the potential for contamination. This desk study would include a review of the geology and hydrogeology on and around the site, as well as of any previous site investigations available from adjacent sites. The culmination of the desk study will be a preliminary risk assessment and development of a conceptual model for the site. The findings of the desk study would be discussed with the Highland Council.
- 6.20 In the event that intrusive investigation and analysis is required, the specification should ensure that there is appropriate information as required for the PPC application, but it is envisaged that this work could be targeted to a low-density grid across the site and investigation of potential on-site sources of contamination. This investigation would be reported through a Land Quality Statement, and where necessary appropriate risk assessments (ie groundwater and human health).

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in
						Importance/Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
<b>LAND AND CONTAMINATION</b>	Geology / geomorphology	Changes to structural stability, erosion and deposition.	Piling, drilling and laying of foundations, earth moving operations, introduction of hardstanding areas	-	Soils, geology, geomorphology and hydrology. Construction workers.	Medium to High	Small	Primary / Secondary	✓
	Ground contamination	Storage of chemicals, waste and ash, leaks of potential contaminants	Construction/ Operation	Soils and water	Soils, hydrology and groundwater	Medium	Small	Secondary	✓

(1) Categories = High, Medium, Low, Negligible.

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

### **Hydrology and water quality**

- 6.21 The main body of the site is not within a tidal or fluvial flood plain and there are no major surface water features on the site or within its vicinity. The Cromarty Firth Industrial Estate is drained by a network of storm drains and a pumping system. All surface water drainage is collected in a sump before being pumped and eventually discharged into the Cromarty Firth.
- 6.22 There are no natural watercourses within the vicinity, but there are a number of east to west running man-made ditches in the surrounding agricultural land. These ditches drain to the Rosskeen Burn, which then discharges into the Cromarty Firth and Rosskeen Bridge, west of Invergordon, approximately 2 km from the site.
- 6.23 There will be no anticipated effluent releases to controlled waters from the EfW plant operations, and there will be no abstractions from local watercourses for the process. The plant will also be designed to prevent any contaminated runoff affecting either the ground or surface waters.
- 6.24 During the construction phase, site preparation activities such as earth moving have the potential to result in soil erosion and subsequent increased sedimentation in adjacent drains and nearby watercourses. The use of construction plant and machinery also presents the potential for direct contamination due to spills and leaks of hydrocarbons, and indirectly through the mobilisation of any existing contaminants. The majority of the proposed site is currently impermeable and hence the potential increase in surface runoff or reduction in infiltration is not considered to be significant.
- 6.25 Once the EfW is operational, use of water and wastewater will be carefully controlled through closed-loop systems and settlement lagoons respectively. No discharges from the site are proposed at this stage, with clean rainwater being re-used within the site. The wastes, ash residues, fuels, lubricants and other chemicals stored on site could also be a potential hazard to soil and water quality. However, by adopting correct site management policies and adherence to water quality guidance and regulations, the likelihood of spillage or leakages is considered to be very small.
- 6.26 Appropriate desk-based assessment will be undertaken to investigate the existing hydrological and hydro-geological regimes, and water quality conditions. If an intrusive site investigation is required for the site, this desk-based information may be supplemented with information from any boreholes installed on the site. An assessment will be carried out of the potential impacts on water quality and resources arising during construction and operation of the EfW and associated highways works. This will include effects from potential changes in groundwater recharge, groundwater and surface water flows and quality that may result from the construction and EfW activities, and the presence of the new hardstanding.

- 6.27 The future management of surface water and foul drainage will be explained within the ES, along with the predicted demand for water by the EfW process and opportunities for reuse or recycling of water. Measures to prevent erosion and sedimentation of any watercourses and fugitive emissions during construction will be described where appropriate and potential for any residual impacts will be highlighted. The general approach will be to ensure that any negative impacts to watercourses or groundwater are minimised through best practice and in agreement with SEPA prior to construction. These will be implemented through a Code of Construction Practice to be implemented by the selected contractor.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in
						Importance/Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
HYDROLOGY AND WATER QUALITY	Surface water hydrology	Changes to land drainage / runoff regime, river flow	Presence of roof and hardstanding, drainage systems		Surface watercourses	Medium	Small	Secondary	✓
	Groundwater hydrology	Reduced groundwater recharge and changes to groundwater infiltration rates.	Underground piling and foundation structures / dewatering operations during construction. Presence of underground structures	Infiltration	Groundwater abstractor and surface watercourses	Medium	Small	Secondary	✓
	Surface water quality	Risk of pollution through leaks and spills from stored chemicals, waste materials and residues	Construction/operation	Run off	Surface watercourses	Medium	Small	Secondary	✓
	Groundwater quality	Mobilisation of contaminants / silt during clean up, site preparation and excavations	Construction/Operation	Infiltration	Groundwater	Medium	Small	Secondary	✓

(1) Categories = High, Medium, Low, Negligible.

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

### **Landscape and visual effects**

- 6.28 The site and the immediate area are not covered by any national, regional or locally important landscape designations. Designated landscapes within the larger area are shown on figure 2. Whilst the proposed site is in a setting of predominantly industrial character, this area of Invergordon is likely to be visible from the higher ground to the north of Alness and from the south across the Cromarty Firth.
- 6.29 The EfW will be located adjacent to the existing prominent industrial development, which includes structures that are of a similar scale to the proposed EfW.
- 6.30 The EfW building will be designed to produce the minimum size required to house the internal plant and reduce the mass of the structure within the landscape. It should be noted that the stack height will be dictated by the requirements of local emissions characteristics and relevant threshold concentrations but will be discussed in landscape and visual terms and opportunities to minimise and mitigate any impacts arising will be determined and evaluated.
- 6.31 An assessment of the site and the surrounding area will be undertaken to define the landscape character and visibility of the site and its surroundings with reference to Scottish Natural Heritage's *'Inner Moray Firth Landscape Character Assessment'* (1997) and in accordance with the Landscape Institute and Institute of Environmental Management and Assessment publication *'Guidelines for Landscape and Visual Impact Assessment Second Edition'* (2002).
- 6.32 The visual assessment will identify the extent of visibility in the surrounding landscape and any potential change in the quality of views for visual receptors. An appropriate maximum distance from which to assess the visual impact will be agreed with Highland Council and Scottish Natural Heritage following a site visit and consultation. The impact of the proposals on the landscape resource and views around the site will be described and evaluated.
- 6.33 The assessment will be undertaken using a variety of techniques, including defining the zone of visual influence (ZVI), the area that will potentially be affected by views of the proposal through a combination of desk studies, field observations (photographs and field descriptions), computer modelling, and wireframe/photomontage studies. Viewpoints will be selected and agreed with statutory consultees that will be representative of the different receptor groups, including local residents, and users of the local road network or public rights of way. The assessment will also include any effects of lighting on night time views from the surrounding receptors, and impacts of any off site highway improvement works should they be required.
- 6.34 The landscape assessment will consider the intrinsic nature, quality and sensitivity of the landscape of the site and surrounding area, and its relative

importance as expressed through the respective landscape designations. The assessment will evaluate the potential magnitude of change embodied in the EfW proposal in relation to the sensitivity of the respective character areas. The historic and cultural setting will also be addressed where appropriate and cross-referenced with the cultural heritage chapter of the ES.

- 6.35 The design of the proposed plant will be sensitive to the surrounding landscape quality and the resulting mitigation measures from this assessment will be proposed to ensure that it is integrated within the overall context of the site, and respects existing landscape features. The ES will also document how the height and form of the external structures have been shaped by the assessment, operational requirements and ground conditions. Any landscape strategy such as the treatment of boundaries, new planting, earth shaping, and architectural design will also be considered and described in detail and their effectiveness evaluated.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in environmental
						Importance/Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
LANDSCAPE AND VISUAL	Landscape quality	Change in landscape quality	Presence of development in the landscape	-	Current landscape quality	Medium	Medium to Small	Secondary	✓
	Landscape character	Change in character of local land in wider area	Presence of development in the landscape	-	Current landscape character	Medium	Medium to Small	Secondary	✓
	Views of structure and operations	Changes in views from surrounding area, road users, and from population centres of Invergordon and Alness	Construction activities/ Presence of development	-	Recreational users / local population	Medium	High	Primary	✓
		Change to existing views at night	Operation of facility and the surrounding lighting integral to the proposal	-	Recreational users/ local population,	Medium	Medium	Primary	✓

(1) Categories = High, Medium, Low, Negligible, (takes into account geographical level of importance).

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

### **Natural heritage**

- 6.36 Given the existing land use and vegetation cover of the site, which is predominantly hardstanding and improved grassland, the site is not expected to support any species of conservation interest and is therefore not considered likely to be particularly sensitive in ecological terms.
- 6.37 There are no natural heritage designations within the immediate vicinity of the site. The only natural designation within 5 km of the site is the Cromarty Firth SSSI, Ramsar site, and National Nature Reserve: this is of the highest nature conservation value. At its nearest point, the designated area is approximately 1 km south east of the site. The Cromarty Firth Ramsar site comprises extensive intertidal mudflats and shingle, bordered locally by areas of salt marsh. It supports assemblages of waterfowl that are of international importance. Natural designations within the larger area are shown on figure 3.
- 6.38 The EIA will examine the ecology of the local area and how the development could impact upon habitats and species in the designated sites in the wider area, during both the construction and operational phases. An extended phase 1 habitat survey will be undertaken as a first stage, and any local protected species records will be obtained from the regional biodiversity records office.
- 6.39 This initial assessment will enable the existing ecological value of the site to be established and the requirement for further species-specific surveys to be determined. Any surveys required will be carried out at suitable times of the year to establish the baseline ecology on the site.
- 6.40 The areas of nature conservation interest around the site will also be addressed, including any ecological relationships between the site and the nature conservation interest of the Cromarty Firth. As far as is possible, the proposals will incorporate mitigation so as to avoid any damage to features of significance. The ES will consider any key issues relating to natural heritage during the construction and operational phases, including potential habitat loss, emissions to air, dust, noise and vibration.
- 6.41 To meet the requirements of the Conservation (Natural Habitats, &c.) (Amendment) Regulations 1997 (Statutory Instrument 1997 No. 3055), the assessment will consider the potential impacts of emissions to air from the EfW on any European site up to a distance of 10 km from the site in a down-wind direction.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in
						Importance / Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
<b>NATURAL HERITAGE</b>	Habitat types	Loss of existing habitat	Development of site	-	Flora and fauna	Low	Large	Secondary	✓
	Plant/animal communities	Effects on existing and migrant species through severance and disturbance to habitat	Development of site	-	Flora and fauna	Medium	Small	Secondary	✓
	Individual species	Effects on potential protected species through disturbance, loss or displacement of breeding/foraging areas	Development of site	-	Individual plant and animal species	Medium	Small	Secondary	✓
	Wildlife conservation	Potential impact on local, national and European designated areas	Construction/Operation - severance, changes in air quality	Air	Protected species/habitat	High	Small	Primary	✓

- (1) Categories = High, Medium, Low, Negligible.
- (2) Categories = Large, Medium, Small, Negligible.
- (3) Categories = Primary, Secondary, Uncertain, None.

## Noise and vibration

- 6.42 Noise issues could potentially arise during the construction, commissioning and operational phases of the development. The site preparation and construction process will include HGV movements, piling operations and the use of earth moving machinery during the excavation and foundation laying phases, and potential improvement works to the highway which will give rise to temporarily elevated noise levels in the local area.
- 6.43 The EfW will operate 24 hours a day. Potential sources of noise include the flue induction fan, flue gas treatment plant, air-cooled condenser fans, turbines, the handling of wastes and ash residues, and HGV traffic. Further sources could include the transport of wastes to and from the A9 and, should rail or boat transport be feasible, additional rail, boat and HGV movements.
- 6.44 The baseline noise characteristics of the site will be determined and future changes as a result of the proposed development will be predicted. A comparison will then be made with the baseline and other benchmark levels in order to identify the impacts with and without development. The scope of the assessment, monitoring locations, measurement methodologies and noise standards will be agreed with the local Environmental Health Officer and SEPA, as appropriate.
- 6.45 The criteria against which noise emissions will be assessed will be drawn from BS 5228, BS4142, BS8233, World Health Organisation guidelines, IPPC Horizontal Guidance Note 3 and BS6472 with regards to vibration. These will be used to determine whether the level of construction, industrial and transport noise from the EfW is likely to give rise to complaints from people living in the vicinity of the development. Any impacts on wildlife populations from noise or vibration will also be examined in the environmental statement and cross-referenced with the findings of the ecological surveys.
- 6.46 Due to the multiple sources of noise associated with the development, a noise modelling programme will be used to predict noise levels from the EfW at the receptors and demonstrate compliance with agreed noise limits, and assess the impacts of any abatement technology incorporated into the design of the facility. Noise level predictions and any modelling will be based on indicative noise data and supplemented by measurements of operational plant noise.
- 6.47 Traffic noise will be addressed within the scope of the environmental statement. The assessment will be made using the Department of Transport's Calculation of Road Traffic Noise (CRTN) and traffic data obtained from the Traffic Assessment (TA). CRTN provides a methodology for predicting noise levels at a distance from a road, taking factors such as traffic flow, percentage of HGVs, speed, road gradient, surface type, distance from the road, intervening ground cover, angle of view of the road, and any screening which may be present.

- 6.48 The resulting noise assessment report will be produced to meet the needs of the EIA for planning purposes and also the application to SEPA for the PPC permit required to operate the plant.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in
						Importance / Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)	
<b>NOISE AND VIBRATION</b>		Construction plant / activities	Construction	-	Local human community and fauna	Medium	Small	Secondary	✓
		Plant commissioning / maintenance	Boiler/valve testing	-	Local human community and fauna	Medium	Small	Secondary	✓
	Noise	Increase in noise from plant operation	Condenser and induction fans / turbines/waste handling operations	-	Local human population and fauna	Medium	Small	Secondary	✓
		Increase in noise from traffic and transport movements	Construction and operation	-	Local human population/wider road network / fauna	Medium	Small	Secondary	✓
	Vibration	Increase in vibration from construction activity / traffic	Construction work including earth moving, piling and HGVs	-	Geology, local human and wildlife populations	Medium	Small	Secondary	✓
		Increase in vibration from plant operations/traffic transport	Plant operation – fans/turbines etc	-	Geology, local human and wildlife population,	Medium	Small	Secondary	✓

(1) Categories = High, Medium, Low, Negligible.

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

## Traffic and transport

- 6.49 Traffic movements to and from the EfW, including during the construction phase, will be addressed. There is the possibility for some of the waste to be taken to the EfW via boat, using the pier at Invergordon, and/or the existing (but currently unused) rail tracks into the industrial estate. A comprehensive Transport Assessment (TA) will be undertaken and provided to Highland Council. The TA will also be used as the basis of the transport chapter of the ES.
- 6.50 Existing conditions will be determined through a comprehensive review of the existing transport routes, their capacity and any proposed improvements being promoted by others. This review would include details of relevant policy, existing traffic and pedestrian flows at key locations, and general accessibility by all modes of travel.
- 6.51 Assessment of the potential effects of the proposed redevelopment would be determined using the following approaches:
- i. Trip generation: this will be calculated for the peak network hours, and over the day.
  - ii. Trip distribution and assignment: census data together with local data will be used to determine travel patterns, trip assignment will generally be based on existing traffic movements.
  - iii. Transport strategy: will be agreed with Cyclerval on behalf of CPH and consultees with respect to access to the site for waste collection vehicles and other waste delivery vehicles. Construction traffic routing may also need to be agreed, although there are limited options for accessing the site.
  - iv. Traffic assessment – the TA will follow the Department for Transport's Guidelines for the Environmental Assessment of Road Traffic. The effects being considered include noise, vibration, severance, driver delay, pedestrian delay, pedestrian amenity, accidents and safety, hazardous loads, air pollution and dust and dirt.
- 6.52 The construction phase will include an increase in vehicles accessing the site. These will be in the form of transport for workers, some abnormal loads transporting plant and equipment, and HGVs delivering and removing materials. The HGV movements are not envisaged to be substantial in the context of background traffic and will only be for a temporary period. Nonetheless, specific programming of delivery/transport times may need to be agreed with the local planning authority to ensure peak traffic times are avoided and to avoid disturbance to local residents.
- 6.53 The scope of the TA and any traffic surveys will be agreed with the roads authority prior to work commencing. Existing road conditions and traffic volumes on the highway network around the site and along the routes used during construction and operation of the site will be assessed to establish the baseline data and junction capacities, for later comparison with predictions of

traffic that will be generated by the proposals. Existing personal accident data and flow data will be obtained at sensitive locations on the local traffic network.

- 6.54 The TA will assess the potential 'all vehicle' and HGV trip generation associated with the development and the significance of the increased traffic on the local road network and junction capacities. The impact of the proposed infrastructure improvements will also be evaluated.
- 6.55 Traffic flows on the network for future years will also be considered within the assessment and the likelihood of other committed developments being operational and hence adding to the cumulative traffic volumes in the area will also be assessed.

Resource	Component	Potential Issue	Source or cause of change	Pathway for change	Receptor	Preliminary Prediction of Significance of Issue			Addressed in	
						Importance / Sensitivity of receptor (1)	Magnitude or Scale of Effect (2)	Significance (3)		
<b>TRAFFIC AND TRANSPORT</b>	Road and junction capacity	Increased traffic volumes Generation of traffic in excess of road or junction capacity	Construction/ operation	-	Local population / road users	Medium to high	Unknown	Primary	✓	
	Accidents	Potential increase in accidents	Construction / operation	-	Users of local road network	Medium	Unknown	Primary	✓	
		Delay, severance, intimidation, safety	Construction / operation	-	Users of local road network/pedestrians	Medium	Medium	Primary	✓	
	Infrastructure	Local road improvements	Construction / operation	-	Users of local road network	Medium	Medium	Primary	✓	
	Alternative modes of transport	Use of rail or boat transport for delivery / removal of materials		Construction/ Operation	-	Local population	Medium	Medium	Primary	✓

(1) Categories = High, Medium, Low, Negligible.

(2) Categories = Large, Medium, Small, Negligible.

(3) Categories = Primary, Secondary, Uncertain, None.

**Waste**

- 6.56 The proposal is to develop a new waste management facility, which forms part of an integrated MW strategy that will have a positive effect on waste management provision in the Highlands by reducing the existing dependency on landfill sites and enhancing the recovery of materials and energy. Existing and proposed waste management practices, and the contribution of the EfW to the integrated strategy objectives will be examined in the EIA.
- 6.57 The EfW combustion process will produce bottom ash and flue gas treatment residues. The recycling and disposal of these wastes will be examined in the EIA, as well as other types of waste to be generated during the construction, commissioning and operational phases of the development. This assessment will explore opportunities for such material to be managed or reused locally. Waste arisings will be managed and controlled during each phase of development in accordance with relevant legislation and SEPA guidance policy.
- 6.58 The management of excavated materials arising during the construction phase that are deemed or suspected to contain contaminants will be examined in the land and contamination chapter of the ES.

## 7. Conclusion

- 7.1 This report outlines the issues that will be examined in the EIA for a proposed EfW at the Cromarty Firth Industrial Estate, near Invergordon in the Highlands. Issues of primary importance will be given greater emphasis within the EIA. However, in all cases every topic will be addressed to an adequate detail to ensure it meets the requirements of the EIA Regulations.
- 7.2 Issues evaluated and considered not to be significant in relation to the proposed development will not be addressed in the ES. There are shown in the final column of the scoping tables for individual topic areas presented within this section seven of the document.

<b>Table 2: Ranking of scoped issues</b>	
<b>Primary</b>	<b>Secondary</b>
Air quality	Cultural heritage
Community and social effects	Ground conditions
Landscape and visual	Hydrology and water quality
Traffic and transport	Natural heritage
	Noise and vibration
	Traffic and transport
	Waste

- 7.3 Consultees are invited to comment on the scope of the EIA. In particular they are asked to provide any baseline information they may have, as well as any local knowledge that is available. Consultees can also recommend any specific assessment methodologies or assessment standards that they consider should be followed.
- 7.4 Comments should be addressed to:

The Planning Department of Highland Council.

## **Figures 1, 2 and 3**

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## Appendix 1: Environmental issues checklist

Resource	Component	Cons	Ops	Notes
<b>AIR AND CLIMATE</b>	Odour		✓	
	Local air quality (criteria pollutants)	✓	✓	
	Local climate effects		✓	
	Air temperature			
	Particulates / dust	✓	✓	
	Global air quality	✓	✓	
	Global climate	✓	✓	
<b>COMMUNITY &amp; SOCIAL EFFECTS</b>	Population profile and density			
	Demography			
	Housing			
	Employment	✓	✓	
	Lifestyle, standard of living	✓	✓	
	Education, health & other local services			
	Public health & safety		✓	
	Social problems	✓		
	Availability of utility services	✓	✓	
	Local environmental amenity			
<b>CULTURAL HERITAGE</b>	Electromagnetism / radiation			
	Architecture / buildings / structures	✓	✓	
	Archaeology / monuments	✓	✓	
	Historic parks and gardens			
<b>LAND AND CONTAMINATION</b>	Other historic interest			
	Geology / geomorphology	✓		
	Earth conservation - geology			
	Earth conservation - geomorphology			
	Mineral resources			
	Ground contamination	✓	✓	
	Soils/agricultural land quality			
<b>LANDSCAPE</b>	Erosion / deposition / stability	✓		
	Landform / topography	✓	✓	
	Land cover	✓	✓	
	Landscape character	✓	✓	
	Landscape quality	✓	✓	
	Protected landscapes	✓	✓	
	Wilderness			
<b>LAND USE</b>	Views	✓	✓	
	Agriculture / horticulture		✓	
	Forestry		✓	
	Recreation / open space / rights of way		✓	
	Mineral extraction			
	Commerce/retail		✓	
	Industry	✓	✓	
	Residential		✓	
	Health / social / education			
	Waste disposal		✓	
<b>NATURAL HERITAGE</b>	Other (specify)		✓	
	Habitat types	✓	✓	
	Plant communities	✓		
	Animal communities	✓	✓	
	Individual species	✓	✓	
	Ecosystem integrity			
	Wildlife conservation		✓	
	Resource management	✓	✓	
<b>NOISE AND VIBRATION</b>	Natural processes	✓	✓	
	Noise	✓	✓	
	Vibration	✓	✓	

<b>Resource</b>	<b>Component</b>	<b>Cons</b>	<b>Ops</b>	<b>Notes</b>
<b>HYDROLOGY AND WATER QUALITY</b>	The hydrological cycle	✓	✓	
	Surface water quality	✓	✓	
	Surface water hydrology	✓	✓	
	Surface water temperature			
	Groundwater quality	✓	✓	
	Groundwater hydrology/ recharge	✓	✓	
	Groundwater temperature			
	Coastal / oceanic water quality			
	Coastal / oceanic water hydrology			
	Flooding	✓	✓	
<b>TRAFFIC AND TRANSPORT</b>	Road and junction capacity	✓	✓	
	Infrastructure	✓	✓	
	Accident record	✓	✓	
	Pedestrians and cyclists	✓	✓	
	Public transport		✓	
	Rail transport		✓	
<b>WASTE</b>	Waste management	✓	✓	
	Waste characterisation	✓	✓	

**Appendix 2: Scoping Guidance used to Determine Significance of Issues**

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		Importance / sensitivity of the receptor			
		High	Medium	Low	Negligible
Predicted scale or magnitude of the effect	Large				
	Medium	Primary			
	Small		Secondary		
	Negligible				None

### **Appendix 3: List of suggested EIA Scoping Consultees**

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#### **Statutory consultees to be approached by Highland Council**

Highland Council  
Roads Authority  
County Ecologist  
County Archaeologist  
County Landscape Officer  
Historic Buildings / Conservation Officer  
SEPA  
SNH  
Historic Scotland

#### **Non-statutory consultees to be approached by Highland Council**

Utilities companies  
Network Rail  
Health Protection Agency  
Primary Care Trust  
Scottish Wildlife Trust  
Inverness Airport  
Civil Aviation Authority  
Highland Tourist Board  
National Farmers Union