

SECTION 1

INTRODUCTION

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1.0 INTRODUCTION

Clean (Irl) Refuse & Recycling Ltd., Cree, Co. Clare operate an existing waste transfer station located in a rural area on c.2.6ha site in the townland of Ballinagun West. The facility has been in existence since 1984 with the main waste activity being dry recyclables processing. The facility operates a waste collection service from domestic and commercial customers under permits for Co. Clare, Co. Limerick, Limerick City and Co. Kerry. All waste that is collected is processed at this site in Cree, Co. Clare. The proposed development will be located at the existing Clean (Irl) Refuse & Recycling Ltd site to accommodate an increase in annual tonnage intake, the introduction of new waste processing activities and the expansion of the site area from c.2.6ha to c.3.0ha. The Environmental Impact Statement has been prepared in support of a Waste Licence Application to the Environmental Protection Agency and subsequently to support a planning application to Clare County Council.

Clean (Irl) Refuse & Recycling Ltd is currently permitted under Clare County Council Waste Permit 002/07/WPT/CL, granted 25th June 2006. This permit is granted under Waste Management Acts 1996-2005 and the Waste Management (Permit) Regulations 1998. The permit becomes extinct on 25th December 2008 however, under the transitional arrangements of Article 3(4) of the Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended by the Waste Management (Facility Permit) (Amendment) Regulations S.I. No. 86 of 2008), the existing Waste Permit 002/07/WPT/CL will continue to be valid providing a Waste Licence Application has been lodged with the Environmental Protection Agency prior to this date. The transitional arrangements under Article 3 (4) state that: 'if the WP activity is a type that requires a licence under 2007 Regs, the WP holder shall apply for a Licence within 180 working days of 01/06/2008 and the WP continues under the 1998 Regs until a decision is taken to grant or refuse the Licence at which point the WP will lapse'.

The facility existing annual tonnage intake is capped at 21,000 tonnes for waste handling and at 5,000 tonnes for the annual disposal fraction to landfill. The basis for the preparation of an Environmental Impact Statement for the development arises from instruction from Clare Co. Co. Planning Section to carry out a sub-threshold Environmental Impact Assessment of the potential effects the development of this site may have on the surrounding environment and sensitive receptors. The proposed project, which will upgrade existing activities at the site and introduce new activities, is being developed by Clean (Irl) Refuse & Recycling Ltd. The development of the site will allow the facility to expand the business to include new waste processing methods and increase the current tonnes per annum from 21,000 tonnes to 64,600 tonnes.

1.1 Environmental Impact Statement

On assessment of the characteristics of the proposed development at Clean (Irl) Refuse & Recycling Ltd, Cree, Co. Clare against the EIA requirements derived from EU Directive 85/337/EEC (as amended by Directive 97/11/EC), the nature of the development is not required to undertake an EIA. This criteria has been fully transposed into Irish legislation, in the Third Schedule to the European Communities (Environmental Impact Assessment) (Amendment) Regulations 1999 (S.I. No. 93 of 1999) and in Schedule 7 to the Planning and Development Regulations 2001 (S.I. No. 600 of 2001). However, to ascertain if the project is likely to have significant effects on the environment, the development is subject to a sub-threshold EIA.

This Environmental Impact Statement (EIS) was prepared in accordance with The Planning and Development Regulations, 2001 (S.I. No. 600 of 2001), and the EIS Regulations (The European Communities (Environmental Impact Assessment) Regulations, 1989 (S.I. 349 of 1989) and The European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1999 (S.I. 93 of 1999).

Schedule 6 of the Planning and Development Regulations 2001 details information, which must be contained in an EIS. In accordance with paragraph 2(b), the impacts of a proposed development must be examined under the following headings:

Human Beings, Flora and Fauna,
Soil, Water, Air, Climatic Factors and the Landscape,
Material Assets including the Architectural and Archaeological Heritage, and Cultural Heritage,
Traffic
Interactions between the above factors;

The primary objective of undertaking the EIA process is to “anticipate the effects on the environment caused by a development. Where effects are identified which are unacceptable, these can then be avoided or reduced” (Guidelines on the Information to be Contained in Environmental Statements, Environmental Protection Agency, March 2002).

In determining the potential impacts of the construction and operation of the proposed development, the EIS focused on impacts that “are environmentally based”, “are likely to occur” and “have significant and adverse effects” (EPA Guidelines on Information to be contained in an EIS).

1.2 Scope

This report presents the results of an Environmental Impact Assessment for the expansion of an existing waste transfer station at Ballinagun West, Cree, Co. Clare.

The proposed project, which will upgrade existing activities at the site and introduce new activities, is being developed by Clean (Irl) Refuse & Recycling Ltd. The development of the site will allow the facility to expand the business to include new waste processing activities and increase the current tonnes per annum from 21,000 tonnes to 64,600 tonnes per annum..

The proposed infrastructure development will include:

- Biostabilisation building with installation of in-vessel tunnels
- Extension to existing processing buildings
- Relocation of glass bunkers
- Provision to End of Life Vehicle unit
- Relocation of existing diesel tank bunded storage area
- Wheelie bin/truck wash service area
- Wheel wash
- Biomass Recovery Plant
- Hardstanding skip storage area

The development of the site will permit the continuation of existing waste processes which includes:

- Dry recyclable processing
- Wet waste processing
- Baling of material
- Dropdown skip processing
- Timber shredding processing
- Construction and Demolition waste processing

The introduction of new waste processes/activities which will include:

- Biostabilisation (in-vessel tunnels in an aerated system) of brown waste
- End of Life Vehicle processing
- Wheelie bin/truck wash
- Wheel wash

- Biomass recovery and electricity production
- Skip storage

A pre-planning Consultation (Ref PP-08-151) for the development at Clean Ireland Refuse & Recycling Ltd. site at Ballinagun West, Cree, Co. Clare was held with Clare County Council on 19th June 2008 with the planning section in order to a) ascertain if the development required an EIS and 2) develop a scope of works to be included in the EIS. Subsequently to this, a scoping meeting was held with the Environmental Protection Agency on 25th July 2008 at Inniscara, Co. Cork.

The scope of this EIS covers the environmental impacts associated with that of the existing and proposed operations. The scoping exercise is a critical part of the EIA process, as it identifies the issues which need to be addressed.

A range of government departments, agencies and bodies, non-governmental organisations and interest groups were consulted during the preparation of the EIS in order to ensure that all relevant issues were addressed. Specific concerns, raised relating to any issue, environmental or otherwise, could subsequently be considered via design or procedural modifications or by the implementation of appropriate mitigation measures. Attachment 1 details the range of bodies which were consulted and the views expressed by same.

This EIS was prepared with direct reference to the policies and requirements of the Development Plan for the county as expressed in the Clare County Development Plan 2005-2011. In addition, the EIS preparation had regard to the following documents;

Guidelines on the Information to be Contained in Environmental Statements, (Environmental Protection Agency, 2002)

Advice Notes on Current Practice (in the preparation of Environmental Impact Statements) (Environmental Protection Agency, 2003)

Replacement Waste Management Plan for the Limerick/Clare/Kerry Region 2006-2011

In determining the information required to comply with these specifications an environmental impact matrix was prepared. The matrix predicts the potential impacts of the development on the various categories listed above. Table 1.1 presents the matrix from which the scope of this study was established. Table 1.2 represents the interactions between the various environmental media and identifies the sections of the EIS where the interactions are addressed.

**TABLE 1.1: SCOPING MATRIX OF THE ENVIRONMENTAL IMPACTS OF THE PROPOSED DEVELOPMENT AT CLEAN (IRL) REFUSE & RECYCLING LTD.,
CREE, CO. CLARE**

	Structure	Water/Wastewater Emissions	Air Emissions	Traffic	Noise & Vibrations	Waste Generation
Human Beings	Amenity value, visual aspects Land use change	Possible impacts on local groundwater supplies	Dust emissions	Increased volumes of heavy traffic Traffic emissions	Noise generated from site Noise generated from traffic	-
Flora & Fauna	Loss of habitat, creation of new habitat	Water pollution (surface water run-off)	Dust emissions	Increased volumes of heavy traffic, Traffic emissions	Noise generated from site Noise generated from traffic	-
Soil & Geology	-	Potential impact of soil contamination	-	-	-	-
Hydrology	-	Water pollution (surface water run-off)	Dust deposition	-	-	Surface water pollution
Hydrogeology	-	Groundwater pollution	Dust deposition	-	-	Groundwater pollution
Air	-	-	Dust emissions	Traffic emissions	-	-
Climate	-	-	Microclimate	Traffic emission	-	-
Landscape	visual aspects Land use change	-	-	-	-	visual aspects
Material Assets	Property value visual aspect, Land use change	Possible impacts on local groundwater supplies	Property value: dust & emissions aspect	Increased volumes of heavy traffic	Property value: noise aspects	-
Cultural Heritage	Existing & undiscovered archaeological features	-	-	-	-	-

**TABLE 1.2 SUMMARY OF THE ENVIRONMENTAL IMPACTS OF THE PROPOSED DEVELOPMENT AT CLEAN (IRL) REFUSE & RECYCLING LTD.,
CREE, CO. CLARE**

	Human Beings	Flora	Fauna	Soil & Geology	Water	Air	Climate	The Landscape	Material Assets	Cultural Heritage	Traffic
Human Beings		none	none	none	3.1, 3.4, 3.5	3.6	none	none	3.12	none	3.1 & 3.8
Flora	none		none	3.2	3.4 & 3.5	3.6 & 3.2	none	none	none	none	none
Fauna	none	none		3.2	3.2	none	none	none	none	none	none
Soil & Geology	none	3.2	3.2		none	none	none	none	none	none	none
Water	3.1, 3.4, & 3.5	3.2 & 3.4	3.2 & 3.4	none		none	none	none	3.4 & 3.5	none	none
Air	3.1 & 3.6	3.2	none	none	none		none	none	none	none	3.6 & 3.8
Climate	3.1 & 3.9	none	none	none	none	3.6 & 3.9		none	none	none	3.9
Landscape	3.1 & 3.10	none	none	none	none	none	none		3.10	none	None
Material Assets	3.12	none	none	none	3.4, 3.5 & 3.12	none	3.12	3.10		none	3.12
Cultural Heritage	none	none	none	none	none	none	none	none	none		None
Traffic	3.1 & 3.8	none	none	none	none	3.6	none	none	3.10	none	

Note: This Table identifies the Section of the EIS where impacts or effects on interactions between environmental media are discussed.

Any interactions which will not be impacted upon or affected by the facility are not described in the EIS.

1.3 NEED FOR THE DEVELOPMENT

Clean (Irl) Refuse & Recycling Ltd. is seeking planning permission and a waste licence to enhance and expand its existing material processing and transfer facility in Cree to increase the recycling and recovery of waste materials it handles in order to reduce the region's reliance on landfills and non-renewable energy sources.

The Local Authorities Limerick City Council, Limerick County Council, Clare County Council and Kerry County Council (denoted as the Region) agreed to jointly prepare the Regional Waste Management Plan in 1998/99 which was adopted in 2001. The Local Authorities agreed in June 2004 to review the 2001 plan and to prepare this Plan for 2006-2011. With increased economic growth in the Region, and the associated growth in consumer spending power, the amount of waste being produced in the Region is on the increase. During 1998 to 2004 household waste increased by over 15% from 146,000 tonnes to 169,039 tonnes. Likewise, Commercial and Industrial waste increased by 16%. However, the largest increase is attributed to Construction & Demolition (C&D) Waste, which increased by 384% to over 580,960 tonnes, over the period of 1998 to 2004 due to new and improved recording systems. Overall, waste generation for the above waste streams increased from 436,000 tonnes in 1998 to 952,051 tonnes in 2004.¹

The Replacement Waste Management Plan for Limerick/Clare/Kerry Region 2006-2011 also recognises that one of the major changes that occurred since the preparation of the 2001 Plan was the increased level of involvement by the private waste sector in the Region, such as Clean (Irl) Refuse & Recycling Ltd, and now the private sector is almost totally responsible for the collection and subsequent recovery and recycling of household, commercial and industrial waste. Significant investment has been made by the private sector in the upgrading of existing waste infrastructure and in the development of new infrastructure will steering business in the region in keeping with the same objectives of the waste management plan for region and nationally.

Ireland's current reliance on landfilling to manage the country's waste materials is not sustainable from an either an economic or environmental perspective. First of all, landfilling of biodegradable materials (garden, landscape, food, wood and paper materials) creates methane gas when they decompose within the oxygen starved environment of a landfill. Methane gas is 21 times more potent as a greenhouse gas than carbon dioxide. Furthermore, as biodegradable materials decompose in landfills, they create odours and leachate, a strong rubbish "tea," dark in colour and full of nutrients that can pollute ground or nearby surface water resources. From an economic viewpoint, developing and operating landfills are not

¹ Replacement Waste Management Plan for Limerick/Clare/Kerry Region 2006-2011

only expensive (€80-120/tonne), but landfilling of these materials is a costly waste of resources as well.

Recognising the negative environmental impacts associated with landfilling biodegradable waste materials, the European Union passed the EU Landfill Directive (1993/31/EC) which requires member states to reduce the amount of biodegradable materials to be landfilled over time. This legislation has been transposed into Irish law and requires the country to reduce the landfilling of biodegradable materials from 1995 levels by 25% by 2010, 50% by 2013, and 65% by 2016. At present, Ireland will struggle to meet its target for 2010. In the EPA consultation document titled “Municipal Solid Waste: Pre-Treatment & Residual Management,” the country could miss its diversion targets by 455,000 to 672,000 tonnes for 2010 depending on the rate of increase in the generation of biodegradable materials between now and then. However daunting the country’s diversion goals may be, the proposed facility will help Ireland meet its landfill diversion targets established under EU and Irish legislation.

Furthermore, the EU Waste Framework Directive (2006/12/EC) establishes a hierarchy for managing waste materials identifying the most preferable options down to the least favoured options. The highest priority management options include waste prevention or minimisation, then reduction and reuse. These are followed by recycling, including composting, of source-separated materials. After these, the next lower priorities include some form of energy recovery including anaerobic digestion, gasification or direct combustion. The lowest priority then would be a reliance on landfill disposal. Because the majority of biodegradable materials are currently landfilled in Ireland, any effort to collect them separately for recycling and composting complies with this legislative requirement. The proposed facility will process up to 15,000 tonnes of biodegradable material diverting it from the lowest category in the hierarchy of waste management, landfill disposal, and placing it into a higher priority waste management option, namely recycling.

In Ireland, both national policies and regional waste management plans call for the development of infrastructure to collect and process source-separated materials for recycling and composting. “The National Strategy on Biodegradable Waste” (DoEHLG, April 2006) identifies a set of policies and initiatives to progressively divert biodegradable materials from landfill disposal as established by the EU Landfill Directive. More specifically, it calls for the development of infrastructure or a system to encourage people to segregate materials for separate collection so they can be recovered through recycling and composting. This includes educating people to separate materials at source, providing them with a financial incentive to do so, establishing a system to collect these materials, building facilities to produce high-quality products, and developing markets for their recycling and reuse within Ireland.

On a regional basis, the counties of Clare, Kerry and Limerick plus Limerick City have prepared a joint waste management plan to detail how the councils of the area would develop its waste management system. This plan calls for the establishment of collection systems for source separated materials, drop-off as well as kerbside, for both residential and commercial generators. It also calls for the concurrent development of facilities to process and recycle these source-separated biodegradable waste materials including material recovery facilities to sort and process dry recyclables and biological treatment facilities for “brown bin” organics. The plan states that local authorities should encourage the development of biological treatment facilities by the private sector.

In conclusion, the Biostabilisation Plant proposed by Clean (Irl) Refuse & Recycling Ltd. complies with and supports the objectives within all of the EU, Irish and regional waste management legislation, policies and plans identified above.

1.3.1 Compliance with the County Development Plan

Clean (Irl) Refuse & Recycling Ltd. is located within Co. Clare and as such it is important that the development is in compliance with the 2005-2014 Clare County Development Plan (CDP).

The CDP for County Clare (chapter 3 Waste Management) states that,

‘It is the policy of the Planning Authority to support the provision of waste management facilities such as brown bank sites and waste transfer sites and to this end the Planning Authority will require all developments to take account of the provisions of the waste management plan’.

In addition, the CDP recognises the need for waste recovery centres:

‘The waste management plan identifies the need for future facilities for recycling, recovery and disposal of waste... in identifying and bringing of suitable sites for these facilities sites, in the waste management plan the council commits itself to follow a process of community involvement including education and awareness raising and an open and transparent public consultation process’.

1.4 Alternatives Considered

Considering, the existing facility which is already carrying out several waste processing streams as listed in previously Scope 1.2, alternatives have not been considered as the existing operations are already inline with the waste management plan’s objectives. However, in considering the introduction of the brown waste bin an assessment of the

alternatives were considered. There are three alternative systems or technologies to the proposed Biostabilisation and plant. These include:

- Landfilling
- Mechanical Biological Treatment
- Anaerobic Digestion

Landfill disposal is the current practice in most of Ireland and within County Clare for the management of biodegradable waste materials. As described previously, landfill disposal is the least preferable option for managing waste with respect to potential environmental impacts, current EU and Irish legislation and cost. Landfilling of biodegradable materials increases the environmental impacts of landfill disposal by generating methane gas, creating odours, producing nutrient rich leachate and attracting pests. Methane gas is 21 times more potent as a greenhouse gas than carbon dioxide, a much less harmful greenhouse gas that is generated when materials are aerobically treated via composting. When materials are allowed to uncontrollably rot in landfills, they can create offensive odours and leachate, especially in our wet climatic conditions here in Ireland. In older unlined landfills, this leachate becomes a source of water pollution. In newer lined landfills, this leachate is collected for treatment as long as the landfill is lined and actively managed. This collection system and leachate treatment adds to the cost of landfill construction and management while the landfill is open and even after it is closed. Daily tipping of waste into landfill cells attracts insect, bird and rodent pests which can serve as a vector for disease and can become a nuisance to neighbours. Due to the severe negative environmental impacts associated with landfilling biodegradable waste materials, EU and Irish legislation have been developed to minimise the use of landfills for disposal purposes. Therefore, landfill disposal will no longer be a viable or preferred option in the future for unprocessed mixed waste or separated biodegradable waste materials.

Two competing technologies have recently emerged to treat biodegradable materials: mechanical biological treatment (MBT) and anaerobic digestion (AD). MBT technologies typically process mixed waste using a combination of mechanical separation techniques and biological treatment. Once recyclable materials are removed through mechanical means, such as glass, aggregate, metals and/or some rigid plastics from the mixed waste stream, the left over biodegradable fraction can be processed using composting, digestion, gasification or combustion technologies to produce a compost-like product or generate electricity and heat. These systems are technologically complex and therefore are difficult to maintain. They are also expensive in terms of capital as well as operational costs, making them economically viable only on a large scale basis, ie., over 100,000 tonnes per year. Obviously, there isn't this sort of tonnage in County Clare where Clean (Irl) Refuse & Recycling Ltd. operates.

AD is another technology used to process biodegradable waste materials and is currently used extensively in the waste water treatment industry and more recently on farms to treat animal manures. This technology utilises an anaerobic process to produce methane which can be used to power a generator producing electricity and waste heat. Although most systems on the market are geared to take materials that are 5-10% solids, there are some new technologies being developed in continental Europe to process drier materials (40-60% solids), typically the range of solids within biodegradable materials from the waste stream. These systems are just proving themselves technologically and are currently very expensive to purchase. The critical issue to resolve in relation to these systems is what to do with the residual solids after the digestion process. This “digestate” can be landfilled, but that sort of defeats the purpose of diverting this material away from landfill disposal in the first place. However, if mixed waste is being processed as a feedstock, this is the only option available for the digestate. This makes this option too expensive where the operator would be required to process the material through a costly AD facility and then have to pay high tipping fees for disposal of the residuals in an Irish landfill. Alternatively, if clean source separated material is used as the feedstock, the resulting digestate material could be land applied on farms, but this is not possible during wetter seasons of the year and needs careful management in relation to the nitrates directive governing nutrient application to farm land. Fortunately, digestate can be effectively composted after digestion has extracted the biogas from the biodegradable materials. There are some synergies to this approach, especially on a large scale basis, as the AD plant could power the compost facility and the liquids from the compost plant could be processed by the AD facility. However, on a small scale, this does not make economic sense, i.e., building two facilities when one can meet the needs of a small scale operator like Clean (Irl) Refuse & Recycling Ltd.

The Biostabilisation Plant which has been proposed to convert “brown bin” materials (food and garden trimmings) into valuable soil amendment products is not without energy needs. Currently, the facility runs a 650kW diesel generator to provide electrical power to the site. The proposed alternative to this operation is the installation of a small on-site biomass renewable energy plant to produce all or part of the electricity and heat needed to operate the expanded Clean Ireland facility. The gasification system takes super clean and dry wood that the site is currently producing and converts it into a Hydrogen rich “syngas” that fuels an engine/generator. It simply substitutes a carbon neutral renewable energy system for the non-renewable diesel one currently being used on site.

Given the types and relatively small quantities of materials to be processed by Clean (Irl) Refuse & Recycling Ltd. , building and operating an aerobic Biostabilisation Plant makes the most economic sense and produces a high-quality marketable product while complying with EU, Irish and regional waste management legislation, policies and goals.

1.5 Consulting Team

The following specialists contributed to the areas indicated:

Environmental Impact Assessment Project Management	Bord na Móna Environmental Ltd Main Street Newbridge Co. Kildare
Cultural Heritage Assessment	Annette Quinn, Tobar , Archaeological Services, 15 Willowfields, Ladysbridge, Castlemartyr, Cork
Soil & Geology Hydrogeological Assessment	Sarah Casey PGeo, Cubbush Road, The Curragh, Co. Kildare
Human Beings Traffic Assessment Surface Water Assessment Air Assessment Noise Assessment Flora & Fauna Assessment Landscape Assessment Climate Material Assets	Bord na Móna Environmental Ltd Main Street Newbridge Co. Kildare

1.6 Statement of Difficulties Encountered

It is a requirement of the EIA Regulations (European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1999 (S.I. No. 93 of 1999) Second schedule, 2(d)) to provide an indication of any difficulties (technical deficiencies or lack of know-how) encountered by the developer in compiling the required information. No significant technical difficulties were encountered in preparation of this report

1.7 EIS FORMAT

The findings of the EIA investigation are presented as follows (group format structure):

Volume I

- Section 1 Introduction (including project overview, consultation, alternatives considered).
- Section 2 Project Description and Proposed Development (site description and assessment of the proposed development).
- Section 3 Environmental Impacts (including baseline information and prediction of the likely impacts of the development) and Remedial Measures (steps necessary to minimise environmental impacts)

Volume II

Non-technical Summary

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