1. Introduction

1.1 Proposed Development

The application is for a proposed composting plant using the Bedminster technology at a site at Killowen, Portlaw, County Waterford. This technology is 'in vessel' and all waste activities will be undertaken indoors. Michell Ireland Ltd previously operated the facility as a tannery under integrated pollution control (IPC) licence Register Number 238. The existing wastewater treatment plant on site will be used to treat wastewaters.

1.2 The Applicant

The applicant is Advanced Environmental Solutions (Ireland) Ltd (AES). The company was established in 1996 as Waste Recycling Ireland and commenced trading as Advanced Environmental Solutions (Ireland) Ltd in July 2001, through the acquisition of Midland Refuse Service (Laois) Ltd., O'Briens Waste Recycling, and EC Waste Disposal. Other acquisitions included O'Doherty Waste Disposal, Higgins Waste, AP Waste Disposal and Maxwell Waste.

In March 2002, AES acquired Landfeeds Environmental Ltd. and in July 2002, the Environmental Protection Agency (EPA) licenced Midland Waste Company Ltd. in Navan together with the now licensed Alina/Rent-a-Bin facility in Tullamore. AES also acquired Feehan Environmental in August 2002, and Pembroke Waste Disposal in Kilkenny during September 2002.

The policy of the company is to manage waste in a manner which maximises the reuse and recycling of materials while minimizing the volume sent to landfill; this is achieved by utilising the most modern technologies, ensuring regulatory compliance and working in partnership with customers and organisations at international, regional and local levels.

1.3 Waste Management & Composting

Ireland's waste management policy framework has been established through a combination of Government policy statements and local authority waste management plans. These form the basis for delivering a new national integrated and sustainable waste management system over the coming decade. Some of the relevant details from these policy statements and waste plans are provided below.

1.3.1 Changing Our Ways (1998)

"Changing Our Ways" 1998 provided national targets for municipal waste recycling and biological treatment, and set the framework for regional waste management planning.

Key targets of 'Changing Our Ways' for 2013

- *Diversion of 50% of overall household waste away from landfill*
- *A minimum 65% reduction in Biodegradable Municipal Waste (BMW) sent to landfill*
- *Developing biological treatment capacity of up to 300,000 tpa*
- *Recycling of 35% of municipal waste*
- *Rationalisation of municipal waste landfills to a network of 20 state-of-the art sites*
- *Reduction of methane emissions from landfill by 80%*

1.3.2 Delivering Change – Preventing and Recycling Waste (2002).

This Government Policy Statement focused on measures to reduce waste by involving individuals, local authorities, and also the businesses and industries that create products. This included the Establishment of a Recycling Consultative Forum and Market Development Group to lead the expansion of markets for waste derived materials here in Ireland.

1.3.3 National Climate Change Strategy

The National Climate Change Strategy was introduced in October 2000 and detailed the proposed measures to be taken to combat the emission of global warming gases such as carbon dioxide, methane and nitrous oxides from all sectors of the economy. Emissions from waste management activities are specifically identified in the Strategy – the waste sector creates almost 12% of all methane emissions and overall contributes 2.5 % of all global warming gases.

The Strategy calls for a reduction of 40% in waste related emissions. This is to be achieved through diversion of biodegradable waste away from landfill. The Strategy also identifies the opportunity to generate energy from animal manure and slurry (possibly in conjunction with food waste).

1.3.4 Landfill Directive

The EU Landfill Directive 1999/31/EC sets out the targets for diversion of biodegradable municipal waste (BMW) from landfill in Ireland. The first target is for the year 2006, by which we should reduce BMW landfilling to 75% of the amount of BMW generated in 1995. Further reductions are required in 2009 (50%) and by 2016 (35%). Irelands specific targets have been defined as follows

Table 1.1 – Ireland's Targets for landfilling

(From *National Strategy for Biodegradable Waste - Draft Strategy Report,* April 04)

1995	(Baseline BMW generation)	1,160,690*
Year	Target	BMW tonnes allowed in landfill
2006	75%	843,303
2009	50%	562,202
2016	35%	393,541

* Data from EPA National Waste Database 1995- MW generation multiplied by biodegradable content

1.3.5 National Strategy for Biodegradable Waste - Draft Strategy Report, April 04

Municipal waste generation has increased by 46% in the 6-year period 1995 to 2001, with 2.7 million tonnes of waste arising in 2001. The increased landfilling since 1995 greatly increases the required extent of Ireland's diversion performance, since the Landfill Directive targets are based on our waste generation in that year. Waste growth since 1995 means we are landfilling more biodegradable municipal waste (BMW) now than ever before, and diverging away from our mandatory targets. Figure 1.1 outlines the annual tonnage of waste that must be diverted from landfill, taking into account predicted future waste growth. The 'gap' represents the amount of biodegradable municipal waste that must be channelled away from landfill in order for our mandatory requirements to be met. The gap points out the capacity that must be put in place to deal with biodegradable

municipal waste diverted from landfill. Currently c. 440,000 tonnes/ annum of BMW are diverted from landfill (mainly in favour of recycling and recovery). This must increase to 1,000,000 tonnes in 2006, rising to 1.5 million tonnes by 2009. This represents a huge challenge to the Irish waste industry.

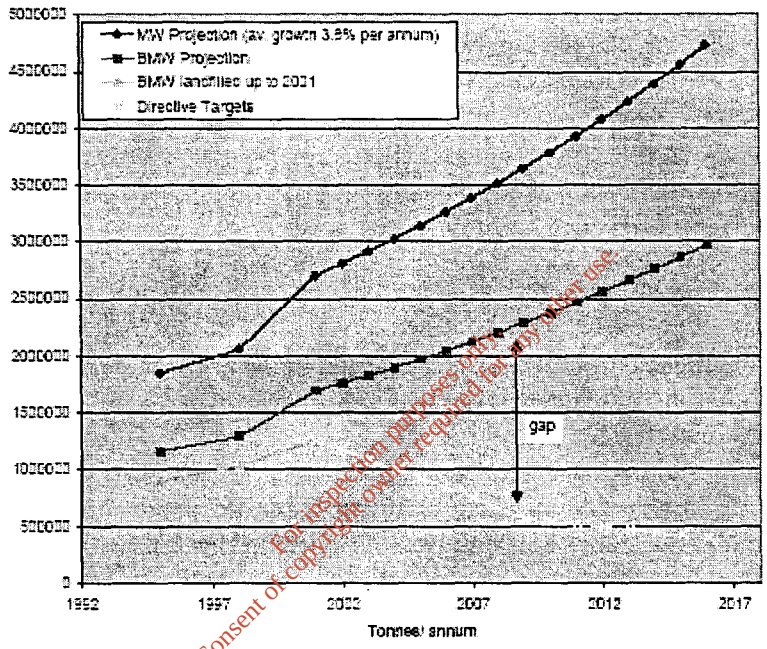

Figure 1.1 Estimated waste tonnage that must be diverted from landfill *(From National Strategy for Biodegradable Waste - Draft Strategy Report, April 04)*

The *National Strategy for Biodegradable Waste - Draft Strategy Report, April 04* estimates, based on the overall municipal waste generation in 2001 (9.8% in south east), that the gap in treatment capacity required for biodegradable municipal waste (BMW) in the south east regional to be for 2006 - 117,889 tonnes, 2009 - 169,177 tonnes and 2016 - 252,611 tonnes. The Draft Strategy indicates the need for central biological facilities with a target capacity of 35,154 tonnes by year 2009 to deal with biodegradable municipal waste in the South East Region.

The Draft Strategy also highlights that biological treatment of BMW can be successfully carried out in tandem with other waste streams e.g. agricultural wastes and organic industrial wastes etc. and that co-treatment can provide economies of scale.

The above draft strategy states that for biodegradable waste that must be collected and managed, materials recycling and biological treatment are favoured, since they recover the material for new beneficial uses.

1.3.6 South East Regional Waste Management Plan

The implementation of statutory Waste Management Plans is underway since 2001, generally on a regional basis. The Waste Management Plans contain ambitious targets for waste recycling and energy recovery with the targets of the EU Landfill Directive in mind. Based on surveys carried out during 2003, approximately 15% of municipal waste generated is currently diverted from landfill. By contrast the targets of the Plans typically require up to 90% diversion of MSW from landfill by 2013.

In accordance with Section 22 of the Waste Management Act, the six authorities in the South East Region have agreed to make a Joint Waste Management Plan. The local authorities involved in the South East Regional Waste Management Plan are:

1. Waterford County Council
2. Waterford City Council
3. Tipperary South Riding County Council
4. Wexford County Council
5. Kilkenny County Council
6. Carlow County Council.

The Waste Plan includes composting as an integral element to deal with the management of waste. The plan enables independently established private entities to provide waste facilities/services in the Region.

The quantities of biodegradable municipal waste to be managed in the Region are discussed in Section 1.3.5 above. To date, no facility in the southeast has been licensed and no application has been submitted to the EPA to deal with the waste quantities indicated.

The South East Regional Waste Plan notes that water and sewage treatment, agriculture and certain industries generate liquid wastes, which contain a high organic solid content. The quantity of non-hazardous sludges in the region, expressed in terms of their solid content extracted from the Waste Plan are set out in Table 1.2.

Table 1.2 Sludge Arisings in the South-East

Type	Tonnes Dry Solids (tDS/y)
Sewage	5,287
Water Treatment	1,313
Agricultural	698,853
Non-hazardous Industrial	91,543
Total	796,996

1.3.7 How Advanced Environmental Solutions (AES) can contribute

AES will assist in satisfying and meeting the above policies and targets by establishing the proposed facility.

Two of the most serious concerns that Ireland and Europe faces over the next ten years are climate change and waste management. If the biodegradable fraction of the waste stream is safely composted, substantial amounts of organic carbon will be available to increase the soil organic content (SOC) and in doing so reduce the production of harmful greenhouse gases (GHG). The Bedminster system is a carbon negative process, a large fraction of the organic carbon within the waste stream is converted into compost which when applied regularly to the soil will increase soil organic content (SOC). This increase in SOC results in a decrease in atmospheric carbon. Work conducted by the US EPA[1] predicts an overall capture of 50kg of carbon (183kg of CO_2) for every wet tonne of organic material composted in a centralised facility.

The high quality compost produced by the Bedminster process is a good soil conditioner as well as fertilizer. It can be used to replace peat as a growing medium. Bedminster will use existing markets e.g. fertiliser and endeavour to find new markets for the compost from the process.

Legislation is becoming more stringent in relation to the form of materials that can be spread onto land. AES has identified the need for a facility to further treat effluents, which previously were spread directly to land. The onsite wastewater treatment plant will be used for this purpose.

1.4 Alternatives

As AES is primarily a waste management company offering solutions to manage waste, the alternatives included doing nothing or setting up the proposed facility. Taking into consideration national policy and the issues with waste management, AES decided to follow the latter option.

In terms of location AES considered various locations. The selected site became available; it already had an effluent treatment plant and factory building, which could be modified for use as a composting plant. In addition, the South East Regional Waste Management Plan includes provision for a compost facility. The site is central to the counties in the South East Region; it is in close proximity to Waterford City and Carrick on Suir.

1.5 Public Bodies Consulted

The following public bodies were consulted during the preparation of the application documentation for the facility: Environmental Protection Agency, Waterford County Council and the Department of Agriculture.

1.6 Structure of the EIS

The EIS is presented in the 'Group Format Structure' as set down in the Environmental Protection Agency (EPA) booklet – Guidelines on the Information to be contained in Environmental Impact Statements, March 2002. The structure is as follows:

[1] US Environmental Protection Agency. Solid Waste Management and Greenhouse Gases: A Life Cycle Assessment of Emissions and Sinks 2nd Edition. EPA530-R-02-006. May 2002.

Non-Technical Summary
Section 1 Introduction
Section 2 Proposed Facility
Section 3 The Receiving Environment
Existing Environment
Potential Impacts
Description of likely Impacts
Mitigation Measures
Likely Significant Impacts
Section 4 Environmental Monitoring

1.7 Contributors to the EIS

The following specialist consulting firms contributed to the EIS.

Consultants	Address	Responsibility
Bedminster International	Oyster Point, Temple Road, Blackrock, County Dublin	• Project Management & Report Assembly • Compost Plant Detail
RPS-MCOS	West Pier Business Campus, Dun Laoghaire, County Dublin	• Facility Design Layout
Odour Monitoring Ireland	Unit 32 De Granville Court, Dublin Road, Trim County Meath	• Odour Report

1.8 Data Necessary to Identify and Assess Environmental Effects of the Development

The data necessary to identify and assess the environmental effects of the development are:

- The characteristics of the development including its physical dimensions, volumes, rates of intake, nature of materials being accepted, and the appearance and condition of the site from the operations as described in Section 2.
- The existing / receiving environment, emissions and mitigation measures as described in Section 3.
- The proposed monitoring plan as described in Section 4.

1.9 Difficulties Encountered in compiling the required information

No difficulties were encountered in compiling the information. The vast majority of information about the site was available from the environmental impact statement carried out as part of the application for the Michell Ireland Ltd industrial facility and from the subsequent enforcement of integrated pollution control licence (IPC) Register No. 238, which was granted by the Environmental Protection Agency (EPA).

1.10 Forecasting methods used to assess the effects on the environment

Professional judgement based on site reconnaissance, desktop studies and calculations were used to assess effects on the environment.

1.11 Compliance with Environmental Impact Statement requirements

The information contained in this EIS is as specified in the Second Schedule of S.I. 93 of 1999 and the sixth schedule of S.I. No. 600 of 2001, as derived from European Communities Directive 85/337/EEC (as amended by Directive 97/11/EC).