

## 2 BACKGROUND TO THE PROJECT

### 2.1 INTRODUCTION

The Meath Waste to Energy facility has been built in accordance with the permissions of PL17.219721 & SA60050 (Final Grant 15/10/2007) & SA901467 (Final Grant 14/12/2009). The construction phase of the project spanned a three year period, ending in the hot commissioning phase in August 2011, and the facility has been in full operation since October 2011, operating under EPA Waste Licence W0167-02.

This chapter has been prepared based on the previous assessment of the scheme completed as part of the 2006 EIS and the 2009 EIS and planning application.

The proposed amendments sought by this application in terms of the additional waste types and additional capacity do not result in any change to the nature of the process or waste handling procedures (with the exception of one waste type if granted). The other proposed changes (conversion to permanent status of structures, car parking) require only minor construction works. The amendments are summarised below:

#### 2.1.1 Summary of Amendments

- 20,000 tonnes (10%) increase in annual throughput
- Inclusion of additional EWC Codes (hazardous and non hazardous)
- Amendment of waste acceptance hours:

Current	Proposed	Period
08:00 – 18:30	<b>06:00 – 20:00</b>	Mon - Fri
08:00 – 14:00	<b>06:00 – 14:00</b>	Sat

- Unrestricted hours for the dispatch of residues from site
- Future additional capacity ammonia storage tank and fuel oil tank
- Convert hardcore area for contractor parking during construction to permanent status
- Conversion from temporary to permanent status of two structures:
  - Spare Parts Warehouse & associated electrical switchgear building with hard core surround.
  - Single storey modular office block & associated electrical switchgear building and to include:
    - Effluent treatment plant

- Paved roadway (with hard cored area to each side) leading to office block
- 22 additional paved car parking spaces added to existing car park

## 2.2 NEED FOR THE SCHEME

### 2.2.1 MSW Capacity

The need for the existing facility with 200,000 tpa capacity was established in the planning permission PL17.219721 granted for the facility in October 2007 and again in planning permission SA/901467 granted in December 2009. The reasons and considerations given in the final permission referred to:

- the national waste management policy framework and strategy as set out in Government Policy Statement Taking Stock and Moving Forward (2004)
- the National Development Plan (2007-2013) provisions in regard to waste management
- the National Strategies on Biodegradable Waste (2006) and Climate Change (2007-2012)
- the Waste Management Strategy for the North-East region as set out in the current North-East Regional Waste Management Plan (2007).

There has been no change in policy. The only changes in legislation have reinforced the position of waste-to-energy in priority over disposal options, including landfill.

In the EIS submitted in 2009, the position of waste-to-energy in the waste hierarchy ahead of landfill disposal was due to be updated in the national policy framework. While national legislation has been adopted that cements this position in line with the Waste Framework Directive, an update in national waste policy is still pending. Overall, there have been some key legislative developments but no changes yet to waste and energy policies and plans since the 2009 planning decision. This is discussed further in Section 4, Planning and Policy Context.

In line with the 2009 approval, the facility was designed and built to accept 200,000 tpa. This was based on an expectation of the average calorific value of Irish residual municipal waste being 9.35MJ/kg.

However, since commencing operations it has become apparent that the actual calorific value of Irish waste is much lower than 9.35 MJ/kg and is closer to 8 MJ/kg. This implies that the waste possibly has a higher biodegradable waste content than anticipated.

Similar to other conventional solid fuel power plants, the tonnage throughput of waste-to-energy facilities is defined by the size of the boiler (thermal capacity), the average expected CV of the waste and the number of operating hours per annum. In the Meath WTE facility, the boiler has a design

capacity of 70MW. If the waste has a low calorific value, then more waste needs to be processed to achieve the same thermal output. Conversely, if waste has a higher calorific value then less waste is processed to achieve the same thermal output.

As Irish waste currently has a lower calorific value, more waste can be processed at the facility than previously expected to meet the thermal capacity of the boiler. As a result, it is estimated that an additional 20,000 tpa capacity is now available at the Meath WTE facility bringing the total capacity to 220,000tpa.

It is submitted that the rational approach is to use this available capacity to support the waste management plans of other regions, that have been unable to realise their own plans to develop thermal capacity and/or that lack pre-treatment capacity. It may also mean that An Bord Pleanála could consider extending the capacity of the plant for a specified period until other treatment options become available in the other regions. It is important to note that when more material has been pre-treated (eg processing in mechanical and/or biological treatment plants) prior to delivery to the Meath WTE Facility, it is expected that the calorific value of the waste would be increased, and lower tonnages processed to achieve the same thermal output. This would provide for greater inter-regional co-operation, which is recognized in WIR 04/05 in 2005 as a means to:

*"support the attainment of national waste management policy objectives through the rational development and use of such infrastructure"*

The draft policy document *Towards a new National Waste Policy* proposes to give further consideration to:

*"existing policy flexibilities in relation to inter-regional movements of waste ... so that regional boundaries do not operate in a rigid manner, preventing the most efficient use of infrastructure in pursuit of overall national targets/obligations"*.

One current and important national target comes from the Landfill Directive, limiting the amount of biodegradable waste (BMW) that can be consigned to landfill. These targets have been applied by the EPA to individual landfill licences, which obliges them to limit the % intake of BMW over the year. Figure 2.1 below shows compliance of landfills around the country with this obligation.

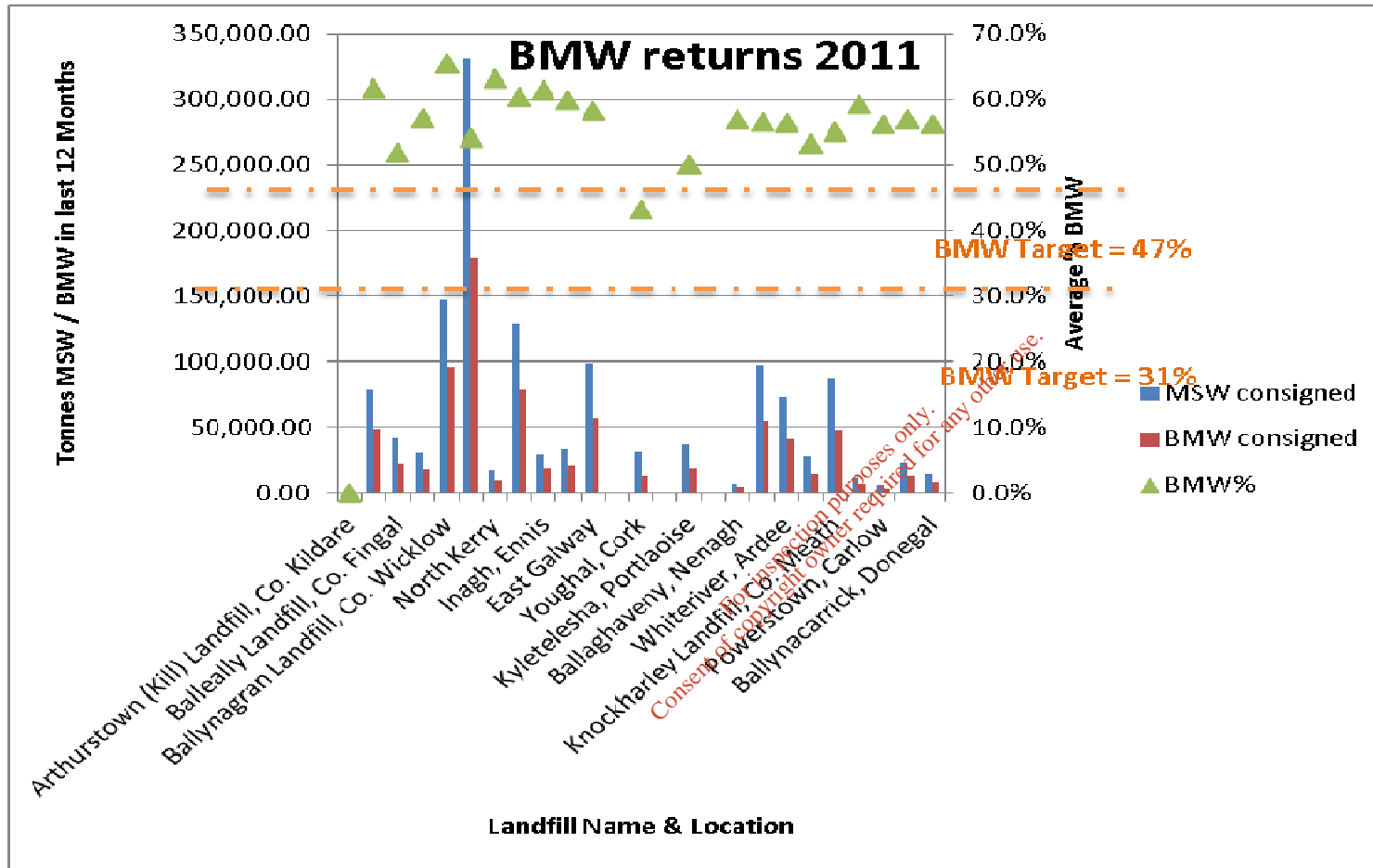


Figure 2.1 Landfill Returns 2010-2011

SOURCE: Data from Landfill BMW returns, EPA (not validated)

This graph compiles data returns from individual landfills for the period Q4 2010 to Q3 2011. This shows that only two landfills have met or performed better than the limits imposed on them in the most recent 12 months. All other landfills in the country exceeded the BMW targets set in their licence conditions.

This demonstrates that most regions are failing to provide sufficient pre-treatment capacity to meet the landfill obligations. The Meath waste-to-energy facility can assist in providing this.

### 2.2.2 Additional EWC Codes

The amendment to the EWC list to include hazardous waste codes is to facilitate waste from Civic Amenity Sites and other Industrial Producers. It is emphasised that only certain types of hazardous waste will be suitable for treatment in the Meath WTE facility. Most of these are already present in the MSW waste being currently accepted on site, (e.g. paint tins, rags and wipes contaminated with paints or oils), and are treated without difficulty. When these streams are collected separately, as from a Civic Amenity Site, they are classified as hazardous in line with the European Waste Catalogue. This may be due to their chemical or physical properties, but does not imply that they are dangerous to handle (i.e. they are handled by householders and businesses regularly). Other streams applied for include "low hazard" materials such as PPE/Clothing from use in industry, filters, absorbents, redundant over the counter preparations, medicines, raw materials such as sugars, starches and gelatin tablet coatings. The list of the proposed EWC codes will be submitted to the EPA for approval with the Waste Licence Application. The list, which contains all of the EWC codes proposed with examples of waste descriptions within those codes, is also provided in Table 2.1 below.

In 2009, Ireland exported 150,395 tonnes of hazardous waste (EPA National Waste Report 2009). The majority of this hazardous waste exported from Ireland requires more specialist treatment than exists at the Meath WTE facility (A hazardous thermal treatment facility for the Cork region has been proposed by Indaver. This facility would be designed to manage hazardous waste streams that involve more complex handling and treatment).

The streams proposed for the Meath WTE facility in this application however, could be handled with no change to the existing technology or processes, the only exception being medical or infectious wastes for which a direct feeding mechanism will have to be installed. Indeed, the nature of the proposed waste streams would aid in balancing out waste with a lower calorific value. In 2010, Indaver managed 65,952 tonnes of hazardous waste for its customers, the majority of which was exported for treatment. It was from this exported material that certain waste streams were identified as being suitable for diversion from export, to treatment at the Meath WTE facility. It is estimated that approximately 10,000 – 15,000 tonnes per annum of these low hazard waste streams could be treated at the Meath WTE facility. Indeed the separately collected waste streams are being exported to mainland Europe for thermal treatment in facilities similar to the Meath WTE facility.

Table 2.1 – List of proposed new EWC Codes and Waste Types

EWC	Example of Material	Industry Source	Waste Management Region
160507*	Toilet bowl or other cleaners, detergents etc.	All industry	ALL Regions
160508*	Denture fixative waste	All industry	ALL Regions
160303*	Colourings used in cosmetic manufacture	All industry that generates off specification or redundant products	ALL Regions
160305*	Cosmetic eye shadow base, mascara, lipstick	All industry that generates off specification or redundant products	ALL Regions
150202*	Rags and cloths contaminated with paints	All industry that uses absorbents/filters/PPE etc	ALL Regions
150110*	Plastic jerricans previously containing cleaning agents	All industry that uses packaging	ALL Regions
170204*	Wood from dismantled warehouse contaminated with creosote or other preservative	Construction & Demolition projects	ALL Regions
170903*	Construction & Demolition waste such as window frames from a pharmaceutical building - may contain trace pharmaceutical powders.	Construction & Demolition projects	ALL Regions
170505*	Dredging spoil from firewater retention ponds	Construction & Demolition projects	ALL Regions
170503*	Soil & stones from clean up operations resulting from building foundations where possible contamination has occurred (e.g. on pharma site - old building)	Construction & Demolition projects	ALL Regions
180103*	Medical/Infectious Wastes. (Excluding Sharps) from Clinics, nurses stations etc.	Healthcare industry, users of healthcare/diagnostic/research products	ALL Regions
130701*	Waste fuel oil and diesel	Manufacture/supply use of oils & fuels	ALL Regions
070101*	Water from a spill clean up containing trace oils and adhesive powders.	Manufacturers or users of organic chemicals	ALL Regions
080308	Waste Ink Solution (Water and Non hazardous Ink Solids) , paint and water	Manufactures or users of paints & inks	ALL Regions

	mixture		
200137*	Treated wood from Civic Amenity sites	Municipal/Industrial/Commercial Waste	ALL Regions
200127*	Paint cans, and paint waste from Civic Amenity sites	Municipal/Industrial/Commercial Waste	ALL Regions
200128	Water based paint from Civic Amenity sites	Municipal/Industrial/Commercial Waste	ALL Regions
070501*	Rinsewaters containing trace pharmaceutical residues.	Pharmaceutical manufacturers or users	ALL Regions
070513*	Headache tablets	Pharmaceutical manufacturers or users	ALL Regions
070511*	Waste water treatment sludge from pharmaceutical plant - trace pharma powders may be present	Pharmaceutical manufacturers or users	ALL Regions
191303*	Sludges from soil remediation - e.g. illegal dumping clean up	Soil & Groundwater remediation Projects	ALL Regions
160107*	Discarded oil filters from garages and mechanics	Vehicle/Machinery Maintenance	ALL Regions
191206*	Wood (treated) from waste management facilities	Waste Management Facilities	ALL Regions
191211*	Shredded paint buckets and cans - contents previously pumped off and packaging shredded	Waste Management Facilities	ALL Regions
191003*	Material from shredding of white goods (after recycling) may contain some trace hazardous materials such as plastics with brominated flame retardants.	Waste Management Facilities where there is metal shredding	ALL Regions
190811*	Waste water treatment sludge from local authority treatment plants where possible contamination may have occurred	Waste water treatment plants	ALL Regions
030104*	Wood shavings and small pieces of wood, treated with preservative, from furniture/window manufacturers	Wood Processing/Furniture manufacturer	ALL Regions

190113*	190107*	Flue Gas Treatment residues, bottom ash and boiler ash, temporarily returned to site before being re-sent for treatment	Indaver Ireland WTE, Carranstown	NE Region
190112				

There are currently limited alternative treatment options for this material in Ireland and no alternative recovery options, as discussed further in Section 3.

It is therefore submitted that the rational approach, as for the additional MSW capacity, is to use existing infrastructure at the Meath waste-to-energy facility for these select hazardous waste streams and thereby reduce waste exports. This would align with the core objectives of Irish and EU waste policy including the proximity principle, improving self-sufficiency in waste treatment and reducing the environmental impacts associated with waste transport.

### 2.2.3 Amendments to Waste Acceptance Hours and Dispatch of Residues

As can be seen in more detail in Chapter 13 Traffic, and discussed further in Section 5.4.3, the hours of waste acceptance currently result in a peak of deliveries for the first half hour slot of 08:00 – 08:30, and also during the lunch hour slot of 13:00 to 13:30. This also coincides with peak time commuter traffic. It is in an effort to even out these peaks in numbers during rush hour traffic that the amendment to waste acceptance hours is sought.

Unrestricted hours for Waste Residues leaving site (Bottom ash, flue gas cleaning residues and boiler ash etc.) is sought, again to spread off-site movements more evenly throughout the day as well as facilitating the movement of containers of flue gas cleaning residues & boiler ash to Dublin Port for export for treatment (See Section 5.4.4) under Regulation EC1013/2006 without postponement/cancellation of these shipments with the National TFS Office and Competent Authorities in destination countries.

### 2.2.4 Change in status of temporary structures and car park area

Indaver seek to convert from temporary to permanent status the existing spare parts warehouse and single storey office block.

It is Indaver's intention to establish a Central Maintenance Depot for storage of spare parts, machinery and maintenance related materials at the Meath WTE Facility. This warehouse would not only serve the needs of the WTE plant on site, but also any requirements of our Dublin Port Waste Transfer Station and Solvent Blending Facility. In the future, it is hoped that this warehouse will also serve Indaver's Cork WTE Facility which is currently in the planning process. The proximity of the Meath WTE facility to Dublin Airport's many air links to Europe and beyond make this an ideal location for this new Depot.



The Electrical Switchgear building associated with this warehouse is included in this application. The area of hard core adjacent to the warehouse used during the construction period may again be required for lay down of materials and equipment during annual shutdowns and hence forms part of the application.

The conversion of the Office Block from temporary to permanent, to accommodate Indaver Staff visiting from other sites, house additional meeting rooms, and be a base for any contractors needed on site from time to time, is also sought. Its location, separate from the main process building, will keep contractors/other Indaver staff away from the main process building and office space in order to have minimal disruption to general operations. The electrical switchroom associated with this structure is also included in this application.

Currently the effluent from this building is discharged to a holding tank. It is proposed to add a Puraflo Effluent Treatment system to the North North-East side of the office building as an improved treatment solution.

To accommodate the visiting staff/contractors to be housed in this Office Block, an additional 22 paved car park spaces are proposed for the existing car park to the East of the Security Building.

When the facility is on a shutdown for maintenance, the hard cored area designated for contractor parking during the construction phase may be needed. It is proposed that this area be converted to permanent status also.

This application also proposes that the access road to the Office Block be paved (with hard cored areas on either side of this paved area) to provide an even surface by which to approach the office block.

### **2.2.5 AMMONIA AND FUEL OIL STORAGE TANKS – FUTURE ADDITIONAL CAPACITY**

It is anticipated that at some future date, additional storage capacity on site for Ammonia and Fuel Oil would be beneficial to operational efficiency. This would enable the frequency of deliveries to be optimised. Currently, the storage capacity for Fuel Oil is 44m<sup>3</sup> and Ammonia is 62m<sup>3</sup>. If determined that additional capacity is necessary, it is proposed to install duplicate storage tanks beside the existing storage tanks, in effect doubling the capacity of each. The layout of these additional tanks are shown in Figure 5.4 and on the drawings accompanying the application. The addition of an extra oil tank would also allow for the possibility to burn waste oil (EWC Code for waste oil is listed in the table above) to balance with the burning of low CV wastes.