

4. Biodegradable municipal waste

- Preliminary data indicate Ireland is on course to meet the 2013 Landfill Directive target which allows a maximum of 610,000 tonnes of biodegradable municipal waste to be landfilled in 2013.
- There has been a decrease in the percentage of biodegradable municipal waste sent to landfill for disposal between 2011 (57%) and 2012 (54%).

4.1 Introduction

Biodegradable municipal waste (BMW) comprises those elements of the municipal waste streams that will rot or degrade biologically. The main constituents of the biodegradable proportion of municipal waste are typically parks and garden waste, food waste, timber, paper, card and textiles. There are two key pieces of EU legislation that deal with biodegradable waste. The first is the Landfill Directive (1999/31/EC) which requires the diversion of biodegradable waste from landfill. The second is the Waste Framework Directive (2008/98/EC) which requires Member States to take measures to encourage separate collection of biowaste (putrescible portion of biodegradable wastes).

4.2 EU Landfill Directive

In relation to BMW the Landfill Directive sets limits on what can be sent to landfill. These limitations (which are tied to the 1995 statistical base year for waste production in Ireland³⁵) are phased, with each phase having a stricter obligation in relation to diversion. These obligations can be summarised as follows:

- By 16th July 2010 Ireland can only landfill a maximum 75% of the BMW generated in 1995,
- By 16th July 2013 Ireland can only landfill a maximum 50% of the BMW generated in 1995,
- By 16th July 2016 Ireland can only landfill a maximum 35% of the BMW generated in 1995.

4.3 BMW disposed to landfill

In order to assist Ireland's obligations under the Landfill Directive, the EPA reviewed all operational municipal waste landfill licences in 2009. New conditions were inserted into the licences limiting the acceptance of BMW and requiring the determination of the BMW in municipal waste accepted.

4.3.1 Reporting to the EPA

Each landfill operator accepting municipal waste is required to report to the EPA on a quarterly basis the quantity of municipal waste and BMW accepted at the landfill. The reports are submitted via a web-based system that incorporates EPA approved BMW factors necessary to calculate the BMW content of various municipal waste streams. More information may be found in the '*Protocol for the Evaluation of Biodegradable Municipal Waste sent to Landfill*' (EPA, 2011³⁶).

The overall tonnage of BMW landfilled nationally in 2012, as reported by landfill operators to the EPA, was 589,260 tonnes (see Appendix E). This is less than the Landfill Directive target of 916,000 tonnes for that year.

An analysis of the types of municipal wastes accepted for disposal during 2012 is shown in Table 9. There was a significant reduction in the amount of untreated waste going to landfill compared to 2011 (refer to EPA's National Waste Report 2011³⁷). In addition, there was an increase in the quantity of residues from source separated recyclable waste which may be due to an increase in contamination levels of the mixed dry recyclable bins.

35 National Waste Database Report 1995. (EPA, 1996).

36 <http://www.epa.ie/pubs/advice/waste/municipalwaste/bmwstenttolandfillfacilities.html>

37 http://www.epa.ie/pubs/reports/waste/stats/National%20Waste%202011_web.pdf

Table 9: BMW tonnage of different types of municipal waste accepted at landfills in 2012

Waste Type	BMW tonnes	% BMW in municipal wastes
2-bin residual commercial waste	90,937	75%
2-bin residual household waste	113,394	63%
3-bin residual commercial waste	59,278	68%
3-bin residual household waste	100,418	47%
Ash residue from municipal waste incineration	0	0%
Bio-stabilised residual waste	0	0%
Bulky waste from sorting of municipal waste skips	14,178	50%
Fines residues from municipal waste bin collections ("wet waste")	1,101	95%
Fines residues from municipal waste skips	7,271	40%
Other	119,013	63%
Oversize residues from municipal waste bin collections ("wet waste")	13,766	41%
Oversize residues from municipal waste skips	39,983	43%
Residual municipal waste from civic amenity facility	6,132	63%
Residues from source separated recyclable waste ("clean materials recovery facility")	16,299	47%
Untreated 1-bin commercial waste	800	77%
Untreated 1-bin household waste	52	65%
Untreated cleansing waste (fly-tipping, street bins, road sweepings etc.)	6,403	65%
Untreated municipal waste skip waste	236	35%
Totals	589,259	54%

Figure 11 shows the tonnes of BMW landfilled per quarter in 2012 versus Landfill Directive targets since Quarter 3 2010 when the BMW limits came into force in the landfill licences.

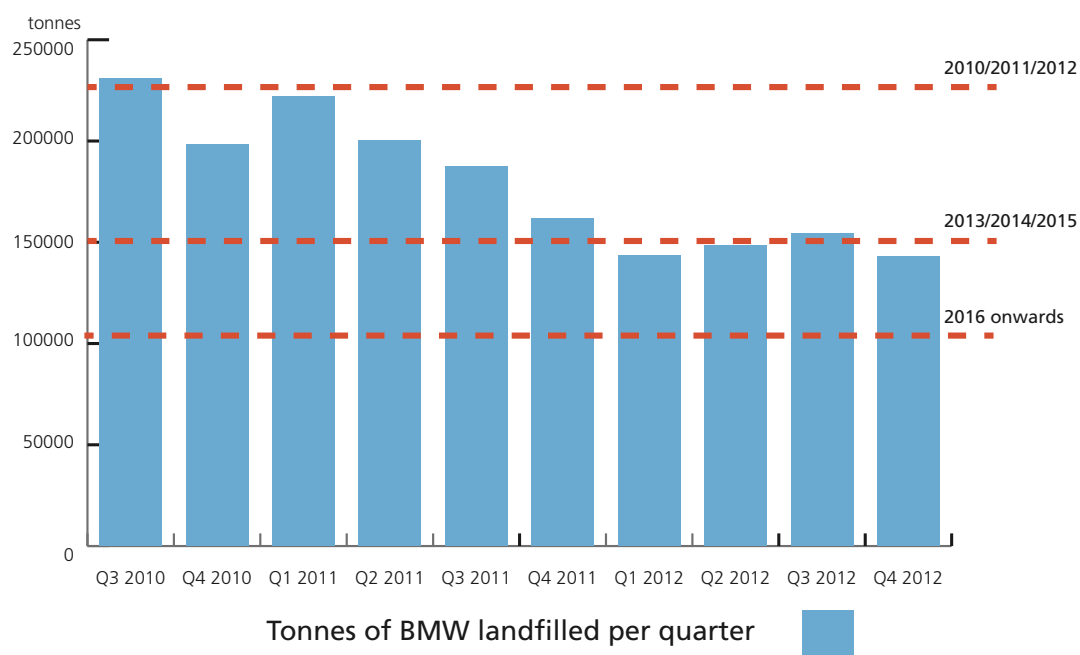


Figure 11 BMW tonnage landfilled per quarter versus Landfill Directive Targets (pro-rata)

4.3.2 Enforcement by the EPA

The BMW limits in the landfill licences are annual limits and apply to the total quantity of municipal wastes accepted in a calendar year. The quarterly BMW reports required of landfill operators give an indication of how much BMW the landfill has accepted as the year progresses which facilitates corrective actions being taken if required.

In the Technical Guidance Document *“Municipal Solid Waste – Pre-Treatment and Residuals Management”* (EPA, 2009)³⁸, the EPA undertook to keep the BMW limits under periodic review as informed by annual waste statistics. In line with this guidance and given Ireland’s compliance with the Landfill Directive BMW targets for 2010 and 2011, the EPA amended the BMW limits in the licences. These amendments were notified to landfill operators in 2012 and are shown in Table 10.

Table 10 BMW limits in landfill licences

Time period	Previous % BMW limit	Current % BMW limit as specified in 2012
To 30 June 2013	47%	55%
1 July 2013 – 30 June 2016	30%	40%
From 1 July 2016	15%	15%

In addition the licences state that all waste must receive appropriate treatment prior to disposal at landfill.

4.4 Targets and distance to targets

Table 11 below sets out the targets for Ireland under the Landfill Directive, progress with targets to date and distance to future targets.

38 <http://www.epa.ie/pubs/advice/waste/municipalwaste/finalguidancedocument.html>

Table 11: Targets and distance to targets for BMW diversion from landfill disposal³⁹

Baseline year 1995		Quantity BMW generated: 1,220,840 tonnes	
Year ⁴⁰	Landfill Directive target	Maximum quantity BMW allowed to be landfilled (t, rounded)	Quantity BMW landfilled (t, rounded)
2010 (target year)	75% of quantity BMW generated in 1995	916,000	860,000
2011			771,550
2012			589,000
2013 (target year)	50% of quantity BMW generated in 1995	610,000	380,810 ⁴¹
2016 (target year)	35% of quantity BMW generated in 1995	427,000	<i>Distance to 2016 target based on 2013 BMW disposed (preliminary data) = 46,190 tonnes below target</i>

4.5 Future actions for BMW

The separate kerbside collection of household food and garden waste (in a 3-bin system) has increased in recent years, and 80,046 tonnes was collected at household kerbside in 2012 compared with 77,494 tonnes in 2011.

The EU (Household Food Waste and Bio-Waste) Regulations, published in March 2013, place obligations on householders that produce food waste to segregate it and present it for collection. The Regulations also place obligations on waste collectors to provide a food waste collection service for householders, on a phased basis (based on population agglomerations) from July 2013 to July 2016. It is anticipated that following implementation and enforcement of these Regulations that more household food waste will be diverted from landfill.

The separate collection of non-household municipal food waste (EWC 20 01 08) was reported as 46,775 tonnes in 2012 (compared with 53,292 tonnes in 2011), 25,343 tonnes of edible oils and fats (EWC 20 01 25) were collected in 2012 (compared to 21,689 tonnes in 2011) and 16,140 tonnes of biodegradable garden and park wastes (EWC 20 02 01) was collected in 2012 (compared to 18,948 tonnes in 2011).⁴² The segregation of food waste by major generators within the commercial sector has been a requirement since the obligations of the Waste Management (Food Waste) Regulations 2009 came into effect on 1 July 2010. It would therefore be expected that the collection of non-household food waste would be increasing, rather than decreasing, as was the trend between 2011 and 2012.

The Government increased the landfill levy from €50 per tonne in 2011, to €65 per tonne in 2012 and it rose again in 2013 to €75 per tonne. This levy will make pre-treatment more cost effective - particularly in respect of BMW - thereby reducing the quantities and costs of residual disposal to landfill.

³⁹ Revised in the National Waste Report 2008.

⁴⁰ The Landfill Directive allowed Ireland to avail of a derogation under Article 5 which postponed the 2006 and 2009 targets for four years

⁴¹ 2013 BMW tonnage landfilled is a preliminary figure and is liable to change

⁴² Data source NWCPO annual return dataset. Data not validated by EPA.

The increasing landfill levy and the economic down-turn contributed in significant ways to Ireland's achievement of the first EU Landfill Directive diversion target (July 2010) for biodegradable waste. Preliminary data indicate that Ireland is on track to meet the 2013 target but in order to ensure compliance with future EU targets (particularly as the economy recovers), efforts in waste prevention, diversion to recovery and the development of necessary supporting infrastructure must continue.

Source separated collections of biodegradable waste in themselves will not ensure that Ireland meets the diversion targets set out in the EU Landfill Directive. For example, the residual bin from a 3-bin household collection service can contain up to 47% biodegradables (by weight) according to 2008 municipal waste characterisation studies (see Table H-1 of Appendix H). Treatment of this biodegradable component of the residual waste is therefore essential.