

APPENDIX 7 – BMW DIVERSION PLAN

7.1 INTRODUCTION

Guidance on Developing Municipal Waste Management Strategies requires that Councils prepare a Biodegradable Municipal Waste (BMW) Diversion Plan to identify the proposed strategy for diverting biodegradable municipal waste away from landfill in order to achieve the EU Landfill Directive targets. WAG have recently issued Draft Guidance containing details of targets to be met by all local Authorities in Wales, which has been used to prepare the following BMW diversion plan.

7.2 BACKGROUND

Article 5 (1) of the EC Landfill Directive, as implemented in the United Kingdom (UK) by the proposed provisions of the Waste and Emissions Trading Bill, requires Member States to produce a strategy for diverting biodegradable municipal waste (BMW) from landfill in order to comply with the requirements of Article 5 (2). The main requirements of Article 5 (2) are:

- (a) not later than five years after the date laid down in Article 18 (1), biodegradable municipal waste going to landfills must be reduced to 75% of the total amount (by weight) of biodegradable municipal waste produced in 1995.
- (b) not later than eight years after the date laid down in Article 18 (1), biodegradable municipal waste going to landfills must be reduced to 50% of the total amount (by weight) of biodegradable municipal waste produced in.
- (c) not later than 15 years after the date laid down in Article 18 (1), biodegradable municipal waste going to landfills must be reduced to 35% of the total amount (by weight) of biodegradable municipal waste produced in 1995.

The target years in which the UK must comply with Article 5 (2) of the Directive are 2010, 2013 and 2020. This assumes that the UK Government applies for the four year derogation to which it is entitled, since the UK sent to landfill more than 80% of its municipal waste in 1995.

In the UK, Article 5 (1) and 5 (2) of the European Council (EC) Landfill Directive are to be implemented through the Waste and Emissions Trading Bill, based on the creation of a landfill allowance scheme aimed at limiting the quantities of biodegradable municipal waste (BMW) going to landfill. The Waste and Emissions Trading Bill proposes a legal framework within which the landfill allowance scheme will operate. The Bill would require that the scheme be administered separately by each of the Devolved Administrations (DAs), as allocating authorities for the landfill allowance scheme. The National Assembly for Wales will implement the scheme in Wales.

The maximum landfill allowances currently available for allocation within Wales, in Directive target years, are:

- 2010 710, 000 tonnes of BMW

- 2013 470, 000 tonnes of BMW
- 2020 330, 000 tonnes of BMW

The Assembly Government proposes that the penalty for failing to meet landfill allowance targets, in any year, will be a financial penalty on a waste disposal authority equivalent to £200/tonne for each tonne of BMW landfilled in excess of the landfill allowance limit.

The Assembly Government has decided that landfill allowance allocations for the first year of the scheme, 2004, will be based on landfill need. The landfill need for each waste disposal authority will be taken to be the amount of BMW sent to landfill in the latest year for which validated data is available. The proportion of biodegradable material in municipal waste that is landfilled will be assumed to be the same across all authorities in Wales, possibly 64%, but yet to be finally confirmed. The allocations of landfill allowances in the first target year of 2010 are likely to be based upon the proportions of waste arising in each local authority, probably based on 1998 data. The allowances allocated to a local authority for each year of the scheme will be based on a linear reduction in allowances from 2004 to 2010. The allocations for individual authorities are presented in Table A7.1, however these may be subject to change following consultation.

Name	Total Municipal Waste arisings in 2000/01	Municipal waste landfilled in 2000/01	Landfill allowances 2004	Landfill allowances 2010
Blaenau Gwent CBC	43,242	42,167	26,987	18,696
Bridgend CBC	70,038	66,036	42,263	30,281
Caerphilly CBC	103,020	99,413	63,624	44,541
Cardiff County Council	155,869	150,615	96,394	67,390
Carmarthenshire County Council	88,314	80,766	51,690	38,183
Ceredigion County Council	37,380	32,529	20,819	16,161
City of Swansea Council	150,634	133,338	85,336	65,127
Conwy CBC	82,847	62,369	39,916	35,819
Cyngor Gwynedd	66,765	63,310	40,518	28,866
Denbighshire County Council	46,448	43,856	28,068	20,082
Flintshire County Council	89,194	83,350	53,344	38,563
Gwynedd County Council	46,162	44,764	28,649	19,958
Merthyr Tydfil CBC	27,928	27,154	17,379	12,075
Monmouthshire CC	49,293	45,949	29,407	21,312
Neath Port Talbot CBC	86,203	84,172	53,870	37,270
Newport CBC	62,297	56,967	36,459	26,934
Pembrokeshire County Council	68,990	61,048	39,071	29,828
Powys County Council	61,280	55,991	35,834	26,494
Rhondda Cynon Taff CBC	112,083	108,057	69,156	48,459
Torfaen CBC	55,783	53,341	34,138	24,118
Vale of Glamorgan Council	58,735	53,990	34,554	25,394
Wrexham CBC	79,682	78,049	49,951	34,451
TOTAL FOR WALES	1,642,186	1,527,230	977,427	710,000

Table A7.1: Possible Landfill Allowance for all Authorities in Wales.

The Welsh Assembly Government intends to allocate to each waste disposal authority in Wales a maximum quantity that it may landfill in each year from 2004 to 2020. In all scheme years whether target (2010, 2013 and 2020) or non-target years, waste disposal authorities may not landfill more BMW than their allowances permit.

APPENDIX

7.3 WHAT DOES THIS MEAN FOR GWYNEDD COUNTY COUNCIL?

Based on the figures presented in Table A7.1, and assuming a linear relationship between 2004 and 2010, the proposed landfill allowances for Gwynedd are shown in Table A7.2 (declining growth scenario).

Year	BMW Landfill Allowance (tonnes)	Total MSW (tonnes)	Predicted BMW arisings assuming declining growth) (tonnes)	Diversion requirements (tonnes)
2004	40,518	85,524	54,710	14,192
2005	38,124	90,651	57,990	19,866
2006	35,730	96,086	61,466	25,736
2007	33,335	101,322	64,816	31,481
2008	30,941	106,292	67,995	37,054
2009	28,547	110,926	70,959	42,413
2010	28,866	115,158	73,667	44,801
2011	25,613	118,924	76,075	50,462
2012	22,361	122,164	78,148	55,787
2013	19,108	124,827	79,852	60,744
2014	18,295	126,868	81,158	62,862
2015	17,482	128,251	82,042	64,560
2016	16,669	128,950	82,489	65,820
2017	15,856	128,950	82,489	66,633
2018	15,043	128,950	82,489	67,446
2019	14,230	128,950	82,489	68,260
2020	13,417	128,950	82,489	69,073

Table A7.2: Predicted Landfill Allowance Tonnages for Gwynedd

Figure A7.1 identifies the individual factors and requirements associated with achieving the statutory BMW diversion targets. In particular:

Line 1 represents the quantity of biodegradable waste to be diverted from landfill to satisfy the Landfill Directive requirements.

Line 2 represents the total biodegradable municipal waste arisings. The area bounded by Line 1 and Line 2 represents the total quantity of biodegradable material permitted to be landfilled.

Line 3 represents the total municipal waste arisings.

Area 1 represents the minimum composting performance to achieve the WAG composting targets assumed to be 5% in 2003/4, 10% in 2006/7 and 15% in 2009/10. A rate of 15% is assumed for all years post 2009/10, comprising segregated green waste at CA sites and kerbside collection of organics.

Area 2 and Area 4 combined represent the recycling performance required to achieve the WAG recycling targets assumed to be 10% in 2003/4, 15% in 2006/7 and 25% in 2009/10. This is a summation of all recycling activities including bring banks, kerbside collections and recycling at Household Waste Recycling Centres. Area 2 represents the biodegradable portion of the dry recycle collected and recycled, namely paper, card, textiles and wood, which will contribute to the diversion of biodegradable material from landfill. Area 4 represents the non-biodegradable proportion of dry recycle collected and/or recycled.

Area 3 represents the minimum quantity of BMW to be diverted to a residual treatment facility to meet the BMW diversion requirements assuming 100% treatment of the biodegradable portion. This would be the situation if thermal, anaerobic digestion or MBT with biostabilised waste utilised as compost product, are chosen as the residual treatment facility. However for MBT, where the waste is merely biostabilised then the whole residual waste quantity may have to be diverted through the MBT plant to achieve the required diversion rates for biodegradable material⁷.

Thus, the BMW diversion requirements are achieved through a combination of composting (Area 1), recycling of biodegradable materials (Area 2) and treatment of a portion of the residual biodegradable waste (Area 3).

It is evident from Figure A7.1 that the combined recycling and composting performance for the period 2004 to 2010 is insufficient to achieve BMW diversion requirements. Without additional diversion of waste through improved composting/recycling or residual treatment Gwynedd will be unable to meet their landfill allocations for the non-target years 2004 to 2009. As a comparison, Figure A7.2 depicts diversion requirements for a zero growth scenario. It is evident that under zero growth conditions, the combined composting and recycling performance exceeds the landfill allowances for the non-target years between 2004 and 2010 and no additional effort over an above the WAG recycling and composting targets is required.

⁷ Typically, 20-25% of biodegradable material is lost in the MBT plant from the composting action.

The above figures assume that dry recyclate has an average biodegradability of 60%, ie 60% of material collected as dry recyclate is biodegradable. This enforces the need to target paper and other biodegradable materials through dry recyclate collections

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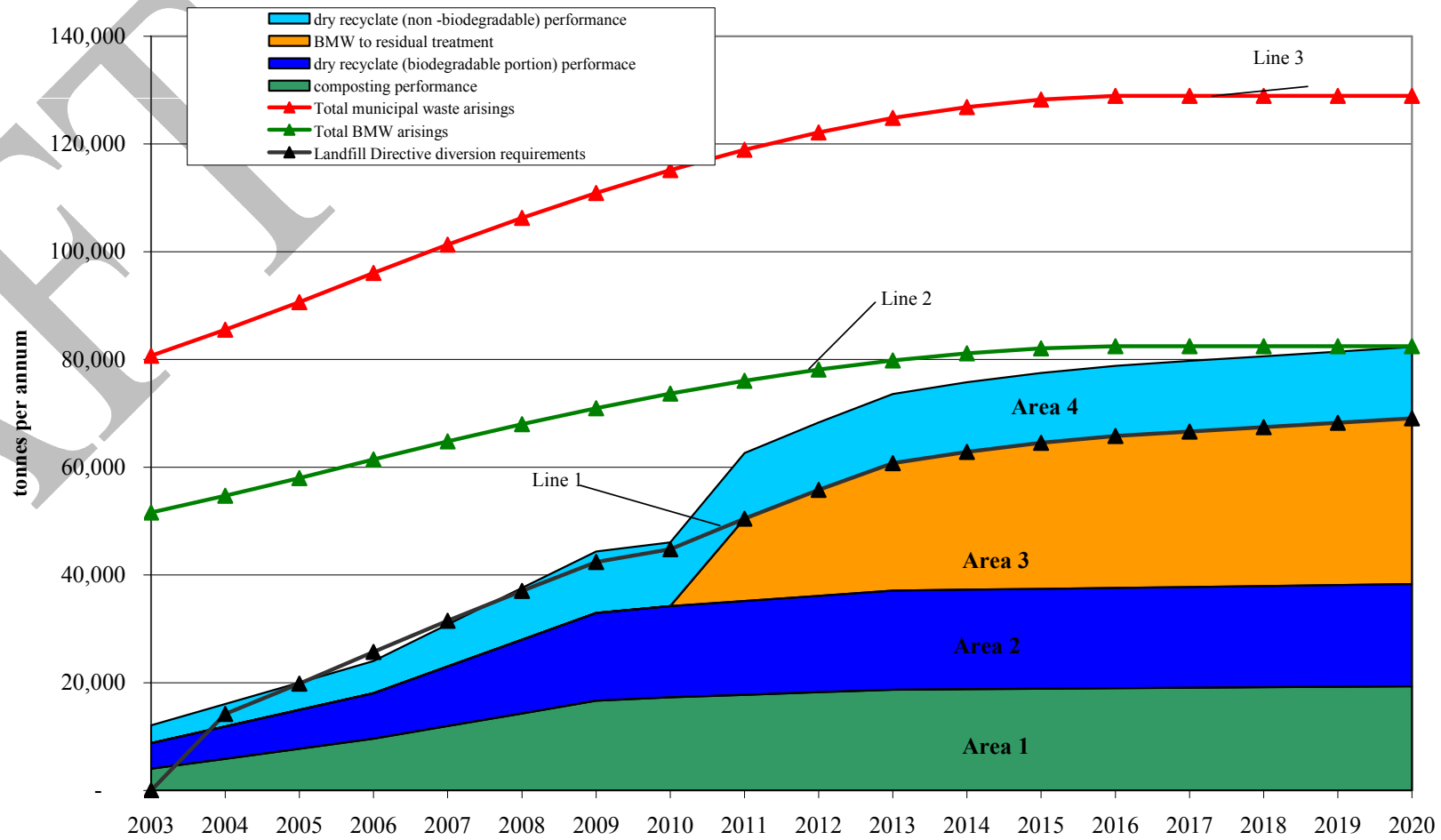


Figure A7.1: Waste Diversion Requirements to achieve BMW Landfill Directive targets (declining growth scenario), based on 60% biodegradability of material collected for recycling

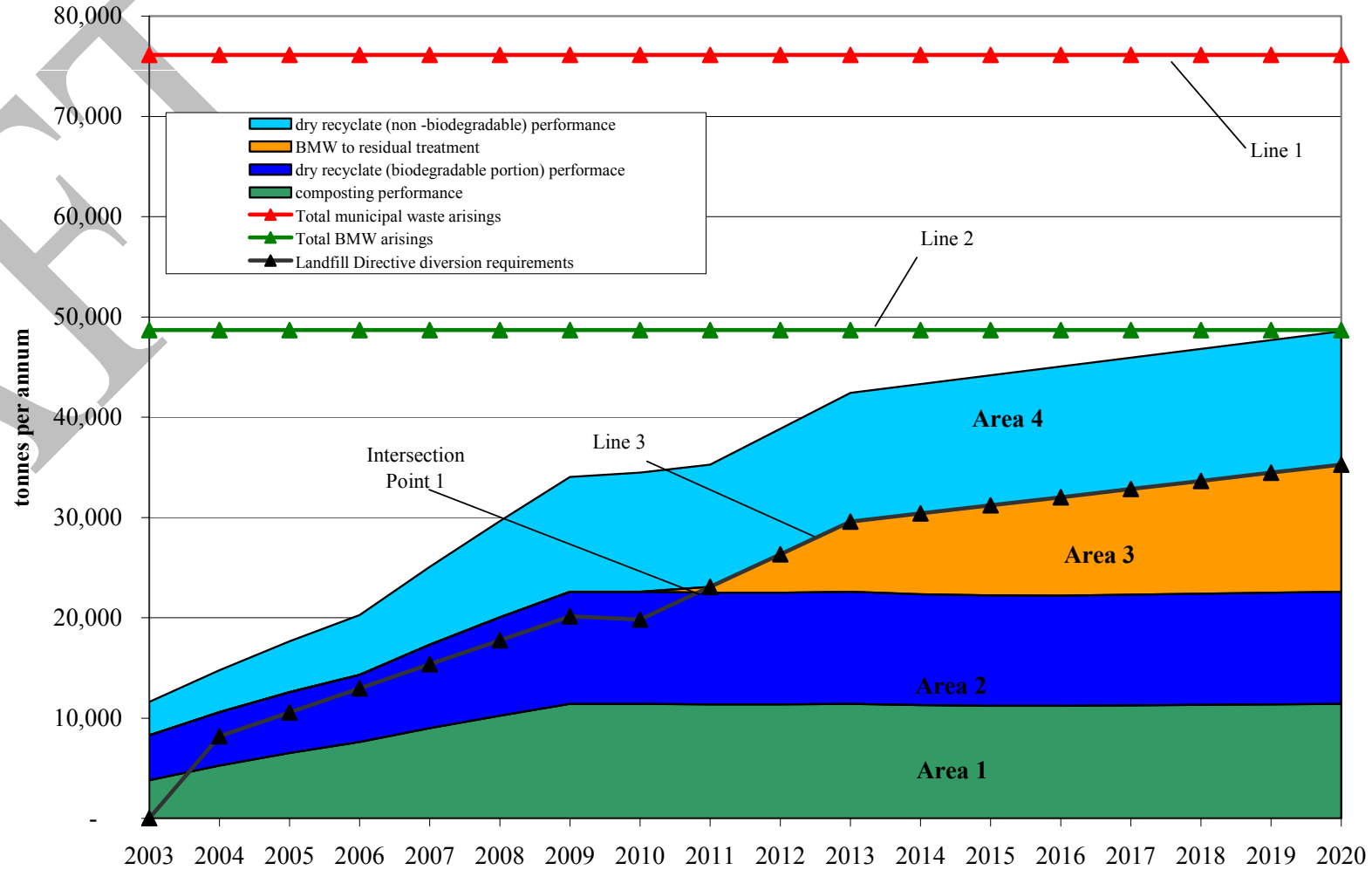


Figure A7.2: Waste Diversion Requirements to achieve BMW Landfill Directive targets (zero growth scenario), based on 60% biodegradability of material collected for recycling

7.4 CONSEQUENCES OF FAILING TO MEET TARGETS

The National Assembly has to ensure that Wales meets its obligations under the EC Landfill Directive, not least to ensure that Wales does not incur infraction fines. The Assembly Government is therefore concerned that any penalties imposed on authorities for exceeding their landfill allowance allocations should encourage future compliance. In the first instance the Assembly will attempt to work with a failing waste disposal authority to ensure that remedial action allows the authority to meet its targets in future years. If, however, an authority demonstrates an inability to achieve its landfill allowance targets, the National Assembly will initiate penalty procedures as follows:

- an audit of the waste disposal authority's performance and future plans for compliance to identify the reason for failure. Where an audit report highlights failings in an authority's performance which make future failure likely, and a waste disposal authority demonstrates an inability to take remedial action, then the National Assembly may initiate further action, namely;
- a financial penalty on a waste disposal authority failing to meet its landfill allowance targets equivalent to £200/tonne for each tonne of BMW landfilled in excess of the landfill allowance limit. This level of penalty has been chosen to exceed the highest likely cost of diverting BMW from landfill. The Assembly Government will increase this financial penalty if necessary.
- where the audit procedure and the financial penalty fail to encourage a waste disposal authority to ensure compliance with the landfill allowance scheme, the National Assembly Government will take this as evidence that the waste management service in the authority is failing to conform to its obligations under the Best Value requirements of the Local Government Act 1999 and may initiate steps to remove the waste management function from the authority.

Where the failure of a Welsh waste disposal authority results in the National Assembly incurring infraction fines, the National Assembly may pass on the fines, in part or whole, to the authority.

An additional fine of £1,000 may be levied for instances where a waste disposal authority fails to maintain records, gather prescribed information, make prescribed returns or produce records for inspection.

A landfill site operator failing to comply with the Regulations will be liable to:

- on summary conviction, a fine not exceeding the statutory maximum;
- on conviction on indictment, imprisonment for a term not exceeding 2 years or a fine, or both.

7.5 PROPOSED BMW DIVERSION PLAN

In order to meet the BMW diversion targets set for Gwynedd for the target years (2010, 2013 and 2020) the Council intends to introduce a range of schemes for diversion of biodegradable waste away from landfill. The schemes will be introduced in a phased manner and will be reviewed on an on-going basis to ensure compliance with the requirements set out in the Draft Guidance on implementation of the Waste Emissions Trading Bill. There may be a need to review the requirements and the proposed plans in light of any changes to the Guidance as a result of current consultation.

The proposed schemes, which are discussed in more detail within the Strategy document, are as follows:

1. For the period up to 2009/10, a phased introduction of recycling and composting initiatives, in line with the recycling plan, to meet the WAG recycling and composting targets for target years 2003/4, 2006/7 and 2009/10, to include:

CA sites

Introduction of recycling and composting initiatives to achieve diversion targets as a minimum of:

- 40% diversion by 2003/4
- 50% diversion by 2006/7
- 60% diversion by 2009/10

Enhancement of the Household Waste and Recycling Centre (HWRC) provision across the County to facilitate improved access to the principal population centres and increased diversion of materials for recycling and reuse.

Bring sites

Maintain existing 61 bring sites and introduce additional sites where kerbside collection is not practical.

Kerbside Collection

Continued introduction of kerbside collections on a phased basis, to include dry recyclables and compostables, in line with the proposed recycling plan.

On-farm composting

The use of on-farm composting sites for composting of green waste and other biodegradable waste but excluding kitchen waste

In-vessel composting

Development of a composting site or sites to manage kerbside collected putrescible (kitchen) and green wastes.

2. From 2010 onwards, diversion of residual waste to a residual waste treatment facility with subsequent reduction in tonnages of material consigned to landfill.

The preferred technology for residual treatment, identified as the BPEO in Technical Appendix A6 is Mechanical Biological Treatment.

The predicted diversions for target years 2010, 2013 and 2020 and all intervening non-target years are given in Table A7.3.

Year	Compostables (tonnes)	Dry Recyclate (Biodegradables) (tonnes)	Residual Treatment (tonnes)	Total Diversion (tonnes)
2003	4,034	4,746	-	8,781
2004	5,892	5,990	-	11,883
2005	7,750	7,234	-	14,985
2006	9,609	8,478	-	18,087
2007	11,952	11,090	-	23,042
2008	14,295	13,701	-	27,997
2009	16,639	16,313	-	32,952
2010	17,274	16,935	-	34,209
2011	17,757	17,409	15,296	50,462
2012	18,241	17,883	19,664	55,787
2013	18,724	18,357	23,662	60,744
2014	18,812	18,444	25,606	62,862
2015	18,901	18,530	27,129	64,560
2016	18,989	18,617	28,214	65,820
2017	19,077	18,703	28,852	66,633
2018	19,166	18,790	29,491	67,446
2019	19,254	18,877	30,129	68,260
2020	19,342	18,963	30,767	69,073

Table A7.3: Waste Diversion Requirements

It should be noted that the combination of source segregated composting and recycling alone will not divert sufficient biodegradable material to satisfy the landfill allowance requirements for non-target years 2004 to 2009. The BMW landfill diversion requirements for this period can only be achieved by exceeding the minimum recycling and composting targets or by introducing residual treatment from 2004. A relatively simple and economic solution to this problem could be diversion of the underflow (fines) material from the pulverisor plant to composting.