

WASTE MANAGEMENT PLAN FOR THE DUBLIN REGION 2005 - 2010



ANNUAL PROGRESS REPORT 2009



January 2010

TABLE OF CONTENTS

EXECUTIVE SUMMARY	V
1 INTRODUCTION	1
2 WASTE GENERATION IN THE DUBLIN REGION	2
3 WASTE PREVENTION AND MINIMISATION	3
3.1 RESOURCES.....	3
3.1.1 Local Agenda 21.....	3
3.2 GREEN BUSINESS ACTIVITIES.....	4
3.3 GREEN SCHOOLS CAMPAIGN.....	5
3.4 DUBLIN REGIONAL WASTE AWARENESS WEBSITE.....	5
3.5 HOME COMPOSTING.....	6
4 WASTE REUSE	7
4.1 FREE TRADE.....	7
5 HOUSEHOLD WASTE COLLECTION AND RECYCLING	8
5.1 ARISING.....	8
5.2 LOCAL AUTHORITY COLLECTION SYSTEMS.....	8
5.3 KERBSIDE COLLECTIONS.....	10
5.3.1 Black Bin Residual Waste Collection.....	10
5.3.2 Green Bin Kerbside Recycling Collection.....	10
5.3.3 Brown Bin Kerbside Collection service.....	10
5.4 UNCOLLECTED WASTE.....	11
5.5 RECYCLING CENTRES.....	11
5.6 BRING BANK & BRING CENTRES.....	12
5.7 HAZARDOUS COLLECTIONS.....	14
5.8 BULKY WASTE COLLECTIONS.....	14
6 COMMERCIAL AND MUNICIPAL WASTE	15
6.1 COMMERCIAL WASTE ARISING.....	15
6.2 COMMERCIAL WASTE RECOVERY.....	15
6.3 MUNICIPAL WASTE ARISING AND RECOVERY RATE.....	16
6.4 MUNICIPAL WASTE PROJECTIONS.....	17
7 PACKAGING WASTE	18
7.1 PACKAGING WASTE ARISING.....	18
7.2 RECOVERY.....	18
7.3 ESTIMATE OF PACKAGING WASTE LANDFILLED.....	18
8 CONSTRUCTION AND DEMOLITION (C & D) WASTE	20
8.1 ARISING.....	20
8.2 RECOVERY/DISPOSAL.....	20
9 PRIORITY WASTE STREAMS	22
9.1 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE).....	22
9.2 END OF LIFE VEHICLES (ELVs).....	23
9.3 WASTE TYRES.....	24
10 WASTE DISPOSAL	25
10.1 WASTE DISPOSAL – SITUATION 2008.....	25

10.2	EXISTING LANDFILLS	25
11	REGULATION AND ENFORCEMENT	27
12	INFRASTRUCTURAL DEVELOPMENTS	28
12.1	COLLECTION.....	28
12.2	MATERIALS RECOVERY FACILITY	28
12.3	BIOLOGICAL TREATMENT	28
12.4	WASTE-TO-ENERGY.....	28
12.5	LANDFILL	29
13	KEY PERFORMANCE INDICATORS.....	30
13.1	HEADLINE INDICTORS	30
13.2	PREVENTION AND MINIMISATION	31
13.3	RECYCLING OF MUNICIPAL WASTE.....	32
13.4	CONSTRUCTION AND DEMOLITION WASTE	33
13.5	WASTE ELECTRICAL AND ELECTRONIC WASTE	34
13.6	HOUSEHOLD HAZARDOUS WASTE.....	35
13.7	PACKAGING WASTE	36
13.8	RECOVERY OF ENERGY FROM WASTE.....	37
13.9	LANDFILL DISPOSAL	38

LIST OF TABLES

Table 2.1: Waste Arisings Managed in the Dublin Region for 2003, 2006, 2007 & 2008	2
Table 3.1 Local Authority Prevention and Awareness Staff as of December 2008	3
Table 3.2: Local Agenda 21 Environment Fund 2008 Projects and Funding.....	4
Table 3.3: Envirocom 2008 - Waste Prevention Category Award Winners.....	4
Table 3.4: Green School Registrations and Green Flags Awarded (2008).....	5
Table 3.5: Home Composting Tonnages in the Dublin Region	6
Table 5.1: Growth in Household Waste Arisings 2003 - 2008.....	8
Table 5.2: Recycling Rate for Household Waste 2006, 2007 and 2008	9
Table 5.3: Green Bin Recyclables Collected 2003, 2006, 2007 & 2008	10
Table 5.6: Number of Existing Recycling Centres	11
Table 5.7: Recycling Centres in the Dublin Region.....	12
Table 5.8: Number of Bring Banks the Dublin Region in 2003, 2006, 2007 and 2008	13
Table 5.9: Quantity of materials accepted at Bring Banks and Bring Centres in 2008	13
Table 5.10: Household Hazardous Waste Collected at Recycling Facilities 2006, 2007 & 2008	14
Table 5.11: Bulky waste collection services in the Dublin Region in 2008.....	14
Table 7.1 Estimated Packaging Waste Arisings for the Dublin Region for 2003,2006,2007 & 2008.....	18
Table 7.2 Packaging Composition in Landfilled Household and Commercial Waste	18
Table 7.3 Packaging Waste Generated in Dublin and Sent for Disposal in 2008.....	19
Table 8.2: Management of Construction and Demolition Waste 2008 (unit = tonnes).....	21
Table 8.3: Management of Soil and Stones 2008 (unit = tonnes)	21
Table 8.4: Management of Other Construction and Demolition Wastes 2008 (unit = tonnes).....	21
Table 9.1: WEEE collected at Recycling Centres in 2008 (tonnes)	22
Table 9.2: WEEE Collected by Private Operators.....	22

Table 9.3: Household WEEE Collected in the Dublin Region in 2008	23
Table 9.4: No of Authorised Treatment Facilities (ATFs) in the Dublin Region, 2007 & 2008	23
Table 9.5: Tonnes of ELVs collected in the Region in 2006, 2007 & 2008	23
Table 9.6: Quantity of Waste Tyres 2006, 2007, & 2008	24
Table 10.1: Waste Generated in Dublin and Disposed to landfill 2006, 2007 & 2008	25
Table 12.1: Headline Indicators for years 2003, 2006, 2007, and 2008.	30

EXECUTIVE SUMMARY

The Dublin Local Authorities (Dublin City Council, Dun Laoghaire Rathdown County Council, Fingal County Council, and South Dublin County Council) are responsible for producing on an annual basis an update of waste management data and statistics for the Region.

This is the third Annual Progress Report since the publication of the Dublin Regional Waste Plan in November 2005 and provides the most accurate assessment of waste management for the Region.

Waste Prevention

The Dublin Local Authorities continue to invest staff and financial resources in waste prevention and awareness activities in the region.

- The number of schools awarded green flags was 252 at the end of 2008, representing a 46% increase on the number recorded at the end of 2007.
- Home composting in the region continues to increase with an estimated 8,957 tonnes of material produced in 2008 (3% increase since 2007).
- The quantity of household waste generated per capita has decreased to 0.4 tonnes per capita.

Waste Reuse

The Dublin Local Authorities continue to fund and implement reuse based projects and services in the region.

The online reuse service, FREE Trade, is funded and managed by the Authorities and continues to deliver real results with over 9,300 items reused in 2009.

Household Waste

- Household waste arisings in Dublin increased by 1% in 2008.
- The recycling rate for household waste increased to 35% in 2008
- Over 20,000 tonnes of source separated organic waste was collected through the brown bin collection system.
- Over 82,000 tonnes of dry recyclables were collected through the green bin collection system
- The region has 11 active recycling centres and over 32,000 tonnes of material was collected at these locations.
- There are 301 bring banks in the region with over 31,000 tonnes of material collected at these locations.
- It is estimated that over 170,000 brown bins have been rolled out (Dec 2009); over 108,000 in Dublin City Council and over 60,000 in Fingal County Council.

Commercial Waste

- Commercial Waste arising have decreased by an estimated 5% in 2008.
- The recovery rate for commercial waste was calculated to be 46% in 2008.

Municipal Waste

- Municipal Waste arisings have decreased by 3.5% in 2008.
- The recovery rate for municipal waste has remained constant at 41% in the region.

Biodegradable Municipal Waste (BMW)

- The quantity of BMW landfilled at facilities in the region amounted to 250,356 tonnes.
- The total amount of BMW available in the region in 2008 was estimated to be 865,000 tonnes.

Packaging Waste

- The recovery rate of packaging waste increased to 54% in the region.
- Packaging waste increased by 7.7% to an estimated 310,333 tonnes.

Construction and Demolition Waste

- Construction and Demolition Waste Arisings decreased by 7.4% to an estimated 6.5 million tonnes.
- The recovery rate for soil and stones was recorded at 75%.

WEEE

- Over 29,000 tonnes of WEEE was collected in 2008.
- 11kg of household WEEE was collected per capita.

End of Life Vehicles (ELVs)

- There are 13 Authorised Treatment Facilities operating in the Dublin Region.
- Over 14,400 tonnes of ELVs were collected in the region in 2008, representing a 3% increase on 2007.

Waste Tyres

- The quantity of waste tyres reported for 2008 was 7,222 tonnes.

1 INTRODUCTION

The Dublin Local Authorities (Dublin City Council, Dun Laoghaire Rathdown County Council, Fingal County Council, and South Dublin County Council) are responsible for producing on an annual basis an update of waste management data and statistics for the Region.

The Annual Progress Report is published yearly and provides the most up to date information on waste generation, collection and management in Dublin.

This is the third Annual Progress Report since the publication of the Dublin Regional Waste Plan in November 2005 and provides the most accurate assessment of waste management for the Region.

The data in this report was compiled by RPS on behalf of the Dublin Local Authorities

2 WASTE GENERATION IN THE DUBLIN REGION

Table 2.1 provides a summary of key waste streams generated in the Dublin Region and the quantities recorded in 2003, 2006, 2007 and 2008. Each of the waste streams identified in the table are discussed and analysed in subsequent chapters of this report. Data for 2004 and 2005 was not reported on a regional basis with each local authority submitting individual waste reports to the EPA in their functional areas. For this reason this data is not included in the Table 2.1

Table 2.1: Waste Arisings Managed in the Dublin Region for 2003, 2006, 2007 & 2008

Waste Type	Total 2003 (tonnes)	Total 2006 (tonnes)	Total 2007 (tonnes)	Total 2008 (tonnes)
Household Waste Arisings	459,579	464,121	470,220	474,767
Commercial Waste	669,592	819,861	778,295	738,193
Construction and Demolition Waste	3,965,922	7,654,550	7,052,034	6,529,511
Contaminated Soils	8,688	10,869	9,542	10,000*
Litter and Street Sweepings	30,235	36,616	35,580	35,136
Packaging waste	511,738	279,593	288,081	310,333
Priority waste streams:				
Waste tyres	8,554	5,058	9,542	7,222
End of life vehicles	56,493	7,389	14,187	14,411
Household Hazardous waste	634	2,104	2,054	4,028
Waste Electrical Electronic Equipment	11,822 – 29,374	22,680	24,088	31,416
Water Treatment Sludges	3,599	6,825	7,061	6,660
Sewerage Sludge	-	4,623	7,466	5,091

*The quantity of contaminated soil recorded in 2008 is an estimate based from LA returns.

Data Sources:

Household Waste: Local Authority (EPA) National Waste Database Questionnaires (2008)

Commercial/Industrial Waste: Waste Collection Permit and Waste Facility Permit Reporting – 2008 Annual Returns

Construction and Demolition Waste: Local Authority (EPA) National Waste Database Questionnaires (2008)

Contaminated Soils: *Verification of data is on-going. Local Authority (EPA) National Waste Database Questionnaires (2008).

Litter and Street Sweepings: Local Authority (EPA) National Waste Database Questionnaires (2008).

Packaging Waste: REPAK, Waste Composition Data and Regional Landfill AERs.

Waste Tyres & ELVs: Waste Collection Permit AERs.

WEEE: Local Authority (EPA) National Waste Database Questionnaires (2008) & Waste Collection Permit and Waste Facility Permit Reporting – 2008 Annual Returns

Household Hazardous Wastes: Local Authority (EPA) National Waste Database Questionnaires>Returns (2008).

Water Treatment Sludges and Sewerage Sludges: Balleally AER (2008)

3 WASTE PREVENTION AND MINIMISATION

The Dublin Local Authorities continue to invest staff and financial resources in waste prevention and awareness activities in the region. In this section a selection of the on-going work is presented.

3.1 RESOURCES

Waste prevention and awareness plays a key role in implementing and achieving the objectives set out in the Dublin Waste Management Plan. Each Local Authority has dedicated resources promoting awareness, and informing households, schools and businesses about better waste management practices.

A total of 11 staff members carry out these roles in the Region. Table 3.1 provides a breakdown of the Waste Prevention and Awareness staff employed in each local authority in the Dublin Region.

Table 3.1 Local Authority Prevention and Awareness Staff as of December 2008

	DCC	DLR	FCC	SDCC
Environmental Awareness Officers (EAOs)	1	2	1	2
Green Business Officers	1	1	1	0
Green Schools Officers	1	0	1	0
Other Educational & Awareness Staff	0	0	0	0

Data Source: Local Authority Waste Management Departments

Note: DLR and SDCC have 2 EAOs –an Environmental Awareness Officer and an Assistant Environmental Awareness Officer also serving schools.

3.1.1 Local Agenda 21

Local Agenda 21 aims to facilitate sustainable development within communities, with funded projects including interactive waste awareness events for primary and secondary schools, school book exchange websites etc.

A total 51 projects were funded by the Local Agenda 21 Environment Fund in 2008 with 12 of these projects being waste related. Overall €122,099 was spent on the projects, which was funded by both the Local Authorities and the Department of the Environment, Heritage and Local Government (DOEHLG).

This represents a 6% increase in funding from 2007. However the number of waste related projects funded by the Local Agenda 21 Environment Fund in 2008 have decreased by 48%.

Table 3.2: Local Agenda 21 Environment Fund 2008 Projects and Funding

Local Authority	Total number of projects 2008	Total spent on funding 2008	Waste related projects 2008
DCC	11	€36,692	2
DLR	11	€27,035	4
FCC	13	€27,136	3
SDCC	16	€31,236	3
Total 2008	51	€122,099	12
Total 2007	58	€115,121	23
Total 2006	49	€101,076	29
Total 2004	43	€57,626.40	32

Data Source: Local Authority Waste Management Departments & Local Agenda 21 Officers

3.2 GREEN BUSINESS ACTIVITIES

There are currently 3 Green Business Officers (GBOs) operating in the Region – in Dublin City Council, Dun Laoghaire Rathdown County Council and Fingal County Council. In South Dublin County Council the Environmental Awareness Team are also responsible for green business activities in the functional area.

It is the role of the GBO to provide help and support to businesses to implement green strategies in to their business. The GBOs in the region are involved in organising workshops, promoting green business initiatives and informing businesses about environmental management practices.

A Sample GBO Project - The Envirocom Awards are presented by the DLR Healthy County Forum whose members include DLR Co.Co, DLR Chamber and the HSE. DLR Co.Co is represented by the GBO on the organising committee. One category of the Envirocom Awards, sponsored by the EPA, is waste prevention within organisations. Details of the winners in this category in 2008 are provided in Table 3.3.

Table 3.3: Envirocom 2008 - Waste Prevention Category Award Winners

Waste Prevention	2008 Waste Prevention Winners :
Organisations with less than 50 employees	MicroPro Computers , Rathfarnham Dublin 14.
Organisations with greater than 50 employees	Pfizer Ireland Pharmaceuticals , Dun Laoghaire, Co Dublin
Public Sector Organisation	Bord Iascaigh Mhara , Dun Laoghaire, Co Dublin

3.3 GREEN SCHOOLS CAMPAIGN

The Green Schools Programme continues to be successful in promoting waste awareness and prevention in schools throughout the region.

At the end of 2008 it was recorded that 516 schools or 75% of schools in the region were registered with the Green Schools Programme.

This is a 16% increase on the number registered in 2007. The number of schools awarded green flags was recorded at 252 at the end of 2008, representing a 46% increase on the number recorded at the end of 2007.

Table 3.4: Green School Registrations and Green Flags Awarded (2008)

Local Authority	Total Number of Schools in each Local Authority 2008			Number of Schools Registered 2008			Green Flags Awarded By End 2008
	Primary	Secondary	Total	Primary	Secondary	Total	Total
DCC	225	87	312	151	55	206	72
DLR	85	33	118	71	25	96	46
FCC	90	22	115	69	20	89	92
SDCC	100	34	134	79	25	104	42
Total 2008	500	176	679	370	125	495	252
Total 2007	478	189	667	329	115	444	173
Total 2006	477	177	654	244	89	417	137
Total 2004	457	208	665	235	78	313	54

Data Source: Local Authority Waste Management Departments

3.4 DUBLIN REGIONAL WASTE AWARENESS WEBSITE

DublinWaste.ie is the regional waste awareness website operated by the Dublin Local Authorities. The website is a one stop shop for users in relation to waste management and recycling information.

It hosts a useful recycling search engine and the innovative re-use service, FREE Trade. The website is hugely popular and traffic to the site continues to grow, as shown in Table 3.4.

Table 3.4: Traffic to the Website May 2004 to December 2009

Year	Total Hits	Average Hits per Month	% Increase (Year on Year)
2004 (May to Dec)	35,946	4,493	-
2005 (Jan to Dec)	146,068	12,172	306%
2006 (Jan to Dec)	358,882	29,907	146%
2007 (Jan – Dec) ¹	1,096,234	91,353	205%
2008 (Jan-Dec)	1,412,317	117,693	29%
2009 (Jan – Dec)	1,463,484	124,648	4%

¹ Google Analytics has been used since April 2008. Prior to this the monitoring software package Urchin was used to estimate hits to the website.

3.5 HOME COMPOSTING

The Local Authorities continue to promote home composting through the sale of compost bins to members of the public and by hosting educational workshops. Details of the estimated home composting tonnages are provided in Table 3.5. Home composting in the region continues to increase with an estimated 8,957 tonnes of material produced through the process in 2008 (3% increase since 2007).

Table 3.5: Home Composting Tonnages in the Dublin Region

Area	2008 Tonnes	2007 Tonnes	2006 Tonnes
DCC	4,129	4,071	4,000
DLR	2,711	2,581	2,305
FCC	989	961	875
SDCC	1,128	1,088	1,037
Total	8,957	8,701	8,217

Source: Local Authority (EPA) National Waste Database Returns 2008

4 WASTE REUSE

The Dublin Local Authorities continue to fund and implement reuse based projects and services in the region. The online reuse service, FREE Trade, is funded and managed by the Authorities and continues to deliver real results.

4.1 FREE TRADE

The FREE Trade service was launched in August 2006 and is hosted on DublinWaste.ie. The online initiative encourages the reuse of unwanted items by facilitating the free advertising of items for members. The service is hugely popular with over 33,600 members (January 2010). The amount of items reused through FREE Trade since its launch is detailed in Table 4.1.



Table 4.1: Number of items free traded since 2006

Year	Number of items FREE Traded	% Increase (Year on Year)
2006 (Aug - Dec)	1,551	-
2007 (Jan – Dec)	6,174	298%
2008(Jan - Dec)	8,736	41%
2009(Jan - Dec)	9,365	7%

5 HOUSEHOLD WASTE COLLECTION AND RECYCLING

5.1 ARISING

Household waste arisings increased in the Dublin Region in 2008 and it is estimated that 474,767 tonnes was generated. This represents a 1% increase in household waste generation in the region since 2007. Overall waste generation per household has remained the same at 1.12 tonnes and waste generation per capita has decreased to 0.40 tonnes.

A breakdown of the household waste arisings in each Local Authority Area in 2008 is provided in Table 5.1.

Table 5.1: Growth in Household Waste Arisings 2003 - 2008

Local Authority	2003 (Tonnes)	2006 (Tonnes)	2007 (Tonnes)	2008 (Tonnes)
DCC	201,133	192,952	191,541	193,409
DLR	81,587	73,252	71,054	69,061
FCC	78,181	95,531	103,618	103,923
SDCC	98,678	102,597	104,008	108,374
TOTAL	459,579	464,121	470,221	474,767
Waste per Household	1.21	1.1	1.12	1.12
Waste per Capita	0.41	0.41	0.41	0.40

Source: Local Authority (EPA) National Waste Database Returns 2008

(Note: Population of Dublin Region = 1,187,876 persons; Number of households = 420,429 households using data from 2006 Census).

5.2 LOCAL AUTHORITY COLLECTION SYSTEMS

A breakdown of household waste collected and recovered in each Local Authority area is provided in Table 5.2.

Local Authority Collection Systems in the Dublin region are provided through Recycling Centres, Bring Centres, Bring Banks and kerbside collections. The different collection systems facilitate maximum waste segregation at the source and promote recycling within the region.

Each Local Authority in Dublin offers a green and black/grey bin kerbside collection, while Dublin City and Fingal County Councils also have a brown bin kerbside collection system in place.

Table 5.2 shows that the overall regional household recycling rate for 2008 is calculated to be 35%, indicating that the region continues to progress towards its long term target.

Table 5.2: Recycling Rate for Household Waste 2006, 2007 and 2008

Waste Source	DCC Tonnes	DLR Tonnes	FCC Tonnes	SDCC Tonnes	Regional 2008 Tonnes	Regional 2007 Tonnes
Bring Banks	16,755	4,553	4,434	5,565	31,307	27,484
Recycling Centres, Bulky & Greenwaste Collections	4,350	9,049	10,843	7,739	31,981	31,040
Kerbside – Green bin (Local Authority)	28,611	7,775	15,462	18,534	70,382	69,172
Kerbside – Green bin (Private collectors)	1,038	9,036	1,198	1,033	12,305	
Kerbside – Brown bin (Local Authority)	8,287	-	10,210	-	18,497	4,617
Kerbside – Brown bin (Includes private collectors)	266	149	338	1,312	2,065	
Mobile Hazardous Waste Collection	0	0	0	9	9	19
Total Recycled	59,307	30,562	42,485	34,192	166,546	132,332
Kerbside – Black Bin (Local Authorities)	121,017	16,102	50,489	57,509	245,117	313,811
Kerbside – Black Bin (Private collectors)	8,770	17,375	6,619	5,486	38,250	
Delivered for disposal	630	3,398	3,970	11,187	19,185	24,078
Total Disposed	130,417	36,875	61,078	74,182	302,552	337,889
Uncollected waste	3,685	1,624	360	0	5,669	-
Total Arisings	193,409	69,061	103,923	108,374	474,767	470,221
2008 Recycling Rate %	31%	44%	41%	32%	35%	-
2007 Recycling Rate %	23%	42%	28%	29%	28%	-
2006 Recycling Rate %	21%	43%	25%	30%	27%	-
2003 Recycling Rate %	18%	14%	14%	16%	16%	-

Source: Local Authority (EPA) National Waste Database Returns 2008. Figures for household waste collected includes waste collected by private collectors.

5.3 KERBSIDE COLLECTIONS

5.3.1 Black Bin Residual Waste Collection

The quantity of waste collected through the kerbside black bin collection has decreased by 30,444 tonnes (a decrease of 9.7%) since 2007.

5.3.2 Green Bin Kerbside Recycling Collection

In 2008 the green bin kerbside collection service was provided by Oxigen Recycling on behalf of the Local Authorities.

The quantity of waste collected through the green bin collection system in each Local Authority Area is outlined in Table 5.3. Overall there has been a 19.5% increase in mixed dry recyclables collected through the green bin system since 2007.

Table 5.3: Green Bin Recyclables Collected 2003, 2006, 2007 & 2008

Local Authority	Green Bin Recycling Collection 2003 (tonnes)	Green Bin Recycling Collection 2006 (tonnes)	Green Bin Recycling Collection 2007 (tonnes)	Green Bin Recycling Collection 2008 (tonnes)
DCC	14,252	22,491	25,704	29,649
DLR	7,967	13,211	14,598	16,811
FCC	6,398	12,633	13,273	16,660
SDCC	7,243	13,859	15,597	19,567
Total	35,860	62,194	69,172	82,687

Source: Local Authority (EPA) National Waste Database Returns 2008

5.3.3 Brown Bin Kerbside Collection service

A brown bin collection service is provided by both Dublin City Council and Fingal County Council. The brown bin collection service in the Fingal region has been in operation since 2005 and continues to grow with 10,548 tonnes collected in 2008.

Similarly the phased implementation of the Dublin City Council brown bin kerbside collection the quantity of material collected continues to increase with 8,553 tonnes collected in 2008. The Dublin City Council service is now in its 3rd year of operation.

The organic material recorded in the South Dublin and Dun Laoghaire Rathdown County Council functional areas are collected by private collectors operating in the areas. A brown bin collection service will be introduced in the South Dublin and Dun Laoghaire functional areas in 2010.

Table 5.4: Local Authority Brown Bin Collection Service

Local Authority	2008	2007	2006
DCC	8,553	1,315	411
FCC	10,548	3,266	1,971
SDCC	1,312*	36	-
DLR	149*	0	-
Region	20,562	4,617	2,382

Source: Local Authority (EPA) National Waste Database Returns 2008. Note the brown bin collection system in SDCC & DLR is provided by Private Collectors. The service has not yet been rolled out by SDCC & DLR

5.4 UNCOLLECTED WASTE

The quantity of uncollected waste estimated in the Dublin Region in 2008 was estimated to be 5,669 tonnes. In 2007 there was no reported uncollected waste in the Dublin Region.

Table 5.5: Uncollected waste in the Dublin Region in 2008

DCC	3,685
FCC	360
SDCC	0
DLR	1,624
Region	5,669

Source: Local Authority (EPA) National Waste Database Returns 2008

5.5 RECYCLING CENTRES

In 2008 a total of 51,166 tonnes of waste was collected through the network of Recycling Centres in the Dublin Region. This represents a 7% decrease on the quantity of material accepted in 2007. Overall the quantity of material recycled at the Recycling Centres has increased by 4%.

Table 5.6: Number of Existing Recycling Centres

Local Authority	DCC	DLR	FCC	SDCC	Region
Recycling Centres 2003	2	1	3	1	7
Recycling Centres 2006	2	2	4	1	9
Recycling Centres 2007	2	2	4	2	10
Recycling Centres 2008	2	3*	4	2**	11
Total Regional target 2010	12				

Source: Local Authority (EPA) National Waste Database Returns 2008

Note. * Dun Laoghaire Rathdown County Council developed a new recycling centre in Shanganagh (near Shankhill) which commenced operations in March 2008. The Eden Park and Shanganagh facilities are classified as Recycling Centres while Ballyogan is classified as a Recycling Park. For the purposes of this report all these facilities are described as Recycling Centres.

**SDCC operates a greenwaste facility at Esker, Lucan which accepts garden waste, prunings and trimmings. This facility is included in the above table.

Table 5.7: Recycling Centres in the Dublin Region

Local Authority	Name/Location	2006 (Tonnes)	2007 (Tonnes)	2008 (Tonnes)
DCC	Shamrock Terrace, North Strand Road	9,542 (5,656 recycled)	7,261 (4,184 recycled)	4,979 (4,332 t recycled)
	Pigeon House Road, Ringsend			
DLR	Ballyogan	18,270 (12,463 recycled)	14,928 (10,021 recycled)	12,477 (9,049 t recycled)
	Eden Park Recycling Centre			
	Shanganagh Recycling Centre			
FCC	Balleally Landfill*	11,533 (5,216 recycled, includes green waste)	14,812 (7,947 Recycled, Includes green waste)	14,813 (10,843 t recycled, including green waste)
	Estuary Recycling Centre, Swords			
	Coolmine Recycling Centre			
	Balbriggan Recycling Centre			
SDCC	Ballymount Baling Station	22,676 (12,002 recycled, includes green waste)	18,118 (8,888 recycled, includes green waste)	18,926 (7,739 recycled, Includes green waste)
	Esker Green Waste Centre			

Source: Local Authority (EPA) National Waste Database Returns 2008.

*Note: Balleally Recycling Centre closed on October 31st 2008

5.6 BRING BANK & BRING CENTRES

At the end of 2008 there were 304 bring banks in operation in the Dublin Region. This represents a 12% decrease since 2007 with the main changes occurring in the Dun Laoghaire Rathdown functional area.

Table 5.8 provides a breakdown of the number of Bring Banks in the region. It remains difficult to find suitable locations for bring bank facilities. Obstacles include anti-social behaviour, vandalism, health and safety issues and can lead to the removal of bring banks.

In the Dublin City Council there are 10 Bring Centre facilities in operation with 2 in operation in the Dun Laoghaire Rathdown County Council area. Bring Centres are manned bring banks which accept a wider range of material free of charge.

Table 5.8: Number of Bring Banks the Dublin Region in 2003, 2006, 2007 and 2008

Local Authority	DCC	DLR	FCC	SDCC	Region
Bring Banks 2003	73	64	76	50	263
Bring Banks 2006	129	69	79	44	321
Bring Banks 2007	127	81	80	58	346
Bring Banks 2008	118	47*	76	60	301
Existing Ratio (population per site)	1:4,290	1:3,881	1:3,158	1:4,116	1:3,905

Source: Local Authority (EPA) National Waste Database Returns 2008

*Note: Due to a reclassification of bring banks the number recorded in the Dun Laoghaire Rathdown Functional Area has decreased since 2007. This is due to the exclusion of battery collection points previously recorded in this category. It is also important to note that there is a kerbside glass collection service provided by private collectors in the DLR area.

While the number of bring banks serving the region has decreased the quantity of materials recovered has increased by 14% since 2007, with 31,307 tonnes collected in 2008. Included within the tonnages recorded is material which was collected through Bring Centres, including 4,367 tonnes of green waste and 518 tonnes of hazardous waste.

Table 5.9 provides a breakdown of the materials collected at bring banks and bring centres in the region in 2008.

Table 5.9: Quantity of materials accepted at Bring Banks and Bring Centres in 2008

Material	SDCC (tonnes)	FCC (tonnes)	DCC (tonnes)	DLR (tonnes)	Total (tonnes)
Glass	5,034	4,202	9,133	3,734	22,102
Aluminium cans	13	22,424	42	27	104
Plastics	56	0	567	151	774
Textiles	460	209.38	699	373	1,741
Batteries	2	1	45	3	51
Paper & Card	-	0	1,207	256	1,463
Steel cans	-	-	1	5	6
Composite packaging	-	0	-	4	4
Green Waste	-	-	4,367	-	4,367
Other*	-	-	694	-	694
2008 Total (tonnes)	5,565	4,434	16,755	4,553	31,307
2007 Total (tonnes)	5,632	4,097	12,192	5,565	27,486

Source: Local Authority (EPA) National Waste Database Returns 2008 Note Others refers to Hazardous waste such as paints, aerosols and pesticides, flat glass. Batteries include lead acid batteries and small batteries.

5.7 HAZARDOUS COLLECTIONS

Household hazardous waste is collected through Recycling Centres and Bring Centres. In 2008 a total of 1,341 tonnes of hazardous waste was collected through Recycling Centres and Bring Centres in the Region.

Table 5.10 provides a breakdown of the hazardous waste collected at Recycling Centres in the Dublin Region in 2008. South Dublin County Council collected 8.6 tonnes of household hazardous waste through mobile collections in 2008.

Table 5.10: Household Hazardous Waste Collected at Recycling Facilities 2006, 2007 & 2008

Waste Type	DCC Tonnes	DLR Tonnes	FCC Tonnes	SDCC Tonnes	Regional Tonnes collected 2008	Regional Tonnes collected 2007
Batteries	62.9	34.6	58.9	27.4	183.7	178.9
Oils	-	20.9	30.6	47.9	99.4	78.8
Fluorescent tubes	-	4.0	3.8	7.0	14.7	4.6
Other Hazardous waste*	722.4	102.1	170.2	49.0	1043.6	512.6
Subtotal (tonnes)	785.3	161.6	263.3	131.2	1,341.4	774.9
kg per capita	1.55	0.83	1.10	0.53	1.13	0.65

Source: Local Authority (EPA) National Waste Database Returns 2008

* This includes paints, varnishes, oil-related waste, aerosols, gas cylinders etc. Batteries include small batteries and lead acid batteries.

5.8 BULKY WASTE COLLECTIONS

Table 5.11 provides a summary of the bulky waste collection services currently offered by the Local Authorities. It shows that bulky waste is primarily targeted for collection at the regions recycling centres.

Table 5.11: Bulky waste collection services in the Dublin Region in 2008

Bulky waste Collection service	DCC	DLR	FCC	SDCC
Occasional service	once every 3 years	none	none*	once every 5 years
Organised service	Skip bag service	none	Pay per item* service	none

*In June 2009 Fingal County Council ceased to provide the arranged collection service whereby householders prepaid for the collection service. The service was charged on a per item basis depending on the items to be collected.

6 COMMERCIAL AND MUNICIPAL WASTE

6.1 COMMERCIAL WASTE ARISING

Commercial waste arisings in the region have decreased by an estimated 5% or 40,102 tonnes since 2007. Table 6.1 provides a breakdown of commercial waste arisings in the Dublin Region in 2008. This data was sourced from the report entitled Waste Collection Permit & Waste Facility Permit Reporting – 2008 Annual Returns for the Dublin region.

Table 6.1: Commercial Waste Collected in the Dublin Region 2008

Waste Categories	DCC (tonnes)	DLR (tonnes)	FCC (tonnes)	SDCC (tonnes)	Total (tonnes)
Cardboard/Paper	231,309	7,605	29,012	19,863	287,789
Mixed Municipal Waste	97,923	27,306	72,389	42,524	240,143
Bulky Waste	40,759	26,029	21,812	21,151	109,751
Metal	1,599	89	1,199	591	3,478
WEEE	1,777	91	3,035	11,801	16,704
Mixed Dry Recyclables	3,175	610	566	812	5,163
Plastics	1,953	559	1,678	787	4,977
Wood	6,522	2,993	7,731	4,966	22,212
Kitchen & Garden Waste	1,351	474	663	440	2,928
Batteries	1	1	0	2	4
Glass	9,646	3,626	2,748	5,094	21,115
Other*	6,395	6,901	6,618	4,014	23,928
2008 TOTAL	402,410	76,284	147,452	112,047	738,193
2007 TOTAL	354,219	84,343	173,312	166,421	778,295
2006 Total	355,063	74,960	131,955	257,883	819,861

Data Source: 'Waste Collection Permit and Waste Facility Permit Reporting – 2008 Annual Returns.' (Dublin City, Dun Laoghaire Rathdown, South Dublin & Fingal County Councils).

*Non-hazardous packaging recorded as chapter 15 codes are included in the Commercial waste arisings for the region. This waste is described in the returns submitted as 'Non household Municipal waste' and so is included in Table 6.1.

**Others includes: used clothing, textiles, waste chemicals, acids, alkalines, pesticides, edible fats and oils, oil, paint, ink, adhesives and resins containing dangerous substances, multipurpose cleaner, out of date medicines, waste chemicals, biodegradable waste, street cleaning residue, soil & stones municipal waste not otherwise specified and soil and stones from garden and park wastes.

***Following consultation with the EPA Septic Tank Sludges recorded in the Waste Collection Permit & Waste Facility Permit Reporting – 2008 Annual Returns have been omitted as they do not form part of the municipal waste category. The 2007 Commercial waste arisings figure has been amended accordingly.

6.2 COMMERCIAL WASTE RECOVERY

Table 6.2 provides an estimate of the recovery rates for commercial waste for 2006, 2007 and 2008. Following an assessment of the Annual Returns submitted for the largest collectors in the Dublin Region over 340,000 tonnes of commercial waste was recovered. The decrease in the quantities reported for 2008 is due to a number of factors some of which are summarised below:

- A decrease in total amount of commercial waste collected in the region.
- Assumptions made in relation to the final destination of materials based on the details provided in the Annual Returns.
- The removal of non-solid waste streams from the Municipal Waste category reducing arisings and recovered tonnages.
- The availability of low cost landfill gate fees in the market with disposal rates of €70 per tonne reported for 2008¹ with further decreases reported in 2009.

Table 6.2: Commercial Waste Estimated Recovery Rates for 2006, 2007 and 2008

Waste Type	2006 Tonnes	2007 Tonnes	2008 Tonnes
Recycled	399,433	379,261	340,489
Landfilled	420,428	399,034	397,704
Commercial waste arisings	819,861	778,295	738,193
Recovery Rate	49%	49%	46%

6.3 MUNICIPAL WASTE ARISING AND RECOVERY RATE

Municipal waste arisings of 1,249,013 tonnes are estimated for 2008 in the Dublin Region, representing a 3% decrease on municipal waste arisings recorded in 2007. Table 6.3 provides a breakdown of the Municipal arisings generated in the region. Overall the recovery rate for the region remains unchanged at 41%.

Table 6.3: Dublin Region Municipal Waste Arisings and Recovery Rate 2003, 2006, 2007 & 2008

Waste Stream	Total tonnes 2003	Total tonnes 2006	Total tonnes 2007	Total tonnes 2008
Household Waste Generated	459,579	464,066	470,221	474,767
Commercial/Industrial Waste Generated	669,592	819,861	778,295	738,193
Litter and Street Sweepings	30,235	36,616	35,580	35,136
Municipal Waste generated	1,129,171	1,320,598	1,284,096	1,238,096
Household Waste Recovered	74,714	126,805	132,331	166,546
Commercial/Industrial Waste Recovered	227,894	402,311	401,607	340,489*
Municipal Waste recovered	302,608	529,116	533,938	507,035
Municipal Waste Recovery Rate	26%	40%	41%	41%

***Note:** The drop in quantities of recovered commercial waste is due to a number of factors. Some of the annual returns submitted to the Dublin Local Authorities do not document the final end destination for waste streams. Interim destinations such as waste transfer stations are often detailed and do not indicate whether material was recovered or disposed. Assumptions have been made in relation to the most likely end destination and to determine the disposal data. The recovered figure provided is an estimate and has been provided by assessing Annual Reports for the largest collectors in the region (as stated in a report for the IWMA) and determining the quantities of waste collected sent for disposal.

¹ Waste Management in Ireland: Benchmarking Analysis and Policy Priorities, Forfás (2009)

6.4 MUNICIPAL WASTE PROJECTIONS

In preparing the projections both national and regional waste data recorded between 2003 and 2008 was reviewed in the context of the changes recorded, to determine the factors of strongest influence over household, commercial and municipal waste. This assessment found that a strong co-relation between recorded values of household waste and population growth and a similar co-relation between commercial waste values and GDP. A strong co-relation also exists between municipal waste and GDP, however using this approach ignores the affect of population growth on waste arisings particularly at the household level.

Table 6.4 sets out revised projections for municipal waste for the region for the period 2009 to 2020. The projections have been calculated by developing a relationship between the exiting data for the household and commercial waste streams and the influencing factors, population growth and economic growth respectively. This relationship is averaged and is termed a constant emission intensity factor and is then applied to future projections for population and economic growth.

The projections in Table 6.4 have been verified and checked against projections prepared by the ESRI using the ISus model. In general the projected trend of the different models compare favourably particularly over the short term. In summary an average annual growth rate of 2% over the time period is projected with higher growth rates from 2013 onwards.

The Dublin Local Authorities recognise that preparing waste projections is challenging with many variables to consider. Accurate data reporting is essential for producing reliable projections. As the availability of waste data extends over the coming years a better understanding of the factors impacting on waste growth will be obtained. The projections will be revised on an annual basis taking account of new data and also improved modelling techniques and approaches.

Table 6.4 Municipal Waste Projection 2009 – 2020

Year	Household	Commercial	Total
2009	503,034	675,037	1,178,072
2010	511,586	659,652	1,171,238
2011	520,283	717,473	1,237,756
2012	529,128	744,737	1,273,865
2013	538,123	773,037	1,311,160
2014	547,271	802,412	1,349,683
2015	556,574	830,497	1,387,071
2016	566,036	859,564	1,425,600
2017	575,659	889,649	1,465,308
2018	585,445	920,787	1,506,232
2019	595,398	953,014	1,548,412
2020	605,519	981,605	1,587,124

Note:

Population projections for Dublin were sourced from the CSO publication Regional Population Projections 2011 – 2026 (2008) with data from the M2F1 scenario applied.

Economic projections were sourced from the ESRI Medium Term Review 2008 – 2015 and the latest Quarterly Review.

7 PACKAGING WASTE

7.1 PACKAGING WASTE ARISING

Packaging waste arisings increased by 7.7% in 2008, with total packaging arisings in the region estimated to be 310,333.

Table 7.1 Estimated Packaging Waste Arisings for the Dublin Region for 2003,2006,2007 & 2008

Packaging waste	Landfilled (tonnes)	Recovered (tonnes)	Arisings (tonnes)	Recovery Rate
2003	321,190	190,548	511,738	37%
2006	142,927	136,632	279,593	49%
2007	139,375	148,706	288,081	52%
2008	141,766	168,567	310,333	54%

Source: Packaging recovered data provided by Repak, Packaging waste landfilled calculated using data from the EPA National Waste Report 2007.

7.2 RECOVERY

Overall there has been a 2% increase in the packaging recovery rate which is 54% for the region in 2008.

This indicates that the region continues to progress towards the packaging waste recovery target set in the Waste Management Plan of 55%.

7.3 ESTIMATE OF PACKAGING WASTE LANDFILLED

Table 7.2 provides a breakdown of the composition of packaging waste in both the household and commercial and industrial waste streams. Packaging factors were provided by the EPA.

Table 7.2 Packaging Composition in Landfilled Household and Commercial Waste

Packaging Material	Household %	Commercial %
Paper & Cardboard	5.5	5.8
Plastic	11.1	9.1
Glass	2.9	1.3
Metals	-	1.1
Ferrous	1.1	-
Aluminium	0.5	-
Other metals	0	-
Wood	0.1	0
Textiles	0.1	0.1
Other	1	3.1
Total %	22.3%	20.5%

Source: EPA National Waste Report 2007

Table 7.3 shows that a total of 141,766 tonnes of packaging waste was landfilled in the region in 2008. This represents a 1.7% increase in packaging waste landfilled since 2007.

Table 7.3 Packaging Waste Generated in Dublin and Sent for Disposal in 2008

	Household	Commercial
Total Waste Landfilled (Tonnes)	270,119*	397,704**
% Packaging	22.3	20.5
Packaging Waste Landfilled (Tonnes)	60,237	81,529
Total Packaging Waste Landfilled 2008	141,766	
Total Packaging Waste Landfilled 2007	139,375	
Total Packaging Waste Landfilled 2006	142,927	
Total Packaging Waste Landfilled 2003	321,190	

* This figure represents the quantity of household waste generated in the Dublin Region and accepted at Balleally and Arthurstown Landfills.

** This figure is an estimate of the commercial waste generated in Dublin and landfilled outside of the Dublin Region.

8 CONSTRUCTION AND DEMOLITION (C & D) WASTE

8.1 ARISINGS

Construction and demolition arisings generated in the Dublin Region has decreased by 7.4% since 2007. The total C & D arisings recorded in the region in 2008 were 6,529,511. Table 8.1 provides a breakdown of C & D waste arisings in the Dublin Region in 2008. This data was sourced from the report entitled Waste Collection Permit & Waste Facility Permit Reporting – 2008 Annual Returns for the Dublin region.

Table 8.1: Construction and Demolition Waste Arisings 2007 & 2008

C & D Waste categories	DCC	FCC	DLR	SDCC	Quantity (tonnes)
concrete, bricks, tiles & ceramics	217,511	122,368	109,522	133,743	583,144
wood glass & plastic	6,709	9,218	1,880	8,065	25,872
Bituminous mixtures, coal tar & tarred products	1,500	9,060	3,333	12,800	26,693
Metals	170,579	72,978	11,982	103,416	358,955
Soil	1,747,514	1,728,452	344,704	1,071,642	4,892,312
Insulation materials	1,949	163	465	12,823	15,400
Gypsum Based construction material	255	341	74	406	1,076
Other	210,246	253,763	34,205	127,845	626,059
Total	2,356,263	2,196,343	506,165	1,470,740	6,529,511

Data Source: Local Authority (EPA) National Waste Database Returns 2008

*Contaminated soils have been removed from the C & D waste quantities recorded for the region. This is in line with the EPA approach and this material is classified as hazardous waste.

8.2 RECOVERY/DISPOSAL

Table 8.2 provides a summary of the management of all construction and demolition wastes as generated in the region in 2008.

Table 8.2: Management of Construction and Demolition Waste 2008 (unit = tonnes)

Collection (tonnes)	Recovery	Disposal	Total
EPA licensed landfills	511,587	-	511,587
Local Authority Permitted Sites	760,519	1,480	761,999
Recovery/Disposed at facilities outside the region*	-	-	5,255,925
Total	6,528,031	1,480	6,529,511

Data Source: Local Authority (EPA) National Waste Database Returns 2008

Table 8.3 provides details a summary of the management of the soil and stone fraction of construction and demolition wastes in the Dublin Region. The recovery rate has been estimated at 75%, the recovery rate is based on the recovered tonnage expressed as a percentage of the tonnage collected.

Table 8.3: Management of Soil and Stones 2008 (unit = tonnes)

Collection (tonnes)	Recovery	Disposal	Total
EPA licensed landfills	511,587	-	511,587
Local Authority Permitted Sites	528,640	-	528,640
Recovery/Disposed at facilities outside the region*	3,852,085	-	3,852,085
Total	4,892,312	-	4,892,312
Recovery Rate	-	-	75%

Data Source: Local Authority (EPA) National Waste Database Returns 2008

* It is assumed that this material is recovered.

Table 8.4 provides details a summary of the management of the other construction and demolition wastes in the Dublin Region. The recovery rate is not available as the end use of the material is not defined in the Annual Returns.

Table 8.4: Management of Other Construction and Demolition Wastes 2008 (unit = tonnes)

Collection (tonnes)	Recovery	Disposal	Total
EPA licensed landfills	68,555	-	68,555
Local Authority Permitted Sites	392,614	1,480	394,094
Recovery/Disposed at facilities outside the region*	-	-	1,174,550
Total	461,169		1,637,199
Recovery Rate (based on waste managed in the region)	-	-	28%

Data Source: Local Authority (EPA) National Waste Database Returns 2008

9 PRIORITY WASTE STREAMS

9.1 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

Table 9.1 provides a breakdown of WEEE collected at Recycling Centres in the region in 2008. Overall there has been a 12% increase in WEEE collected through Recycling Centres in the region since 2007.

Table 9.1: WEEE collected at Recycling Centres in 2008 (tonnes)

	DCC	DLR	SDCC	FCC	Dublin Region
Fluorescent bulbs/lamps	-	4	7	4	15
Fridges & Freezers	-	70	108	237	415
TVs & PC Monitors	-	196	227	372	795
White Goods	-	554	278	667	0
Other Large Appliances	-	-	-	-	
Other ITC	-	-	-	-	
Other WEEE	-	-	262	532	794
Total 2008	691	824	883	1,813	4,210
Total 2007	699	798	662	1,599	3,758
Total 2006	762	871	1,257	1,334	4,224

Source: Local Authority (EPA) National Waste Database Returns 2008

Note: In 2008 Local Authority (EPA) National Waste Database Returns, DCC did not provide a breakdown of the WEEE collected.

In 2008 16,704 tonnes a WEEE was collected in the region by private waste collectors. A breakdown of the WEEE collected by private waste collectors in the Region is provided in Table 9.2. Since 2007 there has been a 22% increase in the quantity of WEEE collected by private waste collectors.

Table 9.2: WEEE Collected by Private Operators

Waste Category	Tonnage SDCC	Tonnage DCC	Tonnage FCC	Tonnage DLR	Tonnage Region
WEEE 2008	11,801	1,777	3,035	91	16,704
WEEE 2007	2,672	5,290	4,724	991	13,677
WEEE 2006	7,453	2,414	959	539	11,365

Data Source: 'Waste Collection Permit and Waste Facility Permit Reporting – 2008 Annual Returns.' (Dublin City, Dun Laoghaire Rathdown, South Dublin & Fingal County Councils)'.

In 2008 the total household WEEE collected in the region was 13,009 tonnes with the household WEEE per capita recorded at 11Kg representing an increase since 2007 when the household WEEE per capita was recorded as 10.9Kg. Table 9.3 provides a breakdown of the household WEEE collected in the region in 2008.

Table 9.3: Household WEEE Collected in the Dublin Region in 2008

WEEE	DCC	DLR	SDCC	FCC	Total
Retailer collections	969	549	5,242	695	7,455
Recycling Centres	691	824	883	1,813	4,210
Bring Centres	0	34	0	0	34
Collection days	50	53	517	33	653
Depots	337	3	316	0	657
Total Household WEEE Collected	2,047	1,463	6,958	2,541	13,009

9.2 END OF LIFE VEHICLES (ELVS)

There are 13 Authorised Treatment Facilities operating in the Dublin Region. The breakdown of these facilities is provided in Table 9.4.

Table 9.4: No of Authorised Treatment Facilities (ATFs) in the Dublin Region, 2007 & 2008

Local Authority	No. of ATFs 2008	No. of Applicants Awaiting a decision	No of ATFS 2007	No of Applicants Awaiting a decision
Dublin City Council	3	0	3	0
Dun Laoghaire Rathdown County Council	0	0	0	0
South Dublin County Council	7	0	1	4
Fingal County Council	3	1	3	1
Region	13	1	7	5

Overall 14,411 tonnes of end of life vehicles (ELVs) were collected in the region in 2008. This represents a 3% increase on the number of ELVs recorded in 2007. Details of the ELVs collected in the region is provided in Table 9.5.

Table 9.5: Tonnes of ELVs collected in the Region in 2006, 2007 & 2008

Local Authority	ELVs (tonnes) 2006	ELVs (tonnes) 2007	ELVs (tonnes) 2008
Dublin City Council	2,445	4,378	6,276
Dun Laoghaire Rathdown County Council	1,212	738	719
South Dublin County Council	2,648	4,136	3,574
Fingal County Council	1,084	4,725	3,842
Region	7,389	13,977	14,411

Data Source: 'Waste Collection Permit and Waste Facility Permit Reporting – 2008 Annual Returns.' (Dublin City, Dun Laoghaire Rathdown, South Dublin & Fingal County Councils)'.

9.3 WASTE TYRES

The quantity of waste tyres reported by Private Collectors in the annual reports for 2008 was 7,222 tonnes. This represents a 24% decrease on that recorded in 2007.

Table 9.6: Quantity of Waste Tyres 2006, 2007, & 2008

	DCC (tonnes)	FCC (tonnes)	DLR (tonnes)	SDCC (tonnes)	Total (tonnes)
2008 Quantity collected	4,025	1,008	470	1,719	7,222
2007 Quantity collected	6,039	1,220	386	1,897	9,542
2006 Quantity Collected	2,357	1,007	451	1,243	5,058

Data Source: 'Waste Collection Permit and Waste Facility Permit Reporting – 2008 Annual Returns.' (Dublin City, Dun Laoghaire Rathdown, South Dublin & Fingal County Councils).

10 WASTE DISPOSAL

10.1 WASTE DISPOSAL – SITUATION 2008

In 2008 it is estimated that approximately 735,392 tonnes of the municipal waste generated in Dublin was sent to landfill. Since 2007 there has been a 5% drop in the quantity of municipal waste landfilled. Details of waste generated in the region and sent for disposal are provided in Table 10.1.

Table 10.1: Waste Generated in Dublin and Disposed to landfill 2006, 2007 & 2008

Waste Type	2006 Tonnes	2007 Tonnes	2008 Tonnes
Household	337,070	337,889	302,552
Commercial	420,428	399,034	397,704
Street cleanings	36,616	35,580	35,136
Total	794,114	772,503	735,392

Note: From the AERs for Arthurstown and Balleally Landfills it is estimated that 402,525 tonnes of municipal waste was landfilled in region. This consists of commercial, household and street sweepings. It is estimated that the remaining 330,000 tonnes of waste is disposed of outside of the region. This waste is primarily made up of commercial waste arisings and also includes over 38,000 tonnes of household waste.

In 2008 a total of 302,552 tonnes of household waste generated in the Dublin Region was landfilled. 12.6% of this waste is collected by private collectors and landfilled outside the region.

The remainder of the landfilled waste was primarily collected by the Dublin local authorities and disposed of at landfill facilities serving the Dublin region – Arthurstown Landfill and Balleally Landfill. Overall household waste disposed to landfill has decreased by 10.5% from 2007.

Commercial waste arisings in the region have decreased by 5%. The quantity of Commercial waste disposed to landfill has decreased by 1,330 tonnes (0.3%) since 2007.

10.2 EXISTING LANDFILLS

There are currently two landfill facilities in operation in the Dublin Region – Balleally Landfill operated by Fingal County Council and Arthurstown Landfill operated by South Dublin County Council.

Table 10.2 provides a breakdown of the quantity of waste landfilled in each facility in 2008 and the remaining void space.

The production of energy from the capture of landfill gas from existing landfills in the region, both active and closed facilities, continues to increase with a total of 132,524 MWh generated in 2008, a 14% increase of 2007 figures.

Table 10.2: Status of the Local Authority Landfills in the Dublin Region in 2008

	Balleally		Arthurstown	
Operator	Fingal County Council		South Dublin County Council	
Tonnes Landfilled	Civic Amenity Household	3,959	Household	243,725
	Household	50,489	Commercial	58,104
	Commercial/Trade	46,248		
	Sewage Sludge	5,091		
	Ind. Non-Hazardous Sludge	6,660		
	Total	112,447	Total	301,829
Expected Closure Date	Dec-10		Sep-10	
Current Remaining void	211,000 tonnes		463,547 tonnes (AER 2008)	

Table 10.3: Energy Recovery from Dublin Landfills, 2006, 2007 & 2008

Landfill	Energy Capture/generation 2008 (MWh)	Energy Capture/generation 2007 (MWh)	Energy Capture/generation 2006 (MWh)
Balleally	27,117	23,762	20,529
Ballyogan	9,068	11,124	11,124
Dunsink	6,687	6,774	8,026
Friarstown	2,677	3,162	-
Arthurstown	86,975	71,181	53,930
Total	132,524	116,003	93,609

11 REGULATION AND ENFORCEMENT

The Dublin Local Authorities continue to invest staff and resources in the regulation and enforcement of waste policy in the Dublin Region.

Table 11.1 provides a breakdown of enforcement statistics for the Dublin Region for 2008.

Table 11.1: Local Authority Enforcement 2007 & 2008

	DCC	DLR	FCC	SDCC	Regional 2008	Regional 2007
Waste Permit Facility Audits	37	3	47	4	91	68
No of Inspections carried out:						
Routine Business Audits	513	388	102	356	1,359	-
WEEE Audits:	222	47	50	98	417	-
PBL Audits:	290	112	106	241	749	-
C & D Audits	109	86	-	-	195	-
Road checks	27	6	19	-	52	-
TOTAL	1,161	639	277	695	2,772	3,345
No of Complaints	230	47	149	-	426	127

12 INFRASTRUCTURAL DEVELOPMENTS

The Local Authorities continue to develop regional scale waste infrastructure in the region and an update on progress is outline below.

12.1 COLLECTION

The Dublin Local Authorities continue to expand their door-to-door household collection services. All Local Authority customers are provided with a minimum source separated dry recyclable green bin collection and a residual waste black bin service.

The separate collection of organic waste from households has also commenced. Dublin City Council currently has over 108,000 brown bins rolled out. Similarly Fingal County Council has distributed over 60,000 brown bins. South Dublin County Council and Dun Laoghaire Rathdown County Council both intend to rollout brown bins to all of their customers by June 2010.

12.2 MATERIALS RECOVERY FACILITY

In January 2009 the Minister for the Environment, Heritage and Local Government opened the regional Materials Recovery Facility located in Ballymount, South Dublin. The state of the art facility processes the dry recyclable materials collected through the local authority green bin collection system. The plant has a capacity to process 100,000 tonnes of materials and is licensed by the EPA.

The facility is operated under contract by Greyhound Recycling and Recovery on behalf of the Dublin Local Authorities. The facility represents a €36 million investment in recycling infrastructure for the region.

12.3 BIOLOGICAL TREATMENT

In 2009 the Dublin Local Authorities decided to terminate the competition for the Dublin Biological Projects at Ballyogan and Kilshane. It had become apparent during the process that the Projects would not deliver value for money based upon its current specifications. The costs submitted as part of the tendering process did not compare favourably with the costs of procuring composting services contracts in and adjacent to the Dublin Region.

The Dublin Local Authorities are now considering their options with regards the arrangements for providing biological treatment capacity in the region.

12.4 WASTE-TO-ENERGY

Construction work began in December 2009 on the Dublin Waste to Energy plant at Poolbeg and is expected to take three years to complete. The project which is currently estimated to cost approximately €350 million, will employ on average 300 people during construction, with up to 500 people on site at peak construction and approximately 60 others in permanent jobs at the plant when it opens.

The plant is due to be operational in early 2013.

12.5 LANDFILL

In October 2009 An Bord Pleanála granted permission for the construction of the regional landfill located near Lusk in County Dublin. The proposed facility will provide long-term residual waste capacity for the region for the next 20 to 30 years.

A final decision from the EPA on the Waste Licence for the facility is pending and is expected in early 2010.

13 KEY PERFORMANCE INDICATORS

13.1 HEADLINE INDICATORS

Table 12.1: Headline Indicators for years 2003, 2006, 2007, and 2008.

	Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	Target
1	Household Waste Generated per household	1.21 tonnes/annum	1.1	1.12	1.12	1.25 tonnes/annum 2006 onwards
2	Municipal Waste Recycling Rate	26%	40%	41%	41%	45% by 2010
3	Proportion of Household and C/I waste sent for Energy Recovery	0%	0%	0%	0%	38% by 2013
4	Tonnage Biodegradable Municipal Waste Landfilled	431,340	470,361	417,025	250,356	175,030 by 2009
5	% C&D Waste Recycled (excl soil)	4%	14%	43%	28%	85% by 2013
6	Kg (household) WEEE collected for Recycling per capita	2.5 Kg	4.1 Kg	10.9 Kg	11kg	4 Kg by 2006
7	% Household Hazardous Waste in residual waste stream	1.10%	0.40%	0.40%	0.30%	0.75% by 2008
8	% Recycling of Packaging Waste	37.20%	48.80%	54%	54%	55% by 2011

13.2 PREVENTION AND MINIMISATION

Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	Target
Household Waste Generated per Household (tonnes/annum)	1.21	1.1	1.12	1.12	1.25 from 2006 onwards

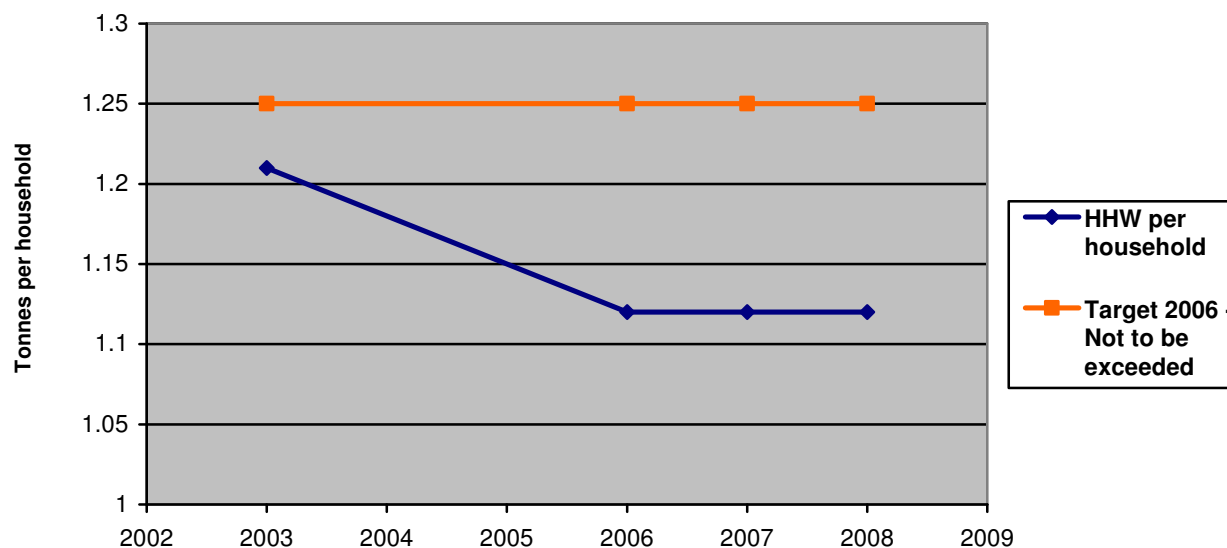


Figure 15.1 Household Waste Generated Per Capita

Secondary Indicators	2003 Performance	2006 Performance	2007 Performance	2008 Performance
Household Waste Generated per Household (tonnes/annum)	0.41	0.41	0.41	0.40
No of Items Reused on FREE Trade Service	-	1,551	6,174	9,365

13.3 RECYCLING OF MUNICIPAL WASTE

Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	2010 Target
Municipal Waste Recycling Rate	26%	40%	41%	41%	45%

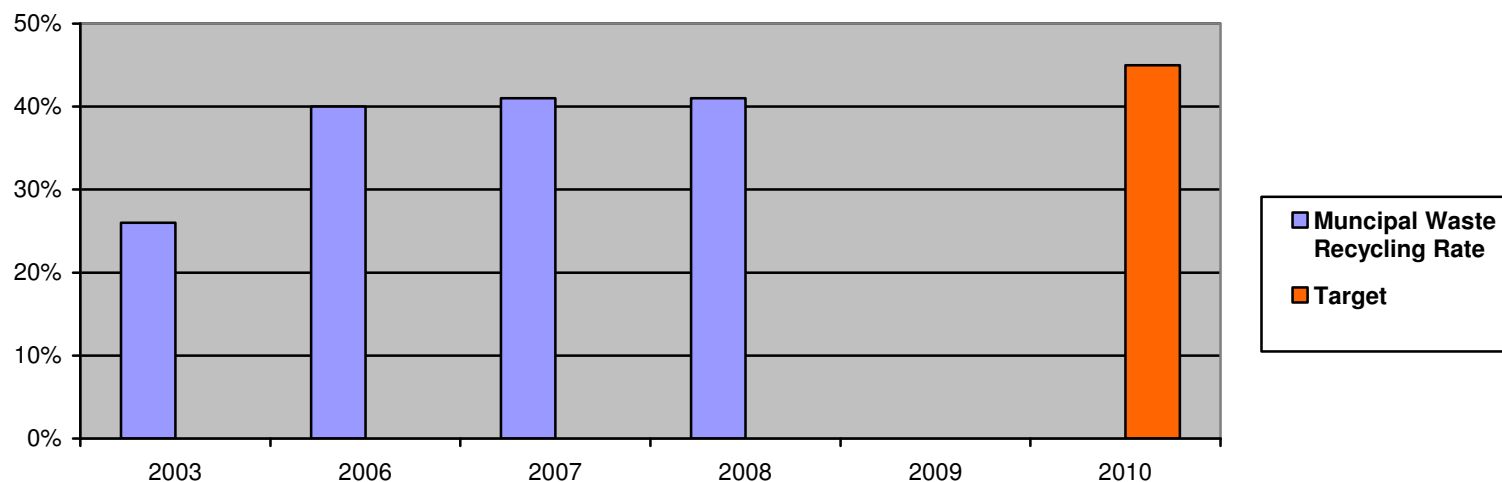


Figure 15.2 Municipal Waste Recycling Rate (%)

Secondary Indicators – Household and Commercial Waste Recycling Rates

Secondary Indicators	2003 Performance	2006 Performance	2007 Performance	2008 Performance	2013 Target
Household Waste Recycling Rate	16%	27%	28%	35%	60%
Commercial/Industrial Waste Recycling Rate	34%	49%	49%	46%	41%

13.4 CONSTRUCTION AND DEMOLITION WASTE

Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	Target
% C&D Waste Recovered (Excl soil)	4%	14.4%	42.8%	28%	85% by 2013
% C&D Waste Recovered (Incl soil)	-	82%	90%	75%	

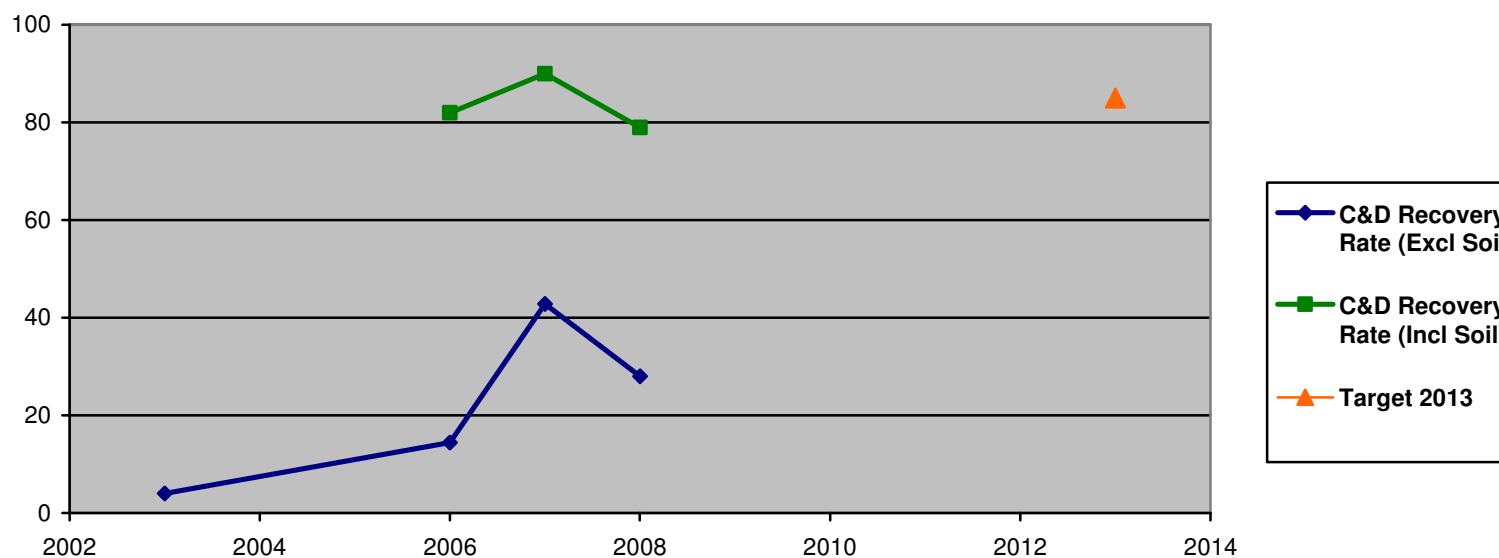


Figure 15.3 Construction and Demolition Recycling Rate (%)

Secondary Indicator - Construction and Demolition Waste Recycling Tonnage

Secondary Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance
Construction and Demolition Waste Recycling (Tonnes)	128,537	231,200	418,690	461,169

13.5 WASTE ELECTRICAL AND ELECTRONIC WASTE

Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance
Kg (household) WEEE Collected for Recycling per capita	2.5 Kg	4.1 Kg	10.9 Kg	11 kg

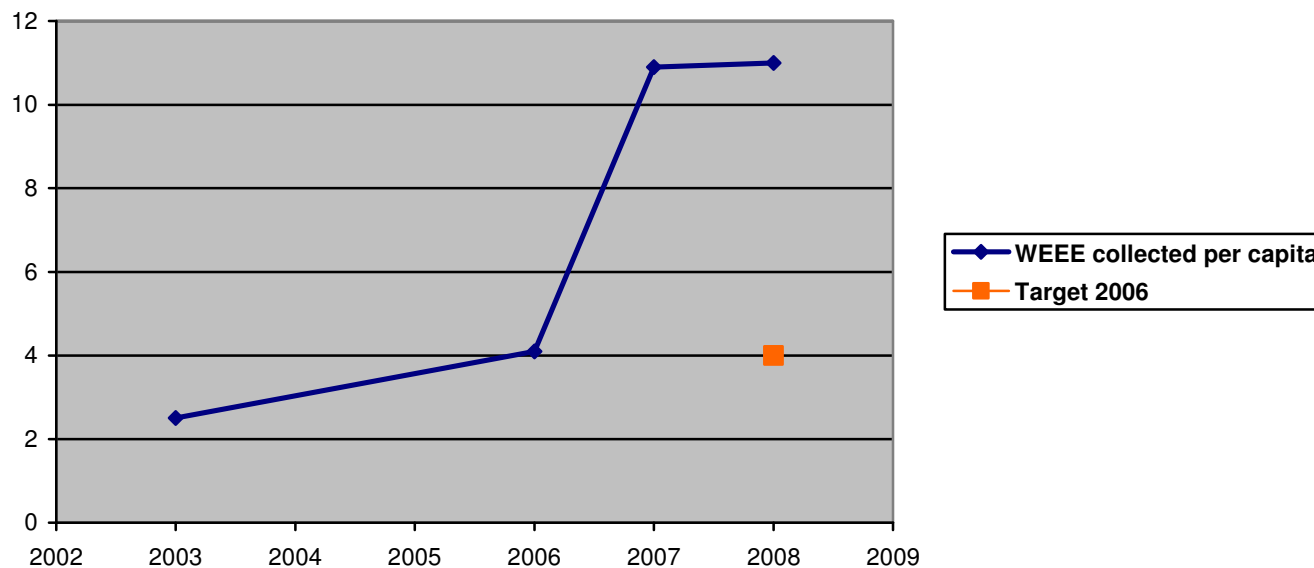


Figure 15.4 WEEE Collected (kg) for Recycling per Capita

Secondary Indicator - Estimated Quantity of WEEE Landfilled

Secondary Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance
WEEE landfilled	No data	6,456 tonnes	5,986 tonnes	907 tonnes*

*Based on a composition of 0.3% of the residual bin.

13.6 HOUSEHOLD HAZARDOUS WASTE

Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	Target
% Household Hazardous Waste in residual waste stream	1.1%	0.4%	0.4%	0.3%	0.75% by 2008

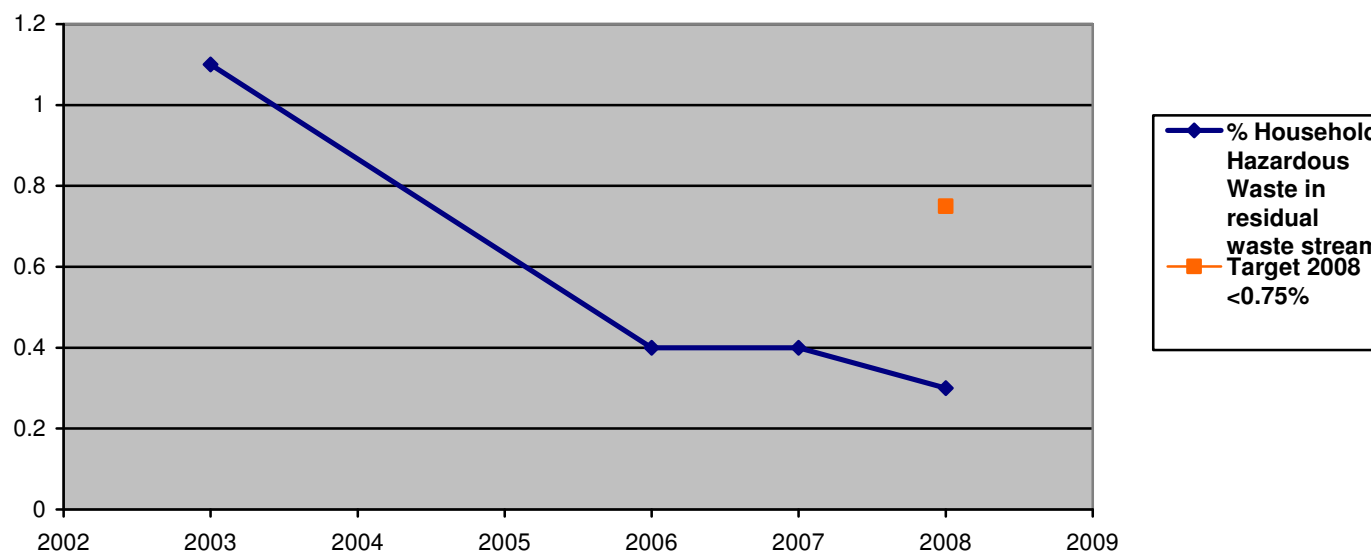


Figure 15.5 % Household Hazardous Waste in Residual Waste Stream

Secondary Indicator - Estimated Quantity of Hazardous Waste Landfilled

Secondary Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance
Household Hazardous Wastes landfilled	5,055 tonnes	1,359 tonnes	1,260 tonnes	2,723 tonnes

13.7 PACKAGING WASTE

Headline Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	Target
% Recycling of Packaging Waste	40%	49%	52%	54%	55% by 2011

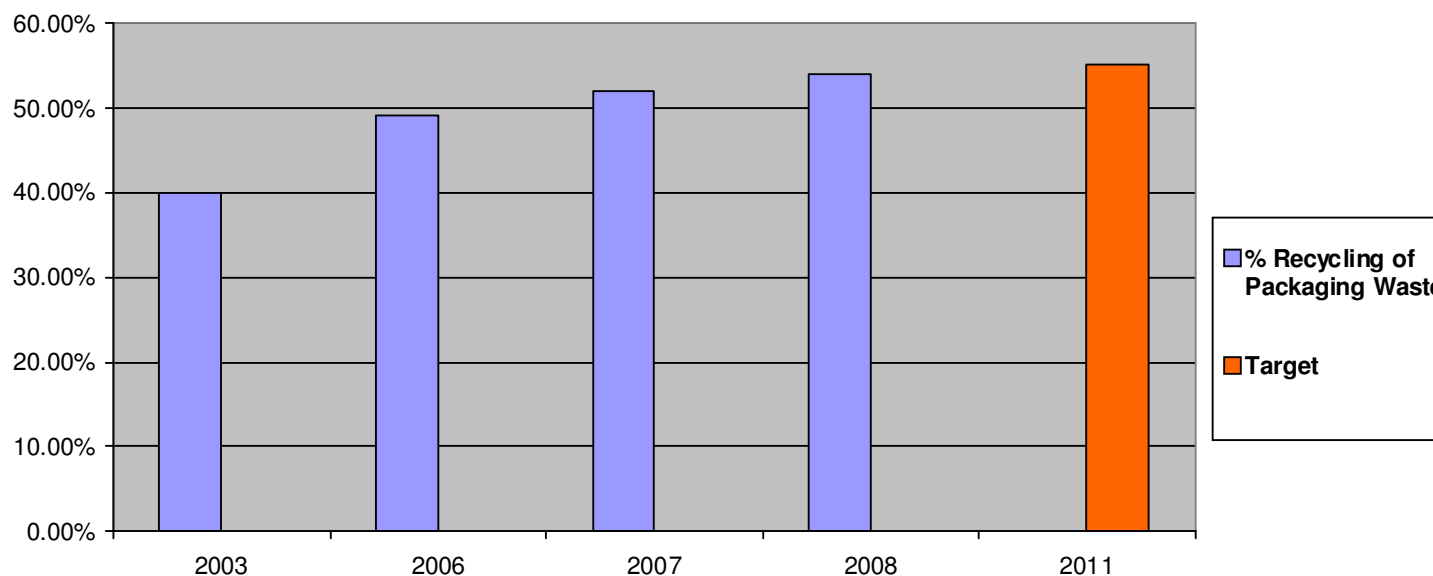


Figure 15.6 Recycling of Packaging Waste (%)

Secondary Indicator - Quantity of Packaging Waste Landfilled

Secondary Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance
Packaging Waste landfilled	321,190 tonnes	142,927 tonnes	139,375 tonnes	141,766 tonnes

13.8 RECOVERY OF ENERGY FROM WASTE

It remains the policy of the Dublin Local Authorities region to develop a Waste-to-Energy facility in Poolbeg, Ringsend for the long-term treatment of residual municipal waste arisings. Construction of the new facility will commence in December 2009 and the facility is due to be operational by late 2012.

The Waste Management Plan as set targets for energy recovery from household waste of 39% and from commercial waste of 37%.

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	Target
Proportion of Household and C&I waste sent for Energy Recovery	0 %	0 %	0 %	38% by 2013

Secondary Indicator – Landfill Gas and WWTP Biogas Recovery

Landfill gas capture and utilisation systems are in place at regional landfills, namely Arthurstown, Ballyogan, Balleally, Friarstown and Dunsink Landfills. The total energy generated and recovered through these systems is presented in the table below and has increased for 2008.

Secondary Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance
Landfill Gas Recovery	n/a	93,609MWh	116,003MWh	132,524MWh

13.9 LANDFILL DISPOSAL

Determining the level of BMW Landfilled in the Dublin Region in 2008

Kerbside Residual Collection	Collected and landfilled	Biodegradability Factor	BMW Tonnage
Household DCC – 3 BIN	60,509	47%	28,439
Household DCC – 2 BIN	60,509	62%	37,516
Household DLR – 2 BIN	16,012	62%	9,927
Household FCC – 3 BIN	25,245	47%	11,865
Household FCC – 2 BIN	25,245	62%	15,652
Household SDCC – 2 BIN	57,509	62%	35,656
Household KCC – 2 BIN	24,095	62%	14,939
Commercial – 2 BIN	98,265	75%	73,699
Street Cleanings	35,136	64.5%	22,663
Total	402,525		250,356

Note:

It is assumed that by the end of 2008, 50% of households served by Dublin City Council and Fingal County Council had a 3 bin collection service with the remaining 50% of households having a 2 bin system.

The biodegradability factors listed have been published by the EPA following a review of biodegradable content of municipal waste coupled with the findings of the Municipal Waste Characterisation Studies.

The published factors will be used nationally in future calculations of BMW as part of the implementation of the EPA Pre-Treatment requirements for landfill.

Total BMW arisings generated in the region in 2008 are estimated to be 865,049 tonnes and is composed as follows:

Household BMW:	287,265
Commercial BMW:	555,121
Street Sweepings:	22,663

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2013 Target
Municipal Waste Landfilled in the Region	664,114 tonnes	592,609 tonnes	402,525	
Biodegradable Waste Landfilled	470,361 tonnes	417,025 tonnes	250,356	175,030 tonnes

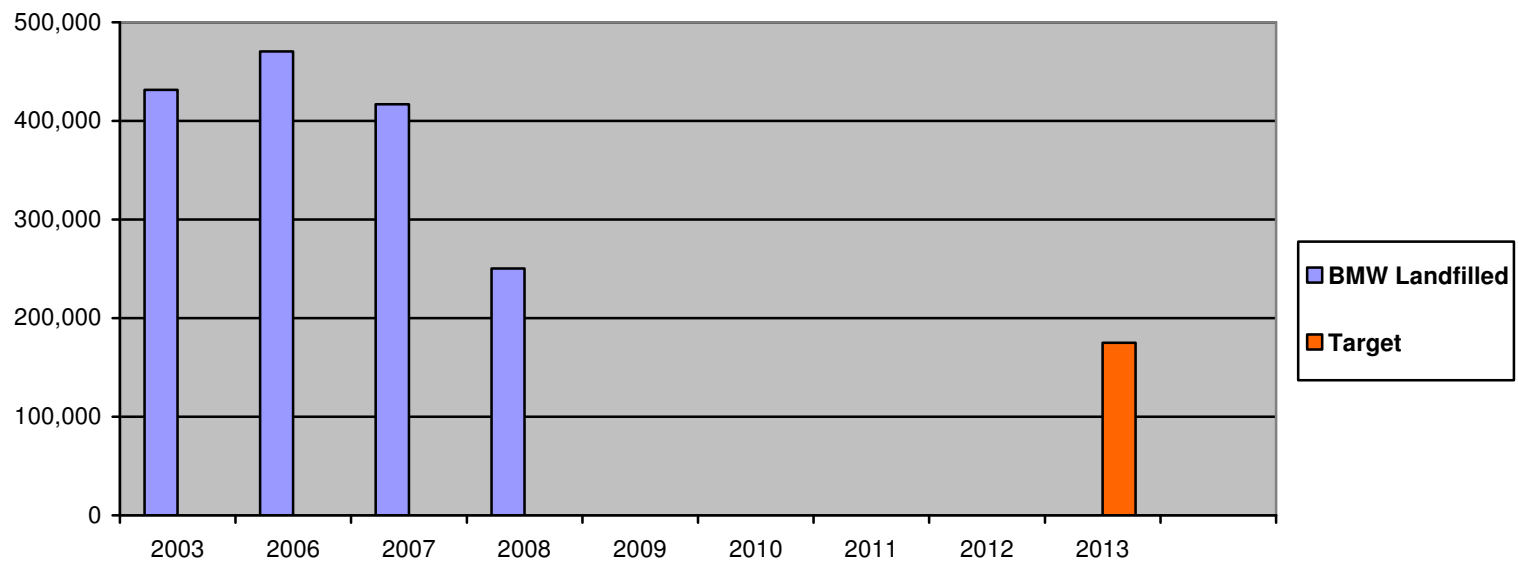


Figure 15.7 BMW Landfilled Quantities