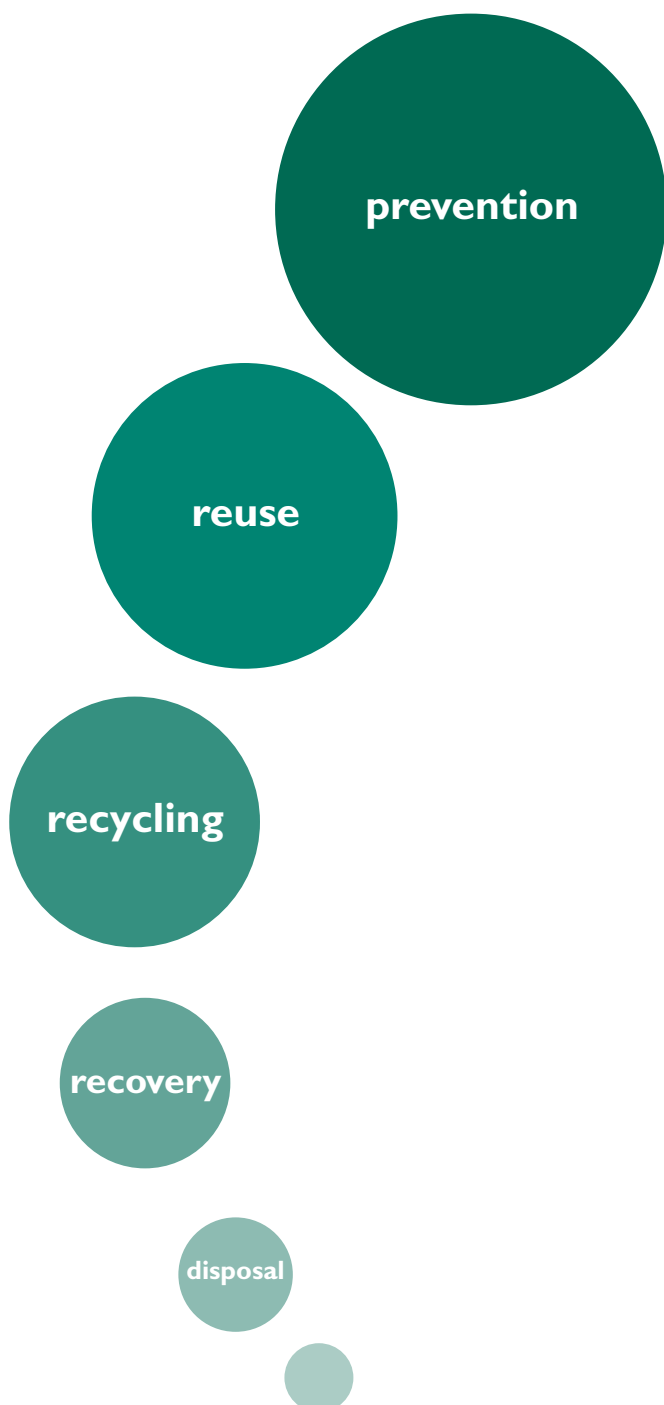


Waste Management Plan for the Dublin Region



Annual Progress Report 2011

April 2012

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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 an annual update of waste management data and statistics for the Region.

This is the fifth 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.

Performance Summary

Overall, the Dublin Region continues to perform well in line with the targets and objectives of the Dublin Waste Management Plan. The household recycling rate is up 3% to 44%, municipal waste recovery is up 1% to 47% and landfilling has decreased by 1% to 53%. The region remains overly reliant on landfill with 56% of household waste and 49% of commercial waste sent for disposal. There remains a need to develop recovery alternatives for residual waste.

Waste Prevention

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

- There were 401 schools awarded with Green Flags was at the end of 2010, representing a 6% increase on the number recorded at the end of 2009.
- The overall quantity of material composted in the Dublin Region is estimated to be 41,111 tonnes.

Reuse

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

The online reuse service, FreeTrade Ireland, is funded by the Authorities and continues to deliver with over 8,500 items reused in Dublin in 2010. The FreeTrade Ireland service is the national online reuse service supported by the local authorities including the four Dublin Councils.

Household Waste

- Household waste arisings in Dublin decreased by 9% in 2010.
- The recycling rate for household waste increased to 44% in 2010 compared to 41% in 2009, with an overall recovery rate of 48%.
- Over 36,000 tonnes of source separated organic waste was collected through the brown bin collection system in 2010.
- Over 92,000 tonnes of dry recyclables were collected through the green bin collection system in 2010. This is a 6% increase on the quantity collected in 2009.

- The region had 9 active recycling centres and over 36,000 tonnes of material was collected at these locations in 2010.
- There are 304 bring banks and 12 bring centres in the region with over 26,000 tonnes of material collected at these locations in 2010. The tonnage collected has decreased by 7% compared to 2009 data.
- In 2010 a full 3 bin collection system was rolled out to the majority of household local authority customers served in the Dublin City Council, Fingal County Council and South Dublin County Council functional areas.

Commercial Waste

- Commercial Waste arisings have increased by an estimated 1% in 2010.
- The recovery rate for commercial waste was estimated to be 51% in 2010.

Municipal Waste

- Municipal Waste arisings were estimated to be 1,192,466 tonnes have decreased by 3.4% in 2010.
- The recovery rate for municipal waste was estimated to be 49% in the region.

Biodegradable Municipal Waste (BMW)

- The total amount of BMW available in the region in 2010 was estimated to be 833,048 tonnes;
- The total amount of BMW landfilled at facilities in the region and outside of the region is estimated to be 408,870 tonnes.

Packaging Waste

- The recovery rate of packaging waste increased to 61% in the region in 2010 compared to 55% in 2009.
- Packaging waste arisings increased by 6% to an estimated 308,077 compared to 290,281 tonnes in 2009.

Construction and Demolition Waste

- Construction and Demolition Waste Arisings decreased by 38% to an estimated 1.7 million tonnes.
- The recovery rate for soil and stones, as part of C & D arisings in the region, was recorded at 98%.

WEEE

- Over 27,633 tonnes of WEEE was collected in 2010 which compares similarly to the same figure for 2009.
- 9.3kg of household WEEE was collected for recovery per capita in 2010 compared to 10.5kg per capita collected in 2009.

End of Life Vehicles (ELVs)

- There are 12 Authorised Treatment Facilities operating in the Dublin Region in 2010.
- Over 17,900 tonnes of ELVs were collected in the region in 2009, which is an increase of over 12,000 tonnes on 2010 data.

Waste Tyres

- Over 6,100 tonnes of tyres were collected in the region in 2010.

1 INTRODUCTION

The Dublin Local Authorities (Dublin City Council¹, Dun Laoghaire Rathdown County Council², Fingal County Council³, and South Dublin County Council⁴) are responsible for producing on an annual basis an update of waste management data and statistics for the region.

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

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

¹ Dublin City Council, hereafter DCC.

² Dun Laoghaire Rathdown County Council, hereafter DLRCC.

³ Fingal County Council, hereafter FCC.

⁴ South Dublin County Council, hereafter SDCC.

2 WASTE GENERATION IN THE DUBLIN REGION

Table 2.1 provides a summary of the key waste streams generated in the Dublin Region and the quantities recorded in 2007 to 2010.

The overall trend is of decreasing tonnage for key waste streams with the exception being commercial waste and packaging waste. The extent of the fall in tonnage varies across the different waste streams, with the largest drop (38%) recorded for Construction & Demolition (C&D) waste. Each of the waste streams identified in the table are analysed in subsequent chapters of this report.

Table 2.1: Waste Arisings Managed in the Dublin Region for 2007 - 2010

Waste Type	Total 2007 (tonnes)	Total 2008 (tonnes)	Total 2009 (tonnes)	Total 2010 (tonnes)
Household Waste Arisings	470,220	474,767	470,806	421,506
Commercial Waste	778,295	738,193	731,927	739,121
Construction and Demolition Waste	7,052,034	6,529,511	2,698,753	1,675,410
Contaminated Soils	9,542	10,000	9,275	3,928
Litter and Street Sweepings	35,580	35,136	37,437	31,839
Packaging waste	288,081	310,333	290,281	317,168
Priority waste streams:				
Waste tyres	9,542	7,222	2,362	6,120
End of life vehicles	14,187	14,411	5,447	17,912
Household Hazardous waste	2,054	4,028	4,667	3,074
Waste Electrical Electronic Equipment	24,088	31,416	27,568	29,911
Sewerage Sludge	21,821	23,054	25,368	18,379

Data Sources:

Household Waste: Local Authority (EPA) National Waste Database Questionnaires (2010)

Commercial/Industrial Waste: Single Region Waste Collection Permits, Multi Region Waste Collection Permits with DCC as the lead authority and Multi Region Waste Collection Permits with the lead authority outside the Dublin Region.

Construction and Demolition Waste: Local Authority (EPA) National Waste Database Questionnaires (2010)

Contaminated Soils: Local Authority (EPA) National Waste Database Questionnaires (2010).

Litter and Street Sweepings: Local Authority (EPA) National Waste Database Questionnaires (2010).

Packaging Waste: REPAK, Waste Composition Data and Regional Landfill AERs, EPA National Waste Report 2010.

Waste Tyres & ELVs: Single Region Waste Collection Permits, Multi Region Waste Collection Permits with DCC as the lead authority and Multi Region Waste Collection Permits with the lead authority outside the Dublin Region

WEEE: ERP & WEEE Ireland

Household Hazardous Wastes: Local Authority (EPA) National Waste Database Questionnaires/Returns (2010).

Sewerage Sludges: Waste Collection Permits, Multi Region Waste Collection Permits with DCC as the lead authority and Multi Region Waste Collection Permits with the lead authority outside the Dublin Region, 'Focus on Urban Waste Water Discharges in Ireland, Urban Waste Water Discharges in Ireland for Population Equivalents greater than 500 persons' (EPA)

3 PREVENTION & AWARENESS

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

3.1 RESOURCES

Waste prevention and awareness plays an important role in implementing and achieving the objectives set out in the Dublin Waste Management Plan. Each Local Authority has dedicated resources promoting awareness about better waste management practices to households, communities, schools and businesses. A total of 9 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 2010

	DCC	DLRCC	FCC	SDCC ⁵	Total
Environmental Awareness Officers (EAOs)	1	1	1	1	4
Green Business Officers	0	1	0	0	1
Green Schools Officers	1	1	1	0	3
Other Educational & Awareness Staff	0	0	0	1	3
Total	2	3	2	2	9

Data Source: Local Authority Waste Management Departments

3.2 COMMUNITY AWARENESS

The Local Authority Prevention and Awareness Staff organise a range of activities throughout the year that aim to develop environmental awareness within the community. A summary of the types of activities and events organised throughout Dublin in 2010 are listed below:

- Activities in 2010 organised by the Dun Laoghaire Rathdown EAO include the Cool Earth Exhibition at the Festival of World Cultures. The Cool Earth exhibition brings together community organisations operating in the Dun Laoghaire area to provide information on educational programmes running locally and advise on environmental activities such as home composting. The exhibition also hosted a series of lectures aimed at informing the public.
- South Dublin County Council hosted an Eco Week from April 19th – April 24th 2010. Waste management was a key theme during this week. Waste related events organised during the week included a composting workshop and 'From Spin-cycle to Recycle' - hosted by the Clondalkin Community Recycling Initiative – a talk on the reuse of household appliances.
- The Dublin City Neighbourhoods Competition, organised by Dublin City Council, took place for the 6th consecutive year in 2010. The competition involved 5 areas within the City Council area that were rated on a number of local environmental aspects including waste management and recycling initiatives.
- Fingal County Council hosted gum litter campaigns, a tour of recycling centres, induction courses for council tenants and anti-litter campaigns. The Fingal Eco Week ran from the 8th – 13th March 2010.

⁵ SDCC have 2 EAOs – an Environmental Awareness Officer and an Assistant Environmental Awareness Officer also serving schools.

3.3 GREEN BUSINESS ACTIVITIES

There is currently 1 Green Business Officer (GBOs) operating in the Region – in Dun Laoghaire Rathdown County Council. In Dublin City Council, Fingal County Council and South Dublin County Council the EAO 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 who are developing and implementing green strategies. The GBOs in the region are involved in organising workshops, promoting green business initiatives and informing businesses about environmental management practices.

There are a number of award schemes and competitions organised by the Local Authorities in Dublin. The Envirocom Awards, organised by DLRCC, is a business awards scheme which rewards businesses and organisations for implementing green practices in their organisations.

The awards are presented by the DLR Healthy County Forum whose members include DLRCC, DLR Chamber and the HSE. DLRCC is represented by the GBO on the organising committee. Waste prevention is one of the categories recognised by the Envirocom Awards.

3.4 GREEN SCHOOLS CAMPAIGN

The Green Schools Programme continues to be very successful in promoting waste awareness and prevention in schools on a national basis and throughout the region. At the end of 2010 it was recorded that 551 schools or 79% of schools in the region were registered with the Green Schools Programme. This is a 7.3% increase on the number registered in 2009.

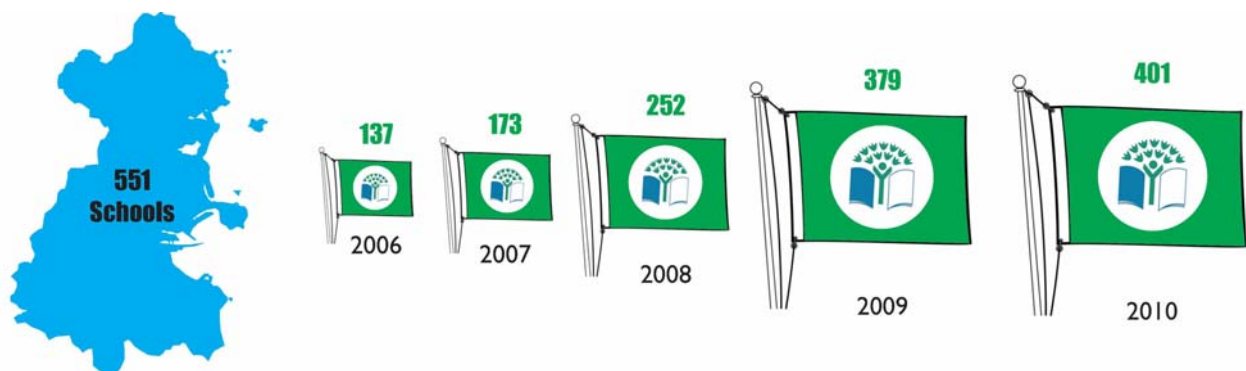


Figure 3.1 Green Flags Awarded 2010

The number of schools awarded Green Flags was reported to be 401 at the end of 2010, representing a 6% increase on the number recorded at the end of 2009, see Figure 3.1.

In the Dublin Region approximately 79% of schools are registered in the Green Schools Programme

Table 3.2: Green School Registrations and Green Flags Awarded (2010)

Local Authority	Total Number of Schools in each Local Authority 2010			Number of Schools Registered 2010			Green Flags Awarded By End 2010
	Primary	Secondary	Total	Primary	Secondary	Total	Total
DCC	228	87	315	171	58	229	117
DLRCC⁶	75	33	119	67	27	100	64
FCC⁷	89	36	125	75	31	106	155
SDCC	94	34	135	84	29	116	65
Total 2010	486	190	694	397	145	551	401
Total 2009	509	177	688	376	128	516	379
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

3.5 LOCAL AGENDA 21

Local Agenda 21 aims to facilitate sustainable development within communities, through the funding of projects including interactive waste awareness and educational events.

A total of 72 projects were funded by the Local Agenda 21 Environment Fund in 2010 with 14 of these projects being waste related. Overall €116,367 was spent on the projects, which was funded by both the Local Authorities and the Department of the Environment, Community and Local Government (DECLG).

This represents a 9% decrease in funding from 2009. However the number of waste related projects funded by the Local Agenda 21 Environment Fund in 2010 have increased to 14 from 9 (in 2009).

⁶ DLR total figures include 'other' schools such as special, post primary and primary/secondary.

⁷ FCC total figures include special schools and crèches.

Table 3.3: Local Agenda 21 Environment Fund 2010 Projects and Funding

Local Authority	Total number of projects 2010	Total spent on funding 2010	Waste Projects 2010
DCC	26	€37,028	2
DLRCC	10	€23,913	1
FCC	9	€27,446	5
SDCC	27	€27,980	6
Total 2010	72	€116,367	14
Total 2009	52	€127,808	9
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

3.6 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 based on compost bin sales are provided in Table 3.4. An estimated 7,669 tonnes of material was composted in 2010.

Table 3.4: Home Composting Tonnages based on compost bin sales in the Dublin Region

Area	2010 Tonnes	2009 Tonnes	2008 Tonnes	2007 Tonnes	2006 Tonnes
DCC	4,179	4,129	4,129	4,071	4,000
DLRCC	1,229	1,194	2,711	2,581	2,305
FCC	1,020	1,003	989	961	875
SDCC	1,241	1,241	1,128	1,088	1,037
Total	7,669	7,567	8,957	8,701	8,217

Source: Local Authority (EPA) National Waste Database Returns 2010

It is difficult to quantify the amount of household waste not entering the collection system due to home composting bins in Dublin. Figure 3.2 provides an estimate of the tonnage composted in 2010. The figure is a cumulative total of the estimated annual tonnages.



Figure 3.2 Estimate of Home Composting 2010

DUBLINWASTE.IE WEBSITE

DublinWaste.ie is the regional waste awareness website developed by the Dublin Local Authorities as a one stop shop for waste management and recycling information. The website has been in operation since 2004 and as Table 3.5 shows has received over 5.9 million visitors.

In 2011 website operation was scaled back. The website continues to host a recycling search feature as well as hosting the litter microsite www.putlitterinitsplace.ie. The website also has the capability to host documents and is used for publishing regional reports. It is also planned to use the website for future public consultations. The innovative reuse service, FreeTrade was extended to a national platform with the creation of FreeTradeIreland.ie in July 2010 and officially launched by An Taoiseach in May 2011. As a consequence, traffic to DublinWaste.ie has decreased. Details of traffic to DublinWaste.ie is outlined in Table 3.5.



Table 3.5: Traffic to the Website May 2004 to December 2011

Year	Total Hits	Average Hits per Month
2004 (May to Dec)	35,946	4,493
2005 (Jan to Dec)	146,068	12,172
2006 (Jan to Dec)	358,882	29,907
2007 (Jan – Dec) ⁸	1,096,234	91,353
2008 (Jan-Dec)	1,412,317	117,693
2009 (Jan – Dec)	1,463,484	121,957
2010 (Jan – Dec)	1,053,117	87,760
2011 (Jan –Sep) ⁹	380,315	31,693
Total visits 2004- 2011	5,946,363	

⁸ Google Analytics has been used since April 2008. Prior to this the monitoring package, Urchin, was used to estimate hits to the website.

⁹ DublinWaste.ie activity has been limited since April 2011 with Local Authorities providing updates as needed on changes in the waste management for the region ie changes to the Recycling Facility Search

4 REUSE

The Dublin Local Authorities continue to fund and implement reuse based projects and services in the region. The reuse of items and materials is a growing practice in Dublin being led through local authority, communities, designers and entrepreneurs. Promotion of these activities is important to ensure reuse is maximised.

4.1 FREETRADE

The FreeTrade reuse service was launched and hosted on DublinWaste.ie from 2006 until June 2010. This online service facilitates and promotes reuse was shown to deliver tangible results. Due to its success in Dublin the service has been extended nationwide. In July 2010 the FreeTrade service was rolled out at a national level with the creation of the website, FreeTradeIreland.ie. Local Authorities across the country fund and promote the service.

The online initiative encourages the reuse of unused and old items by facilitating the free advertising of items for members.



The FreeTrade Ireland website also aims to facilitate the reuse of items from businesses, and provides the facility for businesses and householders to record the items they re-use through the service.

The service is hugely popular in Dublin with over 37,700 members (December 2011). Since 2006 the use of the service has increased and correspondingly the number of items reused through the service.

In the four and a half years the service has been operating in Dublin an estimated of 42,867 items have been reused.



Figure 4.1 Items Reused on FreeTrade in Dublin

Table 4.1 provides an annual breakdown of the number of items reused in the Dublin Region on the service since 2006.

Table 4.1: Number of items Reused on the FreeTrade Service 2006

	Free Trade On DublinWaste.ie	FreeTrade Ireland
Year	Number of items Reused	Number of items Reused
2006 (Aug - Dec)	1,551	-
2007 (Jan – Dec)	6,174	-
2008(Jan - Dec)	8,736	-
2009(Jan - Dec)	9,365	-
2010(Jan - Dec)	4,968	3,623
2011(Jan - Dec)	-	8,450
Total items reused	30,794	12,073
Total Items reused	42,867	

There has been a decrease in the number of items reused through FreeTrade Ireland in 2010. This is due to improvements in the websites data recording system. The national service tracks and reports all items reused on a local authority basis. Previously this wasn't in place and items reused in surrounding counties could not be separated out and were reported as part of the Dublin data.

It is estimated that approximately 12,073 items have been reused in the Dublin region between July 2010 and December 2011 through FreeTrade Ireland. The reuse of items through the service generated a total estimated cost savings for users of €1,257,532. This is estimated to be a €50,240 saving for householders and businesses in disposal costs and €1,207,292 of savings for users in saved purchase costs.

Table 4.2 shows the usage and the estimated cost savings of the FreeTrade Ireland service in each of the Dublin Local Authorities.

Table 4.2: FreeTrade Ireland Cost Saving in the Dublin Region from July 2010 – Dec 2011

Local Authority	Items reused	Items reused Tonnes	Disposal Cost Savings ¹⁰ €	Savings on Purchases ¹¹ €
Dublin City Council	4,678	91	18,200	467,801
Dun Laoghaire Rathdown County Council	3,227	70	14,020	322,705
Fingal County Council	2,066	51	10,140	206,574
South Dublin County Council	2,102	39	7,880	210,212
Total	12,073	251	€50,240	€1,207,292
			€1,257,532	

¹⁰ This has been calculated using current market rates for skips which are typically used by householders and businesses when disposing of bulky items. A standard skip (4 cubic yard) costs on average approximately €200. It has been assumed that a housholder will dispose of 1 tonne of bulky material in a skip. In diverting 178 tonnes of material the website is achieving a minimum saving of €35,500 in disposal charges

¹¹ This figure has been calculated by assuming that the cost of buying new the equivalent free item on the website is €100. With 8,450 items reused in 2011 months the savings realised are well over €845,000

4.2 OTHER REUSE INITIATIVES

In Dublin Community based reuse organisations provide an alternative outlet for useful materials and items while delivering real benefits to society through the creation of employment. The following is a list of well established reuse organisations in the regions:

- Rehab Recycling;
- Sunflower Recycling / Busy Bees;
- Liberties Recycling Training and Development;
- Rothar;
- The Rediscovery Centre; examples of reuse activities carried out as part of the Rediscovery Centre are outlined in 4.2.1.
- Clondalkin Community Recycling Initiative;
- Camara

These organisations are members of the Community Reuse Network (CRNI) which is a national organisation established to provide a platform for reuse organisations to communicate through, links different reuse organisations, maximise resource efficiency and critically ensure items are reused and value is added.

4.2.1 Rediscovery Centre

Ballymun Regeneration Ltd (BRL) was set up by Dublin City Council in 1997 to develop new and improved facilities for the community in Ballymun. As part of the BRL activities the Rediscovery Centre concept was established, the idea being to develop and offer reuse and recycling initiatives of materials in one central hub.

In 2010 the Rediscovery Centre provided employment to 24 people on a part time and full time basis. During this time approximately 10 tonnes of waste materials (textiles, paints and furniture) were reused. The centre is still going through planning phases although many of the community initiatives are already in place and are proving successful:

- The Rediscovery Centre furniture project was established in 2006 as a partnership between BRL and the Poppintree Environmental Group. The aim of the project is to offer an outlet for old or unwanted furniture where it is taken in, redesigned, restored and sold.
- Rediscover Fashion, which was set up in 2007, strives to increase the lifespan of textiles by reusing or repurposing textiles and as a consequence reducing the quantity of textiles sent to landfill. Items are redesigned or altered giving the material a new use and life.
- The Community Composting Project was set up by BRL as a pilot study in a block of apartments at the Santry Cross complex in 2006. This scheme took place over 30 months and examined the feasibility of community composting.
- Rediscover Paint - aims to take back unused or left over paint from householders and businesses and redistribute recovered paint back to the community diverting it away from landfill.
- Recycabike is a reuse and repair initiative for bikes. The aim of this initiative is to refurbish bikes for resale, offer a repair service and also provide training and volunteering for the community.

In July 2010 the Rediscovery Centre Ecostore opened. The Ecostore sells items repaired and refurbished by the rediscovery centre initiatives – including textiles, furniture, soft furnishings, paint and repaired bikes. New items produced through Rediscovery Centre projects are available for purchase in the Rediscovery Ecostore.

5 HOUSEHOLD WASTE COLLECTION AND RECYCLING

5.1 ARISINGS

Household waste arisings decreased in the Dublin Region in 2010 and it is estimated that 421,506 tonnes was generated. This represents a 9% decrease in household waste generation in the region since 2009.

Waste generation per household has decreased to 0.80 tonnes per household with waste generation per capita recorded at 0.33 tonnes. The corresponding figures for 2009 are 1.01 tonnes per household and 0.39 tonnes per capita respectively.

A breakdown of the household waste arisings in each Local Authority Area in 2010 is provided in Table 5.1.

Table 5.1: Growth in Household Waste Arisings 2006 – 2010

Local Authority	2006 (Tonnes)	2007 (Tonnes)	2008 (Tonnes)	2009 (Tonnes)	2010 ¹² (Tonnes)
DCC	192,952	191,541	193,409	175,574	158,872
DLRCC	73,252	71,054	69,061	80,879	63,100
FCC	95,531	103,618	103,923	101,893	97,946
SDCC	102,597	104,008	108,374	112,460	101,587
TOTAL	464,332	470,221	474,767	470,806	421,506
Waste per Household	1.1	1.12	1.12	1.01	0.80
Waste per Capita	0.41	0.41	0.40	0.39	0.33

Source: Local Authority (EPA) National Waste Database Returns 2010

Figure 5.1 illustrates the quantity of household waste per capita showing an annual decrease in tonnages generated between 2006 and 2010.

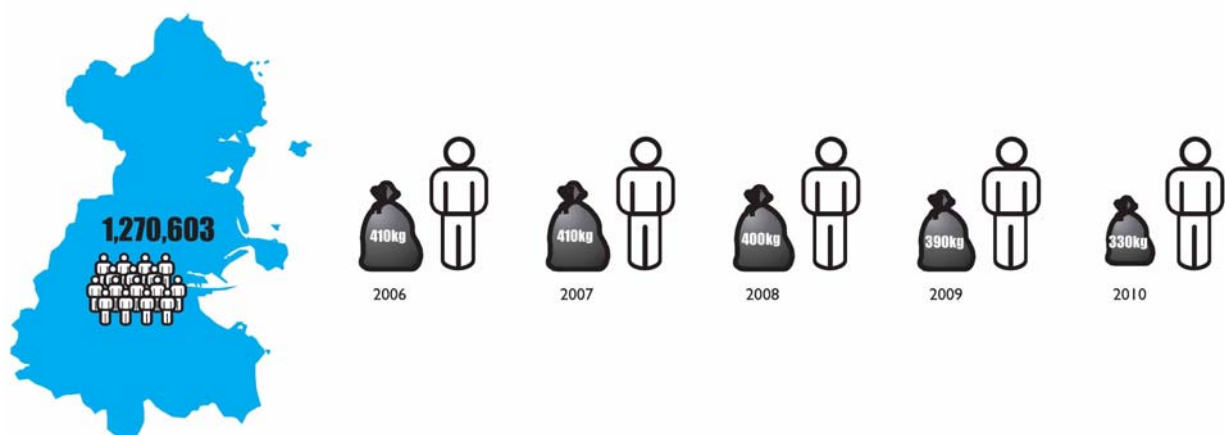


Figure 5.1 Household Waste per capita

¹².2011 CSO Population of Dublin Region = 1,270, 603 persons; Number of households = 529,312 households

5.2 COLLECTION AND RECYCLING SYSTEMS

Collection systems for household waste generated in Dublin are provided through kerbside systems, recycling centres, bring centres, bring banks and other collection events. The different collection systems facilitate the source segregation of recyclable materials from mixed residual waste and are key to growing recycling in the region.

In 2010 the local authorities and private waste operators provided collection and waste management services to householders in Dublin. The Dublin Local Authorities collected 78% of the household waste managed in the region through the different collection systems. Private operators provided for the direct collection of the remainder.

Recent Changes in the Household Waste Collection Market:

The role of local authorities in the household waste collection market changed in 2010. In July Dun Laoghaire Rathdown County Council entered into an agreement with a private collector and ceased to provide direct collection services to the majority of its customers. The Council's customers were transferred over to the private collector with arrangements on cost put in place for a period of time.

In April 2011 South Dublin County Council ceased to provide direct collection services to its household customers. A commercial agreement was put in place with a private collector who took over the Council's 3-bin collection service.

Similarly Fingal County Council and Dublin City Council exited the market in November 2011 and January 2012 respectively whereby existing customers transferred to private waste collectors.

Kerbside is the key collection system with different bin systems accounting for 83% of the managed household waste. Both public and private operators provided kerbside collection services to householders in 2010.

The rollout of 3-bin collection system has long been a policy objective for the local authorities and delivery of the full system is well advanced. The dry recyclable bin has been in place for all householders since 2005. The local authorities have also been phasing in bins for the separate collection of food and garden waste since 2006.

By the end of 2010 the majority of local authority customers in Dublin City Council, Fingal County Council and South Dublin County Council received a brown bin. The delivery of brown bins to customers in apartments and dwellings with space and access constraints has been limited to those premises which are suitable.

The integrated collection system has increased the materials recycling rate of household waste materials in the region to 44% (refer to Figure 5.2). An estimated 44,075 tonnes of kerbside black bin waste was processed at intermediate facilities. The outputs from these facilities typically include SRF/RDF, organic fines, oversize materials and a small fraction of metals. An estimated 17,600 tonnes of this material was sent for energy recovery most likely to cement kilns in neighbouring counties¹³. The disposal rate for 2010 was 52% and material diversion from landfill remains a challenge.

¹³ For the purposes of estimating the quantity of household waste sent for recovery, it has been assumed that 40% of the input material was sent off-site as RDF/SRF.

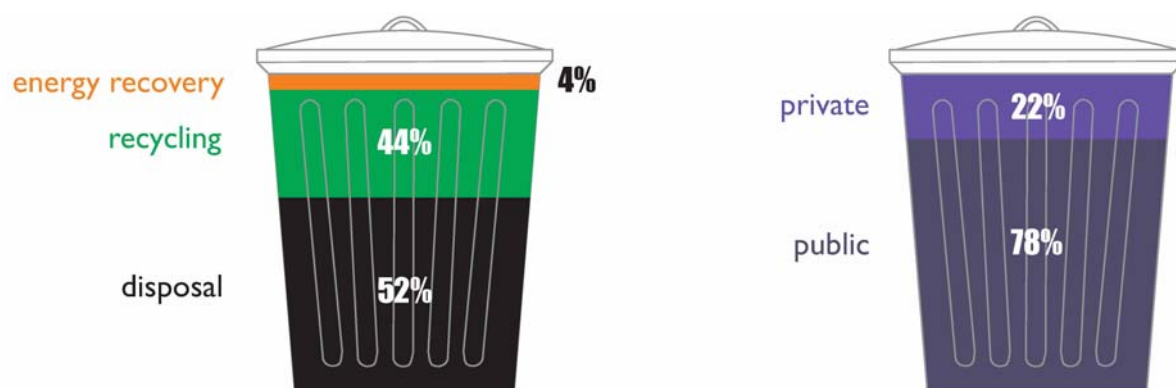


Figure 5.2. Household Waste Management

A detailed breakdown of the quantities of waste managed through the different collection and disposal systems is provided for in Table 5.2.

The household recovery rate in Dublin has grown by a further 3% (to 44%) compared to the figure recorded in 2009. The recycling target set for household waste is 60% so the region must maintain its progress in diverting material to reach this level.

The total quantity of household waste sent for disposal in 2010 has decreased by over 55,000 tonnes (~by 20%). This drop is a positive sign and indicates the rollout of the kerbside bin collection system in full is helping to divert more materials from landfill.

5.3 KERBSIDE COLLECTIONS

The kerbside system is key for collecting and recycling household waste in Dublin. Kerbside collection systems accounted for 83% of waste collected from households in 2010. By the end of 2010 approximately 241,600 households had a 3-bin collection system. This number increased further in 2011. The remaining households are provided with a 2-bin collection service. The proportion of residual dry recyclables and biowaste collected from kerbside households in 2010 is illustrated in Figure 5.3.

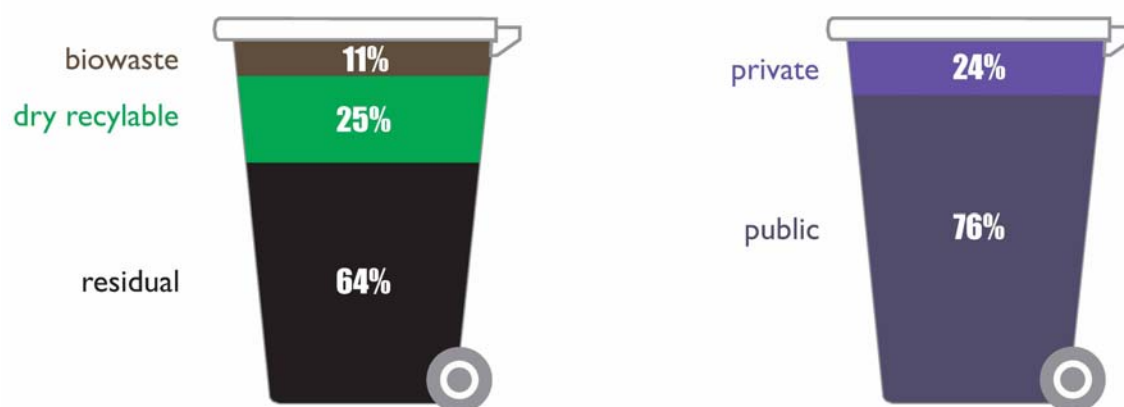


Figure 5.3 Kerbside Waste Management

Table 5.2: Recycling and Recovery Rates for Household Waste 2009 & 2010

Waste Source	DCC Tonnes	FCC Tonnes	SDCC Tonnes	DLRCC Tonnes	Regional 2010 Tonnes	Regional 2009 Tonnes
Bring Banks	12,913	4,837	5,540	2,711	26,001	27,867
Recycling Centres, Bulky Greenwaste Collections	2,503	6,846	5,033	9,080	23,462	31,936
Kerbside – Green bin (Local Authority)	29,283	15,118	19,308	3,105	66,814	68,336
Kerbside – Green bin (Private collectors)	2,883	5,201	1,499	15,905	25,487	18,945
Kerbside – Brown bin (Local Authority)	15,894	15,701	2,736	0	34,331	32,151
Kerbside – Brown bin Private collectors	132	1,567	171	22	1,892	4,280
WEEE Collections*	1,506	744	5,618	521	8,389	8,687
Total Recycled	65,114	50,014	39,904	31,344	186,376	192,202
Energy Recovery	3,516	4,036	1,179	8,899	17,630	-
Total Recovery	3,516	4,036	1,179	8,899	17,630	
Kerbside – Black Bin (Local Authorities)	78,719	30,770	44,283	4,908	158,680	193,050
Kerbside – Black Bin (Private collectors)	5,432	6,275	4,726	2,780	19,213	65,236
Residues for Intermediate Facilities	5,273	6,055	1,768	13,349	26,445	-
Delivered for disposal	818	797	9,727	1,820	13,162	14,183
Total Disposed	90,242	43,896	60,504	22,857	217,500	272,469
Total Arisings	158,872	97,946	101,587	63,100	421,506	470,806
2010 Recycling Rate %	41%	50%	39%	41%	44%	-
2010 Recovery Rate %	2%	4%	1%	15%	4%	-
2010 Disposal Rate %	57%	44%	58%	37%	52%	-
2009 Recycling Rate %	40%	48%	34%	41%	41%	41%

Source: Local Authority (EPA) National Waste Database Returns 2010. Figures for household waste collected includes waste collected by private collectors.

*WEEE Collections include household WEEE collected through Retailer Depots, Local Authority and Retailer collection days. This data is from WEEE Ireland & ERP.

5.3.1 Black Bin Residual Waste Collection

The quantity of waste collected by the local authorities and private collectors through the kerbside black bin collection has decreased by approximately 14% (36,318 tonnes).

The local authorities black bin kerbside collection service decreased in 2010 by 34,370 tonnes. Private kerbside black bin collections have also decreased slightly by 3% compared to 2009.

Table 5.3: Black Bin Collection Service 2007 - 2010

Region	Local Authority Tonnes	Private Collectors Tonnes	Total Tonnes
DCC	78,719	14,221	92,940
DLRCC	4,908	25,028	29,936
FCC	30,770	16,366	47,136
SDCC	44,283	7,673	51,956
Regional 2010	158,680	63,288	221,968
Regional 2009	193,050	65,236	258,286
Regional 2008	245,117	38,250	283,367
Regional 2007			313,811

Source: Local Authority (EPA) National Waste Database Returns 2010

5.3.2 Dry Recyclable Collection

The quantity of waste collected by public and private collectors through the green bin collection system in each Local Authority is outlined in Table 5.4. Overall there has been a 5.8% increase in mixed dry recyclables collected through the green bin system since 2009. In 2010 the green bin kerbside collection service was provided by Greyhound Recycling on behalf of the Local Authorities. Panda Waste who took over the collection service in DLRCC in August 2010 including the provision of a green bin service to its customers.

Table 5.4: Green Bin Recyclables Collected 2006 - 2010 (includes Public & Private)

Local Authority	2006 (tonnes)	2007 (tonnes)	2008 (tonnes)	2009 (tonnes)	2010 (tonnes)
DCC	22,491	25,704	29,649	30,693	32,166
DLRCC	13,211	14,598	16,811	18,741	19,010
FCC	12,633	13,273	16,660	17,835	20,319
SDCC	13,859	15,597	19,567	20,012	20,807
Total	62,194	69,172	82,687	87,281	92,301

Source: Local Authority (EPA) National Waste Database Returns 2010

5.3.3 Biowaste Collection Service

In 2010 a brown bin collection service was provided in Dublin City Council, Fingal County Council and South Dublin County Councils. The brown bin collection service in the Fingal region has been in operation since 2005 and continues to grow with 17,268 tonnes collected in 2010.

Similarly a phased implementation of the brown bin kerbside collection has been underway in Dublin City Council since 2006. The quantity of material collected in 2010 decreased by 17% with 16,026 tonnes collected in 2010.

The roll out of the brown bin collection service in South Dublin County Council commenced in June 2010 with full coverage achieved by late 2010.

The small quantities of biowaste material collected in the Dun Laoghaire Rathdown County Council functional areas was collected by private collectors.

Table 5.5: Brown Bin Collection Service 2006 - 2010 (includes Public & Private)

Local Authority	2006	2007	2008	2009	2010
DCC	411	1,315	8,553	19,342	16,026
FCC	1,971	3,266	10,548	16,955	17,268
SDCC	-	36	1,312	134	2,907
DLRCC	-	0	149	0	22
Region	2,382	4,617	20,562	36,431	36,223

Source: Local Authority (EPA) National Waste Database Returns 2010.

5.4 UNCOLLECTED WASTE

In 2010 the EPA¹⁴ revised their method of calculating uncollected household waste. As a result uncollected waste has been omitted from Table 5.2. In previous years uncollected waste in the Dublin region was estimated to range from 5,000 – 7,000 tonnes.

Fly-tipped waste and waste from clean-ups is recorded and included in the street sweepings figure for 2010. This is outlined in Table 6.3.

5.5 PUBLIC RECYCLING FACILITIES

During 2010 there were a total of 324 recycling facilities in the region. This figure includes recycling centres, bring centres and bring banks. Recycling Centres are large manned facilities with set operating hours. These facilities accept a wide range of non hazardous and hazardous materials with charges applied to certain materials. Bring Centres are manned bring banks which accept a wider range of material free of charge. Bring banks are smaller in nature, accept a limited number of waste streams and are unmanned. All materials accepted at bring banks are accepted free of charge.

Figure 5.4 outlines the number of public recycling facilities in the Dublin Region in operation in 2011.

¹⁴ The EPA have prepared a new methodology for determining the quantity of uncollected waste. This is published in the National Waste Report 2010.

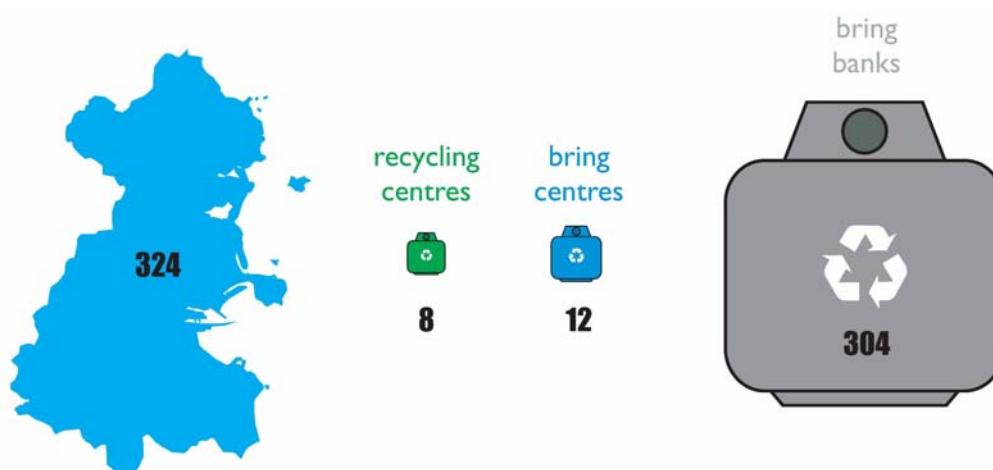


Figure 5.4 Public Recycling Facilities in 2011

5.5.1 Recycling Centres

In 2010 there were 9 recycling facilities in operation in the Dublin Region. In 2010 Esker Green Waste Facility, operated by SDCC, and Balbriggan Recycling Centre, operated by FCC, both closed.

A private operator, Green Clean Ltd, operate a public recycling facility in Lusk, which has been operating since 2009 and continued to accept household waste in 2010. This facility closed in 2011 closing the number of operating recycling centres to 8.

A breakdown of the number of recycling centres in operation in the Dublin Region is provided in Table 5.7.

Table 5.6: Number of Existing Recycling Centres

Local Authority	DCC	DLRCC	FCC	SDCC	Region
Recycling Centres 2006	2	2	4	1	9
Recycling Centres 2007	2	2	4	2	10
Recycling Centres 2008	2	3	4	2	11
Recycling Centres 2009	2	3	4 ¹⁵	2	11
Recycling Centres 2010	2	3	3 ¹⁶	1	9
Recycling Centres 2011	2	3	2 ¹⁷	1	8
Total Regional target 2010	12				

Source: Local Authority (EPA) National Waste Database Returns 2010.

In 2010 a total of 36,626 tonnes of waste was collected through the network of recycling centres in the Dublin Region. This represents a 21% decrease on the quantity of material accepted in 2009.

¹⁵ Includes the public recycling facility operated by Greenclean.

¹⁶ Closure of Balbriggan Recycling Centre.

¹⁷ Greenclean facility closed in 2011.

Approximately 36% of this waste was delivered to recycling facilities for disposal to landfill. Currently 2 recycling centres accept mixed residual waste for disposal – Ballyogan Recycling Park and Ballymount Recycling Centre.

A breakdown of the quantity of material accepted at the local authority recycling centres in Dublin is provided in Table 5.8.

Table 5.7: Recycling Centres in the Dublin Region in 2010

Dublin City Council			
	Recycled	Disposed	Total
Shamrock Terrace, North Strand Road	961	410	1,371
Pigeon House Road, Ringsend	1,543	407	1,950
Dun Laoghaire Rathdown County Council			
Ballyogan Recycling Park	8,212	1,820	10,032
Eden Park Recycling Centre	561	0	561
Shanganagh Recycling Centre	307	0	307
Fingal County Council			
Estuary Recycling Centre, Swords	4,103	352	4,455
Coolmine Recycling Centre	2,740	448	3,188
South Dublin County Council			
Ballymount Baling Station	5,033	9,727	14,760
Regional Total 2010	23,460	13,164	36,626
Regional Total 2009	31,934	14,183	46,119
Regional Total 2008	31,981	19,185	51,166

Source: Local Authority (EPA) National Waste Database Returns 2010

Bring Banks & Bring Centres

At the end of 2010 there were 304 bring banks and 12 bring centres in operation in the Dublin Region. This is the same as the number of facilities serving the community in 2009.

Table 5.9 provides a breakdown of the number of bring banks and bring centres 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 area there were 12 bring centres in operation in 2010.

Table 5.8: Number of Bring Banks & Bring Centres in Dublin in 2007 - 2010

Local Authority	DCC	DLRCC	FCC	SDCC	Region
Bring Banks 2007	127	81	80	58	346
Bring Banks 2008	118	47 ¹⁸	76	60	301
Bring Banks 2009	125	48	73	70	316
Bring Banks 2010	118	44	76	78	316
Existing Ratio (population per site)	1:4,452	1:4,704	1:3,593	1:3,400	1:4,021

Source: Local Authority (EPA) National Waste Database Returns 2010

The number of bring banks serving the region has remained the same as in 2009, with approximately 1 bring bank per 4,021 people in the Dublin Region. Overall the quantity of materials recovered has decreased by 7% since 2009, with 25,925 tonnes collected in 2010. Included in the tonnages reported is material collected through bring centres, including 1,138 tonnes of green waste and 216 tonnes of hazardous waste.

Table 5.10 provides a breakdown of the materials collected at bring banks and bring centres in the region in 2010.

Table 5.9: Quantity of materials accepted at Bring Banks and Bring Centres in 2010

Material	SDCC (tonnes)	FCC (tonnes)	DCC (tonnes)	DLRCC (tonnes)	Total (tonnes)
Glass	4,978	4,817	9,108	2,466	21,369
Aluminium cans	16	-	32	19	67
Plastics	-	-	-	-	0
Textiles	546	-	582	151	1,279
Batteries	-	2	16	-	18
Paper & Card	-	-	1,820	-	1,820
Steel cans	-	18	1	-	19
Composite packaging	-	-	-	-	0
Green Waste	-	-	1,138	-	1,138
Other¹⁹	-	-	216	-	216
2010 Total (tonnes)	5,540	4,837	12,913	2,636	25,926
2009 Total (tonnes)	5,431	4,848	14,405	3,183	27,867
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 2010

¹⁸ Due to a reclassification of bring banks the number recorded in the Dun Laoghaire Rathdown Functional Area decreased in 2008. This was due to the exclusion of battery collection points previously recorded in this category.

¹⁹ Others refers to Hazardous waste such as paints, aerosols and pesticides, flat glass. Batteries include lead acid batteries and small batteries.

5.6 HAZARDOUS COLLECTIONS

Household hazardous waste is collected through recycling centres and bring centres. In 2010 a total of 796 tonnes of hazardous waste was collected at these locations in the Region. Table 5.10 provides a breakdown of the hazardous waste collected at Recycling Centres in the Dublin Region in 2010. No Chemcar hazardous waste collections took place in the Dublin Region in 2010.

Table 5.10: Household Hazardous Waste Collected at Recycling Facilities 2009 & 2010

Waste Type	DCC Tonnes	DLRCC Tonnes	FCC Tonnes	SDCC Tonnes	Regional Tonnes collected 2010	Regional Tonnes collected 2009
Batteries	26	37	37	21	121	161
Oils	29	19	22	37	107	70
Fluorescent tubes	0.5	2	-	-	2.5	1
Other Hazardous waste ²⁰	277	97	162.5	29	565.5	1,442
2010 Subtotal (tonnes)	332.5	155	221.5	87	796	1,674
kg per capita 2010	0.63	0.75	0.81	0.33	0.63	-
kg per capita 2009	2.34	0.84	1.0	0.3	-	1.40

Source: Local Authority (EPA) National Waste Database Returns 2010.

The total household Waste Electronic and Electrical Equipment (WEEE) collected in the region was 11,763 tonnes. This represents a 6% decrease on the quantity of household WEEE collected in 2009. Details of WEEE collections in the region are presented in Section 9.1.

5.7 BULKY WASTE COLLECTIONS

The local authorities do not currently provide a kerbside bulky waste collections to households. Bulky waste is collected through the network of recycling facilities in the region. Bulky items can also be reused in the region through the online service, www.FreeTradeIreland.ie.

²⁰ This includes paints, varnishes, oil-related waste, aerosols, gas cylinders etc. Batteries include small batteries and lead acid batteries.

6 COMMERCIAL AND MUNICIPAL WASTE

6.1 COMMERCIAL WASTE ARISING

Commercial waste arisings generated in Dublin in 2010 was 739,121 tonnes. This figure represents an estimated increase of 1% or 7,194 tonnes compared in 2009 data.

The data presented in the table was sourced following a detailed analysis of returns made by single region permit holders in Dublin, multi-region permits holders where DCC is the Lead Authority and multi region permit holders where the Lead Authority is based outside Dublin. The figures represent the most accurate assessment of commercial waste arisings in the Dublin Region. Table 6.1 provides a breakdown of commercial waste arisings in the Dublin Region in 2010.

Table 6.1: Commercial Waste Collected in the Dublin Region 2010

Waste Categories	EWC Code	DCC (tonnes)	DLRCC (tonnes)	FCC (tonnes)	SDCC (tonnes)	Total (tonnes)
Cardboard/Paper	20 01 01 15 01 01	46,488	13,675	26,857	34,183	121,203
Mixed Municipal Waste Disposal	20 03 01	85,352	12,615	24,524	35,688	158,179
Mixed Municipal Waste Recovery	20 03 01	27,344	15,559	21,593	37,791	102,286
Mixed Municipal Waste Recovery at MBT	20 03 01	15	-	-	-	15
Bulky Waste	20 03 07	84,306	42,453	25,186	26,342	178,287
Metal	15 01 04 20 01 40	764	604	1,188	2,281	4,837
WEEE	20 01 23* 20 01 35* 20 01 36	2,452	1,052	2,542	5,095	11,141
Plastics	15 01 02 20 01 39	6,345	4,807	5,346	6,031	22,529
Wood	15 01 03 20 01 38	6,597	5,075	5121	4,547	21,340
Kitchen, Garden & Parks Waste	20 01 08 20 02 01 20 02 02	13,772	3,801	9,234	3,670	30,477
Batteries	20 01 33*	6	-	-	1	7
Glass	15 01 07 20 01 02	16,891	4,134	7,240	27,369	55,634
Textiles & Clothing	15 01 09 20 01 10 20 01 11	473	71	1,793	30	2,367
Other	Various ²¹	17,676	2,451	4,514	6,178	30,819
2010 Total		308,481	106,297	135,138	189,206	739,121
2009 Total		-	-	-	-	731,927

Source: Single Region Waste Collection Permits, Multi Region Waste Collection Permits relevant to Dublin

²¹ Other includes EWC Codes 15 01 05, 15 01 06, 20 01 21*, 20 01 25, 20 01 26*, 20 01 27*, 20 01 28, 20 01 99, 20 02 03 & 20 03 99

6.2 COMMERCIAL WASTE RECOVERY

Determining the rate of recovery for commercial waste generated in Dublin is becoming increasingly more difficult. Intermediate facilities are used by collectors to process and or bulk waste before the output fractions are transferred onwards to recovery and disposal destinations. The format of collection returns submitted by collectors does not currently provide adequate detail on quantity of waste being recovered or disposed. Resolving this information gap will be an on-going challenge for the Dublin Local Authorities and the future reporting of recovery rates for commercial and municipal waste. The recovery rates calculated by the EPA reflect the national average and have been applied by the Dublin Local Authorities to generate best estimate rates.

Table 6.2 provides an estimate of the recovery rates for commercial waste for 2007 to 2010. The commercial waste recovered is estimated to be 376,952 tonnes.

This figure was calculated using an estimated recovery rate of 51% for commercial waste which is in line with commercial recovery rates published in the EPA National Waste Report 2009. The national commercial waste recovery rate for 2010 was reported by the EPA to be 45%, a drop of 6% on the previous year. This rate was considered not to accurately reflect the treatment of commercial waste in the region and the rate of 51% has been maintained.

Table 6.2: Commercial Waste Estimated Recovery Rates for 2007 - 2010

Waste Type	2007 Tonnes	2008 Tonnes	2009 Tonnes	2010 Tonnes
Recycled	379,261	340,489	373,283	376,952
Landfilled	399,034	397,704	358,644	362,169
Commercial waste arisings	778,295	738,193	731,927	739,121
Recovery Rate	49%	46%	51%	51%

Source: Single Region Waste Collection Permits, Multi Region Waste Collection Permits relevant to Dublin

6.3 MUNICIPAL WASTE ARISING AND RECOVERY RATE

Municipal waste arisings of 1,192,466 tonnes have been reported for 2010 in the Dublin Region, representing a 3.4% decrease on municipal waste arisings recorded in 2009. The recovery rate for the region has increased to 49%, a 3% increase on the 2009 figure. Overall the municipal recovery rate is estimated to be 7% higher than the national rate of 42%.

The rate of disposal to landfill remains high at 56% and Dublin like the rest of the country remains overly dependent on landfill. The need to deliver treatment technologies for the long-term management of residual waste remains a priority for the region and the country. The move away from a disposal reliant system towards a sustainable recovery based approach is dependent on the key treatment infrastructure, such as the Dublin Waste-to-Energy facility, being developed in the region as planned.

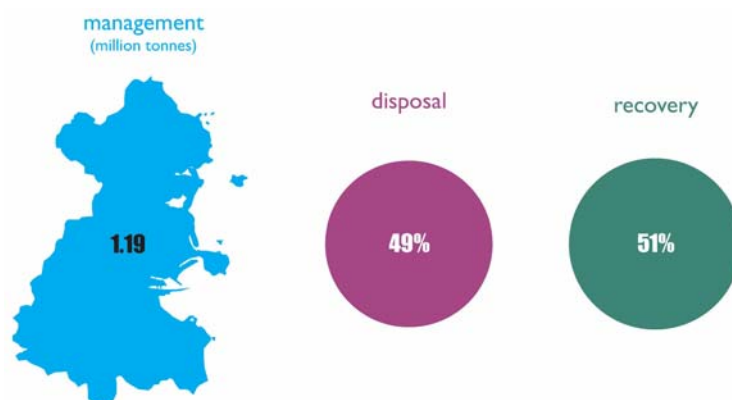


Figure 6.1 Management of Municipal Waste

Table 6.3: Dublin Region Municipal Waste Arisings and Recovery Rate 2006 - 2010

Waste Stream	Total tonnes 2006	Total tonnes 2007	Total tonnes 2008	Total tonnes 2009	Total tonnes 2010
Household Waste Generated	464,066	470,221	474,767	464,671	421,506 ²²
Commercial/Industrial Waste Generated	819,861	778,295	738,193	731,927	739,121
Litter and Street Sweepings	36,616	35,580	35,136	37,437	31,839
Municipal Waste generated	1,320,598	1,284,096	1,248,096	1,234,035	1,192,466
Household Waste Recycled & Recovered	126,805	132,331	166,546	192,202	204,006
Commercial/Industrial Waste Recovered	402,311	401,607	340,489	373,283	376,952
Municipal Waste Recovered	529,116	533,938	507,035	565,285	580,958
Municipal Recovery Rate	40%	41%	41%	46%	49%

6.4 MUNICIPAL WASTE PROJECTIONS

Table 6.4 provides for a set of municipal waste projections. The preparation of the progress report provides the local authorities the opportunity to revise projections based on the latest available economic and population data. Equally it allows for the methodology used in the preparation of the projections to be assessed by comparing projected figures to actual recorded data.

The table shows that the projections made in two previous progress reports have proved to be accurate with projected and actual figures differing by 1.5% and 3.1% in 2009 and 2010 respectively. The accuracy of the projection validates the approach used in preparing the projections which will be continuously kept under review.

Table 6.4 Municipal Waste Projection 2010 – 2020 (Unit = tonnes)

Year	Historic Projections	Actual	Difference	% Difference
2009	1,178,072 ²³	1,195,685	+17,613	+1.5%
2010	1,183,451	1,160,627	-36,330	-3.1%
	Future Projections²⁴			
2011	1,207,460			
2012	1,212,278			
2013	1,240,465			

²² Household waste does not include uncollected household waste.

²³ As published in the Waste Management Plan for the Dublin Region Annual Progress Report 2009.

²⁴ The revised projections use the latest available national economic growth rates (GNP) and regional population projections. The GNP values were sourced from two ESRI publications; Quarterly Economic Commentary (Autumn 2011) and Recovery Scenarios for Ireland: An Update (July 2010). The population projections for Dublin were sourced from the DEHLG and are the same as those used in the Greater Dublin Areas Regional Planning Guidelines document.

Year	Historic Projections	Actual	Difference	% Difference
2014	1,269,383			
2015	1,299,054			
2016	1,323,335			
2017	1,347,212			
2018	1,371,551			
2019	1,396,360			
2020	1,421,649			

The table sets out revised projections for municipal waste generation for Dublin for the period 2010 to 2020. Economic growth rates and population projections have been used to develop projections for commercial and household wastes respectively. The method to calculate the municipal waste projections follows the approach developed for the previous Annual Progress Report. This new dataset updates the projections published in the previous Annual Progress Report.

The method applied takes a conservative approach in its projecting forward municipal waste tonnages focusing on what is considered to be the primary influencing factor rather than considering the impact of multiple factors on the waste stream. Over the long-term this approach is considered to provide a consistent set of waste projections for Dublin. In summary the revised projected data in Table 6.4 shows an average annual growth rate of 1.8% over the time period. Municipal waste projections will continue to be revised on an annual basis by the Local Authorities.

7 PACKAGING WASTE

7.1 PACKAGING WASTE ARISING

Packaging waste arisings increased by 6% in 2010, with total packaging arisings in the region estimated to be 308,077 tonnes. This generation figure comprises of recovery data from REPAK members and self compliers as well as an estimate of the quantity of packaging waste landfilled.

Table 7.1 provides an overview of the management of packaging waste generated in Dublin from 2006 to 2010.

Table 7.1 Packaging Waste Arisings for the Dublin Region for 2006 - 2010

Packaging waste	Landfilled (tonnes)	Recovered (tonnes)	Arisings (tonnes)	Recovery Rate
2006	142,927	136,632	279,559	49%
2007	139,375	148,706	288,081	52%
2008	141,766	168,567	310,333	54%
2009	131,120	159,161	290,281	55%
2010	122,748	187,456	310,204	60%

Source: Packaging recovered data provided by Repak and Self Compliers data as included in National Waste Report 2010. Packaging waste landfilled calculated using packaging factors EPA National Waste Report 2007.

7.2 RECOVERY

Overall there has been a 5% increase in the packaging recovery rate which is 60% for the region in 2010. Figure 7.1 shows that the region has achieved the packaging waste recovery target set in the Waste Management Plan of 55%.

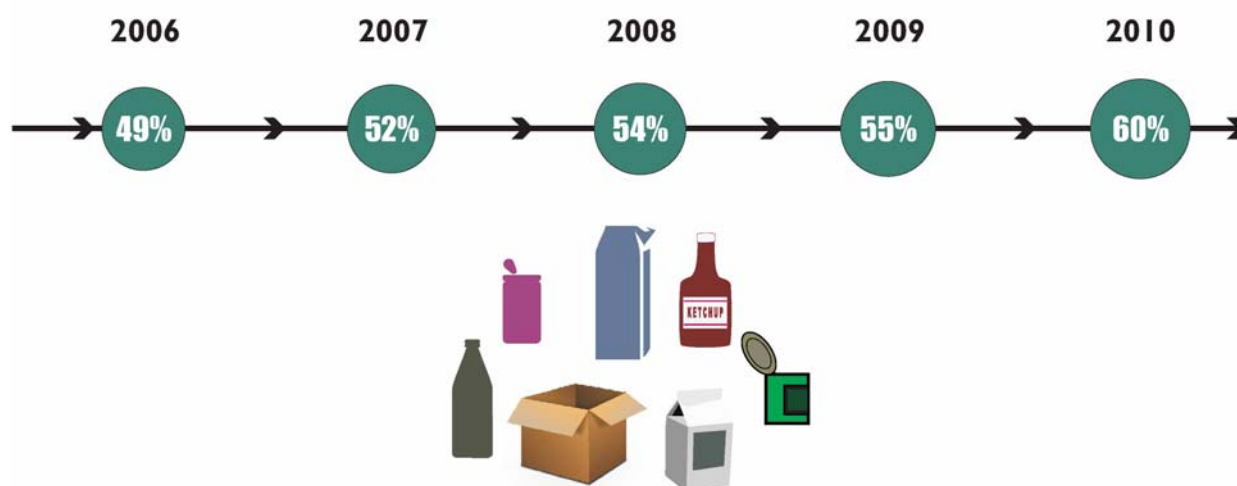


Figure 7.1 Packaging Waste Recovery Rates

7.3 ESTIMATE OF PACKAGING WASTE LANDFILLED

Table 7.2 provides a breakdown of the composition of packaging waste in the landfilled residual household and commercial waste. These packaging factors were sourced from an EPA report. There is a need to update the factors by carrying out waste characterisation surveys of landfilled waste.

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 an estimated 120,621 tonnes of packaging waste was landfilled in the region in 2010. This represents a 5% decrease in packaging waste landfilled since 2009.

Table 7.3 Packaging Waste Generated in Dublin and Sent for Disposal in 2010

	Household	Commercial
Total Waste Landfilled (Tonnes)	217,500	362,169
% Packaging	22.3	20.5
Packaging Waste Landfilled (Tonnes)	48,503	74,245
Total Packaging Waste Landfilled 2010	122,748	
Total Packaging Waste Landfilled 2009	131,120	
Total Packaging Waste Landfilled 2008	141,766	
Total Packaging Waste Landfilled 2007	139,375	

8 CONSTRUCTION AND DEMOLITION (C & D) WASTE

8.1 ARISINGS

Construction and demolition arisings generated in the Dublin Region in 2010 was 1,675,410 tonnes, representing an overall decrease of 38% from the previous year. The 2010 arisings are 74% less than the same figure for 2008.

The ongoing economic recession continues to impact heavily on the construction sector which has constricted significantly.

Table 8.1 provides a breakdown of C & D waste collected in the Dublin Region in 2010. Building and construction activities are at very low levels and the continued decline in arisings reflects this trend.

Table 8.1: Construction and Demolition Waste Collected in 2010

C & D Waste	DCC	FCC	DLRCC	SDCC	Total (tonnes)
Concrete, bricks, tiles & ceramics	50,948	23,889	144,343	32,251	251,431
Wood glass & plastic	4,886	3,990	8,697	1,638	19,211
Bituminous mixtures, coal tar & tarred products	629	678	4,022	2,973	8,302
Metals	7,957	6,072	473	4,323	18,825
Soils - excluding contaminated soils	277,458	394,678	177,462	274,788	1,124,386
Insulation materials	751	545	150	225	1,671
Gypsum Based construction material	703	80	39	4	826
Other	120,546	44,572	34,030	51,610	250,758
Total (2010)	463,878	474,504	369,216	367,812	1,675,410
Total (2009)	634,219	1,085,998	390,766	587,770	2,698,753
Total (2008)	2,356,263	2,196,343	506,165	1,470,740	6,529,511

Source: Local Authority (EPA) National Waste Database Returns 2010

*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.

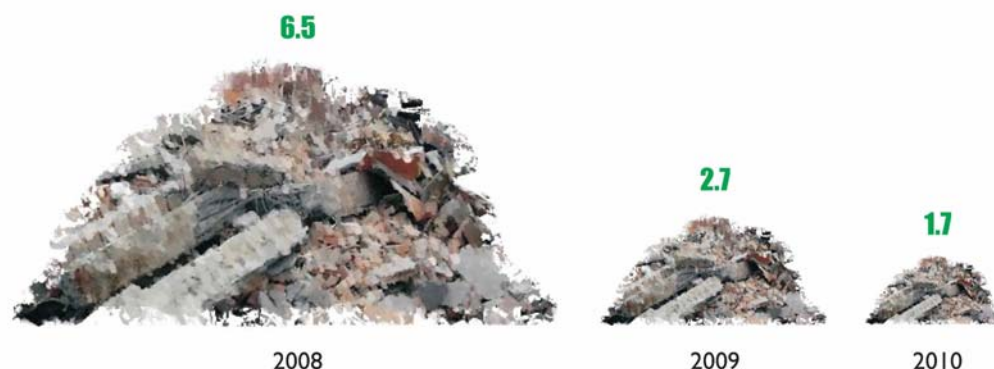


Figure 8.1 Construction and Demolition Waste Arisings (unit = million tonnes)

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 2010.

Table 8.2: Management of Construction and Demolition Waste 2010(unit = tonnes)

Collection (tonnes)	Recovery	Disposal	Total
EPA licensed landfills	155,704	35,057	190,761
Local Authority Permitted Sites	167,765	-	167,765
Recovery/Disposed at facilities outside the region*	1,316,884	0	1,316,884
Total	1,640,353	35,057	1,675,410
Estimated C & D Recovery Rate	98%		

Data Source: Local Authority (EPA) National Waste Database Returns 2010

Table 8.3 provides a summary of the management of the soil and stone fraction of C&D wastes in the Dublin Region. The recovery rate has been estimated at 98%.

Table 8.3: Management of Soil and Stones 2010(unit = tonnes)

Collection (tonnes)	Recovery	Disposal	Total
EPA licensed landfills	155,704	29,569	185,273
Local Authority Permitted Sites	106,621	-	106,621
Recovery/Disposed at facilities outside the region*	832,491	-	832,491
Total	1,094,816	29,569	1,124,385
Estimated Recovery Rate	98%		

Data Source: Local Authority (EPA) National Waste Database Returns 2010

Table 8.4 provides a summary of the management of the other construction and demolition wastes in the Dublin Region.

Table 8.4: Management of Other Construction and Demolition Wastes 2010(unit = tonnes)

Collection (tonnes)	Recovery	Disposal	Total
EPA licensed landfills	16,980	7,066	24,046
Local Authority Permitted Sites	61,144	-	61,144
Recovery/Disposed at facilities outside the region*	465,836	-	465,836
Total	543,960	7,066	551,026
Estimated Recovery Rate	99%		

Data Source: Local Authority (EPA) National Waste Database Returns 2010

9 PRIORITY WASTE STREAMS

9.1 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

WEEE is collected from householders and businesses through a variety of collection systems and these are described in this section. Table 9.1 provides a breakdown of household WEEE collected in the Dublin Region in 2010.

Table 9.1: Household WEEE Collected in the Dublin Region in 2010

WEEE	DCC	DLRCC	SDCC	FCC	Total
Retailer collections	1,128	426	4,840	687	7,081
Recycling Centres	511	633	855	1,299	3,299
Bring Centres	-	75	-	-	75
Collection days	102	-	-	-	102
Council Depots	276	-	149		425
Retailer Depots	-	-	-	1	1
Special Events	-	95	629	56	780
Total Household WEEE Collected 2010	2,017	1,229	6,473	2,043	11,763
Total Household WEEE Collected 2009	2,732	1,326	6,355	2,164	12,577
Total Household WEEE Collected 2008	2,047	1,463	6,958	2,541	13,009
Population	525,383	206,995	273,051	265,174	1,270,603
2010 KG/CAPITA	3.84	5.94	23.71	7.71	9.26
Source WEEE Ireland, ERP Ireland					

Overall there has been a 13% decrease in WEEE collected at the Recycling Centres in the region since 2009.

Table 9.2: WEEE collected at Recycling Centres in 2010 (tonnes)

	DCC	DLRCC	SDCC	FCC	Dublin Region
Total 2010	511	633	855	1,300	3,299
Total 2009	619	735	932	1,491	3,777
Total 2008	691	824	883	1,813	4,211
Total 2007	699	798	662	1,599	3,758
Total 2006	762	871	1,257	1,334	4,224

Source: WEEE Ireland & ERP

In 2010 15,869 tonnes a WEEE was collected from businesses and industrial premises in the region by private waste collectors. This represents an increase of almost 18% on the previous year. A breakdown of the WEEE collected by private waste collectors from businesses and industrial premises in the Region is provided in Table 9.2.

Table 9.3 provides a breakdown of the household WEEE collected in the region in 2010.

Table 9.3: WEEE Collected by Private Operators

Waste Category	SDCC Tonnes	DCC Tonnes	FCC Tonnes	DLRCC Tonnes	Region Tonnes
WEEE 2010 ²⁵	9,676	2,706	2,371	1,116	15,869
WEEE 2009 ²⁶	8,481	2,358	1,658	958	13,456
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

Source: Single Region Waste Collection Permits, Multi Region Waste Collection Permits relevant to Dublin

In 2010 the total household WEEE collected in the region was 11,763 tonnes with the household WEEE per capita recorded at 9.3Kg. This has decreased from 10.5kg per capita in 2009.

9.2 END OF LIFE VEHICLES (ELVS)

There are 11 Authorised Treatment Facilities (ATFs) operating in the Dublin Region. The breakdown of these facilities is provided in Table 9.4.

Table 9.4: Tonnes of ELVs collected in the Region in 2007 - 2010

Local Authority	ELVs (tonnes) 2007	ELVs (tonnes) 2008	ELVs (tonnes) 2009	ELVs (tonnes) 2010
Dublin City Council	4,378	6,276	696	5,749
Dun Laoghaire Rathdown County Council	738	719	1,040	1,696
South Dublin County Council	4,136	3,574	1,892	5,247
Fingal County Council	4,725	3,842	1,819	5,220
Region	13,977	14,411	5,447	17,912

Source: Single Region Waste Collection Permits, Multi Region Waste Collection Permits relevant to Dublin

Overall 17,912 tonnes of End-of-Life-Vehicles (ELVs) were collected in the region in 2010. This represents an increase of approximately 12,500 tonnes since 2009. This is primarily due to the introduction of a national car scrapping scheme, as part of Budget 2010. This initiative was aimed at reviving the motor industry in Ireland and improving the quality of vehicles on Irish roads. Its introduction resulted in a significant increase in new car sales with owners trading in their old vehicles against the new purchase. As a result car sales increased in 2010 and the quantity of end of life vehicles decommissioned in the region increased 3 fold.

²⁵ 2010 WEEE Collected by Private Operators includes: 16 02 09*, 16 02 11, 16 02 13, 16 02 14, 16 02 16, 20 01 23*, 20 01 35* & 20 01 36

²⁶ 2009 WEEE collected by private collectors has been revised to include 16 02 09*, 16 02 11*, 16 02 13*, 16 02 14*, 16 02 16

Table 9.5: No of ATFs in the Dublin Region 2008, 2009 & 2010

Local Authority	No. of ATFs 2010	No. of ATFs 2009	No. of ATFs 2008
Dublin City Council	3	2	3
Dun Laoghaire Rathdown County Council	0	0	0
South Dublin County Council	6	6	7
Fingal County Council	3	3	3
Region	12	11	13

Source: Local Authorities

9.3 WASTE TYRES

Similarly the quantity of waste tyres reported by private collectors in the annual reports for 2010 reveals a 160% increase in comparison to the number of tyres collected in 2009. This significant increase is also thought to be as a result of the car scrappage scheme with 6,120 tonnes of tyres collected in 2010.

Table 9.6: Quantity of Waste Tyres Collected in 2006 - 2010

	DCC (tonnes)	FCC (tonnes)	DLRCC (tonnes)	SDCC (tonnes)	Total (tonnes)
2010 Quantity Collected	3,216	973	377	1,554	6,120
2009 Quantity Collected	905	419	40	999	2,363
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

Source: Single Region Waste Collection Permits, Multi Region Waste Collection Permits relevant to Dublin

10 WASTE DISPOSAL

10.1 UPDATE ON LANDFILL RATES

In 2010 it is estimated that approximately 611,508 tonnes of the municipal waste generated in Dublin was sent to landfill. This is an 8.5% drop in the quantity of municipal waste landfilled compared to 2009.

The AERs for Arthurstown and Balleally Landfills show that 279,190 tonnes of municipal waste was landfilled in region. It is estimated that the remaining 332,318 tonnes of waste is disposed outside of the region.

Household waste disposed to landfill has decreased by 20% from 2009. In 2010 a total of 193,159 tonnes of household waste from the Dublin Region was disposed of at landfills serving the Dublin Region – Balleally and Arthurstown. A further 24,341 tonnes (17%) of household waste collected in the Dublin Region is landfilled outside the region. The disposal of commercial waste to landfill in the region has increased by 1%.

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 - 2010

Waste Type	2006 Tonnes	2007 Tonnes	2008 Tonnes	2009 Tonnes	2010 Tonnes
Household	337,070	337,889	302,552	272,469	217,500
Commercial	420,428	399,034	397,704	358,644	362,169
Street cleanings	36,616	35,580	35,136	37,437	31,839
Total	794,114	772,503	735,392	668,550	611,508

10.2 EXISTING LANDFILLS

In 2010 there were two local authority non-hazardous landfill facilities in operation in the Dublin Region – Balleally Landfill operated by Fingal County Council and Arthurstown Landfill operated by South Dublin County Council.

Arthurstown landfill closed in December 2010 and Balleally Landfill is due to cease filling early in 2012. Following the closure of Arthurstown Landfill, the Dublin Local Authorities procured short term disposal options from the market, refer to section 10.3 for details.

Table 10.2 provides a breakdown of the quantity of waste landfilled at non hazardous landfill facilities in 2010 and the remaining void space.

An inert landfill operated by Murphy Environmental Ltd is active in the region. This facility provides long-term capacity for the disposal of clean soil and stone type material generated in Dublin and from neighbouring counties. The facility has available void capacity for filling until 2050, assuming an annual waste intake of 200,000 tonnes/annum.

Table 10.2: Status of the Local Authority Landfills in the Dublin Region in 2010

	Balleally		Arthurstown	
Operator	Fingal County Council		South Dublin County Council	
Tonnes Landfilled	Civic Amenity Household	0	Household	162,389
	Household	30,770	Commercial	29,164
	Commercial/Trade	56,867		
	Sewage Sludge	361		
	Ind. Non-Hazardous Sludge	6,690		
	Total	94,688	Total	191,553
Expected Closure Date	Early-12		Dec-10	
Current Remaining void	120,000		-	

Source: Facility Annual Environmental Report 2010

The production of energy from the capture of landfill gas from existing landfills in the region, both active and closed facilities, decreased in 2010 to 131,795MWh, a 3.8% decrease of 2009 figures, refer to Table 10.3 for details.

Table 10.3: Energy Recovery from Dublin Landfills, 2006 - 2010

Landfill	Energy Recovery 2010 (MWh)	Energy Recovery 2009 (MWh)	Energy Recovery 2008 (MWh)	Energy Recovery 2007 (MWh)	Energy Recovery 2006 (MWh)
Balleally	21,909	25,429	27,117	23,762	20,529
Ballyogan	7,539	7,218	9,068	11,124	11,124
Dunsink	4,597	5,607	6,687	6,774	8,026
Friarstown	2,397	2,783	2,677	3,162	-
Arthurstown	95,353	95,953	86,975	71,181	53,930
Total	131,795	136,990	132,524	116,003	93,609

Source: Facility Annual Environmental Reports 2010, Local Authorities

10.3 SHORT-TERM DISPOSAL OPTIONS

In 2010 611,508 tonnes of residual waste was consigned to landfill inside and outside of the Dublin Region. Since the end of 2011 there are no non-hazardous landfill facilities operating in the region for the disposal of municipal waste collected by the Dublin Local Authorities. Pending the commissioning of the Dublin Waste-to Energy facility the Dublin Local Authorities have put in place short-term solutions for the disposal of residual waste.

Following a public tendering process a panel of suitable facilities (19 in total), 12 of which are landfill facilities, were accepted onto a framework. Call-off contracts from the framework for the disposal of residual waste from Dublin are every 6 months. The first call off ran from Dec 2010 to June 2011 with waste sent to Kildare (Drehid Landfill) and Cavan (Corranure Landfill) for disposal. The second call off contract was tendered to the framework in April 2011. The second call off commenced in June 2011 with waste being sent for disposal at landfill sites in Wicklow (Ballynagran) and Kildare (Drehid).

11 REGULATION AND ENFORCEMENT

The Dublin Local Authorities are the key regulator of waste legislation in the Dublin Region. Table 11.1 provides a breakdown of enforcement statistics for the Dublin Region for 2010.

Table 11.1: Local Authority Enforcement in 2010

	DCC	DLRCC	FCC	SDCC	Regional Total
Waste Permit Facility Audits	65 ²⁷	1	49	2	117
No of Inspections carried out:					
Routine Business Audits	490	-	-	-	490
Inspection of Cert of Registered Sites	-	-	3	2	5
Non Routine Waste Permit Inspections	18	26	92	16	152
WEEE Audits:	-	36	-	3	39
PBL Audits:	371	58	-	1	430
C & D Audits	27	11	-	-	38
Road checks	26	3	3	-	32
Packaging	307	67	-	32	406
Battery	-	9	-	20	29
Haz Waste Inspection (includes WEEE & Battery Audits)	551	5	-	4	560
Tyre Outlet Inspection	63	4	30	12	109
Tyre Audits	63	-	-	-	63
ELV Inspections			-	1	1
Other ²⁸	-	128	1	32	161
TOTAL 2010	1,981	348	178	125	2,545
TOTAL 2009	1,979	622	240	603	3,444
TOTAL 2008	1,161	693	277	695	1,856
No of Complaints	121	121	168	1,107	1,517

Source: Local Authority RMCEI Annual Report

²⁷ Includes non routine inspections in relation to waste permits

²⁸ Others category includes

12 KEY PERFORMANCE INDICATORS

12.1 HEADLINE INDICATORS

Table 12.1: Headline Indicators for years 2006 – 2010

	Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	Waste Plan Targets
1	Household Waste Generated per household	1.1	1.12	1.12	1.01	0.80	1.25 tonnes/annum 2006 onwards
2	Municipal Waste Recovery Rate	40%	41%	41%	46%	49%	45% by 2010
3	Proportion of Household and C/I waste sent for Energy Recovery	0%	0%	0%	0%	4% (Household Only)	38% by 2013
4	Tonnage Biodegradable Municipal Waste Landfilled	470,361	417,025	438,456	396,869	408,870	175,030 by 2009
5	% C&D Waste Recycled (excl soil)	14%	43%	28%	98%	98%	85% by 2013
6	Kg (household) WEEE collected for Recycling per capita	4.1 Kg	10.9 Kg	11Kg	10.5Kg	9.3Kg	4 Kg by 2006
7	% Household Hazardous Waste in residual waste stream	0.40%	0.40%	0.30%	0.30%	0.30%	0.75% by 2008
8	% Recycling of Packaging Waste	48.80%	54%	54%	55%	60%	55% by 2011

12.2 PREVENTION AND MINIMISATION

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	Target
Household Waste Generated per Household (tonnes/annum)	1.1	1.12	1.12	1.01	0.80	1.25 from 2006 onwards

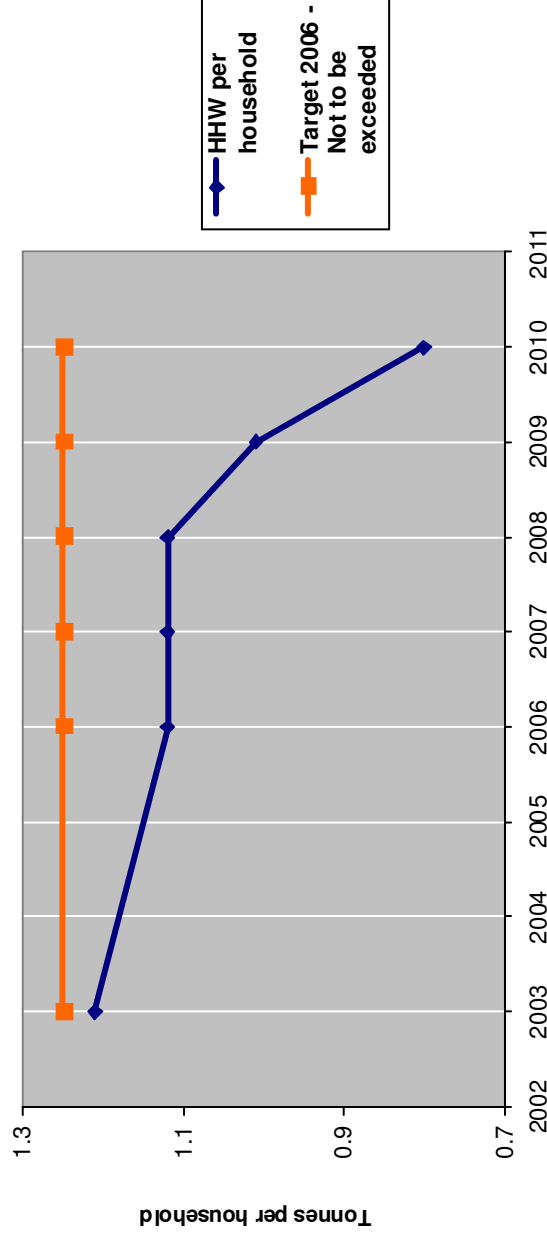


Figure 12.1 Household Waste Generated Per Capita

Secondary Indicators	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
Household Waste Generated per Household (tonnes/annum)	0.41	0.41	0.40	0.39	0.33
No of Items Reused on FreeTrade Service	1,551	6,174	9,365	8,324	8,591

12.3 RECYCLING OF MUNICIPAL WASTE

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	2010 Target
Municipal Waste Recycling Rate	40%	41%	41%	46%	47%	45%

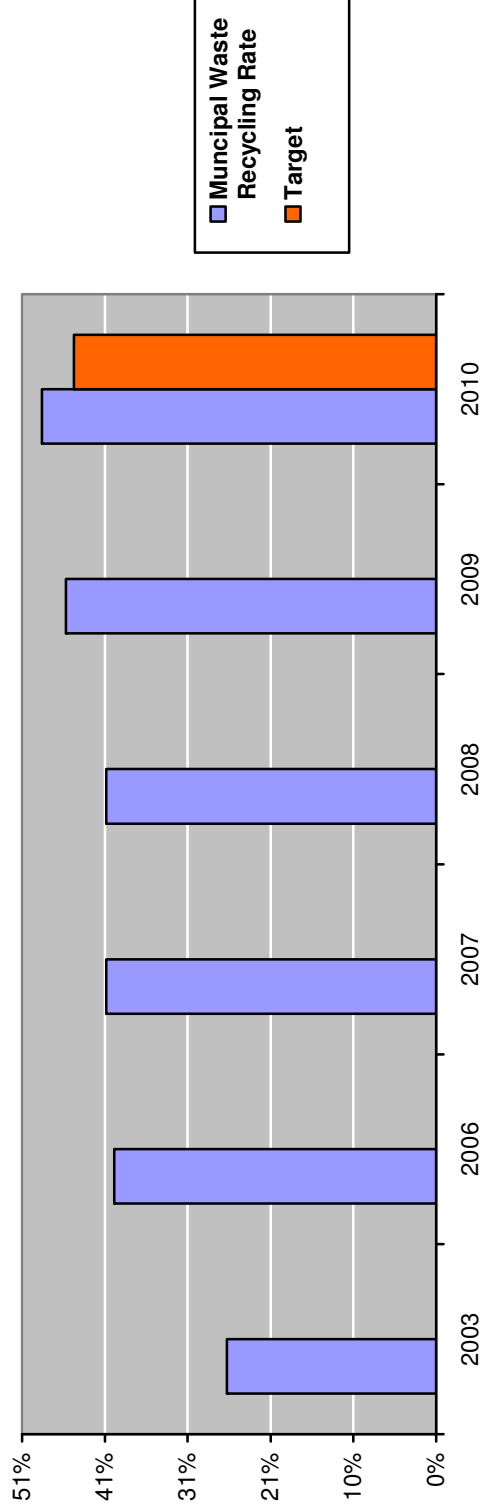


Figure 12.2 Municipal Waste Recycling Rate (%)

Secondary Indicators – Household and Commercial Waste Recycling Rates

Secondary Indicators	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	2013 Target
Household Waste Recycling Rate	27%	28%	35%	41%	44%	60%
Commercial/Industrial Waste Recovery Rate	49%	49%	46%	51%	51%	41%

12.4 CONSTRUCTION AND DEMOLITION WASTE

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	Target
% C&D Waste Recovered (Excl soil) in Dublin	14.4%	42.8%	28%	22%	14%	85% by 2013
% C&D Waste Recovered (Incl soil)	82%	90%	75%	98%	98%	

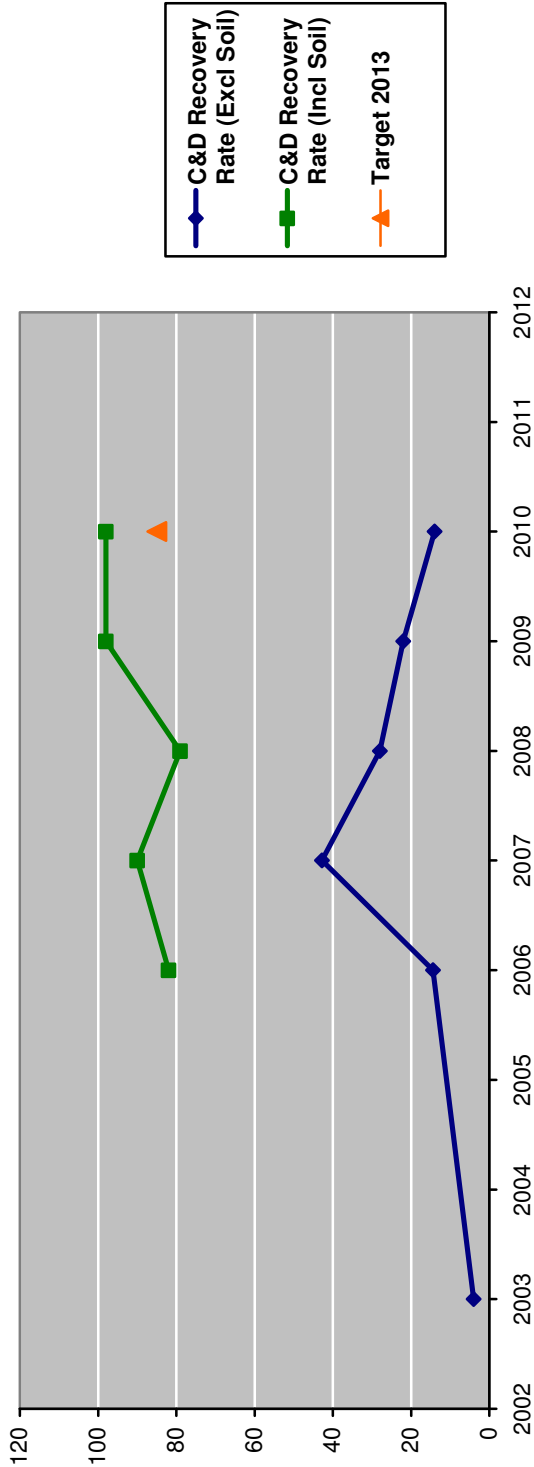


Figure 12.3 Construction and Demolition Recycling Rate (%)

Secondary Indicator - Construction and Demolition Waste Recycling Tonnage

Secondary Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
Construction and Demolition Waste Recycling (Tonnes excl soil and stones)	231,200	418,690	461,169	220,954	61,144

12.5 WASTE ELECTRICAL AND ELECTRONIC WASTE

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
Kg (household) WEEE Collected for Recycling per capita	4.1 Kg	10.9 Kg	11 Kg	10.5Kg	9.26Kg

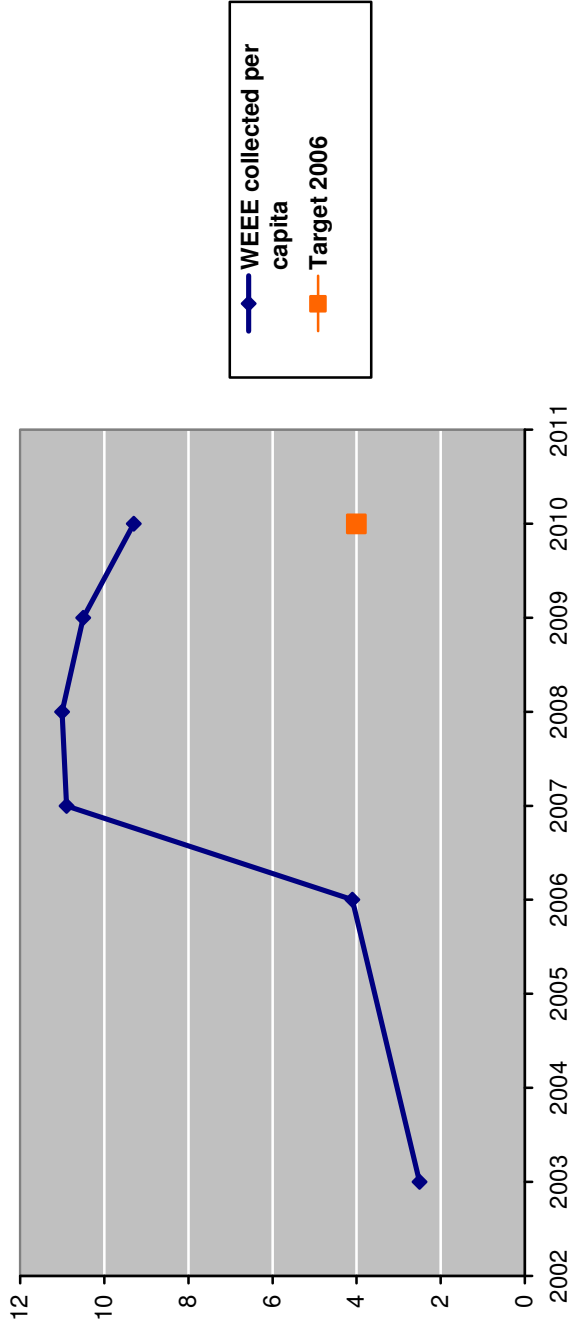


Figure 12.4 WEEE Collected (kg) for Recycling per Capita

Secondary Indicator - Estimated Quantity of WEEE Landfilled

Secondary Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
WEEE landfilled	6,456 tonnes	5,986 tonnes	1,703 tonnes	1,535 tonnes	1,780 tonnes

*Based on a composition of 0.3% of the residual bin. 2.

12.6 HOUSEHOLD HAZARDOUS WASTE

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	Target
% Household Hazardous Waste in residual waste stream	0.4%	0.4%	0.9%	0.9%	0.9%	0.75% by 2008

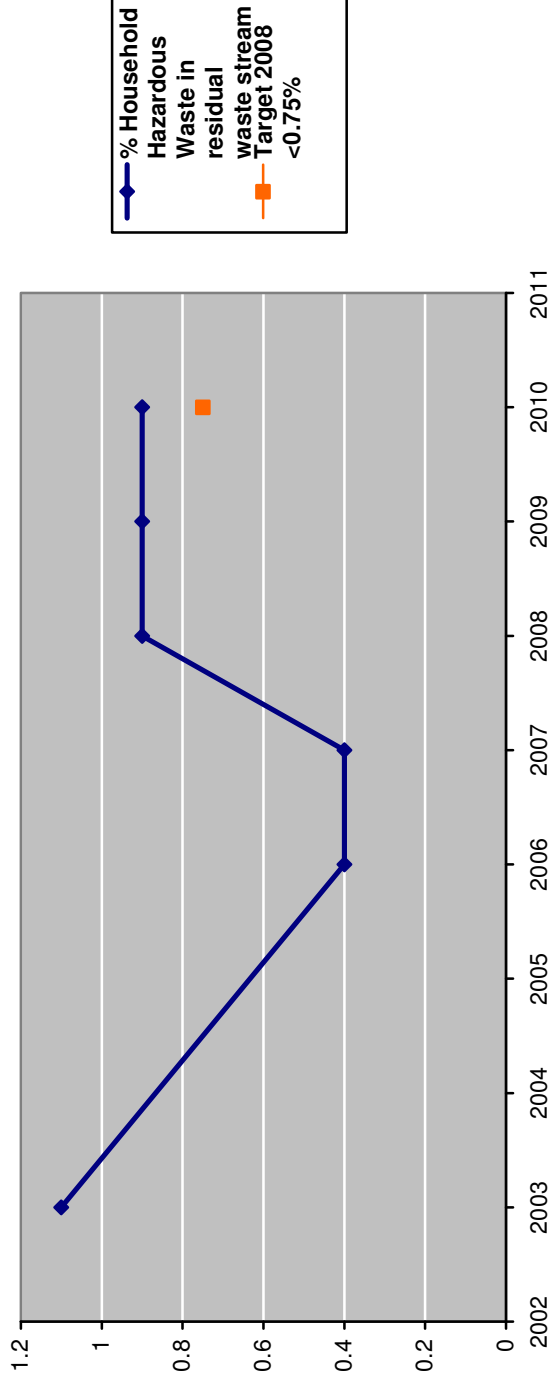


Figure 12.5 % Household Hazardous Waste in Residual Waste Stream

Secondary Indicator - Estimated Quantity of Hazardous Waste Landfilled

Secondary Indicator	2003 Performance	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
Household Hazardous Wastes landfilled	5,055 tonnes	1,359 tonnes	1,260 tonnes	2,723 tonnes	2,452 tonnes	2,278 tonnes

12.7 PACKAGING WASTE

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2008 Performance	2010 Performance	Target
% Recycling of Packaging Waste	49%	52%	54%	55%	60%	55% by 2011

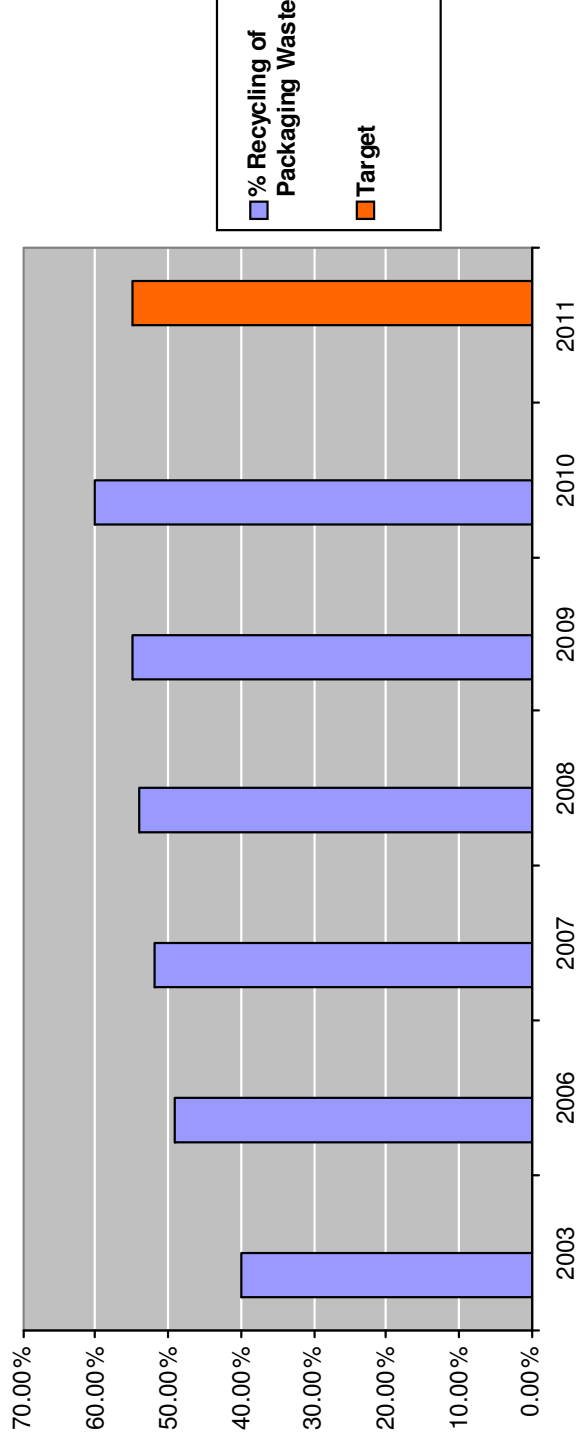


Figure 12.6 Recycling of Packaging Waste (%)

Secondary Indicator - Quantity of Packaging Waste Landfilled

Secondary Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
Packaging Waste landfilled	142,927 tonnes	139,375 tonnes	141,766 tonnes	131,120 tonnes	122,748 tonnes

12.8 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 commenced in 2009 but has since stalled. It is expected to restart construction in 2012 and be operational by late 2014.

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

Headline Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance	Target
Proportion of Household and C&I waste sent for Energy Recovery	0 %	0 %	0 %	0 %	4% (Household Only)	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 decreased for 2010.

Secondary Indicator	2006 Performance	2007 Performance	2008 Performance	2009 Performance	2010 Performance
Landfill Gas Recovery	93,609MWh	116,003MWh	132,524MWh	136,990 MWh	131,795 MWh

12.9 LANDFILL DISPOSAL

BMW Generated in Dublin 2010

Collection System	Quantities Collected	Biodegradability Factor	BMW Content
LA Household (Region) - 3 -bin	136,005	0.47	63,923
LA Household (Region) - 2 -bin	22,675	0.63	14,285
Private Household DCC - 3 Bin	601	0.47	282
Private Household DCC - 2 Bin	4,878	0.63	3,073
Private Household DCC - 1 Bin	8,742	0.65	5,683
Private Household DLRC - 2 Bin	24,802	0.63	15,625
Private Household DLRC - 1 Bin	226	0.65	147
Private FCC - 3 Bin	8,048	0.47	3,783
Private FCC - 2 Bin	8,307	0.63	5,233
Private FCC - 1 Bin	11	0.65	7
Private Household SDCC – 2 BIN	5,903	0.63	3,719
Private Household SDCC – 3 BIN	1,765	0.47	830
Private Household SDCC – 1 BIN	5	0.65	3
Kerbside - green bin	92,301	0.729	67,287
Kerbside brown bin	36,223	0.936	33,905
WEEE Collections	8,389	0	0
Recycling Centre/bring bank - recyclables	49,463	0.35	17,312
Recycling centre - disposal	13,162	0.63	8,292
Street Cleanings	31,839	0.645	20,536
Commercial	739,121	0.77	569,123
Total	1,192,466		833,048

Determining the Quantity of BMW Landfilled in the Dublin Region in 2010

Collection System	Collected and landfilled	Biodegradability Factor	BMW Tonnage
Commercial	362,169	0.77	278,870
Household - Kerbside (direct to landfill)	177,852	(see note)	88,795
Household - Treated at MBT by Private Collectors	26,445	(see note)	12,217
Collected at Recycling Centre	13,162	0.65	8,555
Street Sweepings	31,839	0.65	20,695
Total	611,467		408,870

Note:

The proportion of householders on a 3-bin, 2-bin and 1-bin collection system in each of the local authority areas has been determined from the Local Authority (EPA) National Waste Database Questionnaires.

It has been estimated that by the end of 2010 that 78% of households served by Dublin City Council had a 3 bin collection service. The corresponding rate of 3-bin coverage in Fingal County Council was 99% and in South Dublin County Council a full 3 bin coverage was in place. In 2010 no local authority customers in the Dun Laoghaire area had a 3-bin collection service.

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.

A portion of the mixed residual waste collected by private collectors was brought to waste processing facilities. The processing outputs from these facilities and the destinations of these materials are unknown from the data available. In order to calculate an accurate BMW value for this stream the ratio of outputs has been assumed to be 40%SRF:40% fines :20% Oversize. It is assumed the SRF has not been sent to landfill while the fines and oversize has been landfilled. The biodegradability factor for fines and oversize is 0.95 and 0.41 respectively. This has enables a BMW value to be estimated for household waste which is processed prior to disposal.

Headline Indicator	2008 Performance	2009 Performance	2010 Performance	2013 Target
Dublin Municipal Waste Sent to Landfill	732,525 tonnes	688,618 tonnes	611,467 tonnes	
Biodegradable Municipal Waste Sent to Landfill	438,456 tonnes	396,869 tonnes	408,870 tonnes	175,030 tonnes

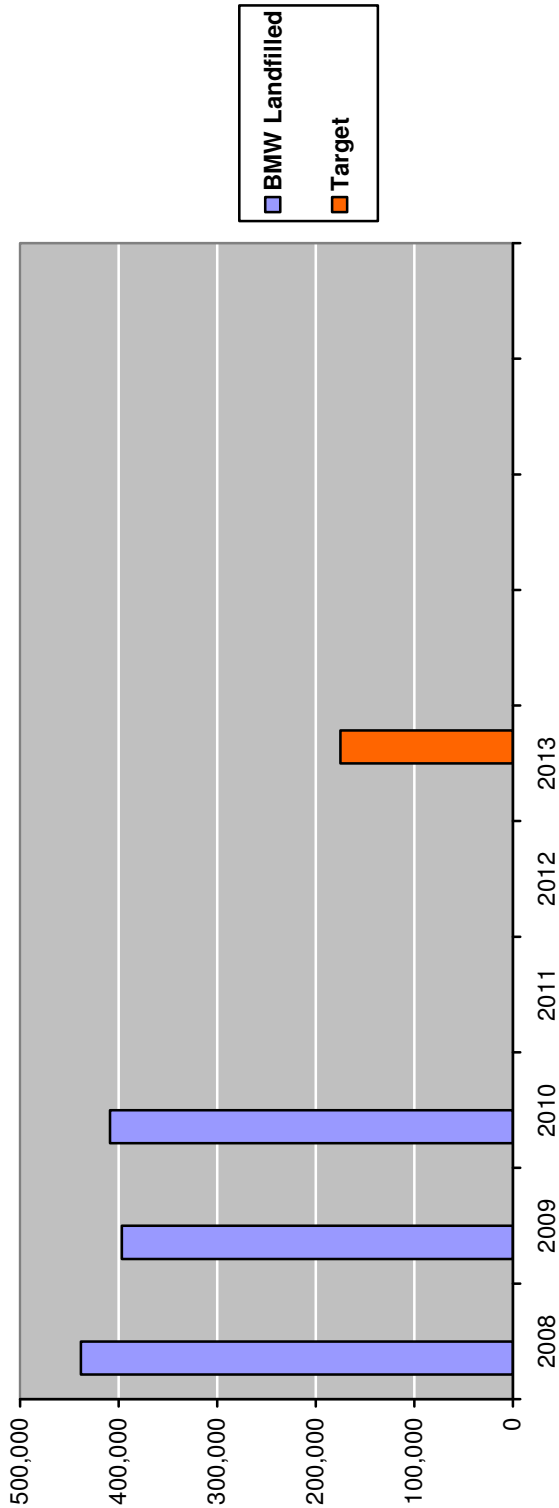
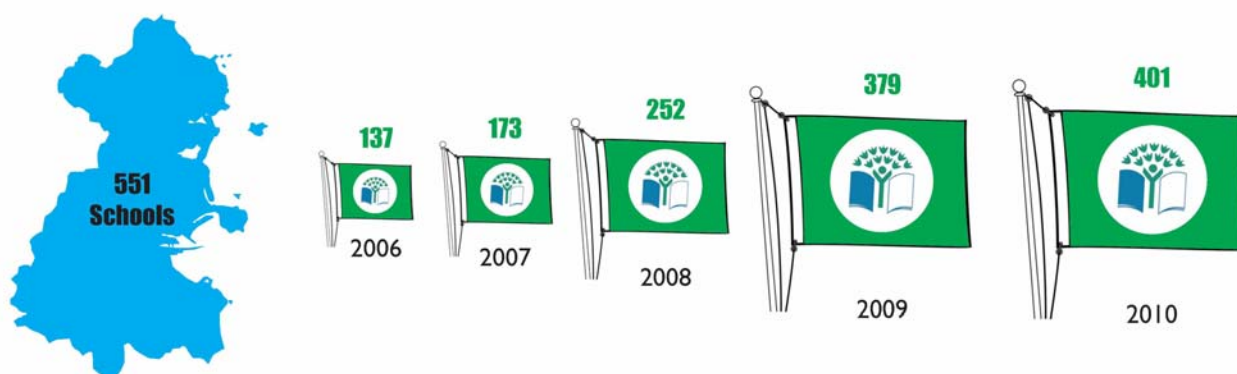


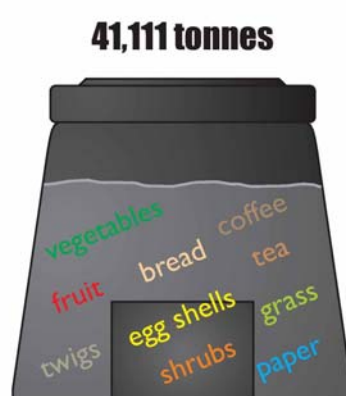
Figure 12.7 BMW Landfilled from the Dublin Region (tonnes)

APPENDIX A

REPORT FIGURES



green flags awarded

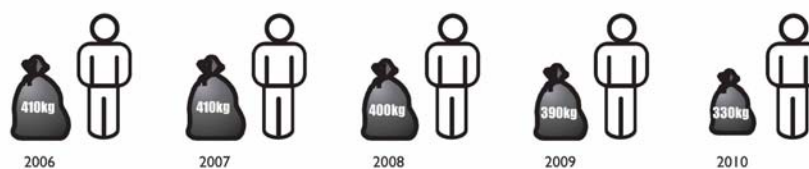


estimated household waste composted

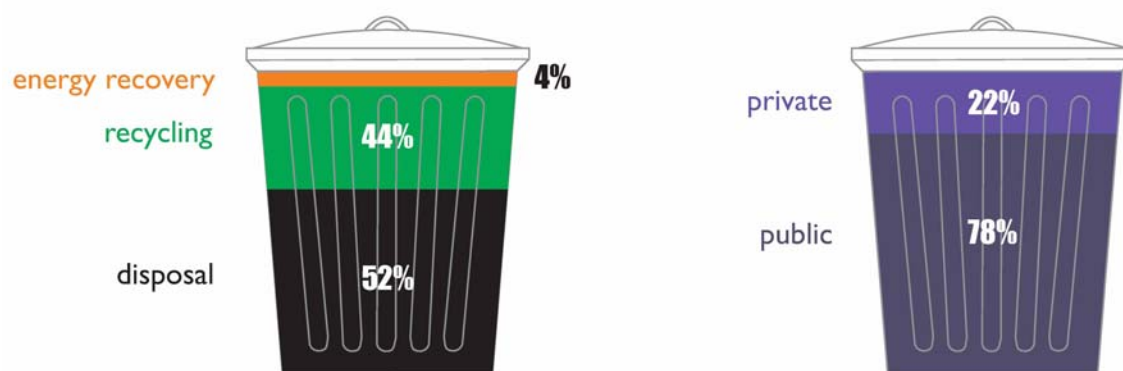
items reused
to date



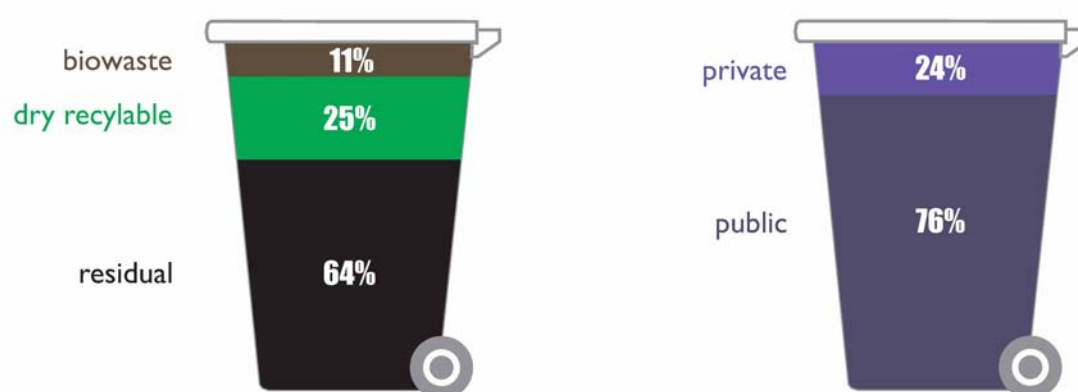
items reused on free trade in Dublin



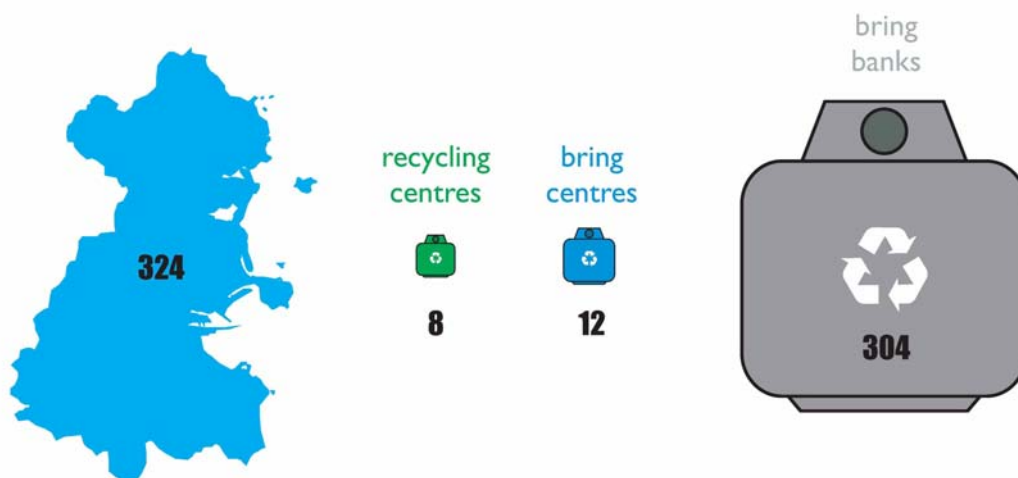
household waste per capita



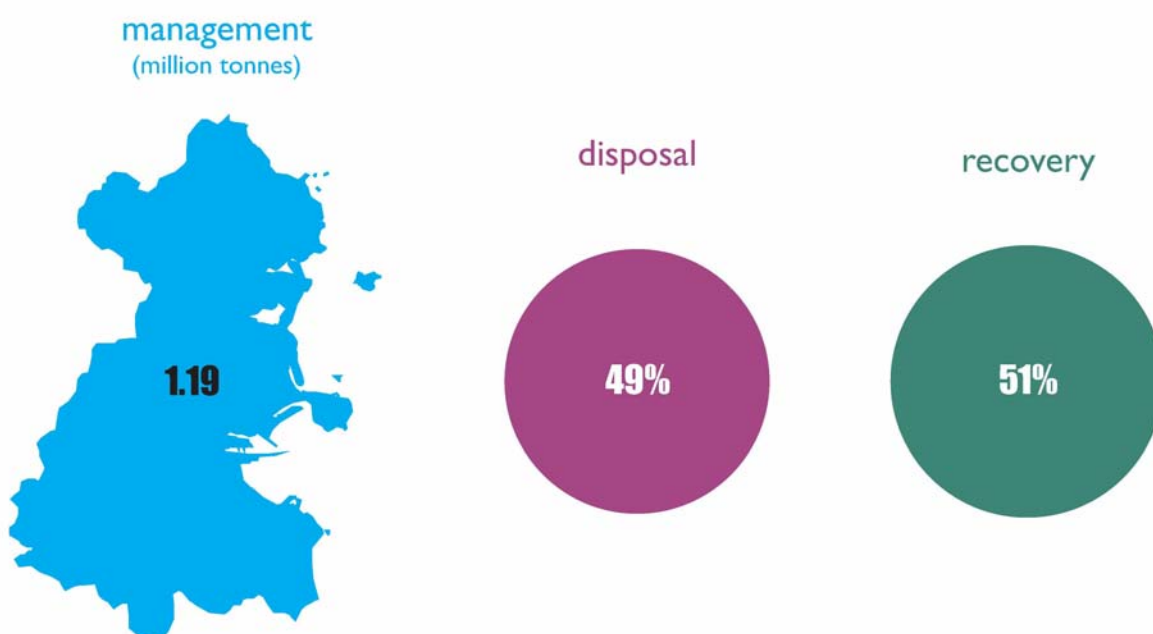
household waste management



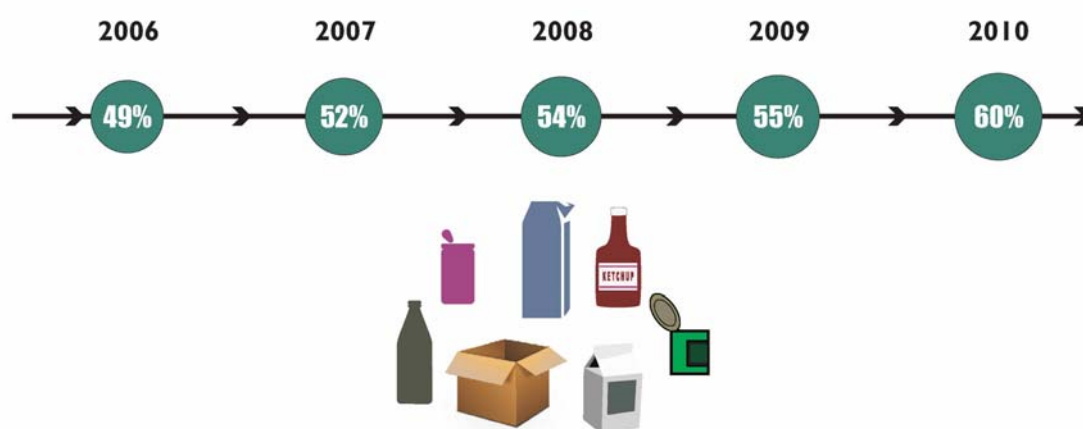
kerbside waste management



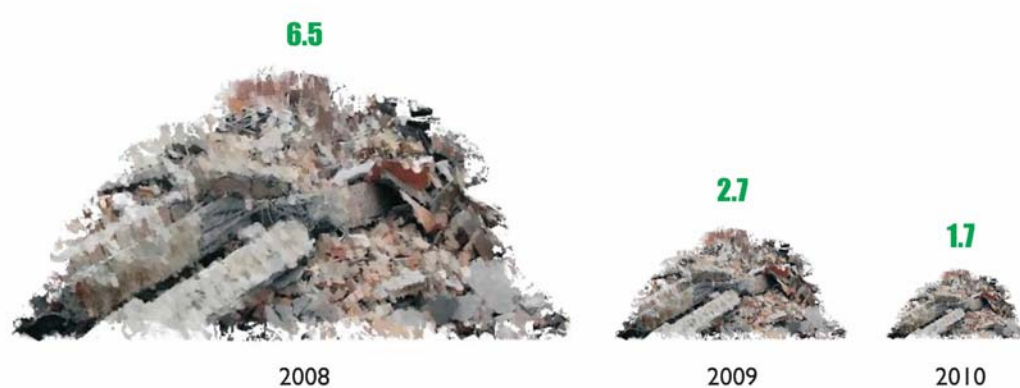
public recycling facilities



municipal waste management



packaging waste recovery rates



**c & d waste arisings
(million tonnes)**