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WASTE MANAGEMENT PLAN FOR THE DUBLIN REGION 2005 - 2010



ANNUAL PROGRESS REPORT 2007



WASTE MANAGEMENT PLAN
Working for the Dublin Region



Waste Management Plan for the Dublin Region 2005 – 2010

Annual Progress Report 2007

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		Brian McIntyre				
		Conor McGovern				
		Warren Phelan				

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EXECUTIVE SUMMARY

Introduction



WASTE MANAGEMENT PLAN *Working for the Dublin Region*

The Waste Management Plan for the Dublin Region 2005 – 2010 (hereafter Waste Plan) was prepared jointly by the Dublin Local Authorities, Dublin City Council (DCC), Dun Laoghaire-Rathdown County Council (DLRCC), Fingal County Council (FCC) and South Dublin County Council (SDCC).

The Waste Plan was adopted in November 2005 and it sets out a regional policy framework for the sustainable management of waste arisings in the Region. The Dublin Local Authorities are committed to the ongoing implementation of Waste Plan objectives and the preparation of an Annual Progress Report. This report is to provide an update on the implementation of the Waste Plan and report on key performance indicators.

Dublin Regional Profile

The Dublin Region has continued to grow and prosper since the adoption of the Waste Plan in November 2005 and the region remains at the heart of Ireland's economic activity.

The city has continued to attract foreign direct investment and the rate of employment remains high. A strong regional labour force market continues to attract inward migration, particularly from Eastern European countries, and the region has growing populations of ethnic groups. Construction in Dublin has reportedly slowed down recently although overall the sector remains active and the number of housing completions was recorded at 19,470 in 2006 up 8.1% from the previous year.

Key Facts	2002 (CSO)	2006 (CSO)	% Change
Population	1,122,821	1,187,176	+ 6%
Number of Households	379,372	420,429	+ 11%
Number of Persons per Household	2.96	2.7	- 7%

Dublin's Waste Strategy

The Waste Plan sets out the regional policy framework for Dublin and the strategy for the sustainable management of waste arisings in the Region to 2010. The policy in the current Plan builds on the long-term regional waste strategy and continues to endorse the EU Waste Management Hierarchy. The strategy aims to deliver maximum recycling and use thermal treatment with energy recovery for the treatment of residual wastes and by doing so minimise the use of landfill disposal. The waste targets to 2013 for the region reflect this approach and the Dublin Local Authorities are committed to developing a recycling society in the Region.

Adopted Targets:	
Recycling	59%
Energy Recovery	25%
Landfill	16%

Regional Waste Arisings Data

The sustained economic and population growth in the region has been mirrored by continued growth in household, commercial and construction and demolition waste arisings. The extent of the growth is documented on the pages overleaf. The quality of reporting waste data has improved although problems remain such as the inconsistent classification of wastes, and reporting the final destination of waste for recovery or disposal.

PROGRESS SINCE 2005

Prevention of Waste

The implementation of waste prevention and minimisation objectives are key priorities for the Dublin Local Authorities and good progress has been made. The need to adequately resource waste prevention was identified in the Waste Plan and the appointment of key prevention staff. Progress to date has been steady with 5 Environmental Awareness Officers (EAOs) appointed in the region. The appointment of Green Schools Officers (GSOs) and Green Business Officers (GBOs) to all Local Authorities has not been completed. Currently there are 2 GBOs and 3 GSOs active in the region.

Prevention and awareness initiatives at the community level are generally managed by the EAOs and on-going activities include educational workshops on waste management, home composting seminars, tidy towns competitions, waste events and community support and advice programmes.

GSOs are primarily responsible for raising awareness at school level through the rollout of the National Green Schools Programme. Good progress continues to be made in delivering the initiative.

By the end of 2006 a total of 417 schools were registered for the green schools programme in the region, an increase of 33% from 2004.

127 Green Flags were awarded by the end of 2006 compared to 54 in 2004.

29 waste related projects were funded under the Local Agenda 21 initiative and a total of € 103,124 was provided in 2006, a rise of 59% since 2004.

The GBOs in the region are responsible for raising awareness of waste and environmental issues at the business level. There are a number of programmes underway in the region particularly in the Dun Laoghaire Rathdown area where a project with the Dundrum Town Centre has yielded significant waste reduction results. More programmes of this type are required across the region.

Reuse

The Dublin Local Authorities set specific reuse objectives in the Waste Plan for the delivery of a "virtual" reuse centre to encourage the public to reuse household items. In August 2006 FREE Trade, funded by the four Local Authorities and hosted on www.DublinWaste.ie, was launched and the service has proved to be hugely popular among the general public with over 12,000 members to date. The initiative which encourages reuse allows members to advertise and pass on unwanted items through the website.



In the first year of the service over 5,000 items were reused through the service or in other words an estimated 235 tonnes of waste material diverted away from landfill. Based on the data recorded to date, the most popular types of items reused fall into the furniture category accounting for an estimated 50% of the items reused. The Dublin Local Authorities recognise the value and importance of the service to householders and continue to fund the on-going development and maintenance of FREE Trade.

In addition to the FREE Trade service the Dublin Local Authorities continue to support and provide fiscal support to a number of community based reuse initiatives such as Sunflower Recycling, Clondalkin Recycling Initiative and Project HEATSUN.

WASTE DATA: PROGRESS SINCE 2005

Household Waste Collection

The quantity of household waste generated in the Region in 2006 is estimated to be 471,352 tonnes and is 3% higher than in 2003. The increase in the regional arisings is most likely due to the growth in the number of households in the intervening period. However from the data collected the amount of waste generated per household has decreased from 1.21 tonnes per annum to 1.12 tonnes per household.

The household recycling rate for the region in 2006 is 28%, representing an increase of 12% since 2003. The Dublin Local Authorities have improved kerbside collection services to householders including expanding the green bin collection to all householders and have commenced the rollout of the brown bin service in the functional areas of FCC and DCC. An increase in the number of recycling centres and bring banks in the region has also contributed to the collection of recyclable materials. Additional household services such as bulky waste collections and mobile hazardous waste collections continue to be provided.

The Local Authorities continue to implement the polluter pays principle and each authority continues to provide pay-by-use systems to householders. The Dublin Local Authorities also offer low income households a waiver of household waste collection charges and currently over 70,000 households avail of waivers.

Waste Source	Regional 2003	Regional 2006
Total Recycled	74,714	134,036
Total Disposed	383,816	337,070
Total Arisings	459,579	471,352
Recycling Rate %	16%	28%

Commercial and Industrial Waste

The quantity of Commercial and Industrial (C&I) waste generated in the Dublin Region has increased by 22% since 2003 to 819,861 tonnes in 2006. The Commercial and Industrial Recycling Rate for the region has also increased from 34% in 2003 to 48% in 2006. Commercial and Industrial waste is primarily collected by the private sector in the Region and source separation amongst businesses and industry has increased substantially across the region since 2003.

Municipal Waste

A municipal waste recycling rate of 40% was calculated from the data reported in 2006 and represents a significant increase from 2003 when a figure of 26% was recorded. The continued drive to maximise source separation across the household and commercial sectors and divert material from landfill are significant drivers in increasing the municipal recycling rate.

Waste Stream	Total tonnes 2003	Total tonnes 2006
Municipal Waste generated	1,129,171	1,327,829
Municipal Waste Recovered	302,608	536,347
Municipal Waste Recovery Rate	26%	40%

Biodegradable Municipal Waste (BMW) and Waste Disposal

The amount of BMW generated and landfilled by the region in 2006 was estimated to be 470,361 tonnes. This figure takes into account municipal waste generated in Dublin and landfilled outside of the region. The target remains to reduce the quantity of BMW to 175,030 tonnes by 2013 and is a significant challenge for all players in the Dublin waste market.

The Region remains reliant on landfill for the disposal of municipal type wastes although to a lesser degree. In 2003, 74% of the municipal waste generated in the region was landfilled, while by the end of 2006 this figure had decreased to 60%.

WASTE DATA: PROGRESS SINCE 2005

Packaging Waste

Packaging waste arisings were calculated from the quantity of packaging waste landfilled within the region plus the quantity of packaging waste recovered. A significant drop in the packaging waste arisings data was recorded from 2003 and further investigation of the current figures will be required.

Based on the best available data to date, the packaging waste recycling rate in the region has increased from 37.2% in 2003 to 48.8% in 2006 and steady progress continues to be made towards the long-term target of 55%.

Packaging waste	Recovery Rate
2003	37.2%
2006	48.8%

Construction and Demolition Waste

The total quantity of collected C&D waste material recorded was 7,654,550 tonnes for 2006 and this represents a significant increase in the quantity of C&D waste generated in the region from 2003. The continued high rate on construction in the region and improved reporting systems in this sector are ensuring that more C&D waste is being accounted for.

It is estimated that 82% or over 6,280,000 tonnes of C&D material collected in the Dublin region was recovered although this happens primarily outside of the region at permitted soil recovery facilities. There is a need to develop more C&D waste recycling facilities in the Region for the crushing and sorting of construction materials.

	2003 Performance	2006 Performance	Target
C&D Waste Arisings	3.9 million tonnes	7.65 million tonnes	
% C&D Waste Recovered (Excl soil)	4%	14.4%	85% by 2013
% C&D Waste Recovered (Incl soil)	-	82%	

Priority Waste Streams

WEEE – The Dublin Local Authorities provide for the collection of household WEEE at their recycling centres across the region. In addition DCC and SDCC have also set up designated collection centres for the collection of WEEE delivered to retailers in Kylemore Park and Cookstown respectively. The total household WEEE collected for recovery in 2006 was 4,911 tonnes or 4.1 Kg per capita exceeding the regional target of 4Kg per capita. Significant investment has been by private sector operators, such as TechRec and Cedar Resource Management, in developing WEEE Recovery capacity for the Region.

ELVs - The End-of-Life Vehicle regulations came into operation on June 8, 2006 and these impose substantial obligations on local authorities in terms of registration, administration, modification of permits, inspection and enforcement. They must maintain a register with all relevant details for the producers and Authorised Treatment Facilities within the functional area. To date 4 ATFs have been registered in the Region. In 2006, over 7,300 tonnes of material was recorded.

Tyres – In 2007 the DEHLG published Waste Management (Tyres and Waste Tyres) Regulations 2007 and impose obligations on retailers, manufacturers, local authorities and farmers. In 2006 a reported 5,058 tonnes of tyres were collected in the Region.

REGIONAL INFRASTRUCTURAL DEVELOPMENTS

Biological Treatment Facilities

The Dublin Local Authorities are developing two centralised Biological Treatment Facilities at Ballyogan and Kilshane. The total licensed capacity is 90,000 tonnes. However the developed capacity is likely to be less due to on-site restrictions. Both facilities have received planning permission.

The procurement process for these two facilities was started in 2006, and a shortlist of five bidders was identified. Invitation to Negotiate documents were issued to five short listed bidders in June and August 2007 for Ballyogan and Kilshane respectively. Preferred bidders should be selected in early 2008 with facility completion expected in 2009.

Materials Recovery Facility

The Dublin Local Authorities set out an objective for the development of a regional MRF for the processing of household recyclables collected through the green bin collection service. The construction of the proposed facility is well underway and the plant should be operational by mid 2008. The plant will have a capacity of 100,000 tonnes and is funded by the Dublin Local Authorities with support from the DEHLG.

Energy Recovery

An oral hearing was completed by An Bord Pleanála in respect of the proposed Waste-to-Energy plant, which is being developed through a Public Private Partnership arrangement for the treatment of up to 600,000 tonnes of household and commercial waste material and planning permission was granted by An Bord Pleanála in November 2007. The EPA issued a Proposed Decision Waste Licence in November 2007. An EPA Oral Hearing on the Waste Licence will be held in April 2008.

Landfill

There are two landfill facilities active in the region, Arthurstown and Balleally, and both are operated by the Local Authorities. Based on the current rates of filling both facilities are expected to close 2009-2010. The long-term objective of 16% of household, commercial and industrial and construction and demolition waste by 2013 going to landfill remains a considerable challenge and similarly the reduction in the levels of BMW currently being landfilled in the region.

The development of the Fingal Landfill facility for the long-term residual waste disposal needs of the region is well advanced and a Proposed Decision Waste Licence has been issued by the EPA. A decision from An Bord Pleanála is due in 2008.

REGIONAL ENFORCEMENT

Since the adoption of the Waste Plan enforcement and regulation in the region has increased with significant increases in the number of facility audits, inspections, and complaints investigated.

The Regional Waste Enforcement Unit setup in 2004 continues to grow and develop and now covers the functional areas of DCC, FCC, and SDCC. The Field Officers operate largely on a mobile basis, responding to incidents and carry out routine inspections in the 3 Local Authority Areas.

As of July 12, 2007, Dublin City Council is designated as the National Competent Authority for the export, import and transit of waste shipments under the Waste Management (Shipments of Waste) Regulations, 2007. All transfrontier shipments of waste originating in any local authority area in the State that are subject to the prior written notification procedures must be notify Dublin City Council at the National TFS Office established to implement and enforce the Regulations. The National TFS Office has 16 staff – eight administrative staff and eight staff involved in the enforcement of the regulations.

IMPLEMENTATION CHALLENGES

Implementation

By 2010 the end of the lifetime of the current Waste Plan the local authorities are expected to have put in place two centralised biological treatment facilities, the new Fingal Landfill and have commenced construction of the planned Waste-to-Energy facility in Poolbeg. Delivery of these facilities within this time period is critical if regional targets for recycling and landfill diversion are to be met. Possible future delays to these projects beyond current projected timelines could cause significant environmental and financial impacts.

Waste Plan Variation

The Dublin Local Authorities have prepared a Proposed Variation of the Waste Management Plan for the Dublin Region 2005 - 2010. The proposed variation may include an objective in the Waste Plan that the collection of household waste from single dwelling households (other than those in purpose built apartment blocks) will be carried out by the Dublin Local Authorities or, in the alternative, that the Dublin Local Authorities will make arrangements by way of a public tendering process for the collection of such household waste (which may be on a geographical or area basis). A public consultation process has now been completed and an amended Waste Management Plan for the Dublin Region 2005-2010 has been published.

Waste Permit Review

Dublin City Council is the nominated authority for the Dublin Region and is responsible for issuing permits and administering the Waste Management (Collection Permit) Regulations 2001 on behalf of the four Dublin Local Authorities. The permit review process commenced in February 2007 with a consultation process and remains on-going with the next phase of the process to commence shortly.

1 INTRODUCTION

The Waste Management Plan for the Dublin Region 2005 – 2010 (hereafter Waste Plan) was prepared jointly by the Dublin Local Authorities, Dublin City Council (DCC), Dun Laoghaire-Rathdown County Council (DLRCC), Fingal County Council (FCC) and South Dublin County Council (SDCC).

The Waste Plan was made on the 11th November 2005 and sets out a regional policy framework for the sustainable management of waste arisings in the Region. Specific waste policy objectives, recycling targets and a programme of implementation for key waste infrastructural projects are all included in the Waste Plan.

The Dublin Local Authorities are committed to the ongoing monitoring of waste plan objectives and the preparation of an Annual Progress Report. The aim of the report is to provide an update on the implementation of the Waste Plan.

This report is the first Annual Report since the making of the Waste Plan and in keeping with Section 22.1 of the Waste Plan details the performance of the local authorities and includes details of:

- Key Performance Indicators.
- Prevention/Minimisation and associated waste awareness activities.
- The delivery of the main collection systems, facilities and infrastructure required by the Plan.
- Regulation and Enforcement activities.
- Difficulties and challenges emerging in Plan implementation
- Financial Performance and implementation of Polluter Pays Principle.

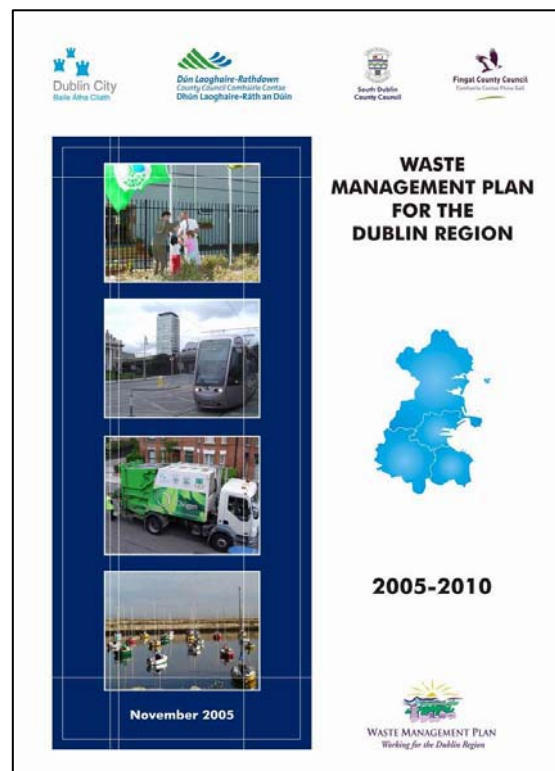
The report contains an update of key waste data and statistics and in general the figures presented are for 2006. There are limitations to the scope of the Annual Report and the waste policy statement, objectives and targets for the Region have not been reviewed as part of this process. In addition data for particular waste streams have not been updated and details are provided in Section 2.

This report has been prepared by RPS Consulting Engineers on behalf of the Dublin Local Authorities.

1.1 DUBLIN REGIONAL PROFILE

The Dublin Region has continued to grow and prosper since the adoption of the Waste Plan in November 2005 and the Region remains at the heart of Ireland's economic activity.

The city has continued to attract foreign direct investment and the rate of employment remains high. A strong regional labour force market continues to attract inward migration, particularly from Eastern European countries, and the region has growing populations of ethnic groups.



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Number of Households	379,372	420,429	+ 11%
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1.2 DUBLIN'S WASTE STRATEGY

The Waste Plan sets out the regional policy framework for Dublin and the strategy for the sustainable management of waste arisings in the Region to 2010. The policy in the current Plan builds on the long-term regional waste strategy and continues to endorse the EU Waste Management Hierarchy. The strategy aims to deliver maximum recycling and use thermal treatment with energy recovery for the treatment of residual wastes and by doing so minimise the use of landfill disposal. The waste targets to 2013 for the region reflect this approach and the Dublin Local Authorities are committed to developing a recycling society in the Region.

Adopted Targets:	
Recycling	59%
Energy Recovery	25%
Landfill	16%

2 WASTE GENERATION

Since the adoption of the Waste Management Plan 2005-2010, waste arisings have continued to grow in the region reflecting the national trend. The reporting and recordings mechanisms for waste data have improved significantly, although achieving consistency of reporting still requires improvement. The main responsibility for the accuracy of information remains with the major waste collectors.

2.1 DUBLIN REGION WASTE QUANTITIES

The waste quantities presented in this report are for the year 2006 and were obtained from the following sources:

- Local Authority (EPA) National Waste Database Returns 2006
- EPA Programme for Municipal Waste Characterisation Surveys 2005
- EPA National Waste Database Report 2005
- RPS Household residual bin Survey 2007
- Waste Collection Permit – 2006 Data Compilation and Report by Patel Tonra on behalf of DCC, FCC and SDCC 2007
- REPAK data, 2007.

Table 2.1 outlines the key waste categories and corresponding waste arisings reported to each Local Authority in the Dublin Region for the years ended 2003 and 2006. There are significant differences between the 2003 and 2006 data for a number of the waste categories and these are discussed in Sections 2.3 to 2.9.

2.2 QUALITY OF DATA

The quality of waste data continues to improve and more waste is now being correctly identified and recorded through the waste reporting systems. Further improvements can be made in the key categories of household, commercial and industrial and construction and demolition waste.

Household

The revised Local Authority (EPA) national waste returns data forms were issued to Local Authorities in February 2007. The new template is more streamlined and is setup to facilitate the Local Authorities in compiling information submitted more efficiently. The household data is generally consistent although improvements in the number of households served in the region need to be addressed. The reporting of commercial/Industrial waste in this questionnaire is no longer required by the EPA.

Commercial and Industrial

As the reporting of Commercial and Industrial waste data to the EPA is no longer a requirement for the Local Authority, it proved difficult to obtain complete information on this waste stream. The Dublin Local Authorities commissioned a report on waste collection permits in 2007 and the following problems were noted in relation to the collection of accurate data:

- Not all waste collection Annual Environmental Reports (AERs) are returned.
- The accuracy of the data is reliant on the waste collectors.
- Significant quantities of this waste stream may be recovered/ disposed outside the region and the final destination of waste is often not recorded.
- Double counting may be an issue with waste collections from recycling centres.
- Inaccurate reporting of waste sources.

Table 2.1: Waste Arisings Generated & Managed in the Dublin Region for 2003 and 2006

Waste Type	Total 2003	Total 2006	% Increase or Decrease since 2003
Household Waste Arisings	459,579	471,352	+ 3%
Commercial/Industrial Waste	669,592	819,861	+ 22%
Construction and Demolition Waste	3,965,922	7,654,550	+ 93%
Contaminated Soils	8,688	10,869	+ 25%
Litter and Street Sweepings	30,235	36,616	+ 21%
Packaging waste	511,738	279,559	- 45%
Priority waste streams:			
Waste tyres	8,554	5,058	- 41%
End of life vehicles	56,493	7,389	- 87%
Household Hazardous waste	634	2,104	+ 322%
Waste Electrical Electronic Equipment	11,822 – 29,374	22,489	-
Water Treatment Sludges	3,599	6,825	+ 89%

Data Sources:

Household Waste: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006)

Commercial/Industrial Waste: Waste Collection Permit – 2006 Data Compilation and Report, Regional Landfill AERs, Waste Collection Permit AERs.

Construction and Demolition Waste: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006)

Contaminated Soils: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006) and does not include quantities reported in TFS forms.

Litter and Street Sweepings: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006).

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

Waste Tyres: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006).

ELVs: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006).

WEEE: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006) & Dublin Local

Household Hazardous Wastes: Local Authority (EPA) National Waste Database Questionnaires>Returns (2006).

Water Treatment Sludges: Dry solids from water treatment plant delivered to Balleally.

As the destinations of Commercial & Industrial wastes are not recorded, it has been difficult to determine a recovery and disposal rate for this waste stream.

In relation to Construction and Demolition waste similar problems also occur and the quality of data is affected by the following:

- Not all waste collection Annual Environmental Returns (AERs) are returned.
- Lack of facility Annual Environmental Returns (AERs) submitted.
- Significant quantities of this waste stream maybe recovered/ disposed outside the region and the final destination of wastes are often not recorded.
- Assumptions must be made to provide a recovery figure.

Priority Waste Streams

In addition to household wastes, information on litter / street cleanings, waste tyres, ELVs and WEEE are also reported by the Local Authorities to the EPA. However the reporting of this information was found to be less comprehensive than that of household data.

2.3 HOUSEHOLD WASTE

The quantity of household waste generated in the Region in 2006 is estimated to be 471,352 tonnes, 3% higher than in 2003. This slight increase is due to the growth in the number of households in the Region and is counter-balanced by a reduction in the quantity of waste generated by each household per annum, see Section 5.1. The local authorities also recognise that quantities of household waste collected from apartments are often mixed with similar commercial type wastes and the tonnages are often classified incorrectly as commercial or non-household waste.

2.4 COMMERCIAL & INDUSTRIAL (C&I) WASTE

The C&I waste arisings has risen by 22% to 819,861 tonnes in 2006. Improvements in reporting and enforcement are ensuring that more of this waste stream is being identified correctly and recorded. Steps have been taken to ensure that Annual Environmental Reports are timely, accurate and in sufficient detail. With the improved reporting, quantities of waste arising are being identified more accurately.

However, a number of assumptions were required to determine the quantity of C&I arisings and the difficulties outlined in Section 2.2 are still prevalent in waste collection permit AERs submitted by some private collectors.

2.5 C&D WASTE

Construction & Demolition (C&D) waste arisings has increased significantly by 93% since 2003 to 7.65 million tonnes in 2006. This new arisings figures is a result of improved regulation and reporting by the industry compared to 2003. The quantities of waste also reflect the continued high level of construction and soil generation activities across the Region.

Although only 43% of C&D waste collectors submitted annual returns to the Local Authorities, it is thought that all major collectors are accounted for. Soil and stones accounted for 79% of C&D waste collected in 2006.

2.6 CONTAMINATED SOILS

The quantity of contaminated soils reported by the Local Authorities has increased by 25% since 2003. The destination of this material was not reported and therefore the quantity of this material recovered or disposed of is unknown.

Table 2.2: Contaminated Soil Arisings in Dublin Region 2006

Category	EWC Code	DCC	DLRDCC	FCC	SDCC	Region
Coal and tar products	17 03 03*	-	-	200	140	340
Soil and stones containing dangerous substances	17 05 03*	138,031	489.80	7,813	2,206	10,019
Insulation materials containing asbestos	17 06 01*	65	10.78	3	2	5
Construction materials containing asbestos	17 06 05*	1,538	245.22	124	721	845
Total 2006		139,634	746	7,940	2,929	10,869
Total 2003		6,683	207	1,798	0	8,688

The above figures for 2003 and 2006 do not include contaminated soils arisings reported in TFS forms which were exported for disposal and treatment.

2.7 LITTER AND STREET SWEEPINGS

The quantity of Litter and street cleanings for the region totalled 36,616 tonnes in 2006. This represents an increase of approximately 21% more than that generated in 2003 (30,235 tonnes).

2.8 PACKAGING WASTE

Packaging waste arisings are calculated by determining the quantity of household and commercial/industrial packing waste landfilled within the Region plus the quantity of packaging waste recovered by REPAK for 2006. Packaging waste arisings are estimated to be 279,559 tonnes for 2006, representing a significant reduction in arising from 2003. Further investigation into this data is required.

2.9 OTHER PRIORITY WASTE STREAMS

The below table details the quantity of hazardous and priority waste quantities recorded in 2003 and 2006.

Household Hazardous waste quantities managed has increased to 2,104 tonnes. This figure includes the quantities of household hazardous wastes recovered, at recycling centres and bring banks, and the quantity of hazardous wastes landfilled. The increased number of recycling centres in the Region coupled with increased waste segregation by householders has resulted in a significant rise in the quantity of household hazardous waste recovered at these facilities. The landfilled figure has been estimated from waste composition data from surveys of the black bin.

Table 2.3: Priority Waste Streams Managed, 2003 and 2006

Waste Type	Total 2003	Total 2006
Household Hazardous wastes	634	2,104
Waste Tyres	8,554	5,058
End of Life Vehicles	56,493	7,389
Waste Electrical Electronic Equipment	11,822 – 29,374*	22,489
Waste Water Sludges	3,599	6,825

* In the Waste Plan a theoretical range of quantities for WEEE were calculated using an EPA methodology.

A total of 5,058 tonnes of waste tyres was reported for 2006. This represents a decrease of 41% since 2003. It is thought that the quantity reported in 2003 may have included some double counting.

The quantity of ELV's reported in 2006 by the Local Authorities was 7,389 tonnes and is a significant decrease from the figure reported in 2003. This figure was generated using a general scientific formula for ELVs due to a lack of available data. The 2006 data indicates that the figure reported in 2003 was over estimated.

Implementation of the WEEE directive in August 2005 has made significant progress in the collection of WEEE. In 2006, 22,489 tonnes of WEEE was managed with 16,276 tonnes of WEEE collected and made available for recovery. It should be noted the WEEE arisings in 2003 were calculated using an EPA methodology due to a lack of real data.

The quantity of waste treatment sludges reported for 2006 has increased from 3,599 tonnes in 2003 to 6,825 tonnes. The total quantity of sludges reported was sent to Balleally landfill by Fingal County Council.

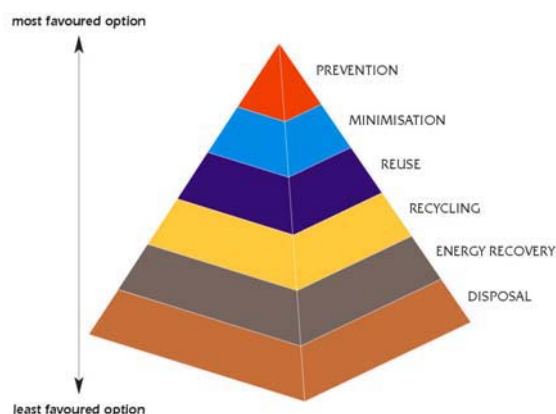
3 WASTE PREVENTION AND MINIMISATION

3.1 INTRODUCTION

Prevention is at the pinnacle of the Waste Management Hierarchy and is at the core of European and Irish legislation. Waste prevention and minimisation are also key policy objectives of the current Waste Management Plan and the Local Authorities have been active in implementing these activities since the making of the Plan in November 2005.

The Waste Plan set out waste prevention and minimisation objectives and targets for community, schools and business and identified three key public roles in implementing the necessary tasks. These are:

- The Environmental Awareness Officers (EAOs)
- The Green Schools Officers (GSOs) and
- The Green Business Officers (GBOs).



The Plan sets out the aim and responsibilities of these key waste staff, their target audiences and on-going deliverables. The following sections outline the progress made by the Local Authorities in appointing these staff and implementing the committed objectives.

3.2 RESOURCING WASTE PREVENTION

The Waste Plan identified the need to adequately resource waste prevention and minimisation in order to achieve the desired objectives. Since the making of the Waste Plan the Dublin Local Authorities have continued to expand their resources in the area of waste prevention and minimisation areas to meet the necessary objectives. Table 3.1 summarises the resources in the waste prevention and awareness areas in each Local Authority.

Table 3.1 Local Authority Prevention and Awareness Staff

	DCC	DLRCC	FCC	SDCC
Environmental Awareness Officers	1	1	2	1
Green Business Officers	1	1	-	-
Green Schools Officers	1	-	1	1
Other Educational & Awareness Staff	5	1	1	-

Table 3.1 shows that Dublin City Council has appointed staff to all of the key prevention roles as identified in the Waste Plan. Fingal County Council and South Dublin County Council currently do not have an appointed Green Business Officer although the EAO and other educational/awareness staff are handling the business awareness campaigns at present. Dun Laoghaire Rathdown County Council do not have a Green Schools Officer although green schools initiatives are handled by the EAO at present.

In addition to the three main prevention roles the local authorities have appointed other environmental and waste awareness staff and these include:

- Environmental Liaison Officers (ELOs) have been appointed by Dublin City Council and operating in each of the 5 electoral areas of the city. The ELO is responsible for liaising with the public and companies and informing them of their obligations and the Council's obligations under the Waste Management Act. They also arrange seminars for the dissemination of information on obligations and the services DCC provides for the collection and recycling of waste. They also organise the removal of illegally dumped waste and liaise with different departments within the council on different aspects of waste/environmental issues that are relevant to them.
- An assistant Environmental Awareness Officer has been recruited to work with schools in the Dun Laoghaire Rathdown area. It is expected that another will be recruited to look after Local Agenda 21 projects.
- The two Environmental Awareness Officers appointed at Fingal County Council also carry out the duties of the Business Awareness Officer. An assistant Environmental Awareness Officer was recruited to help with this workload.

3.3 COMMUNITY PREVENTION AND AWARENESS INITIATIVES

The role of the EAOs in the Dublin Local Authorities continues to grow, responding to the needs of the householders and the community. The EAOs are responsible for the implementation of local educational and promotional campaigns targeting all waste types, the promotion and improvement of local recycling infrastructure and providing support and funding to local community and voluntary waste and recycling programs.

The following sections detail a selection of the community campaigns and initiatives delivered by EAOs in Dublin in 2006 since the making of the Waste Plan.

3.3.1 Dublin City Council

Dublin City Council offers advice on waste management issues at a grass roots level to a variety of community groups. This is delivered through workshops and evening seminars for organisations such as residents groups, ladies clubs, etc. The Environmental Awareness Officer will organise workshops on waste prevention and management within the home. The Green Business Officer will offer advice to local companies on waste awareness within their organisation while the Green Schools Officer is involved in raising awareness through environmental initiatives such as the Green Schools Programme, EnviroChallenge and Science Week.

Dublin City Council organised the Dublin City Neighbourhoods Awards. There are 18 different categories, including residents, commercial and schools. As DCC is divided into 5 areas the adjudication is done in the areas first and the winners in each category are then forwarded on and the overall winner chosen. Finalists are invited to a Ceremony in September where the winners are presented with their awards.

Dublin City Council also provides an annual seminar for local teachers on the Green Schools Programme. In addition to waste seminars, the Green Schools Officer liaises with other environmental groups such as GAP, Sustainable Energy Ireland and An Taisce in raising environmental awareness. The Green Schools Officer also works very closely with the environmental information centre, ENFO, which targets all areas of the community. A new initiative introduced is the greening of third level institutions throughout the City, and work is ongoing with colleges, such as the Liberties College and Kilemore College.

Dublin City Council has worked with local areas on regeneration initiatives within the City, including the Fatima Regeneration Project and Ballymun Regeneration; and will be working with the Liberties Regeneration Project in early 2008.

Dublin City Council organised evening workshops for the local community in whose area the brown bin was introduced in September 2006. This proved to be to be very successful, as it demonstrated how the brown bin would benefit householders.

3.3.2 Dun Laoghaire Rathdown County Council

DLRCC set up a 'Sustainable Communities Fund' with a budget of €50,000 in 2007. The fund assists residents' associations and schools and aimed to improve awareness and contribute to the prevention of waste. However, most of the expenditure was on graffiti removal, planting flowers, shrubs etc and litter management.

The EAO organised compost clinics on a regular basis in libraries throughout Dun Laoghaire Rathdown functional area. These educational events are typically hosted by a horticulturalist at least once a month.

Dun Laoghaire Rathdown County Council supports the Tidy Towns competition. In order to support the groups participating in the Tidy Towns competitions, DLRCC organised a seminar in 2007 whereby an adjudicator in the competition advised on what aspects to concentrate on, to assist communities to prepare for the competition. In 2007, Shankill won the 'Best New Entry' award.

During the 2007 Festival of World Cultures, DLRCC ran an environmental awareness exhibition called 'Cool Earth', where visitors could shop for eco goods, research green building and renewable energy needs or listen to a talk. It also featured stalls and information by eco-friendly organisations and businesses and talks on climate change, energy and biodiversity.

3.3.3 Fingal County Council

The EAO organised the opening of an Environmental Education Centre Estuary Recycling Centre, Swords in November 2006. This event was organised and talks and workshops were given on topical issues such as waste, energy and sustainable living. Regular tours of Estuary Recycling centre are also organised by Fingal County Council for the public.

The EAO also organised a talk given by Sustainable Energy Ireland on the Greener Homes Grant Scheme and Energy Efficiency in the Home in November 2006.

The EAO also continue to organise compost clinics for the public with the aim of providing practical tips and advice on composting at home.

In 2007, The Environment Section of Fingal County Council introduced 'a best new entry award' into the green business category of the 'Fingal Cleaner Communities Awards'. This is similar but separate to the National Tidy Towns Competition and has proven important in enhancing the Local Authorities relationship with residents and businesses of the county. The Competition is open to residents, businesses and schools within the county and in 2007 there were 117 successful entrants across all categories.

3.3.4 South Dublin County Council

In 2006, South Dublin County Council launched the 'Beautiful South Dublin County' competition with the following objectives:

- Make South Dublin County a better and greener place
- To develop an awareness in the environment
- To encourage teamwork and community involvement.

The new competition contains added sustainability aspects which are also to be taken into consideration. These include waste minimisation and prevention initiatives, waste infrastructure, sustainable practices, and natural habitats. There were 137 entries to the competition in 2007, Lucan was awarded overall tidy towns winner for 2007, Esker Meadows, Lucan won the Junior Environment Project section and Whitechurch Estate (Rathfarnham) won the community Environment Initiative sections of the competition.

In 2007 an 'Environmental awareness programme' was introduced into the communities of the five RAPID areas of South County Dublin. This programme specifically focuses on the needs of the area and is funded by Pobal and co-ordinated in Tallaght by the Local Authority, Global Action Plan (GAP) and the community. Eco-action teams have been set up to raise awareness among the communities and to illustrate to economic, environmental and social benefits of sustainable use of resources such as waste, water, energy and the surrounding environment. This is proving to be a very successful initiative which is modelled on GAP and Dublin City Councils initiative in Ballymun.

3.3.5 Local Agenda 21

The Local Agenda 21 Environment Fund promotes sustainable development by assisting small-scale environmental projects at the local level that involve partnerships between Local Authorities and local community groups, schools and environmental NGO's.

Table 3.3 shows that of the 48 project funded in 2006, approximately 58% of the projects were waste related. The table also highlights the significant increase in funding being made available for Local Agenda 21 projects from €57,626.40 in 2004 to €103,124 in 2006, a rise of 79%.

Table 3.2: Local Agenda 21 Environment Fund 2006 Projects and Funding

Local Authority	Total number of projects 2006	Total spend on funding 2006	Waste related projects 2006
DCC	9	€33,952	9
DLRCC	8	€17,428	6
FCC	18	€26,696	8
SDCC	14	€23,000	6
Total 2006	49	€ 101,076	29
Total 2004	43	€57,626.40	32

3.4 GREEN SCHOOLS CAMPAIGN

Much progress has been made in terms of prevention and awareness in schools since 2004 and the expansion of the An Taisce Green Schools Programme across the region. Table 3.4 shows the total number of schools registered as part of the Green Schools Programme and the number of green flags awarded by the end of 2006.

Good progress is evident in relation to the waste awareness among schools, with an additional 104 schools registered to the programme in the region since 2004. The number of green flags awarded has also increased and by the end of 2006 stood at 137 in the region. This growth shows the desire of schools to become part of the programme and to educate children in relation to waste prevention, minimisation and recycling. This programme and others alike play a major role in changing children's attitude towards waste and environmental issues. Such efforts by the pupils, teachers and EAOs should continue into the future.

Table 3.3: Green School Registrations and Green Flags Awarded (2006)

Local Authority	Total Number of Schools in each Local Authority 2006			Number of Schools Registered 2006			Green Flags Awarded By End 2006
	Primary	Secondary	Total	Primary	Secondary	Total	
DCC	224	88	312	118	44	162	42
DLRCC	66	35	101	-	-	84	29
FCC	91	22	113	63	22	85	31
SDCC	96	32	128	63	23	86	35
Total 2006	477	177	654	244	89	417	137
Total 2004	457	208	665	235	78	313	54

Note: In the case of DCC, the figures for total numbers of schools are from the Dept. of Education and don't include private schools. However, the total registered schools are from An Taisce and include all schools. Primary schools figures also include special schools and secondary schools also include some post-secondary schools that cater for Post Leaving Certificate courses. There are also some pre-schools that have been awarded the Green Flag. These haven't been included in the above figures.

3.5 GREEN BUSINESS OFFICER (GBO)

The role of the Green Business Officer is to raise awareness amongst businesses and provide support to businesses in order to facilitate them to manage their waste in a more sustainable manner. A summary of the business awareness campaigns and events delivered in the region are outlined in the following section.

3.5.1 Dublin City Council

Dublin City Council appointed a Green Business Officer in March 2007 and the responsibilities include:

- Implementing the 'Action At Work' programme throughout Dublin City Council through a variety of measures such as staff training, raising awareness etc
- Providing assistance, information and guidance to the business community on issues of waste management and environmental responsibility through company visits, consultation, promotion of Environmental Management Systems and carrying out waste audits.
- Facilitating an effective recycling service (specifically 'Brown Bin' service) to non-domestic customers of DCC initially through leaflets, website information etc, and promotion of DCC waste services in general

Since the appointment of the GBO the following programmes are underway:

- An effective in-house source –separation and recycling programme across Dublin City Council.

- A Green Business booklet, incorporating waste and energy themes, is currently being developed.
- DCC are to host a business seminar in 2008.

3.5.2 Dun Laoghaire Rathdown County Council

The role of the GBO has been in place in Dun Laoghaire Rathdown County Council for a number of years and activities are on-going.

In May 2007, the offer of Grant Award under Phase 2 of the Local Authority Prevention Demonstration (LAPD) Programme was received from the EPA for a Business/Retail Initiative in collaboration with the Dundrum Town Centre. This award of €74,305.61 is contingent on a contribution of €24,768.54 by DLRCC over the life of the programme (two years) bringing the total cost of the programme to €99,074.15. The expected outcomes of the initiative include a reduction in organic waste generated by the Dundrum Town Centre and the production of a template of best practice for organic waste management in the retail and restaurant sectors.

Funding for a second initiative, involving packaging waste reduction in the Restaurant in UCD's Belfield campus and the purchasing of products in a manner that ensures packaging waste is minimised, was agreed in principle by the EPA. The programme has yet to be awarded its grant due to a change in personnel in UCD and the need to modify the initiative to an 18 month initiative ending in June 2009. If approved it would act as a template for introducing green procurement in UCD.

The inaugural Envirocom 2007 Conference, hosted by DLRCC and Dun Laoghaire Chamber, took place in September 2007 and included presentations by national and international experts on Energy Efficiency, Sustainable Development and Emerging issues for Waste/Water Management. The Envirocom Awards was launched in 2007 to honour the county's environmental achievers in both the public and private sectors and was organised by the Health County Forum of which the Environment Department of DLRCC is a member.

Sector specific breakfast briefings and workshops are held on an ongoing basis to promote good environmental stewardship and the Green Business Officer also visits companies/institutions and gives presentations to members of the County Development Board, Enterprise Ireland and other local Business Associations. One outcome of this networking was the recycling of 52 tonnes of WEEE in a one-day Free WEEE Takeback event hosted by DLRCC, Dell and WEEE Ireland.

3.5.3 Fingal County Council

A number of Green Business forums were held in 2006. These information mornings were free of charge to business people throughout the County and proved to be very successful. The aim of these forums was to raise waste prevention and minimisation awareness among businesses. Guest speakers from the Environmental Protection Agency (EPA), Enterprise Ireland, Fingal County Council and Local businesses provided useful information on a range of topics including:

- Waste prevention- reducing waste and saving money.
- Environmental Management Systems for SME's – setup, Implementation and grant aid.
- Waste Regulation – what it means for business.
- Case studies on how managing waste correctly can help business reduce costs and have a positive effect on the environment.

While enforcement regulations also help ensure waste prevention is implemented, much progress is still required in this area as a Green Business officer has not been appointed at Fingal County Council.

3.5.4 South Dublin County Council

Some initial steps have been taken in South County Dublin in relation to waste prevention and minimisation for business and industry.

As part of the Race against Waste Campaign the South Dublin Chamber of Commerce held ‘**Small Change**’ seminars in 2004 and 2005. This was a nationwide programme supporting small and medium sized businesses in their efforts to reduce and recycle their business waste. The aim of these seminars was to raise awareness among businesses to the costs of waste managements, to understand how applying practical solutions can cut your business costs and to facilitate the development of positive strategies to deal with the problems associated with waste.

Much progress remains to be made in this area as a Green Business Officer has not been appointed in SDCC.

3.6 LOCAL AUTHORITY ENVIRONMENTAL MANAGEMENT SYSTEMS

The Dublin Local Authorities have continued to improve their internal environmental and recycling systems although no formal accreditation has been achieved by any Local Authority in the region to date. The adoption of a formal Environmental Management System (EMS) remains a long-term objective for each Local Authority. Some draft statements and reports have been prepared within the region, for example:

- In 2006, Fingal County Council prepared a draft statement.
- In 2007, South Dublin County Council ‘Partnership Environmental Group’ prepared a report documenting key areas for improvement in relation to sustainability with in the Council and recommended the implementation of an EMS within the organisation.

3.7 PREVENTION AND MINIMISATION PROGRAMMES FOR PACKAGING

In relation to the prevention and minimization of packaging, Repak, through its *Prevent and Save* programme, is actively working on this agenda. A number of measures have already been delivered, while a full programme of further measures is continuing from 2007 to 2008 and onwards. These measures include:

- Provision of technical advice to industry on packaging prevention and minimization.
- Best practice case studies – examples of how Irish businesses have successfully reduced packaging content.
- Best practice seminars – tailored for both larger companies and SMEs to promote packaging reduction.
- Prevention Best Practice and information Web site – www.preventandsave.ie.
- Industry Awards programme for best packaging reduction initiatives.
- Design Awards programme for most effective packaging design.

In 2008, Repak will also be publishing results of two major research reports on (a) packaging decisions along the supply chain and (b) consumer attitudes to packaging and over packaging. Repak will also be working with training agencies to provide a dedicated industry training programme for packaging practitioners.

The Dublin Local Authorities and Repak will continue to work closely together on any of these or other initiatives, which can help in the waste reduction and minimisation campaign for packaging.

3.8 DUBLIN REGIONAL WASTE AWARENESS WEBSITE

The Dublin Regional Waste website, www.DublinWaste.ie, is an on-going regional waste awareness and educational initiative aimed at the household and community level. The background to the website and how it has evolved is provided below.

In 2004 the Dublin Regional Waste Awareness Campaign was launched and at its core was the development of a waste management information website for householders. DublinWaste.ie, the regional waste awareness website for Dublin, was set up and funded by the four Dublin Local Authorities. The website was launched in May 2004 as a tool for communicating all aspects of waste management and recycling related information to householders and communities in Dublin.

The site contains useful and practical guidance for householders on waste prevention, reuse, recycling and home composting as well as details on waste collections, waste charges, household hazardous collections and recycling options. The site has an active news section with regional and local waste related news articles, events and notices posted on the site frequently. The website is updated by the management team on a regular basis and ensures the website is fresh and high quality content is maintained.

The website management team are also responsible for maintaining a dedicated customer support phone service and an email helpdesk service. Users with any queries on the website or any waste related problem can avail of the customer support services.

The website also hosts four permanent interactive features which have been developed over the duration of the lifespan of the site and these are:

- Recycling Search – launched in May 2004.
- FREE Trade – launched in August 2006.
- Online Forum – launched in August 2006.
- Online Survey Poll – launched in August 2006.

The interactive features are an important component of the website and help to maintain a consistent level of traffic to the website on a monthly basis. The functionality of these features are reviewed regularly and new additions to the services are developed where necessary. In general the website continues to be developed and evolve in tandem with the progressive waste policy in the Dublin Region.

The popularity of the website has grown steadily since 2004 as shown in Table 3.5 and the impact of the interactive features, and particularly FREE Trade, launched in 2006 is evident. The website is presently receiving on average of over 100,000 hits per month with the busiest month July 2007, when over 111,000 hits were recorded.

Table 3.4: Traffic to the Website May 2004 to August 2007

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	270%
2006 (Jan to Dec)	358,882	29,907	245%
2007 (Jan – August)	701,180	87,648	293%

The use of the website and its interactive features are free to users although the setting up of an online membership account is required to avail of FREE Trade, the Online Forum and the Online Poll services. Website membership commenced in August 2006 and has grown rapidly in the first 12 months. By the middle of September 2007 membership of the website was over 11,500 and continues to rise.

In response to the increasing level of activity on the website the DublinWaste.ie management team prepare a newsletter reporting on FREE Trade, the Online Forum and Polls, and recent news and developments in the region. Newsletters for May and June and the period July to Sept 2007 were published on the website and are available to download from the website.

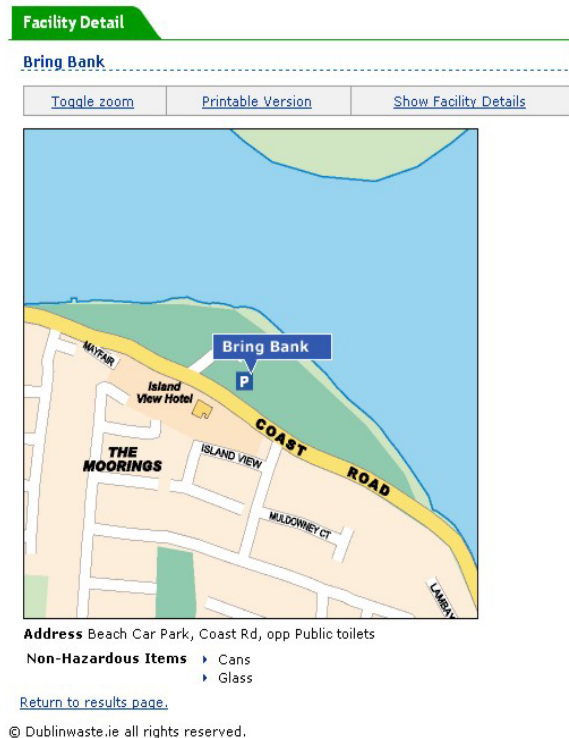
3.8.1 Recycling Search:

One of the initial objectives of the website was to help increase the household recycling rate by providing easy to access online information on local recycling facilities, the green bin collection service and recyclable materials. In addition to extensive information on recycling an interactive recycling search engine was created and allows users to locate a local recycling facility in their area or next to their place of work. There are 2 different types of search facilities for users to use:

Search by Location – Provides results based on the location and facility required and

Search by Material – Provides results based on the material to be recycled.

The website database contains details of all bring banks, community bring centres, recycling centres, bin tag outlets, and green waste facilities in the Region. The information within the database is constantly updated and contains over 600 searchable entries.



Facility Detail

Bring Bank

[Toggle zoom](#) [Printable Version](#) [Show Facility Details](#)

Address Beach Car Park, Coast Rd, opp Public toilets

Non-Hazardous Items

- ▶ Cans
- ▶ Glass

[Return to results page.](#)

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This useful service has been hosted on the site since its launch in 2004 and has been developed on a number of occasions to improve its functionality. Mapping was added to this feature of the website in August 2006 and has further improved the quality of the service.

3.8.2 FREE Trade

In the Waste Plan the Dublin Local Authorities committed themselves to the support and development of reuse initiatives in the region. A specific reuse policy objective for the development of “an online virtual reuse centre” on the DublinWaste.ie website was agreed. In August 2006, the realisation of this objective was met and the FREE Trade service was launched in Dublin by the four Local Authorities.



FREE Trade is a web based service which allows users, householders and businesses, to advertise unwanted items for free and pass these on to interested parties. FREE Trade encourages users to reuse items and extend the lifespan of items rather than disposing of them. The more items that can be reused through the service the higher the benefit for the environment from both a waste management and a climate change perspective.

In the first year of the service over 5,000 items were reused through the service or in other words an estimated 235 tonnes of waste material diverted away from landfill. The Local Authority recognising the value and importance of the service to householders continue to fund the on-going development and maintenance of FREE Trade. FREE Trade is a unique public service and more details of this service are provided in Section 4.

3.8.3 Online Forum

Feedback from the Waste Plan process indicated the need for more on-going consultation with householders on waste management issues in Dublin. In response an Online Forum was developed and launched in August 2006. This service provides users of the website with opportunity to voice their views on opinions on waste related matters. In addition discussion topics are posted on the website on a regular basis and members of the website are encouraged to submit their opinions. All comments are submitted in confidence and are not viewable by other users of the website and are responded to by the DublinWaste.ie management team.



Since August 2006, DublinWaste.ie has hosted 11 discussion topics for members to comment on and details of these topics are outlined in Table 3.6. The level of responses has been mixed and the nature of the discussion topic and time of year influence the number of responses received. Previously new discussion topics were posted on a monthly basis but this cycle has been changed to a quarterly frequency.

Table 3.5: DublinWaste.ie Online Forum Discussion Topics

	Month	Discussion Topic	Responses
	2006		
1	August	The WEEE Scheme	5
2	September	The Brown Bin Collection Service	15
3	October	Household Hazardous Wastes	11
4	November	Waste Awareness	3
5	December	Waste at Christmas	6
	2007		
6	January	Local Authority Developments for 2007	19
7	February	DublinWaste.ie Feedback	9
8	March	Plastic Bag Tax	5
9	April/May	Dublin Waste to Energy Plant	16
10	June	The Green Bin Collection Service	11
11	July/August/September	Household Hazardous Waste Collections	15*

* The total number of responses up to the middle of September.

3.8.4 Online Survey

The website also hosts an Online Poll and gives members of the website the opportunity to vote on a waste related roll. Each member of the website is entitled to one vote only which ensures that the results of the poll are independent and publishable. The surveys are updated on a monthly or quarterly basis and results are published on the site and the end of the durations of a poll.

The Poll up until the end of January 2007 was previously available to all users of the website but due to misuse was removed from the website and modified. With improvements to security completed the revised poll was re-launched in April 2007 and three independent polls have been completed to date. The poll results are reported to the Regional Waste Steering Committee and details of previous polls are available upon request. Future Polls will be run over a 3 month period in tandem with the Online Forum discussion topic.

3.8.5 Promoting the Website

The local authority funding of advertising and promotional events has made people in Dublin aware of the website and its services and contributed to the growth in popularity of the website. Media campaigns have been run at different times since the launch of the website using different mediums to maximise the exposure of the site. Table 3.6 summarises the advertising campaigns run since 2004.

Table 3.6: DublinWaste.ie Advertising

Year	Advertising Campaign	Total Duration
2004	Radio Campaign	3 weeks (May)
	Radio and Poster Campaign	2 weeks (October)
2006	Radio (2FM, 98FM, FM104, Newstalk 106)	3 weeks
	Print (Herald AM, Metro)	4 weeks
	Online (Daft.ie, myhome.ie)	4 weeks
	Outdoor (Dart Cards)	2 weeks
2007	Radio – 2 Campaigns (2FM, 98FM, FM104, Spin103.8, Newstalk 106)	8 weeks
	Print - 2 Campaigns (Herald AM, Metro)	20 weeks
	Online – 2 Campaigns (Daft.ie, myhome.ie, newaddress.ie, gazeta.ie, Irelandbbs.com, oxegen.ie, campus.ie)	12 weeks
	Outdoor – 2 Campaigns (Dart Cards, Cyber Cafes)	10 weeks

In 2007 high impact advertisements were prepared for radio, print, online and outdoor medium. The focus of the advertisement campaign was the FREE Trade service emphasising the high quality items available on the service, see figure below for details. The campaign targeted specific audiences through selected online medium. Advertisements were posted on Daft.ie and myhome.ie targeting the first time buyer, tenant and student markets. In addition the growing foreign national populations were targeted with the service advertised on Polish and Chinese websites.

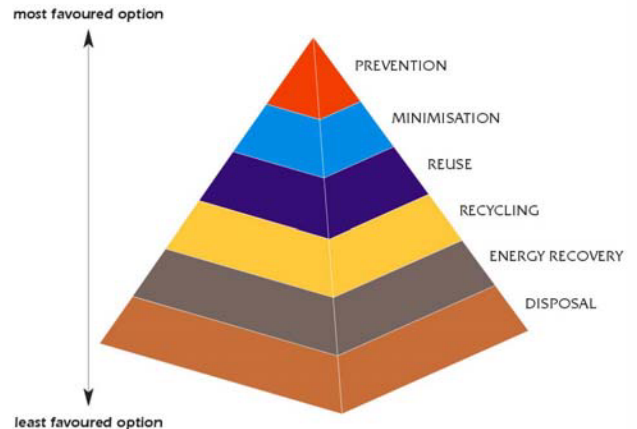


Figure 3.1 FREE Trade Advertising Campaign 2007

4 WASTE REUSE

The reuse of waste sits below waste prevention at the top of the waste hierarchy and is a higher order solution for managing waste materials and in the context of climate change. The promotion of reuse as a sustainable waste solution has been a long term waste policy objective since the preparation of the Dublin Waste Strategy in 1997.

The current Waste Plan is no different and the Local Authorities set an objective to develop an online reuse service for householders. This service known as FREE Trade was launched in 2006 and provides householders with a practical and simple application for reuse.



Prior to the development of the online reuse service, FREE Trade, the local authorities encouraged householders to reuse household items by using second hand stores and charity shops. This practice continues in the Region, although outlets can often be limited by space constraints and the type of items accepted. By using technology and creating a virtual reuse centre, the local authorities have made the reuse of items convenient and accessible for all.

4.1 FREE TRADE

In August 2006 the FREE Trade service was officially launched and aims to encourage the reuse of items in the community rather than throwing things away. The Dublin Local Authorities fund and oversee the management of the website and all developments including the FREE Trade initiative.

The Free Trade initiative is hosted on the www.DublinWaste.ie website and provides an outlet for householders and individuals to reuse household items rather than throwing them away. The web based service allows users to post notices for unwanted household goods and advertise them to other site users. All items are posted for free, and there is no charge to use any part of the service.

Parties interested in any post on the website can contact the advertiser using the contact details provided. The DublinWaste.ie management monitor the FREE Trade posts on a daily basis to ensure that members are complying with the terms and conditions of the service.

Members of the public who wish to use the Free Trade service and pass on unwanted household or similar items are required to open a DublinWaste.ie user account. Through their account, users can upload details of items, post these on the site and manage the items. All content on items are uploaded by users including the option to add up to 5 photographs. Notices for both *Offered* and *Wanted* items can be posted on the site. The adjacent figure shows the display of an offered item uploaded to the site.

'60's Teak Radiogram



Status	Offered
Category	Electronics
Condition	Good
Item Details	1960's Teak Radiogram. Radio working perfectly. Record player needs a little attention.
Location	Sandymount

Alternatively users who wish to browse the website are free to access and view items without the need to open up an account. If while browsing a user finds an item/notice of interest posted on the site, the user is free to contact the free trade member, using the on-screen details, and make arrangements to view/collect the item. There are 21 categories on the website covering a wide range of items and includes baby goods, household appliances, furniture, homeware, musical instruments, sporting goods, motors parts and accessories etc.

Offered Items **Wanted Items**

[Information on Categories ?](#)

- ▶ [Baby Goods \(6\)](#)
- ▶ [Bikes & Accessories \(4\)](#)
- ▶ [Books, Comics and Magazines \(17\)](#)
- ▶ [CDs, DVDs, and Videos \(3\)](#)
- ▶ [Clothes and Fashion Accessories \(3\)](#)
- ▶ [Electronics \(23\)](#)
- ▶ [Furniture \(275\)](#)
- ▶ [Garden and Outdoor Items \(17\)](#)
- ▶ [Health & Beauty \(1\)](#)
- ▶ [Homeware and Crafts \(17\)](#)
- ▶ [Household Appliances \(32\)](#)
- ▶ [Lighting \(2\)](#)
- ▶ [Motors, Parts and Accessories \(12\)](#)
- ▶ [Musical Instruments \(0\)](#)
- ▶ [PC & Video Gaming \(12\)](#)
- ▶ [Pet Goods \(3\)](#)
- ▶ [Photography & Pictures \(1\)](#)
- ▶ [Pottery, Porcelain & Glass \(2\)](#)
- ▶ [Sporting Goods \(5\)](#)
- ▶ [Televisions \(2\)](#)
- ▶ [Toys & Games \(3\)](#)

4.1.1 How are Items Quantified?

A new quantification system was added to the FREE Trade service in April 2006 so as to help the DublinWaste.ie calculate the number of items being reused through the Free Trade service.

The system added is simple and requires very little input from users. When a user decides to close or delete one of their items (offered or wanted) posted on the site a pop up window will display with a number of options to be selected. The user must then select the most appropriate option to their item. As illustrated in the attached figure.

To help DublinWaste.ie quantify items reused through the Free Trade service please select the most relevant option from the list provided for your item:

- Offered Item was reused and passed to another Free Trade user.
- Offered Item was reused through another outlet.
- Offered Item was recycled at a recycling centre.
- Offered Item was disposed at a landfill.
- Offered Item is being closed and will be reactivated at a later date.

Submit Cancel

The quantification now provides the Dublin Local Authorities with accurate and reportable data in relation to the reuse of items.

4.2 FREE TRADE DATA

In the first year of the service over 5,000 items were reused through FREE Trade or an estimated 235 tonnes of waste has been material diverted away from landfill. Based on the data recorded to date, the most popular types of items reused fall into the furniture category accounting for an estimated 50% of the items reused.

This category includes all bulky household items such as beds, couches, tables and chairs, chests of drawers, wardrobes, cabinets, sideboards, bookcases and lockers. The next most popular categories are household appliances, garden and outdoor items, electronics, baby goods and homeware and crafts.

A summary of the quantity of items in each category being reused is included in Table 4.1.

Table 4.1: Breakdown of FREE Trade Items (Aug 2006-Aug 2007)

Category	% of Total Number of Items FREE Traded	Category	% of Total Number of Items FREE Traded
Baby Goods	5	Lighting	1
Bikes & Accessories	2	Motors, Parts, & Accessories	1
Books, Comic, and Magazines	1	Musical Instruments	1
CDs, DVDs, and Videos	1	PC & Video Gaming	2
Clothes & Fashion Accessories	1	Pet Goods	1
Electronics	6	Photography & Pictures	1
Furniture	50	Pottery, Porcelain & Glass	1
Garden & Outdoor Items	7	Sporting Goods	2
Health & Beauty	1	Televisions	3
Homeware & Crafts	5	Toys and Games	2
Household Appliances	8		

4.2.1 How FREE Trade Promotes Sustainable Waste Management.

There are considerable benefits to the FREE Trade Service from a community, waste, climate change and environmental perspective.

- Community:** The service encourages resource reuse and therefore has a very positive community dimension. Membership has grown steadily since the launch of the website and currently stands at over 11,500 individuals (Oct 2007). The service also provides an outlet for households without transport to pass on unwanted items and save on the costs of otherwise doing so. The items posted on the site are generally of a high quality and as a result the service provides an outlet for free and useful household items to all including low income households, students, first time home owners and foreign nationals. Using the site can result in considerable financial savings.
- Waste:** The initiative is a Local Authority waste management service and is funded jointly by the four Dublin Local Authorities. The delivery of the service has ensured the implementation of policy objectives as outlined in the Waste Management Plan for the Dublin Region 2005 – 2010. The Regional Waste Plan is firmly grounded in the EU Waste Management Hierarchy and the rollout of this service illustrates public commitment to higher order waste.

Extract from Section 18.3 Reuse and Repair of the Dublin Waste Management Plan

Objective: To provide an online 'virtual' reuse centre through the Dublin Regional Website www.DublinWaste.ie to enable the public to reuse household goods

- Climate Change:** The initiative has an indirect benefit in energy terms by extending the life-cycle of a material and helping to reduce the demand for new consumer products. By increasing the longevity of a product there are energy savings when compared to the high energy demand of virgin materials. In a broader sense this impacts positively on greenhouse gas emissions and climate change.
- Environmental:** The initiative delivers significant benefits to the environment by helping to extend the lifespan of household or similar items. Items posted on the site retain a value and use and are considered a resource rather than a waste if they were being discarded. This

has positive implications for the environment in terms of diverting materials from landfill. The service encourages and supports resource recovery a higher and more desirable approach to the sustainable management of wastes.

4.3 COMMUNITY BASED PROJECTS UPDATE

In addition to funding reuse through the FREE Trade service, the Dublin Local Authorities support community-based projects through funding and advice. Details of a selection of these are provided below.

Sunflower Recycling

Sunflower Recycling was established in 1995 to create employment in Dublin's inner city. When faced with closure of their initial site, Dublin City Council provided a location for the operation at Shamrock Terrace recycling centre. The project employs 30 long-term unemployed via Community Employment and four through the Full Time Jobs Initiative.

Sunflower collects recyclable material from inner city offices and community groups. These are brought back to Shamrock Terrace to be sorted, graded and baled. Sunflower is also involved in the reuse of furniture through the 'Busy Bees' programme, which has been set up in conjunction with Dublin City Council. The programme funds the collection of unsuitable household furniture from Dublin City Council's bulky waste collections and refurbishes pieces as required. The programme also funds the collection of unwanted furniture items from households. Refurbished furniture is sold through their outlet in Summerhill.

The Busy Bees programme began their furniture collection in conjunction with DCC's bulky waste collection service in April 2006. By December 31, 2006, they had collected 28.1 tonnes of furniture waste from the aforementioned collections, for refurbishing.

Project HEATSUN

Project HEATSUN was a pilot project funded by the European Commission under the LIFE Environment Programme (2000-2008) to investigate and propose models for better management, recovery and recycling of all sorts of computer equipment in the Dublin Region, as a contribution to the implementation of the WEEE Directive.

The Project HEATSUN Partnership was made up of three local authorities (Dublin City, Fingal and Dun Laoghaire Rathdown), two private sector companies (Multimedia Computer Systems Ltd and Fingal Recycling) and two social economy enterprises (SWITch and Sunflower Recycling).

Project HEATSUN officially ended on December 31, 2006, when the LIFE Environment Programme ended. The SWITch enterprise has also ceased operating since the implementation of the WEEE Regulations.

However, most of the initiatives begun under Project HEATSUN have continued to operate, specifically the collection of I.T and the development of the Green Computer. The latter has been the subject of a further application for funding in September 2007 for further funding from the Intelligent Energy for Europe Programme for development of a 'green' laptop and LCD screen.

DUMP

The Disposal of Unused Medications Properly (DUMP) project commenced in 2003 as a Health Service Executive initiative.

This initiative allows the public to return unwanted or out of date medicine to a selection of pharmacies in their region. The benefits go beyond controlling hazardous waste and environmental protection. The DUMP programme also has benefits for reducing access to medicines for the means of overdose and reducing the potential for accidental overdose in children.

The DUMP initiative has been developed in the Dublin region within the functional areas of Dublin City Council, Dun Laoghaire – Rathdown Co Council and South Dublin Co Council. Pharmacies in this region accept out-of-date and unused medicines for disposal. One of the main problems faced by the project at its inception was the quantity of C1 forms it would potentially have to obtain. After discussions with the EPA and the local authorities, it was decided that the HSE would fill out only one C1 form on collection days detailing all the collection locations and quantities collected. This was pivotal in the success of the project.

At present, there are in excess of 200 pharmacies in the Dublin Region that take back unwanted medicines. In 2006, the project collected in excess of 20 tonnes of waste medicine.

Clondalkin Community Recycling Initiative (CCRI)

The Clondalkin Partnership Development Group was formed in February 1994, and evolved into the Clondalkin Partnership in May 1995. The Board of the Partnership identified seven focuses for its local development strategy, one of which was the environment. The local development plan of the Partnership details a range of strategies within each of these action areas. The Clondalkin Community Recycling Initiative (CCRI) was established in 2002 as an initiative of the Environment Working Group of the Partnership.

South Dublin County Council support this initiative by providing rent and rates subsidies.

Since the WEEE Regulations came into force in 2005, the long-term future of the CCRI was uncertain. However this has not been the case and it continues to run successfully. The reason for its continued success is that the facility itself is compliant with the regulatory requirements and provides a free collection service for householders.

The free household collection service was introduced in March 2007 and is provided to approximately 14,000 households in the South Dublin County Council area. As the level of service increases in the future, It is intended to extend this service to other Dublin Local Authority Areas. In addition to this, the CCRI also expanded its services to cater for retailers and businesses. The full range of services provided is outlined below.

- Free door to door household collection service for WEEE products
- Free drop off for residents
- Business-to-Business collection
- WEEE Management support to the Industry (WEEE Ireland)
- WEEE Management Support to the Local Authority
- Resource to the Waste Management Industry

Tallaght Partnership

The Tallaght Partnership with support from South Dublin County Council and funding from the Department of the Environment and Local Government is a new initiative created in early 2007. This partnership aims to initiate a 'sustainable good-food campaign'. It is currently only in the initial research stages, so it is not clear as yet what form this initiative will take.

Ballymun Regeneration Ltd

Ballymun Regeneration Ltd (BRL) is the Dublin City Council company, set up in 1997, to plan and implement a regeneration programme, which will result in a new town with new and improved facilities for the 30,000 people who will live there. BRL is working with the community to implement the physical, economic and social regeneration of Ballymun.



It is proposed to build a Re-Discovery Centre in Ballymun, which incorporates steps set the Waste Management Hierarchy. There will be a Re-Use workshop for materials such as furniture, and paints, as well as an Education Centre for schools and the public, and full-scale Recycling Centre. It is expected to apply for planning permission for this facility in 2008.

A community Furniture Recycling Project is now operating as part of the Ballymun Regeneration Programme. The initiative was set-up to encourage the repair and reuse of broken or damaged household furniture items in the community.



Ballymun Furniture Reuse Workshop

A workshop has been established and householders with damaged/broken furniture can pass on items for repair instead of discarding or throwing the items away. Repaired items are sold at the local farmers market which operates in Ballymun once a month. The income from sales of repaired items contributes to supporting the project and staff.

Residents with suitable items for repair can contact the workshop and make arrangements for items to be collected. The service primarily serves the Ballymun and Environs although all items and locations will be considered.

5 HOUSEHOLD WASTE COLLECTION AND RECYCLING

5.1 ARISINGS

The quantity of household waste generated in the Region in 2006 is estimated to be 471,352 tonnes and is 3% higher than in 2003. Table 5.1 provides a breakdown of the quantity of household waste generated in each local authority for 2006 and compares these figures to those recorded in 2003. Home composting data has not been included in the overall arisings figure as this data is often inconsistent and does not enter the waste collection system.

Table 5.1: Growth in Household Waste Arisings 2003 - 2006

Local Authority	Household Waste 2003 (Tonnes)	Household Waste 2006 (Tonnes)*
DCC	201,133	199,992
DLRCC	81,587	73,232
FCC	78,181	95,531
SDCC	98,678	102,597
TOTAL	459,579	471,352
Waste per Household	1.21	1.12
HH Waste per Capita	0.41	0.40

Source: Local Authority (EPA) National Waste Database Returns 2006

The increase in the regional arisings is most likely due to the significant growth in the number of households in the region in the intervening period. The number of households in the region as recorded by the CSO during the 2006 National Census is 420,429, a rise of 11% since 2002.

However from the data recorded by the Local Authorities the amount of waste generated per household has decreased from 1.21 tonnes per annum to 1.12 tonnes per household. This reduction is due to different influencing factors including the impact of waste charges and a reduction in the number of persons per household. It is also recognised that quantities of household waste collected from apartment complexes is often mixed with similar commercial type waste. This waste is subsequently not classified or recorded as household waste and affects the overall quantity for household waste arisings in the Region.

5.2 LOCAL AUTHORITY COLLECTION SYSTEMS

Household waste generated in the Dublin Region is collected, treated and disposed of through an increasingly integrated system. The collection system for household waste includes door-to-door collection services, bring banks, recycling centres and also other services, i.e. bulky and hazardous waste collections.

The Dublin Local Authority door-to-door collection service currently provides a black bin and a green bin service to all customers. The black bin is used for disposing of household residual waste i.e. the leftover waste that cannot be put in your green bin, home compost bin, or those materials that cannot be recycled at your local bring bank or recycling centre. The green bin is used to collect dry recyclables including paper, cardboard, food tins, aluminium cans, Tetrapak and plastic bottles. Based on best available data it is estimated that approximately 95% of single dwelling households in

the Region¹ are availing of the local authority collection service. Private sector collectors are serving the remaining households.

Bring banks are smaller collection points where householders can typically recycle glass, cans and textiles. Recycling centres are larger facilities that accept an extensive list of non-hazardous and hazardous wastes free of charge.

Hazardous wastes are collected by local authorities at recycling centres and mobile collection events for household hazardous wastes are also arranged by local authorities.

Table 5.2 summarises the local authority household waste collection systems in the Dublin Region and the quantities collected.

Table 5.2: Recycling Rate for Household Waste 2006

Waste Source	DCC	DLRCC	FCC	SDCC	Regional 2006	Regional 2003
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes
Bring Banks	19,231	5,747	4,085	4,752	33,815	14,629
Recycling Centres, Bulky & Greenwaste Collections	5,656	12,463	5,216	12,002	35,337	25,235
Kerbside – Green bin	22,491	13,211	12,633	13,859	62,194	35,860
Kerbside – Brown bin	411	285**	1,971	-	2,667	-
Mobile Hazardous Waste Collection	_*	7	7	9	23	39
Total Recycled	47,789	31,713	23,912	30,622	134,036	74,714
Kerbside – Black Bin (Includes private collectors)	148,317	35,466	65,302	61,301	310,386	369,786
Delivered for disposal	3,886	5,807	6,317	10,674	26,684	14,030
Total Disposed	152,203	41,273	71,619	71,975	337,070	383,816
Uncollected waste	-	246	-	-	246	0
Total Arisings	199,992	73,232	95,531	102,597	471,352	459,579
Recycling Rate %	24%	43%	25%	30%	28%	16%

Source: Local Authority (EPA) National Waste Database Returns 2006

* DCC collect hazardous wastes at bring bank facilities, recycling centres and at public buildings (libraries) etc.

**Green waste material collected by or on behalf of Dun Laoghaire Rathdown County Council at Local Authority Housing developments

The household recycling rate for the region in 2006 is 28%, representing an increase of 12% since 2003. The household recycling target for the Dublin Region is 60% by 2013 and although steady progress is being made towards that goal achieving this long-term target remains a serious challenge. The roll out of the improved green bin collection service, the acceptance of plastic bottles in the green

¹ Based on the data recorded during the Census 2006 the number of private households in Dublin was quantified as 420,429 of which 322,398 are single dwelling households.

bin and the widespread rollout of the brown bin will bring the region closer to this target in the coming years.

The quantities of recyclable wastes through the kerbside collection system, recycling centres and bring banks have increased significantly in the Region. The closure of the green waste composting facility at St. Anne's Park in Raheny has had a negative impact on the recycling rate for the region with over 16,000 tonnes of material recycled there in 2003.

DLRCC has seen significant increases on the quantities recycled through kerbside collections and recycling centres. Tonnages have increased from 11,336 in 2003 to 31,713 in 2006.

Fingal and South Dublin have seen significant improvements in recycling with recycled quantities almost doubling between 2003 and 2006 in both cases.

5.3 KERBSIDE COLLECTIONS

The local authorities are the primary collectors of household waste in the Dublin Region providing kerbside collection services for black, green and brown bins. Private sector collectors also collect household waste in the Region primarily from apartment complexes although since the end of 2006 collection services are being offered to single dwelling households in the Dun Laoghaire area.

5.3.1 Black Bin Residual Waste Collection

All households being served by the local authorities have a black bin collection service. In 2003, the total residual waste collected was 369,786 tonnes. In 2006, the figure was 310,386 tonnes, which represents an 16% reduction. The main reason for this is the increased level of source separation via the door-to-door collection, and particularly the green bin, but also the increased use of bring banks and recycling centres.

5.3.2 Green Bin Kerbside Recycling Collection

In 2006, the local authority Green Bin collection service for households collected 61,389 tonnes of mixed dry recyclables in the Region with a further 805 tonnes of similar material collected by private waste collectors in the Region. Table 5.3 shows the quantities of green bin recyclables collected per local authority area and shows a 74% increase in the regional quantities of recyclables collected since 2003.

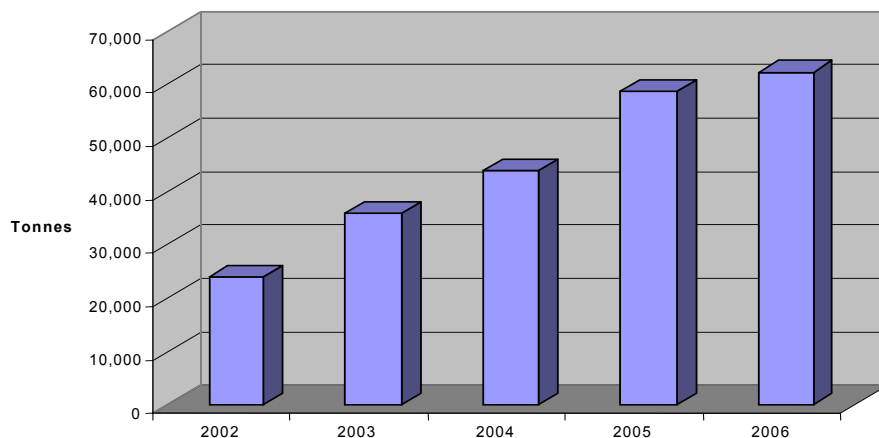
Table 5.3: Green Bin Recyclables Collected 2006

Local Authority	Green Bin Recycling Collection 2003 (tonnes)	Green Bin Recycling Collection 2006 - (tonnes)
DCC	14,252	22,491
DLRCC	7,967	13,211
FCC	6,398	12,633
SDCC	7,243	13,859
Total	35,860	62,194

Figure 5.1 shows the continued increase in green bin recyclables collected annually from 2002 to 2006. From May 2007, the Dublin Local Authorities began the implementation of the improved green bin collection service. The improved service includes the acceptance of plastic bottles in the green bin and an increase in the collection frequency from monthly to fortnightly. This enhanced recycling

service is being rolled out on a phased basis across the Region with delivery of the improved service to all customers expected by mid 2008.

Figure 5.1: Recyclables Collected by the Green Bin service 2003-2006



5.3.3 Brown Bin Kerbside Collection Service

It is a long-term objective of the Dublin Local Authorities to roll out a separate brown bin collection for the collection of organic waste from households. Dublin City Council and Fingal County Council have initiated pilot 'brown bin' collection services within their functional areas. This service has been rolled out to a total of 21,900 households within the region. Approximately 2,667 tonnes of organic waste was collected in 2006, this equates to approximately 108kg per household per annum.

Table 5.4: Local Authority Brown Bin Collection Service in the Region

Area	Commenced	No. of households	Tonnes
DCC	2006 (September)	8,000	411
FCC	2005	14,400	1,971
Total	N/A	22,400	2,382

Dublin City Council introduced a brown bin for organic waste in Sept. 2006, on a pilot basis, with 8000 140L bins delivered to householders. The brown bin accepts kitchen food, both cooked and uncooked and garden material. The weekly black bin collection was replaced with a black bin fortnightly collection with the brown bin collected on alternate weeks. It is expected to extend this service in the region in 2008.

Fingal County Council rolled out a pilot brown bin service collection in late 2005 and 2006. This free service was initially rolled out on two collection routes in 2005 and is currently serving 11 routes. The brown bin waste material collected is sent to Midlands Waste Disposal, Navan for composting. The participation rate is seasonal, with the greatest uptake in summer months (>50%), due to increased amounts of green garden waste.

Dun Laoghaire Rathdown County Council and South Dublin County Council expect to commence roll out of the brown bin collection service in late 2008 or early 2009.

5.4 UNCOLLECTED WASTE

In 2006 three of the four Dublin Local Authorities reported that all householders in their functional areas were availing of a waste collection service and the amount of uncollected waste was zero. It is estimated by Dun Laoghaire Rathdown County Council that 246 tonnes of waste was uncollected in the area.

5.4.1 Home Composting

The figures for home composting are very approximate and are based on an assumed diversion rate of 200kg of organic material per annum. Table 5.5 shows the estimated total quantity of organic waste being composted annually by householders in the Region.

Table 5.5: Home Composting Tonnages for the Dublin Region

Area	No. Bins sold 2006	Estimated Tonnage	Total No. Bins sold (including 2006)	Total Estimated Tonnage
DCC	1,400	280	21,741	4248.2
DLRCC	451	90.2	4,740	948
FCC	1,030	206	4,376	875.2
SDCC	800	160	4,766	953.2
Total	3,681	736.20	35,623	7,024.60

5.5 RECYCLING CENTRES

A total of 9 recycling centres were in existence in 2006. This represents an increase of 2 centres since 2003. Table 5.6 below provides details on the existing local authority recycling centres (2006) and the quantity of waste collected and recycled. A total of 35,337 tonnes of materials was collected and recycled at these facilities in 2006.

Table 5.6: Recycling Centres in the Dublin Region

Local Authority	Name/Location	Waste Collected 2006 (Tonnes)
DCC	Shamrock Terrace, North Strand Road	9,542 (5,656 recycled)
	Pigeon House Road, Ringsend	
DLRCC	Eden Park	18,270 (12,463 recycled)
	Ballyogan	
FCC	Balleally Landfill	11,533 (5,216 recycled, includes green waste)
	Estuary Recycling Centre, Swords	
	Coolmine	
	Balbriggan	
SDCC	Ballymount & Esker Greenwaste Depot	22,676 (12,002 recycled, includes green waste)

Table 5.7 shows that 2 recycling centres have been constructed in the Region since 2003. A further 3 facilities are required in order to meet the regional target of 12 outlined in the Waste Plan. The development of the existing and new recycling centre infrastructure in the region has increased the quantity of recyclables collected by 35% since 2003.

Table 5.7: Number of Recycling facilities existing and proposed

Local Authority	DCC	DLRCC	FCC	SDCC	Region
Recycling Centres 2003	2	1	3	1	7
Recycling Centres 2006	2	2	4	1*	9
Total Regional target 2010	12				

* SDCC operates a greenwaste facility at Esker, County Lucan which accepts garden waste, prunings and trimmings. This facility is not included in the above table as it does not accept the same extent of materials as the other regional recycling centres. .

5.5.1 Community Bring Centres

The 129 bring banks in DCC (Table 5.8) includes 10 community bring centres. Community bring centres are similar to recycling centres serving a smaller community but closer to bring banks in operation. They accept fewer waste streams than large scale recycling centres but all materials are accepted free of charge. Opening hours would be less than recycling centres. The community bring centre on Londonbridge Road has been closed since the Waste Plan was adopted. The remaining Community bring centres are:

- Collins Avenue, opposite DCU extension, Dublin 9.
- Oscar Traynor Rd, Coolock, Dublin 5
- Grangegorman Upper, Dublin 7
- Kylemore Park North, Ballyfermot, Dublin 10
- Gulistan terrace, Rathmines, Dublin 6
- Herzog Park, Orwell Rd, Rathgar, Dublin 6
- Sweeney's Terrace, off Cork Street, Dublin 8
- 49/51 Windmill Rd., Crumlin, Dublin 12
- Eamon Ceannt Park, Crumlin, Dublin 12
- Colaiste Eoin, Cardiffsbridge Road, Finglas, Dublin 11

5.6 BRING BANK

In 2003 there were 263 bring bank facilities in the region and by the end of 2006 this had increased to 321 representing a 25% increase in three years. Table 5.8 shows the number of bring banks and tonnes collected in each local authority area for 2003 and 2006.

Table 5.8: Number of Bring Banks and tonnes collected for years ending 2003 and 2006

Local Authority	Bring Banks 2003	Tonnes collected 2003	Bring Banks 2006	Tonnes collected 2006
SDCC	50	2,003	44	4,752
FCC	76	3,346	79	4,085

DCC	73	4,856	129	19,231
DLRCC	64	4,424	69	5,747
TOTAL	263	14,629	321	33,815

Bring bank facilities in the Region collect glass, textiles, plastics, cans and batteries. Dublin City Council, South Dublin County Council and Dun Laoghaire Rathdown County Council have all introduced receptacles for plastics, which has proven to be a success by diverting approximately 987 tonnes of plastics from landfill. All local authorities have introduced receptacles for small batteries, generally at accessible locations in their areas and 73 tonnes were collected in the Region in 2006.

Table 5.9: Quantity of materials accepted at Bring Banks, 2006

Material	SDCC (tonnes)	FCC (tonnes)	DLRCC (tonnes)
Glass	4,197	3,762	4,689
Aluminium cans	53	39	70
Plastics	314	0	319
Textiles	187	283	310
Small batteries	1	1	2
Paper & Card	0	0	349
Steel cans	0	0	4
Composite packaging	0	0	4
Total (tonnes)	4,752	4,085	5,747

* Quantities for individual waste streams collected at DCC Bring Sites were not available.

In 2003 there were 263 bring banks in existence throughout the region and the Waste Management Plan recommended that an additional 111 be provided by 2010. The number of bring banks has increased by 58 to 321 in 2006. A further 53 bring banks are required to meet the 2010 target.

Table 5.10: Bring Banks in the Dublin Region

Local Authority	DCC	DLRCC	FCC	SDCC	Region
Bring Banks 2003	73	64	76	50	263
Bring Banks 2006	129	69	79	44	321
Total target	122	77	96	79	374
New Bring Banks target	Target Exceeded	8	17	35	60
Existing Ratio (population per site)	1:3,924	1:2,812	1:3,038	1:5,612	1:3,698
Target Ratio (population per site)	1:3,500	1:2,500	1:2,500	1:2,500	

A large fraction of household waste is recycled by means of bring banks, approximately 5.4% in 2006. They are an essential part of the integrated recycling infrastructure for the region and are critical to meet the 2013 recycling targets.

Case Study: Bring Banks Strategy for South Dublin

It can be seen from Table 5.10 that the number of bring banks in South Dublin decreased from 50 to 44 in 2006. South Dublin County Council were forced to close a number of these locations due to the difficulties outlined above. However, in 2006 South Dublin County Council developed a recycling strategy 'A Strategy For The Provision Of Local Community Based Recycling Facilities In South Dublin County, 2006'.

This strategy identifies areas with no recycling service, identifies challenges associated with bring banks, outlines desired aims and objectives, outlines required actions and associated timeframes to reach these objectives, provides siting criteria for new bring bank/ recycling facilities and provides an Inspection and maintenance programme for new and existing bring bank sites. This strategy outlines that it is imperative to implement the siting criteria and inspection and maintenance programme, in order to successfully site a bring bank facility.

The siting criteria takes access, proximity to housing, supervision, parking, presentation of area and population density into consideration, while the inspection and maintenance programme outlines a minimum standard of maintenance required for all bring banks in South Dublin. It is recommended that CCTV, daily inspections by litter wardens, litter monitoring surveys, cleansing crews, actions for dealing with complaints, appropriate signage and appropriate communications be carried out as a minimum.

In South Dublin the number of bring banks increased by 12 from 44 to 56 in the six-month period from the end of 2006 to mid-2007.

A large effort will be required by local authorities in siting the remaining 60 bring banks, as there are a number of difficulties associated with bring bank siting, in particular the following:

- Vandalism
- Noise
- Illegal Dumping/ fly tipping

Local authorities must also ensure that the existing banks are well maintained and serviced regularly, to minimise negative perception by the public.

5.7 HAZARDOUS COLLECTIONS

The Dublin Local Authorities provide for the collection of household hazardous wastes at recycling centres, bring banks or through mobile hazardous waste collection services. The increase in the number of recycling centres in the Region has resulted in a significant rise in the quantity of household hazardous waste collected at these facilities as shown in Table 5.11.

Table 5.11: Household Hazardous Waste Collected at Recycling Centres 2006

Waste Type	DCC Tonnes	DLRCC Tonnes	FCC Tonnes	SDCC Tonnes	Regional Tonnes Collected 2006	Regional Tonnes Collected 2003
Batteries	25.8	42.76	49.97	66.16	184.69	125
Oils	6.68	1.02	19.24	35.81	62.75	194
Fluorescent tubes	-	1.12	1.5	-	2.62	3
Other Hazardous waste*	304	132.95	42.56	43.66	523.17	273

Subtotal (tonnes)	336.48	177.85	113.27	145.63	773.23	595
Kg per Capita	0.66	0.92	0.47	0.59	0.65	0.5

* This includes paints, varnishes, oil-related waste, aerosols, gas cylinders etc

Local authorities also provide mobile hazardous waste collection services to communities for free recycling of household hazardous waste. These collection events were available at a number of publicised sites throughout the Region and are manned by a trained and experienced chemical operator. Hazardous materials are accepted packed and segregated for transfer to facilities where they are recovered or recycled. Table 5.12 details the number of mobile hazardous collections provided by the local authorities in 2006 and the quantities of materials collected.

Table 5.12: Number of Mobile Hazardous Collections and Tonnes Collected 2006

Council	Number of Collections 2003	Weight (Kg) 2003	Number of Collections 2006	Weight (Kg) 2006
DCC	22	24,870	-*	-*
SDCC	5	7,601	6	8,665
DLRCC	2	6,368	4	7,190
FCC	N/A	N/A	8	7,320
TOTAL	29	38,839	16	23,175

* DCC collect household hazardous wastes at 4 bring bank facilities, 2 recycling centres and at public buildings (libraries) etc in the region.

Dublin City Council has ceased organising the mobile hazardous collection service since the end of 2005.

DLRCC organised four mobile hazardous collections in 2006. The turnout was very poor despite the advertisement of the collection dates. Only 7.2 tonnes of hazardous waste were collected. This low turnout may result in the service being discontinued.

There were 6 mobile hazardous collections in South Dublin County Councils functional area in September and October 2006. The collection points were located at various shopping centre car parks throughout the County and approximately 8.7 tonnes of hazardous waste was collected.

In Fingal the last mobile hazardous collections took place in April/May 2006 at 8 locations and approximately 7.3 tonnes of hazardous waste was collected.

5.8 BULKY WASTE COLLECTIONS

Households generate a significant amount of household waste that is bulky in nature and cannot be accommodated in the weekly bin collection service. All Local authorities accept this waste stream at recycling centres but the additional following bulky collection services are also provided by Local authorities:

Dublin City Council carries out a regular free bulky waste collection service to every area within the functional area. Each area is served every 3 years and households receive notice of the collection service a number of days before the collection service is due to take place. From January 2007 Dublin City Council also has introduced a bulky waste pay-by-use collection service within the North Central and South East areas of their functional area. The householder must order a skip bag (capacity of approximately 1.4 m³) costing €75 and, when full, contact DCC to arrange for its

collection. The bag may be filled with materials such as furniture, carpets, mattresses, doors, kitchen units etc and is taken away with the waste.

There is no bulky waste collection service in Dun Laoghaire Rathdown County Council. Bulky waste is accepted at Ballyogan Recycling Centre for a fee.

Fingal County Council provides a prepaid weekly and fortnightly bulky household waste collection service since 2004. Persons with bulky household waste to dispose of should contact Fingal County Council in advance to arrange booking dates. A charge will be payable per item and a maximum of 5 items will be collected on each collection day. Payment is made on collection day with €8 bin tags.

Only prepaid, prearranged items will be collected. FCC hope that providing this system on a request basis will prevent the collection of this type of waste by unscrupulous and unlicensed operators who illegally dump this waste damaging your community and your environment.

In 2006, this service was also extended to accommodate schools in the Fingal area. This is available on request only and as with the domestic service, it must be arranged in advance. There were a total of 99 scheduled dates for the service in 2006, resulting in 2467 collections. This is a very popular and highly successful service.

South Dublin County Council provide a free rotated junk collection service to communities every 5 years. Households are notified of the service in advance. A designated area is provided for households to leave bulky waste, for a specific length of time for collection. The length of time this areas remains a designated junk collection area is dependant on the quantity of material present. Challenges associated with this service include illegal dumping and scavenging of material. Litter wardens are now responsible for inspecting these areas and issuing warning and fines as appropriate.

6 COMMERCIAL AND INDUSTRIAL WASTE COLLECTION AND RECYCLING

6.1 ARISING

The quantity of Commercial and Industrial (C&I) waste generated in the Dublin region has increased by 22% since 2003 to 819,861 tonnes in 2006. Improvements in regulation and enforcement from the local authorities ensure that Annual Environmental Reports are timely, accurately and contain sufficient detail. With the improved reporting, quantities of commercial waste are being identified. The consequence is that more of the waste arising is being correctly identified as C&I waste.

At the end of 2006, there were over 890 Waste Collection Permits in the Dublin Region with some of the larger waste collectors holding two or more Waste Collection Permits. The largest fraction of the permits issued to date have been for the collection of Construction and Demolition (C&D) waste, typically soil and stones, although there are significant numbers of collectors in the Region collecting an extensive range of C&D, C&I, priority waste streams and household waste. A comprehensive review of Waste Collection Permits is ongoing in the Region and further details are provided in Section 13.

In 2007, Dublin City Council commissioned Patel Tonra to produce a report – ‘Waste Collection Permit: 2006 Data Compilation and Report’. Annual Environmental Reports were required from all Waste Collection Permit holders in the Region. Data from DCC, FCC and SDCC was processed (data for DLRCC area was not requested). In completing their Annual Environmental Report (AER), each permitted collector was requested to enter the source of the waste, i.e. whether it was non-household waste, industrial process waste, construction and demolition waste or waste collected from a waste facility. Data was collected for over 660 permits and this was compiled and categorised into waste streams.

The quantities of C&I waste reported as collected in the DCC, FCC and SDCC areas in 2006 is shown in Table 6.1. Data obtained directly from DLRCC for the private collectors in their functional area is also presented in Table 6.1.

Table 6.1: Commercial and Industrial Waste Collected in the Dublin Region 2006

Waste Categories	DCC (tonnes)	DLRCC (tonnes)	FCC (tonnes)	SDCC (tonnes)	Total (tonnes)
Paper/Card	108,572	17,358	41,055	158,894	325,879
Mixed Municipal Waste	91,136	36,985	62,046	53,853	244,020
Wood	18,584	3,569	9,360	9,421	40,934
Glass	21,005	6,769	5,306	9,036	42,116
WEEE	2,414	539	959	7,453	11,365
Mixed Dry Recyclables	6,370	548	1,370	5,814	14,102
Metal	88,301	532	3,247	5,057	97,137
Food/Garden Waste	10,565	6,833	1,748	4,766	23,912
Plastic	3,816	1,396	3,247	2,733	11,192
Edible Oil	2,264	124	417	514	3,319
Textiles	213	237	3,190	320	3,960
Composite Packaging	50	8	10	21	89
Small Batteries	3	4	0	1	8
Aluminium Cans	1,770	58	0.02	0.075	1,828
TOTAL	355,063	74,960	131,955	257,883	819,861

The figures presented in Table 6.1 represent the best estimate of Commercial and Industrial waste for the Region. The data has been discussed with the EPA to minimise the inclusion of household or C&D waste in this stream.

6.2 RECOVERY RATE

The commercial/industrial recovery rate in 2003 was calculated to be 34% and this figure has continued to grow and by the end of 2006 was estimated to be 48%. The recovery figure presented in Table 6.2 for commercial/industrial waste tonnages is calculated by subtracting the estimated amount of commercial/industry waste generated by the region and disposed of at facilities in and out of the region (Table 10.1), from the total amount of commercial/industrial waste generated (Table 6.1).

DCC and FCC passed Commercial Waste Bye Laws in 2007 to ensure that all major collectors offer a segregated collection service to all their Commercial/Industrial users and this will continue to be enforced during 2008.

Table 6.2: Dublin region Commercial and Industrial Waste Arisings and Recovery Rate

Waste Description	Total Tonnes 2003	Total Tonnes 2006
C&I Waste Arising	669,592	819,861
C&I Waste Landfilled	342,829	420,428
C&I Waste Recovered	227,894	399,433
C&I Recovery Rate	34%	48%

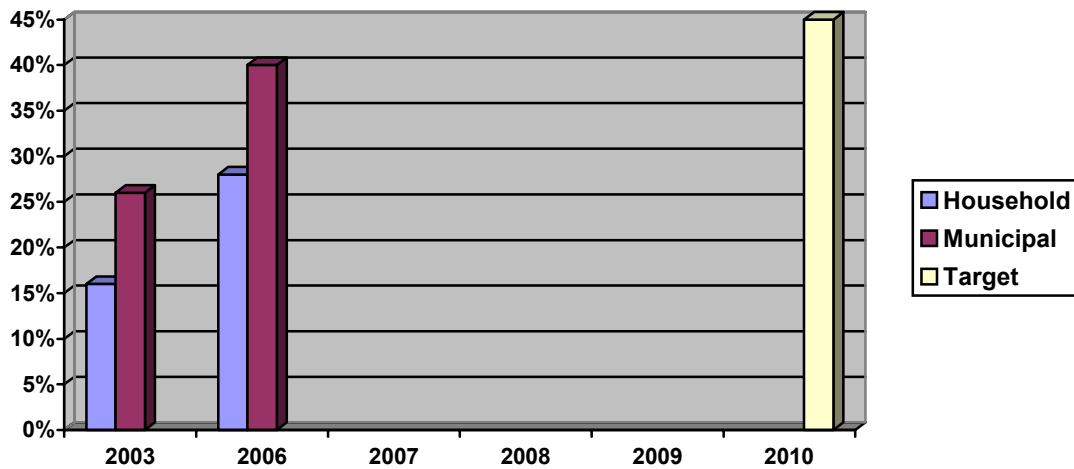
6.3 MUNICIPAL WASTE RECYCLING

Municipal waste managed in the region has increased from 1,129,171 tonnes in 2003 to 1,327,829 tonnes in 2006. Table 6.3 details the breakdown of municipal waste generated in the region into its constituent waste streams of household, commercial/industrial and litter and street sweepings.

The current municipal waste recycling rate is 40% when household and commercial recycling rates are combined. In 2003 the municipal waste recycling rate was estimated to be 26% and this has increased to 40 % in 2006. Comparison with 2003 recycling data is shown in Figure 6.1 below.

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

Waste Stream	Total tonnes 2003	Total tonnes 2006
Household Waste Generated	459,579	471,352
Commercial/Industrial Waste Generated	669,592	819,861
Litter and Street Sweepings	30,235	36,616
Municipal Waste Generated	1,129,171	1,327,829
Household Waste Recovered	74,714	134,036
Commercial/Industrial Waste Recovered	227,894	402,311
Municipal Waste Recovered	302,608	536,347
Municipal Waste Recovery Rate	26%	40%

Figure 6.1: Municipal Recycling Rate 2003 and 2006

6.4 LOCAL AUTHORITY COMMERCIAL COLLECTIONS

Commercial and Industrial waste is predominantly collected by private waste collectors in the Region. DCC and FCC also provide collection services for commercial waste and serve approximately 1,900 customers. Customers are typically provided with black and green bin collection services.

Recently, DCC have commenced a pilot collection of organic waste materials from a selection of city centre customers in the hotel/hospitality sector. The details are given below.

Case Study:

The Waste Plan specified an objective that a source separated organic collection be introduced for commercial customers. On October 8, 2007, Dublin City Council commenced a pilot scheme for the collection of organic waste from commercial sources. The customers will be located in Dublin 1 and Dublin 2 and from the sectors with the greatest generation of organic waste, namely hotels, restaurants etc.

The service will be on Mondays, Wednesdays and Fridays and customers will be supplied with either 240-litre bins or 140-litre bins depending on their requirements and storage space available. The service will be free of charge until December 31, 2007 after which customers will be charged €6 per lift for the 240-litre bin and €3.60 per lift for the 140-litre bin.

Dublin City Council will have a dedicated customer service team for the scheme to ensure the businesses are familiar with the collection frequencies and the materials accepted in the brown bin. The scheme is flexible and will allow for new customers to join the scheme on an ongoing basis.

7 PACKAGING WASTE

7.1 PACKAGING WASTE ARISING

Packaging waste arisings are calculated from the quantity of packaging waste landfilled within the region plus the quantity of packaging waste recovered. Data for the quantity of household and commercial/industrial packaging waste recovered was provided by REPAK. A comparison of the packaging waste arisings for 2003 and 2006 are outlined in Table 7.1. A significant drop in the arisings data was recorded from the data in 2003 and further investigation of the data will be required.

Table 7.1: Estimated Packaging waste Arisings for the Dublin region, 2003 and 2006 (tonnes)

Packaging waste	Landfilled	Recovered	Arisings	Recovery Rate
2003	321,190	190,548	511,738	37.2%
2006	142,927	136,632	279,559	48.2%

7.2 RECOVERY

The quantity of packaging recovered in 2006 was provided by REPAK and is based on the data from Local authorities and other recovery operators in the region. The recovery rate for the Dublin Region has increased from 37.2% in 2003 to 48.2% in 2006, indicating the region is contributing significantly to the increasing national recovery rate of packaging waste.

7.3 ESTIMATE OF PACKAGING WASTE LANDFILLED

The quantity of packaging waste landfilled in the region was calculated using data from 2006 Annual Environmental Reports for landfills in the region and composition studies data carried out on household and C&I municipal waste.

For household waste, the composition data is taken from studies carried out on the black bin by the Dublin Local Authorities in 2007. For C&I waste, the composition data is taken from studies on waste destined for landfill, completed by the EPA in 2005, and published in the EPA National Waste Database Report 2005. Table 7.2 outlines the packaging factors and the proportion of packaging waste, determined from these compositional studies.

Table 7.2 Packaging Factors for Landfilled Household and C&I Waste

Packaging Material	Household ¹ %	C/I ² %
Paper & Cardboard	4.5	3.7
Plastic	9.4	9.0
Glass	3.5	1.6
Metals	2.3	1.7
Wood	0.2	0.3
Textiles	0	0
Other	0.8	0.9
TOTAL %	20.7%	17.4%

1 Source: RPS Black Bin Waste Composition Study 2007 (DCC, DLRCC, FCC and SDCC area)

2 Source: EPA National Waste Database Report 2005

The quantity of packaging waste landfilled was determined by applying the compositional factors to the total quantities of household and commercial/industrial waste landfilled.

Table 7.3 Quantity of Packaging Waste Landfilled in Dublin Region

2006		
	Household	Commercial/Industrial
Total Waste Landfilled (Tonnes)	337,070	420,428
% Packaging	20.7	17.4
Packaging Waste Landfilled (Tonnes)	69,773	73,154
Total Packaging Waste Landfilled 2006	142,927	
Total Packaging Waste Landfilled 2003	321,190	

7.4 PROGRESS

Packing waste arisings are estimated to be 279,559 tonnes for 2006, representing a reduction of 45% reported in 2003. This reduction may be attributed to the following:

- More accurate and improved reporting of waste quantities
- Calculations assume all packaging waste disposed of is destined to landfills within the Dublin Region. However, further packaging waste may be disposed of outside the region.
- Calculations assume all commercial companies (large and small) packaging waste for recovery enters the REPAK scheme in one way or another.
- Uncertainty concerning the commercial/ Industrial waste data.

7.5 NEW REGULATIONS

New Draft Waste Management (Packaging) Regulations were introduced in August 2007 by the Department of the Environment, Heritage and Local Government. These regulations consolidate the existing suite of regulations (2003 Regulations and the amended Regulations of 2004 and 2006) in order to allow greater clarity and accessibility. The regulations also outline a number of measures aimed at optimising the recovery and recycling of packaging waste in Ireland.

Some of the amendments contained within the new packaging regulations 2007 are as follows:

- The major producer status threshold has been reduced from 25 tonnes to 10 tonnes, The proposed reduction aims to spread compliance more equitably across all obligated producers.
- The removal of provisions where by major producers could apply to cease take-back from the public under specific conditions.
- Members of the public can now bring packaging waste to all self compliant outlets anytime during normal business hours.
- Where a major producer opts to purchase packaging waste in order to meet its recycling targets, a minimum of 20% must be sourced from post consumer waste streams.

These new draft regulations are expected to be implemented in November 2007.

8 CONSTRUCTION AND DEMOLITION WASTE

8.1 ARISINGS

The total quantity of C&D waste managed in Dublin for 2006 was 7,654,550 tonnes and this figure represents the best estimate of C&D waste arisings for the region although it is noted that 57% of active collectors did not return data.

Table 8.1: Construction and Demolition waste collected in the Dublin Region 2006

	No. of active collectors*	No. of permit AERs received	% AERs received	Tonnage from submitted AERs
DCC*	517	218	42.2	2,200,470
DLRCC	124	123	99.2	1,144,736
FCC*	511	201	39.3	2,562,401
SDCC*	501	170	33.9	1,746,943
Region	1653	712	43	7,654,550

Source: Local Authority (EPA) national waste data 2006

* The number of active collectors = the total number of permitted collectors for that area minus those that declared they collected no waste in 2006

It should be noted that the number of active collectors does not equate to the number of permitted collectors. A permitted collector is permitted to collect waste in all of the Dublin Local Authority functional areas. It is also possible that a collector may be permitted to collect waste from all the Dublin Local Authority areas, but may currently only be actively collecting waste in one of these areas (active collector).

In order to adequately determine the quantity of C&D waste arisings and collected, all non-active collectors should declare that they are not collecting waste in that functional area.

8.2 PERMITTED C&D WASTE FACILITIES

Construction and demolition waste recycling facilities generally recycle or recovery C&D materials. There are currently 20 permitted facilities in the Dublin region, representing an increase of 7 since 2004. Approximately 1,011,556 tonnes of material was recycled at these facilities in 2006.

Table 8.2: Permitted Recycling Facilities in the Dublin Region

	No of C&D recycling facilities	No of AERs received	% AERs received	Tonnage from submitted permitted facility AERs
DCC	4	3	75%	79,726
DLRCC	0	0	0	0
FCC	15	15	100%	818,241
SDCC	1	1	100%	113,589
Region	20	19	95 %	1,011,556

8.2.1 Permitted Metal, Timber Recyclers

An estimated 1,604,571 tonnes of metal, timber and inert C&D waste was collected in 2006. Of this approximately 231,200 tonnes (14%) was recycled within the region in 2006.

8.2.2 Landfill and Transfer stations/ Materials Recovery Facilities

Great progress has been made in relation to diverting C&D waste away from landfill disposal since 2004. In 2006, all C&D material (1,568,298 tonnes) sent to licensed landfills in the Dublin region was used for landfill engineering/site restoration works and no material was disposed of to landfill.

The quantity of C&D material passing through waste transfer stations and material recycling facilities is not available for 2006.

8.3 RECOVERY/ DISPOSAL

The total quantity of collected C&D waste material recorded was 7,654,550 tonnes for 2006.

It is estimated that 82% or over 6,280,000 tonnes of C&D material collected in the Dublin region was recovered. Of this approximately 13% was recovered through permitted facilities in the Dublin region and a further 21% (1,568,298 tonnes) was recovered at licensed landfills in the region.

It is assumed that the remaining soil and stone material, 3.7 million tonnes, reported by the local authorities is recovered at permitted or licensed facilities outside of the region. It is unknown if the remaining 1.37 million tonnes (18%) of C&D material is recovered, recycled or disposed.

Table 8.3: Collection and Management of Construction and Demolition Waste 2006

Collection (tonnes)		7,654,550
Management (tonnes)		
	Recovery	Disposal
Recovery at licensed landfills within the region - Cover/landscaping material - Other landfill engineering purposes	1,568,298	
Disposal at licensed landfills		0
Recovery at Permitted Sites	1,011,556	
Recovery at licensed facilities within and outside the region	3,701,325	
Total	6,281,179	0
Recovery Rate	82%	0%

8.4 SOIL AND STONES

The recorded 7,654,550 tonnes of C&D material collected in the region in 2006, approximately 6,049,979 tonnes (79%) of this consisted of soils and stones. Of this approximately 13% of soil and

stones collected in the region were recycled at permitted facilities in the region. A further 26% of soil and stone material was recovered and recycled at Licensed landfills within the region. None of this material was disposed of to landfill within the region. It is assumed that the remaining 61% of soil and stones are recovered or recycled outside of the region.

Table 8.4: Collection and Management of C&D Waste, Soils and Stones 2006

Collection of soil and stones (tonnes)		6,049,979
Management (tonnes)	Recovery	Disposal
Recovery at licensed facilities - Cover/landscaping material - Other landfill engineering purposes	1,568,298	0
Disposal at licensed landfills		0
Recovery at Permitted Sites	780,356	
Recovered outside of Dublin Region	3,701,325	0
Total	6,049,979	0
Recovery Rate	100%	0%

Table 8.5: Collection and Management of C&D Waste, Excluding Soil and Stones 2006

Collection of construction and demolition waste, excluding soil and stones (tonnes)		1,604,571
Management (tonnes)	Recovery	Disposal
Recovery at licensed facilities - Cover/landscaping material - Other landfill engineering purposes	0	0
Disposal at licensed landfills	0	0
Recovery at Permitted Sites	231,200	N/A
Others: - Recovery at licensed facilities - Recovery at permitted sites outside the region - Disposal outside the region	1,373,371	
Total	1,604,571	

8.5 RECENT POLICY DEVELOPMENTS

Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Waste Projects were published by the DEHLG in July 2006. The Guidelines promote an integrated approach to the management of the C&D waste stream. They are designed to promote sustainable development, environmental protection and the optimum use of resources. The Guidelines introduce the concept of integrated waste management planning for construction projects above certain thresholds.

9 PRIORITY WASTE STREAMS

9.1 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The WEEE Directive (2002/96/EC) requires producers to be responsible for the financing of the collection, treatment, recovery and environmentally sound disposal of WEEE and it came into operation on 13 August 2005. It means that final users of household WEEE are entitled to return items of WEEE free of charge, either to retail outlets in instances where a replacement item is purchased, or to other authorised collection points, including local authority recycling centres.

In the case of non-household WEEE, i.e. business-to-business WEEE, the business user is responsible for the delivery of their WEEE to an appropriate recovery facility and for financing its environmentally sound management. Businesses often agree take back arrangements with a supplier when purchasing new electrical equipment.

Household WEEE is currently accepted at all recycling centres in the region and approximately 4,224 tonnes of WEEE was collected through recycling centres in 2006. A detailed breakdown of the items accepted is shown in Table 9.1.

Significant investment has been by private sector operators, such as TechRec and Cedar Resource Management, in developing WEEE Recovery capacity for the Region.

The national recycling target for WEEE is to recycle 4kgs per person per annum by 31 December 2008 (Ireland was offered a two-year derogation for reaching this target). In 2006, Ireland's collection rate was 7.4kg per person.

Table 9.1: WEEE Collected at Recycling Centres 2006

	DCC	DLRCC	SDCC	FCC	Dublin Region
Fluorescent bulbs/lamps	0	1	0	2	3
Fridges	77	97	0	227	401
TVs	218	0	0	208	426
White Goods	290	182	0	571	1,043
Other Large Appliances	0	0	0	326	326
PC Monitors/ VDUs	0	0	0	0	0
Other ITC	0	0	0	0	0
Other WEEE	177	591	1,257	0	2,025
Total	762	871	1,257	1,334	4,224

Source: Local Authority (EPA) National Waste Database Returns 2006

The Directive also specified that retailers would have to take back WEEE when a replacement item was purchased. The Dublin Local Authorities have specific sites for registered retailers to drop off the

taken back WEEE. In South Dublin, retailers can return WEEE to a WEEE Collection Centre in Cookstown Industrial Estate. Dublin City Council's WEEE Collection Point is at Kylemore Park West. DL RCC and FCC provide for small retailers to drop off WEEE at Ballyogan Recycling Centre and Balleally Recycling Centre respectively. The compliance schemes, WEEE Ireland and the European Recycling Platform collect directly from the large retailers and deliver them to the treatment facilities.

The two WEEE Collection Centres for retailers in the Region, outside of Recycling Centres, collected 687 tonnes of WEEE in 2006 – 403.2 tonnes in Cookstown and 284 tonnes in Kylemore Park West.

Table 9.2 Household WEEE Collected 2006

WEEE Collected	2006
Recycling Centres	4,224
Collection Centres	687
Total	4,911
WEEE/Capita	4.1Kg

Business WEEE is also collected by private operators and cannot be disposed of at recycling centres sites. Instead, the WEEE is collected from the business end-user's premises by a licensed waste carrier and taken to a licensed recycler. The Dublin Local Authorities recognise the investments made by private sector collectors in the development of WEEE Recovery capacity in the Dublin Region. Details of two of the largest of these facilities are:

- TechRec Ireland have developed a facility in Dublin 12 which is capable of treating up to 38,000 tonnes of WEEE. The operation accepts all 10 categories of WEEE and through sophisticated sorting and processing systems converts WEEE materials in reusable pellet sized fractions of plastics, metals and mixed materials.
- Cedar Resource Management launched their WEEE processing facility in September 2006 and has a processing capacity of 30,000 tonnes. The facility has the capabilities to process WEEE into individual waste streams such as glass, plastics and metals.

Table 9.3 details the WEEE collection in the Region by private waste collectors.

Table 9.3: WEEE Collected by Private Operators

Waste Category	Tonnage Collected SDCC	Tonnage Collected DCC	Tonnage Collected FCC	Tonnage Collected FCC	Tonnage Collected Region
WEEE	7,453	2,414	959	539	11,365

However, household WEEE delivered to the WEEE Collection Centres by retailers or collected directly from the large retailers (as arranged WEEE Ireland and the European Recycling Platform) is collected by private waste collectors and so the regional quantity in Table 9.2 contains household WEEE with no differentiation possible.

The 2003 range for WEEE arising in the Region was calculated using data from the EPA 'Topic Report' (Crowe et al, 2001). In this report, a figure was obtained for four items of WEEE and their percentage of the total WEEE stream. Using these figures, projections were generated for subsequent years. In conjunction with Census 2002 data, a range for the Dublin Region was derived on a quantity per capita basis.

9.2 END OF LIFE VEHICLES (ELVS)

The End-of-Life Vehicle regulations came into operation on June 8, 2006 and these impose substantial obligations on local authorities in terms of registration, administration, modification of permits, inspection and enforcement. .

The regulations allow individuals to bring their end of life vehicles to an Authorized Treatment Facility (ATF) for recycling free of charge. Producers are obliged to set up a national system of ATFs in each local authority, dependent on the population of the functional area. These ATFs are permitted or licensed facilities for the shredding or dismantling and recovery of ELVs and it may be the case that the one facility is the ATF for several different producers.

Each producer putting vehicles on the Irish market was obliged to apply for registration with the relevant local authorities on September 21st, 2006 and be registered by November 1st, 2006. Renewal of registrations shall be applied for no later than January 31st of each year following the year of the initial registration. The local authority is responsible for the enforcement of the obligations of the producers, with regard to their registration and must maintain a register with all relevant details for the producers and ATFs within the functional area.

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

Local Authority	No. of ATFs	No. of Applicants Awaiting A decision
Dublin City Council	3	0
Dun Laoghaire Rathdown County Council	0	0
South Dublin County Council	1	3
Fingal County Council	1	0
Region	4	3

Hammond Lane Metal Company, Ringsend, Dublin 4, remains to be the only shredding facility in Dublin. The other facilities are permitted to dismantle and recover ELVs.

The quantity of ELVs was sourced from the Waste Collection Permit report and the AERs returned to Dun Laoghaire Rathdown County Council.

Table 9.5: Tonnes of ELVs collected in the Region in 2006

Local Authority	ELVs (tonnes)
Dublin City Council	2,445
Dun Laoghaire Rathdown County Council	1,212
South Dublin County Council	2,648
Fingal County Council	1,084
Region	7,389

In the replacement Waste Management Plan, the figure for ELVs was 56,943 tonnes. This figure was a theoretical one calculated using a specific formula and calculated projections of the vehicle stock from "End of Life Vehicles in Ireland – a Sectoral Report" (EPA, 2002). However, data for 2006 was obtained using the Local Authority (EPA) National Waste Database Returns 2006.

The regulations introduce environmental standards when scrapping cars. ATFs will be required to meet the following targets:

- 85% reuse/recovery by average weight per vehicle deposited for appropriate treatment by 1st January 2006 (to include 80% materials recycling) and
- 95% reuse/recovery by 1st January 2015 (to include 85% materials recycling).

ATFs issue certificates on destruction when a vehicle has been treated/ recovered appropriately.

9.3 WASTE TYRES

On October 4th, 2007, the DEHLG published Waste Management (Tyres and Waste Tyres) Regulations 2007. The Regulations are designed to promote the environmentally sound management of waste tyres. They will facilitate such management by providing a regulatory framework for waste tyre management, which will support the tyre industry's tracking initiative which proposes not only to track the movement of tyres from when they are placed on the market until sold to end users, but also to trace waste tyres from the time they are discarded until they are either reused or processed for recycling or reuse

Under the agreement negotiated with the tyre industry, the ITIA have established the Tyre Recovery Activity Compliance Scheme (TRACS). A network of producers, retailers and waste tyre collectors operate in the industry and the role of TRACS will be to audit the movement of tyres between the different parties involved. As with other producer responsibility schemes, the participating tyre industry interests will fund the running of the TRACS system.

The Regulations impose obligations on persons who supply tyres to the Irish market, whether as manufacturers, wholesalers, suppliers, traders, or retailers and on the collectors of waste tyres. An exemption from these obligations is available to persons who participate in a collective compliance scheme operated by an approved body. Those not in a collective compliance scheme will be self-compliers.

The Regulations also impose obligations on farmers who store waste tyres for the purposes of anchoring silage covering. Farmers who accept waste tyres from an authorised waste collector who is participating in a collective compliance scheme operated by an approved body will be exempt

All manufacturers, wholesalers, suppliers, retailers, collectors, recovery operators and farmers will be obliged to register with the relevant local authorities upon commencement of the Regulations. The local authority will be responsible for the establishment and maintenance of a register for each and also for the inspection of premises registered.

Table 9.6 details the quantity of waste tyres collected in the Dublin Region and the quantities that were reused/recycled or landfilled.

Table 9.6: Quantity of Waste Tyres 2006

	DCC (tonnes)	DLRCC (tonnes)	FCC (tonnes)	SDCC (tonnes)	Total (tonnes)
Quantity collected	2357	451	1,007	1243	5,058
Quantity reused/recycled	2357	451	1,007	1243	5,058
Quantity Discarded	0	0	0	0	0

Source: Local Authority (EPA) National Waste Database Returns 2006

Table 9.7 gives the breakdown of how the waste tyres collected in the Dublin Region were reused/recycled or disposed of.

Table 9.7: Final Destination for Waste Tyres, 2006

	SDCC (tonnes)	FCC (tonnes)	DCC (tonnes)	DLRCC (tonnes)	Total (tonnes)
Landfill	0	0	0	0	0
Farms	192	298	1,061	0	1,551
Retread	32	49	177	0	258
Crumb and remanufacture	922	512	588	451	2,473
Others	96	148	530	0	774

The quantity of waste tyres reported in Table 9.6 is quite exact, although the accuracy of the data is entirely dependant on the collection permit holder's records. It is also possible that collectors have collected tyres but have not submitted a report.

9.4 'DECOPAINTS'

Directive 2004/42/EC known as the 'Decopaint Directive' will limit the emissions of volatile organic compounds (VOCs) used as solvents in certain decorative paints and varnishes. It forms part of the EU strategy to combat ground-level ozone formation. This also amends Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in relation to vehicle refinishing products.

The Directive was transposed into Irish law by the 'Limitation of Emissions of Volatile Organic Compounds Due to the Use of Certain Paints, Varnishes and Vehicle Refinishing Products Regulations 2007' (S.I. No. 199 of 2007).

As of 1 January 2007, decorating products (divided into product groups of decorative paints, varnishes and those used in vehicle refinishing) listed in Annex I of the Directive may be placed on the market if their VOC content is less than or equal to the limits (in g/l) specified in Annex II of the Directive. Products containing concentrations of VOC higher than the limit, but manufactured before 1 January 2007, may be sold until 1 January 2008.

The 'Decopaint' Regulations also oblige vehicle refinishers to have a solvent management plan carried out by an Accredited Inspection Contractor (AIC). The AIC's report along with a fee must be submitted to and approved by the local authority in whose functional area they operate in order to obtain a certificate of approval to operate. Certificates of approval must be renewed every two years.

The local authorities are the competent bodies for the enforcement of the Regulations and are obliged to implement the monitoring programmes. This means local authorities will carry out the necessary inspections of the products that producers, wholesalers and major retail stores in their functional area have in stock. Some product sampling and analysis may be necessary to verify product compliance. Local authorities are also required to set up and maintain a register of producers, wholesalers and major retailers of the decorating materials operating in their areas.

10 WASTE DISPOSAL

The long-term target for the region is to reduce reliance on waste disposal and to significantly increase diversion, recycling and recovery rates. However, in 2007, waste disposal by landfill remains the main method of managing municipal waste in the Dublin Region.

10.1 WASTE DISPOSAL – SITUATION 2006

The total quantity of household, commercial and industrial and street cleaning waste disposed of to landfills both within the region and outside the region in 2006 is shown in Table 10.1. The data has been gathered from facility AERs, collection permit AERs and the Local Authority (EPA) datasheet returns.

Table 10.1: Waste Disposal to Landfill 2006

Waste Type	2003 Tonnes	2006 Tonnes
Household	383,816	337,070*
Commercial/Industrial	342,829	420,428**
Street cleanings	30,325	36,616***
Total 2006	756,970	794,114

*The quantity of household waste landfilled in the region is estimated to be 327,000 tonnes. The source of this waste is primarily residual waste from black bin kerbside collected by Local Authorities. An estimated 10,000 tonnes of household material collected by private collectors was landfilled outside the region in 2006.

** An estimated 300,000 tonnes of commercial and industrial waste was landfilled at Balleally and Arthurstown facilities in 2006. It is estimated that 120,000 tonnes of commercial/industrial material is landfilled outside of the region. The estimate of C&I waste landfilled outside of the Region is based on data reviewed from large private collectors and submitted through collection permit AERs in 2006.

*** It is estimated that all litter and street sweepings are landfilled in the region.

Approximately 60% of municipal waste (household and commercial/Industrial waste) generated in the Dublin Region is landfilled both at facilities in the Dublin Region and outside the Region. It is estimated that approximately 84% of this is landfilled within the Dublin Region with the remaining 16% (~120,000 tonnes) disposed off at private facilities in Wicklow, Meath and Kildare.

The quantity of combined municipal waste and street cleanings deposited in landfills within the Dublin Region has decreased by approximately 16% since 2003 (756,970 tonnes). The closure of Ballyogan Landfill may have contributed to this reduction.

10.2 HOUSEHOLD WASTE DISPOSAL

Approximately 72% of household waste generated in the region was disposed of via landfill in 2006. This represents a decrease of 11% since 2003. Of this approximately 97% was landfilled within the Dublin Region. Additional quantities of household waste collected by private waste collectors are also being landfilled at private facilities in Wicklow, Meath and Kildare.

10.3 COMMERCIAL/INDUSTRIAL WASTE DISPOSAL

The total quantities of Commercial and Industrial wastes landfilled at facilities in 2006 represents approximately 51% of the total C&I waste generated in the region, remaining unchanged since 2003. However, it is difficult to obtain accurate data for commercial/ Industrial waste arisings, landfilled and recovered.

The majority of this waste stream is collected by private waste collectors and most of the residual waste quantities are being landfilled at private facilities in Wicklow, Meath and Kildare.

10.4 EXISTING LANDFILLS

There are currently two local authority waste landfills that primarily serve the Dublin Region. These are Balleally Landfill, operated by Fingal County Council, and Arthurstown Landfill, operated by South Dublin County Council.

10.4.1 Local Authority landfills

Two local authority landfills serve the waste disposal needs of the Dublin Region and details of these are given in Table 10.2.

Table 10.2 - Status of the Local Authority Landfills in the Dublin Region in 2006

	Balleally		Arthurstown	
Operator	Fingal County Council		South Dublin County Council	
Tonnes Landfilled	Civic Amenity Household	4,891	Municipal Baled Waste	
	Household	62,056		
	Commercial/Trade	63,819		
	Sewage Sludge	4,623		
	Ind.			
	Non-Haz Sludge	6,825		
	Total	142,214	Total	591,755
Expected Closure Date	Expected remaining lifespan of 2-3 years to 2009-2010		Planning Permission granted for extension. Expected closure 2009 - 2010	
Current Remaining void	621,326 tonnes (AER 2006)		1,007,798 tonnes (AER 2006)	

Both facilities are to remain operational in the short-term, serving the residual disposal needs of the Region. The limited remaining void capacity indicates that there will be a requirement for additional void capacity in the near future.

10.5 LANDFILL GAS RECOVERY

Table 10.3 below outlines the estimated quantity of Landfill Gas recovered at the operational landfills with the Dublin Region. This data was obtained from Bioverda Power Systems.

Table 10.3: Energy Recovery from Dublin Landfills, 2006

Landfill	Electricity Output 2006 (MWh)
Balleally	20,529
Ballyogan	11,124
Arthurstown	53,930
Dunsink	8,026
Total	93,609

11 REGIONAL INFRASTRUCTURAL DEVELOPMENTS

11.1 INTRODUCTION

Since the making of the Waste Plan in November 2005 considerable progress has been made in developing priority regional infrastructure. The delivery of large scale waste infrastructure is critical to ensure that the objectives and targets of the Waste Plan are met and the cost of waste management and recycling to householders and business is fair and competitive.

11.2 REGIONAL REUSE CENTRE

The Dublin Local Authorities launched the virtual reuse centre, FREE TRADE, on the website www.DublinWaste.ie in August 2006. The FREE Trade service is a regional reuse initiative, promoting and encouraging householders to reuse and to extend the lifespan of items. The service allows users to reuse unwanted household items by posting an advert on the FREE Trade service. Interested parties are free to contact advertisers directly and arrange to view or pick up the item. Similarly users of the site can post wanted adverts for particular items that they are looking for. Full details of the service are outlined in Section 4.

By hosting the service online, the service is available to users 24 hours a day, 7 days a week. There are also no planning or licensing requirements for the Local Authorities or restrictions due to a lack of space is not an issue. The service is monitored by a management team on behalf of the Dublin Local Authorities to ensure that the service is not misused. In the first 12 months of the service over 5,000 items were reused.

11.3 BIOLOGICAL

The Dublin Waste Management Strategy (1997) identified the need for development of biological treatment facilities in the Dublin region to treat source separated waste collected by or on behalf of the four Dublin Authorities. This Strategy formed the cornerstone of the Dublin Waste Management Plan.

A feasibility study for Biological Treatment was carried out by the Dublin Local Authorities in 1999 which considered the practicality of implementing biological aspects of the Regional Waste Strategy, from source separation to collection through to treatment and end-use of finished compost. This report formed the basis for subsequent planning, siting and procurement measures.

The Dublin Region requires a substantial increase in its capacity to manage Biodegradable Municipal Waste (biowaste). Biowaste essentially comprises municipal waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and green/garden waste, and paper and cardboard.

The Dublin Local Authorities propose to develop two strategic biowaste composting plants to treat source-separated organic municipal waste.

A biological treatment plant to be located in the Ballyogan Recycling Park, with a licensed capacity of up to 45,000 tonnes/annum, serving the southern part of the Region. This facility has planning approval and has an EPA waste licence.

A second biological treatment facility to serve the northern catchment, again with a licensed capacity of up to 45,000 tonnes/annum. A preferred location at Kilshane Cross has been selected, as part of an integrated waste management facility. This facility has planning approval and has a proposed decision on an EPA waste licence.

The procurement process for these two facilities was started in 2006, and a shortlist of five bidders was identified. Invitation to Negotiate documents were issued to five short listed bidders in June and August 2007 for Ballyogan and Kilshane respectively. Preferred bidders should be selected in early 2008 with facility completion expected in 2009.

In addition to the above, additional capacity to manage commercial/industrial organic waste is required in the Region. A capacity range of 50,000 – 100,000 tonnes per annum is recommended in the Waste Plan and it is envisaged that this will be developed by the private waste sector.

11.4 MATERIALS RECOVERY CAPACITY

The Waste Plan identified the need to develop additional Materials Recovery Facility (MRF) capacity for the sorting and processing of household and commercial dry recyclable wastes. In 2003 the Waste Plan reported that the throughput of commercial and industrial recyclables in MRFs was in the region of 230,000 tonnes in 2003. Since then the MRF capacity has expanded with development of new facilities in the Region

11.4.1 Local Authority Capacity – Ballymount MRF

The Dublin Local Authorities set out an objective for the development of a regional MRF for the processing of household recyclables collected through the green bin collection service. The proposed facility, located in Ballymount, Dublin 12 will be designed to cater for the processing of green bin materials in the Dublin Region for the next 20 years. The facility when operational will have an annual capacity of 100,000 tonnes per annum and will use the most sophisticated sorting and handling equipment available to maximise recovery of materials.

The Dublin Local Authorities appointed CP Manufacturing Europe as the main contractor to develop the site and construction of the facility commenced in February 2007. The main processing building is complete and installation of equipment has commenced. The laying of site services and the construction of a separate administration building are both underway.

Based on the current construction programme the MRF is due to be completed by the end of May 2008 although delays in the shipping of equipment may push back this timeline. Planning permission for the site was granted in 2006 and the granting of an EPA Waste Licence is also in place.

The appointment of service provider to operate the facility when complete is currently underway and tender documents have been issued to a number of selected operators following a call for Expression of Interest. The Dublin Local Authorities intend to appoint an operator for the facility by the middle of 2008 in tandem with the completion of the construction of the project.

The project will cost in the region of €28 million to complete and is being provided through a partnership agreement between the Department of the Environment, Heritage and Local Government and the four Dublin Local Authorities. Grant assistance of some €10 million has already been allocated to the project which will be part funded by the European Regional Development Fund under the Waste Management Measure of the Southern and Eastern Regional Operational Programme of the National Development Plan. An application for further grant assistance is currently being considered by the Department.

11.4.2 Private Sector Capacity

The Waste Plan identified the private sector as the primary developers of MRF capacity for the sorting of commercial and industrial waste materials particularly recyclable materials. Since the making of the Waste Plan in November 2005, the private sectors has developed significant handling and sorting

capacity in the region and details of a selection of these facilities are provided below. Data presented was sourced from the EPA website for facilities which have been granted a Waste Licence.

- **Greenstar** – The Millennium Park Facility, Ballycoolin, Dublin 11 was opened in October 2006 and has been granted an EPA Licence (No. 183-1) to handle 220,000 tonnes of C&I and C&D waste materials per annum. The development of a facility is on a phased basis at the site in compliance with the terms of its Licence. The plant employs automated technology to process and recover waste materials accepted at the facility.
- **Greenclean** – In December 2006 Greenclean Waste Management were granted a Waste Licence by the EPA to operate a Waste Transfer Station at Lusk in County Dublin. The facility can accept up to 95,000 tonnes of materials, primarily non-hazardous commercial and industrial wastes. Recyclable materials are segregated on-site using a combination of mechanical and manual sorting prior to collection for transportation off-site.
- **Greyhound Recycling and Recovery** – In May 2007 Greyhound Recycling and Recovery were granted an EPA Waste Licence (No. 205-1) for a MRF located in Clondalkin, County Dublin. The facility is licensed to accept 250,000 tonnes of material, primarily dry commercial, industrial and household dry recyclables. The facility was previously operating under a Waste Permit issued by South Dublin County Council.
- **Lawlor Brothers t/a Access Skip Hire** – In July 2007 Access Skip Hire were granted an EPA Waste Licence to operate a Waste Transfer Station in Dublin 12. The licence allows for the acceptance of household, commercial and industrial and construction and demolition wastes to a maximum of 95,000 tonnes per annum.
- **TechRec Ireland** - Developed a facility in Dublin 12, which is capable of treating up to 38,000 tonnes of WEEE. The operation accepts all 10 categories of WEEE and through sophisticated sorting and processing systems converts WEEE materials in reusable pellet sized fractions of plastics, metals and mixed materials.
- **Cedar Resource Management** -WEEE processing facility opened in September 2006 and has a processing capacity of 30,000 tonnes. The facility has the capabilities to process WEEE into individual waste streams such as glass, plastics and metals.

There are also significant tonnages of dry recyclable materials being handled, sorted and baled at waste permitted facilities. The largest of these operations include the OZO facility in Inchicore, Oxygen facility in Clonshaugh and the Greenclean in North County Dublin.

11.5 ENERGY RECOVERY

The Waste Plan re-affirmed the Dublin Local Authorities commitment to developing Waste-to-Energy capacity in the Region for the long-term treatment of residual waste arisings. The local authorities set down the following policy objective and considerable progress has been made in advancing the project and implementing the objective.

Extract from Section 18.8 Energy Recovery of the Dublin Waste Management Plan

Objective: *Develop a Waste to Energy (incineration plant at the preferred location on Poolbeg Peninsula, Dublin 4. This will have a capacity of approximately 400,000 to 600,000 tonnes/annum, and will treat non-hazardous municipal or similar waste.*

11.5.1 Overview of Project

The development of a WtE Facility for the long-term treatment of the residual household and similar type wastes is well advanced with a treatment capacity of 600,000 tonnes per annum proposed. Heat and electricity will also be recovered from the proposed plant.

The recovery of energy achieved through the generation of electricity will feed into the national grid. In addition it is planned to heat 60,000 homes in the city environs utilising a district-heating network and supply electricity to 50,000 homes.

The WtE facility will have an important part role to play in the long-term management of residual wastes in the Region. The recovery of energy and heat boost the environmental efficiency of the facility ensuring that it will be classed as a recovery facility. It will have a positive impact on national

greenhouse gas emissions and climate change. The current date for the commencement of operations for the project is early 2012 although this is dependant on the outcome of both the planning and the waste licence processes.



11.5.2 Recent Developments

In 2005 Dublin City Council awarded the contract to design, build, operate and finance the proposed WtE facility to the Danish company Elsam. The award of the contract is based on environmental, engineering and financial criteria being met so as to ensure that the best plant is provided for Dublin.

In 2006 DONG (Danish Oil and Natural Gas) Energy purchased Elsam Ireland, the original successful bidder. DONG Energy has joined in a consortium with Covanta, a major US company and operator of 32 Energy from Waste facilities.

In June 2007, Dublin City Council issued a Letter of Intent to Dublin Waste to Energy Ltd (a joint venture between Covanta Energy, USA, a subsidiary of Covanta Holding Corporation and DONG Energy Generation, Denmark) confirming their intent to enter into a contract with the company, on terms agreed to design, build, operate and finance the proposed Dublin Waste to Energy Plant.

The project is being procured as a Public Private Partnership by way of the negotiated procedure and Dublin City Council have ensured environmental standards and set financial penalties i.e. they have incentivised best environmental and economic performances.

In August 2007 Dublin City Council completed its negotiations with Dublin Waste to Energy Ltd and entered into a contract with the company to design, build, finance and operate the proposed Dublin Waste to Energy Plant at the Poolbeg Peninsula.

In November 2007 planning permission was received from An Bord Pleanála for this facility. Also in November 2007 a Proposed Decision Waste Licence from the EPA was granted. Only residual non-hazardous waste (households, commercial and industrial) may be accepted at this facility and the maximum tonnage to be accepted at the facility is 600,000 tonnes. Refer to Table 11.1 for more details.

Table 11.1 Waste Acceptance at the WtE Facility

Waste type	Tonnage
Residual Non Hazardous Household and Commercial and Industrial Waste	600,000

Source: EPA Proposed Decision Waste Licence WO232-01

11.5.3 Statutory Processes

The planning and licensing of the operations of the proposed WtE facility is the subject of three statutory processes. The completion of these processes is necessary prior to the commencement of operations at the facility. An update on the status of these processes is provided below:

- A planning permission application and Environmental Impact Statement was lodged to An Bord Pleanála in June 2006. A response to a Further Information Request was submitted in November 2006. An Oral Hearing on the project commenced on the 19th April 2007, which was adjourned after 1 week to allow objectors to review additional information. The Oral Hearing re-commenced on the 15th May 2007 and was completed by the end of the month. Planning Permission was granted by An Bord Pleanála in November 2007.
- An application for a Waste Licence accompanied by an Environmental Impact Statement was lodged in July 2006 to the Environmental Protection Agency. Final objections on the facility were submitted by the end of May 2007. In November 2007 a Proposed Decision Waste Licence from the EPA was granted
- An Oral Hearing on the EPAs Waste Licence is due to commence in April 2008.
- Following the completion of these processes an application to the Commissioner for Energy Regulation is also required to be completed.

11.6 LANDFILL

The plan recognises that the Regions reliance on landfill remains high there will remain a requirement for landfill in the long-term regardless of diversion rates.

Both Arthurstown and Balleally landfills are nearing closure, and there is an annual disposal requirement currently running at over 790,000 tonnes. The provision of additional landfill void space to serve the Region is therefore critical to avoid potential environmental impacts and substantial costs if Dublin's waste has to be exported for disposal to other Regions or countries. The Dublin Local Authorities are pursuing the development of a new landfill located at lands in Nevitt, County Fingal.

11.6.1 Fingal Landfill

The Plan recognises that, unless alternative landfill capacity is made available, a critical shortage of municipal landfill capacity is imminent. Urgent delivery of the proposed Fingal landfill is required to provide adequate safe disposal capacity for residual waste. Even with the diversion of waste from landfill to the Dublin WtE facility there will remain a significant requirement for residual landfill disposal. Therefore, it is an objective of the current Waste Management Plan to provide a landfill (of up to 10 million tonne capacity until 2030) in accordance with the Dublin Landfill Siting Study 2004.

Fingal County Council lodged a Planning Application including a detailed EIS with An Bord Pleanála and a Waste Licence Application and EIS with the EPA for the proposed Fingal Landfill.

An EPA waste licence approval application for the facility was submitted to the EPA respectively on the 5th July 2006. A Proposed decision on the EPA waste licence was issued on September 20th 2007.

The proposed decision on the EPA waste licence (the final decision may differ) allows for a total 500,000 tonnes of the following waste types;

Table 11.2 Waste Types Accepted at Fingal Landfill

Waste type	Tonnage
Residual Household and Commercial Waste	348,000
Residual Non-Hazardous Construction & Demolition waste	50,000
Treated Sewage Sludge	10,000
Industrial non-hazardous sludges	2,000
Industrial non-hazardous solids	90,000
TOTAL	500,000

The planning process for the Fingal facility is on-going and a decision on planning approval is expected in 2008.

11.6.2 Arthurstown Landfill - short term extension

The Plan recognises that, unless alternative landfill capacity is made available, a critical shortage of municipal landfill capacity is imminent. With this issue in mind, the Plan policy is to provide for the use of other available landfills within the greater Dublin Region, with changes to Planning or Licensing status at these facilities of a short term and limited nature. Developing an additional short term extension to the Arthurstown Landfill in County Kildare subject to appropriate approvals is one of the means pursued by the Dublin local authorities.

11.6.3 Landfill Contingency

A critical shortage of municipal landfill capacity is imminent with the closure of Arthurstown Landfill and Balleally Landfill in 2009-2010. Urgent delivery of the proposed Fingal landfill is required to replace these facilities and provide adequate safe disposal capacity for residual waste in accordance with this plan.

In keeping with the objectives in Section 18.9 of the Waste Plan, the Dublin Local Authorities will "seek options" for the short disposal of municipal types in other regions as required.

12 REGULATION AND ENFORCEMENT

12.1 INTRODUCTION

The increasing importance of the Local Authorities role in regulation and enforcement is highlighted in the current Waste Management Plan. Numerous regulations have been introduced in the last few years and the Local Authorities are the main enforcement body for most of these regulations. Good progress has been made in terms of enforcement since 2004 when these units were only beginning to be established and are now providing an effective service.

Continuous government funding is essential to ensure effective enforcement staff in the future. The enforcement section of each individual Local Authority is responsible for issuing waste facility permits. However the nominated lead authority, Dublin City Council, issues waste collection permits.

Staff members of the Local Authorities enforcement units focus on overseeing regulation compliance and enforcement in the following areas:

- Waste Facility Permits – including ELV's
- Plastic Bag Levy
- WEEE Regulations
- Tyre Regulations
- TFS
- C1
- Packaging Regulations
- Illegal Dumping
- Construction & Demolition Waste Management Plans
- Section 22 – Old landfills
- Illegal land filling
- Complaints from general public and EPA
- Reporting for LAMS & RMCEI.

The following actions are taken by enforcement units to ensure the above items are complied with:

- Facility audits
- Inspections
- Checkpoints
- Issuing fines
- Dealing with environmental complaints
- Enforcement procedures.

12.2 RESOURCES

Table 12.1 shows the number of staff resources now working on enforcement activities in each of the Local Authorities in Dublin an on a regional basis.

Table 12.1: Local Authority Enforcement Progress, 2006

	DCC	DLRCC	SDCC	FCC
No. of staff involved	10 Enforcement Officers, 2 Administration Staff, 1 Manager, 1 Asst Manager	6 staff - 4 in waste enforcement, 2 in air & water enforcement	7 technical and 2 admin	8

Regional Enforcement Unit

In 2004, a Regional Enforcement Unit was set up to cover Dublin City Council and Fingal County Council functional areas and the unit has since grown. The unit currently consists of ten field officers, two administrative staff, an Environmental Manager and Assistant Environmental Manager. The unit has recently expanded its remit and since 1st August 2007 now also covers the South Dublin County Council functional area.

The Waste Enforcement Unit is based within the Dublin City Council area, but the Field Officers operate largely on a mobile basis, responding to incidents and carry out routine inspections in the 3 Local Authority Areas. The main function of the Regional Enforcement Unit is to check and promote the compliance of waste operators activities with the Waste Management Regulations. This includes the auditing of waste permit facilities, road checks, waste collection permit inspections, investigation of complaints, C&D waste audits, Business Audits and the taking of prosecution proceedings where necessary.

Dun Laoghaire Rathdown County Council set up an Enforcement Unit in September 2004 with an initial six staff. Since then, the Unit has grown and has a full compliment of ten staff. In addition to this, the six Litter wardens support in areas such as low-level site inspections, stop and search, and report anything that may need further investigation from the Enforcement Unit.

12.3 INSPECTIONS, AUDITS AND COMPLAINTS

Waste enforcement activities including facility inspections, audits and investigating complaints are now reported to the EPA through the Local Authority Management Systems (LAMS). Continual training is carried for enforcement staff for waste management activities and EPA inspection skills. Table 12.2 shows the level of these activities in the region for 2006.

Table 12.2: Local Authority Enforcement Progress, 2006

	DCC	DLRCC	SDCC	FCC
No. of facility audits carried out	30	0	11	44
No. of inspections carried out	WCP: 236 Bus. Audits: 328 C & D Audits: 130 WEEE: 175 Plastic Bag: 30	2	88	729 at permitted sites and 331 at illegal status
No. of complaints received concerning environmental pollution	426	38 (non-litter) waste complaints	2	150
No of complaints investigated	426	38	2	150 (106 closed)

In order to ensure companies and facilities comply with regulations and permits, inspections are carried out in accordance with the 'RMCEI' plan. In 2006 a total of 2,049 inspections were carried out in waste facilities, facilities accepting WEEE, retailers, facilities that handle TFS materials, facilities that handle packaging waste, illegal landfilling and dumping, checkpoint inspections and site inspections in response to complaints.

Fingal County Council carry out both pre arranged and unannounced site inspections. In 2006, a total of 1,060 inspections were carried out. Of this, 331 of the inspected sites were found to carrying out illegal activities. These sites were either prosecuted or are in the process of being prosecution.

South Dublin county council employ a company 'secureway' to enforce waste regulations within their functional area. The local authority also enforce regulations by means of issuing notices such as section 18, section 55 and section 56 under the waste management Act 1996- 2007.

Dublin City Council and Fingal County Council adopted separate Bye-laws for the Storage, Separation at Source and Presentation for Collection of Household Waste and Commercial Waste in 2006. Implementing these Bye-laws will require significant resources for inspection and enforcement of the ground.

Enforcement teams are also involved in the auditing of waste collection data submitted by waste collection permit holders. Previously there were a high number of inconsistencies in data and reports submitted by waste collectors. In order to reduce the number of inconsistencies and increase the coherency in data compilation and reporting, the enforcement sections of the Local Authorities are reviewing submitted information and following up on specific information required by means of written communications.

In addition to this, an electronic and a paper copy of a supplied spreadsheet must be submitted by permit holders. The required data for submittal is also documented in the conditions of the permit, hence holders should be aware of what information is required from them. Much work is still required in this area, in order to obtain consistent data.

12.4 CHECKPOINTS

Table 12.3 details the number of checkpoints carried out by the Regional Enforcement Unit and individual Local Authority enforcement teams in 2006.

Table 12.3: Local Authority Enforcement Progress, 2006

	DCC	DLRCC	SDCC	FCC
No. of checkpoints	79	2	1 in 2007	14

South Dublin County Council undertook one collection permit checkpoint on the N81, in 2007. Two carriers that were stopped did not possess collection permits and were found to be carrying green waste. They are due to be prosecuted in October 2007.

Fingal County Council undertook 14 Waste Collection Permit checkpoints on 2007. These were located in Balbriggan and Swords and were carried out with the assistance of An Garda Siochana. Approximately 159 carriers were stopped for inspection and all possessed collection permits.

Due to the fact that some police stations cover areas in more than one council's functional area, some of the checkpoints reported as carried out in Dublin City Council's functional area would actually have been carried out in Fingal County.

12.5 ENFORCEMENT PROCEDURES AND FINES

Table 12.4 details the number of enforcement procedures taken by the regional enforcement teams and fines issued in 2006.

Table 12.4: Enforcement Procedures and Fines 2006

	DCC	DLRCC	SDCC	FCC
No. of enforcement procedures taken	51	71 (warning letters issued)	25	9
Fines issued	€8,892 by Litter wardens & €1,375 by Gardaí	519: €3,950 + €440 costs awarded	no fines issued by enforcement section only litter wardens	no fines issued by enforcement section

Dun Laoghaire County Council initiated proceedings against one party under the Section 11 of the Waste Management Act. The prosecution was successful and a €1,000 fine handed down to the guilty party.

In the prosecutions initiated by the Regional Enforcement Unit in 2006, fines of €23,910 were issued and costs of €41,983 were awarded.

12.6 TRANSFRONTIER SHIPMENT OF WASTE (TFS)

As of July 12, 2007, Dublin City Council is designated as the National Competent Authority for the export, import and transit of waste shipments under the Waste Management (Shipments of Waste) Regulations, 2007.

The new Regulations give effect to provisions contained in Regulation (EC) No. 1013/2006 of the European Parliament and Council of June 14, 2006, on transfrontier shipments of waste, which sets out new notification procedures, specifies revised waste listings and strengthens enforcement provisions in relation to waste movements within, into and out of the EU.

From 12 July 2007, all transfrontier shipments of waste originating in any local authority area in the State that are subject to the prior written notification procedures must be notified to and through Dublin City Council at the National TFS Office established to implement and enforce the Regulations.

The National TFS Office has 16 staff – eight administrative staff and eight staff involved in the enforcement of the regulations.

13 IMPLEMENTATION CHALLENGES

The implementation of Waste Plan objectives is not without its challenges and the Dublin Local Authorities face a tough challenge in delivering the necessary integrated waste infrastructure for the Region to meet regional targets by 2013.

13.1 POSSIBLE STATUTORY DELAYS

By 2010 the end of the lifetime of the current Waste Plan the local authorities are expected to have put in place two centralised biological treatment facilities, the new Fingal Landfill and have commenced construction of the planned Waste-to-Energy facility in Poolbeg. Delivery of these facilities within this time period is critical if regional targets for recycling and landfill diversion are to be met. Possible future delays to these projects beyond current projected timelines could cause significant environmental and financial impacts.

The statutory planning and environmental licensing processes are progressing for the key waste infrastructure for the Region. There are expected to be further objections and delays to the statutory processes particularly the Waste-to-Energy and landfill projects. A summary of the statutory processes and progress to date is outlined in Table 13.1.

13.2 WASTE COLLECTION PERMIT REVIEW

Dublin City Council is the nominated authority for the Dublin Region and is responsible for issuing permits and administering the Waste Management (Collection Permit) Regulations 2001 on behalf of the four Dublin Local Authorities.

Dublin City Council commenced a review of existing Waste Collection Permits that were issued to waste collectors from 2001 up to and including 31st December 2006. The review process commenced in February 2007 and is being undertaken in accordance with requirements of Article (21) of the Waste Management (Collection Permit) Regulations 2001.

Dublin City Council issued a public newspaper notice on 22nd February 2007 stating its intention to review the existing waste collection permits in the Dublin Region. Interested parties were invited to make submissions regarding the waste collection permit review process. Seven submissions were received and comments reviewed.

As part of the next phase of consultation, Dublin City Council will write to all permit holders to inform them of the key issues under consideration as part of the review process. In addition, the Local Authority will require each permit holder to submit specific information on the waste collection activities of the business. The process of reviewing the waste collection permits is on-going.

Table 13.1 Summary of Statutory Processes for Regional Waste Facilities

	Kilshane Biological	Ballyogan Biological	Fingal Landfill	Waste-to Energy Project
Planning	Full planning permission in place.	Full planning permission in place.	<p>Planning approval application for the Fingal Landfill was sought from An Bord Pleanála in July 2006.</p> <p>A decision on planning approval had not yet been made. A final decision on planning approval is expected in 2008.</p>	<p>A planning permission application and Environmental Impact Statement was lodged to An Bord Pleanála in June 2006.</p> <p>An Oral Hearing on the project commenced on the 19th April 2007 and was completed in May 2007. Planning Permission was granted by An Bord Pleanála in November 2007.</p> <p>An application for a judicial review of this decision to the high court was not submitted within the time frame.</p>
Environmental Licencing	<p>EPA Proposed Decision has been issued.</p> <p>Objections to the proposed decision have been lodged to the EPA but are not expected to delay the current project programme and completion in 2009.</p>	EPA Waste Licence has been granted.	<p>An EPA Proposed Decision Waste Licence was issued in September 2007.</p> <p>Objections to the PD were due to be lodged by the 17th October 2007.</p> <p>Based on the objections received the EPA held an Oral Hearing (March 2008) on the project and a final decision is due later in 2008.</p>	<p>An application for a Waste Licence accompanied by an Environmental Impact Statement was lodged in July 2006 to the Environmental Protection Agency.</p> <p>Final objections on the facility were submitted by the end of May 2007. The EPA issued a Proposed Decision Waste Licence in November 2007.</p> <p>An EPA Oral Hearing on the waste licence will be held in April 2008.</p>
Revised Operational Date	3rd Quarter 2009	3rd Quarter 2009	2010	Mid 2012

13.3 VARIATION TO THE WASTE MANAGEMENT PLAN

The Dublin Local Authorities have prepared a Variation to the Waste Management Plan for the Dublin Region 2005 - 2010. The Variation has been introduced to ensure the Region's ambitious recycling targets of 59% are met and a universal waste management service is provided to all householders. The Variation is in line with the requirements of Irish and EU Law and aims to bring structure to the single dwelling household waste collection market in the region.

The preparation of the Variation followed an extensive period of transparent consultation with detailed submissions received from private collectors, councillors, political parties, business groups and members of the general public. The issues raised in these submissions have been reviewed in full and are addressed in a report entitled *Environmental and Technical Report Including Responses to Consultation Process* available to download from www.DublinWaste.ie.

The timeline of the Variation process is outlined as follows:

- On the 8th June 2007 the Dublin Local Authorities published a Public Notice advertising its intention to prepare a variation to the Waste Management Plan for the Dublin Region 2005 - 2010.
- Seven submissions were received from interested parties during the initial consultation period from the 8th June 2007 to the 9th August 2007.
- On 19th September 2007 the Dublin Local Authorities issued wording for a proposed Variation to the Waste Plan as well as supporting documentation including a Consultation Paper, Economic Report and Environmental and Technical Report. The consultation process ran for a period of 2 months and 18 submissions were received.
- Following a comprehensive review of all submissions received and consideration of all of the issues, the Dublin Local Authorities made a Variation to the Waste Plan on the 3rd March 2008.

A background description on the Dublin household waste collection market, recent developments in the market and the wording of the Variation are outlined in the following sections.

Background

The collection of household wastes from single dwelling households in Dublin has historically been a local authority function. By the mid 1990s in Dublin householders disposed of their waste in plastic bags which were collected on a weekly basis by the local authority. This material was then brought to disposal facilities in the region for landfilling. Kerbside schemes for the collection of recyclable materials were only available in some parts of the region and these were generally being operated on a pilot basis with poor participation rates and low tonnages collected. By 1997 the household recycling rate was of the order of 3%².

The Waste Management Plan for the Dublin Region 1998 established for the first time a regional waste policy framework for the long-term sustainable management of wastes generated in Dublin. Wide ranging policy objectives were adopted on waste prevention, collection, recovery and disposal. In terms of household waste collection different systems were to be implemented across the region depending on the location of the household and the type of dwelling. In general wastes from single dwelling households were to be segregated at source with separate collections of recyclables, organics and residual wastes. Waste from householders in higher density urban areas and apartment complexes were to be collected through home collections and an enhanced bring bank type system.

² This figure has been estimated from data available in the Waste Management Plan for the Dublin Region 1998.

The 3-bin waste collection philosophy was a core objective of the regional collection and recycling policy and remains so today.

Since the adoption of the first Waste Plan the rollout of separate waste collection systems have gradually developed across the region for single dwelling householders. Similarly households in apartment complexes are provided with separate collections for recyclables and residual wastes as opposed to the use of the originally proposed enhanced bring bank type system. In keeping with their long-term waste collection strategy the local authorities continue to progress the implementation of the 3-bin source separated collection system thus delivering clean and quality materials for recycling.

Recent Developments

In November 2006 a private waste collector entered the household waste market and began offering collection services to householders in the Dun Laoghaire Rathdown County Council area. The private waste collector provides a black bin pay-by-weight collection service at lower charge rates than the local authority and free fortnightly green bin collections. The private waste collector has grown steadily in the Dún Laoghaire–Rathdown area with over 25,000 householders currently availing of their services.

In 2007 a second private waste collector commenced a door-to-door collection service to householders in the Dún Laoghaire–Rathdown County Council area. The new collection service offers customers a 2-bin kerbside collection service as well as a separate collection of glass if required. In the same year a third private waste collector commenced a household waste collection service in the South Dublin County Council area.

The current fracturing of the household collection market in Dublin has continued into 2008 with a private sector collector offering services to householders in the Fingal County Council area.

Environmental Considerations

The arrival of private waste collectors into three local authority functional areas which were previously served solely by the local authority has fractured the household market in that area in an uncontrolled manner. Concerned about the environmental implications of such fracturing of the waste collection market, the Dublin Local Authorities commissioned a study to examine waste collection services in other regions where fracturing of the household waste collection market has occurred, in order to assess the likely or potential environmental consequences in the Dublin Region.

This report identifies and describes potential long-term environmental consequences which may be summarised as follows:

- An adverse impact on collection coverage rates, particularly in the rural and isolated parts of the region.
- An increase in levels of uncollected waste and the subsequent increase in backyard burning and fly-tipping.
- The introduction of alternative Pay-By-Use schemes without the financial incentives for householders to recycle and divert waste from the residual (grey) bin.
- An increase in the number of waste collection vehicles in Dublin and associated noise and traffic nuisance, traffic hazards, air pollution and greenhouse gas emissions.
- An adverse impact on the delivery of a universal quality waste service to all householders and on waiver scheme recipients.
- An adverse impact on the development of waste treatment infrastructure.

This report entitled, *Uncontrolled Fracturing of the Household Waste Collection Market, Environmental and Technical Report*, was made public in September 2007 and was available for the two month consultation period.

Following the consultation period the submissions received were reviewed in detail and a second report prepared responding to issues raised in the submissions. Private waste collectors and business associations raised competition, policy, economic, environmental and technical issues regarding the proposed variation in detailed submission documents. The report, *Environmental and Technical Report Including Responses to Consultation Process*, was prepared in response and replies to is available to download from www.DublinWaste.ie.

The Dublin Local Authorities have also considered whether the proposed variation requires a Strategic Environmental Assessment to be undertaken and have consulted with the Environmental Protection Agency (EPA) in accordance with their obligations under Statutory Instrument SI 435 of 2004. An environmental assessment of the proposed variation was submitted to the EPA as part of the consultation process. The EPA was invited to make a submission on the environmental assessment by correspondence dated 15th August 2007. No submission was received within the specified period of 4 weeks and accordingly a SEA is not required for the proposed variation.

Variation

On the 3rd March 2008 the Dublin Local Authorities made a Variation to the Waste Management Plan for the Dublin Region 2005 – 2010.

The Variation provides for the insertion into the Plan of specific objectives that the collection of household waste from single dwelling households (other than those built in purpose built apartment blocks) will be carried out in designated areas by a single operator. The single operator shall either be a Dublin Local Authority or a successful tenderer under a public tendering process (which may be on a geographical or area basis). Variations consequential to these objectives were also made.

Full details of the Variation wording are available to download from www.DublinWaste.ie .

14 IMPLEMENTING THE POLLUTER PAYS PRINCIPLE

In the current Waste Plan the Dublin Local Authorities set out as a policy objective the continued implementation of the Polluter Pays Principle through user-related waste charging systems. Waste charges were introduced nationally from the 1st January 2005 aiming to encourage householders to reduce the amount of residual waste generated and increase recycling. The Local Authorities adopted different pay-by-use schemes and pricing arrangements are set on a local authority basis rather than on a regional basis. Details of the schemes and charges in use in Dublin are outlined in the Section 14.1.

14.1 LOCAL AUTHORITY PAY-BY-USE SCHEMES

Different PBU systems are being used to implement the Polluter Pays Principle in the Dublin Region and these are summarised as follows:

- Tag-a-bin / tag-a-bag type systems – this commonly used system requires the householder to attach a pre-paid tag or label to their waste bin/bag presented for collection. The cost of tags/labels varies depending on the type of waste being presented. Both Fingal County Council and South Dublin County Council apply the tag-a-bin system.
- Pay-By-Weight systems – this system charges the householder according to the weight of waste presented for collection. The householder is charged an annual standing charge and a separate charge for each lift of the residual bin. An additional charge for every kilogram of waste collected in the residual bin also applies. Dun Laoghaire Rathdown County Council apply the pay-by-weight system in their functional area.
- Pay-By-Volume system – this system charges the householder according to the weight or volume of waste presented for collection. Householders are charged an annual standing charge and a separate charge for each lift of the residual bin. This type of system is used by Dublin City Council.

Each local authority in Dublin applies different waste charges to householders in their region reflecting the cost of managing waste collection services in their area. In addition income from the household waste collection service are used to fund other waste services such as the green and brown bin collections, bring banks, recycling centres, mobile hazardous collections, bulky waste collections waste awareness and educational programmes. The current rates of waste charges in place are as follows:

- **Dublin City Council:** In 2007, the standing charges for the 240-litre bin and the 140-litre bin are €88 and €71.50 respectively whilst the charges per collection had risen to €5.50 and €3.30 respectively. Tags cost €2.80 in 2007. The charge for householders who have been provided with a brown is €2 per lift.
- **Dun Laoghaire Rathdown County Council:** The waste charges in Dun Laoghaire Rathdown County Council consist of three elements: a standing charge, a charge per lift and a charge per kilogram of collected waste. In 2007, a standing charge of €80 applies along with a €4 charge per lift (regardless of the size of the bin) and €0.25 per kilogram of collected waste.
- **Fingal County Council:** In 2007, Householders with a 240L grey/black wheelie bin must put a €8 bin tag on the bin each time it is put out for collection and households with the smaller 140L grey/black bin must put a €4 bin tag on it prior to collection. The green bin service has been rolled out to all households availing of a collection service now.
- **South Dublin County Council:** In South Dublin County Council functional area, the 240L wheelie bin tags for householders are currently €8 and the 120L bin tags are €4.

14.2 WAIVER SCHEME

As part of the universal waste management service provided by the Dublin Local Authorities, they can offer low income households a waiver of household waste collection charges on grounds of personal hardship³. The waiver scheme ensures equity of access to waste collection services ensuring all households in Dublin can receive the same level and quality of service. In 2004 it was estimated in the Waste Plan that the Dublin Local Authorities funded waiver schemes to the value of €12 - €13 million. The provision of waiver schemes continues and the number of low income households availing of waivers in the Dublin Region is currently over 70,000.

14.2.1 Dublin City Council

To qualify for Dublin City Council's waiver scheme, the householder's sole income must be a Department of Social and Family Affairs Allowance or Pension, and there are no other persons residing in the premises who are in receipt of any income above these limits. Alternatively, if the householder's total income is exempt from tax under the Finance Acts and there are no other persons residing in the premises who are in receipt of any income above these limits.

14.2.2 Dun Laoghaire Rathdown County Council

Since 2005, the waiver scheme has been in place for those that meet the eligibility criteria. For those that do qualify, the €80 standing charged is waived but they must pay the 'lift' charges and the 'per kilogram' charges. An additional waiver worth €120 will apply where the household consists of a couple with four or more children or a single parent with three or more children. If the applicant lives in multi-occupancy premises, then the charges are paid by the management company/owner whilst the occupier claims the waiver/refund.

14.2.3 Fingal County Council

To qualify for Fingal County Councils waiver scheme, the household income must be from the Department of Social & Family Affairs or household incomes must be exempt from income tax. For those that qualify, households are entitled to bin tags free of charge and are given a free fortnightly refuse collection service.

14.2.4 South Dublin County Council

To qualify for South Dublin County Councils waiver scheme, the household income must be from the Department of Social & Family Affairs or household incomes must be exempt from income tax. For those that qualify, households are entitled to bin tags free of charge and are given a free fortnightly refuse collection service.

³ Section 75 of the Waste Management Acts 1996-2003.

15 KEY PERFORMANCE INDICATORS

15.1 HEADLINE INDICATORS

The Dublin Waste Management Plan sets out a series of headline performance indicators for the Dublin region, which are recommended for monitoring the overall success of the Plan Implementation. Table 15.1 summarises the headline indicator data collected for 2006 and presented alongside the data for 2003.

A series of Secondary Indicators have been developed for each waste category and these are essentially the building blocks in determining the headline Indicators for the region. These are presented along with headline indicators in Section 15.2 to 15.9.

Table 15.1: Headline Indicator Performance 2003 and 2006

	Headline Indicator	2003 Performance	2006 Performance	Target
1	Household Waste Generated per household	1.21 tonnes/annum	1.12	1.25 tonnes/annum 2006 onwards
2	Municipal Waste Recycling Rate	26%	40%	45% by 2010
3	Proportion of Household and C/I waste sent for Energy Recovery	0 %	0%	38% by 2013
4	Tonnage Biodegradable Municipal Waste Landfilled	431,340	470,361	175,030 by 2013 (requires WTE)
5	% C&D Waste Recycled	4% (excl soil)	14.4% (excl soil)	85% by 2013
6	Kg (household) WEEE collected for Recycling per capita	2.5 Kg	4.1 Kg	4 Kg by 2006
7	% Household Hazardous Waste in residual waste stream	1.1%	0.4%	0.75% by 2008
8	% Recycling of Packaging Waste	37.2%	48.8%	55% by 2011

15.2 PREVENTION AND MINIMISATION

Household Waste Generated per household (tonnes/annum) is the headline indicator for the Prevention and Minimisation of Waste.

A target of 1.25 tonnes generated per household per annum from 2006 onwards was established in the Dublin Waste Management Plan 2005 – 2010.

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

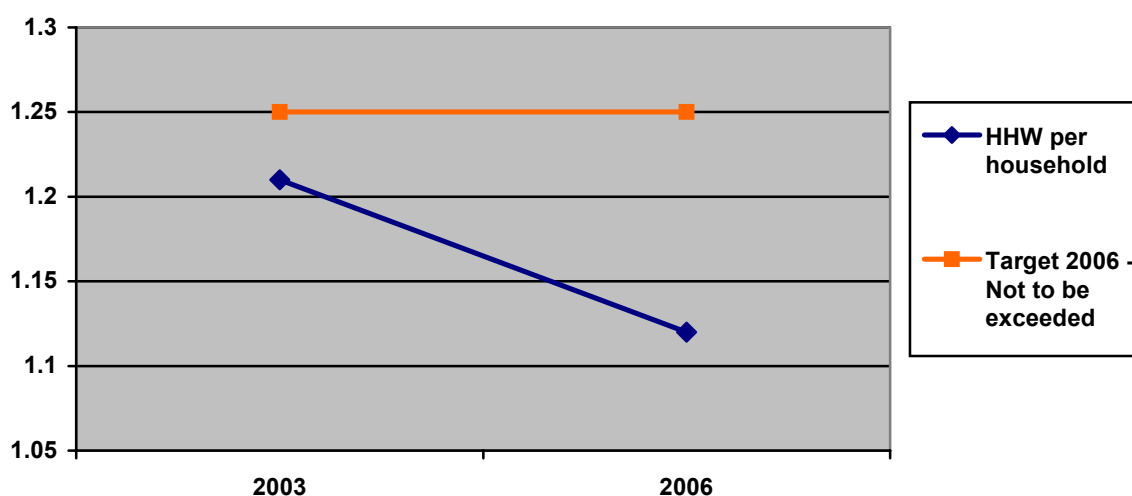


Figure 15.1 Prevention and Minimisation: Household Waste Generated Per Capita

Figure 15.1 shows that for 2006 the headline indicator for the prevention and minimisation of household waste was less than the regional set target of 1.25 tonnes/annum. The 2006 data is an improvement from 2003 when the household waste generated per household was 1.21 tonnes per annum.

Between 2003 and 2006 there has been continued economic growth in the region matched by a further increase in the number of households, particularly apartments, and population in the region. Although household waste arisings have increased by 3% since 2003, the Local Authorities recognise that household wastes collected from apartment complexes are often mixed with commercial wastes and subsequently classified and reported. This scenario distorts the household waste figures and the indicators reported for prevention and minimisation.

15.2.1 Secondary Indicator - Quantity of Household Waste Generated Per Capita

The secondary indicator, household waste generated per capita, has also decreased from 0.41 in 2003 to 0.40 in 2006.

Secondary Indicator	2003 Performance	2006 Performance
Household Waste Generated per capita (tonnes/per capita)	0.41	0.40

15.3 RECYCLING OF MUNICIPAL WASTE

Municipal Waste Recycling Rates is the headline indicator for Municipal Waste and a target of 45% by 2010 was set in the Waste Plan.

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

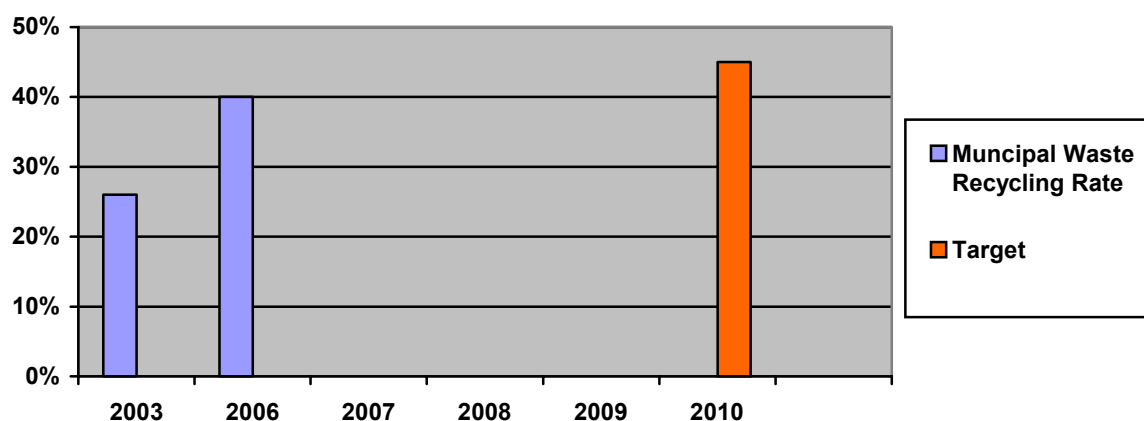


Figure 15.2: Municipal Waste Recycling Rate (%)

A municipal waste recycling rate of 40% was achieved in 2006 and represents a significant increase from 2003 when a figure of 26% was recorded. The continued drive to maximise source separation across the household and commercial sectors and divert material from landfill are significant drivers in increasing the municipal recycling rate. The restriction on the landfilling of commercial waste collected by private collectors at Balleally Landfill, coupled with high landfill gate fees nationally have incentivised the private sector to limit the quantities of residual waste to landfill.

15.3.1 Secondary Indicator - Household Waste Recycling Rate

The Household Waste Recycling Rate is a secondary indicator for Municipal Waste and has increased from 16% in 2003 to 28% in 2006. The long-term regional target of 60% remains a significant challenge.

Secondary Indicator	2003 Performance	2006 Performance	2013 Target
Household Waste Recycling Rate	16%	28%	60%

15.3.2 Secondary Indicator - Commercial/Industrial Waste Recycling Rate

The Commercial and Industrial Recycling Rate for the region is also a secondary indicator and has increased from 34% in 2003 to 48% in 2006. This exceeds the long-term regional target of 41% for this waste stream.

Secondary Indicator	2003 Performance	2006 Performance	2013 Target
Commercial/Industrial Waste Recycling Rate	34%	48%	41%

15.4 CONSTRUCTION AND DEMOLITION WASTE

The National Waste Policy Statement, Changing Our Ways, set a national target of 85% recycling of C&D waste by 2013. This target was adopted by the Dublin Local Authorities in the Waste Management Plan and is the long-term regional goal.

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

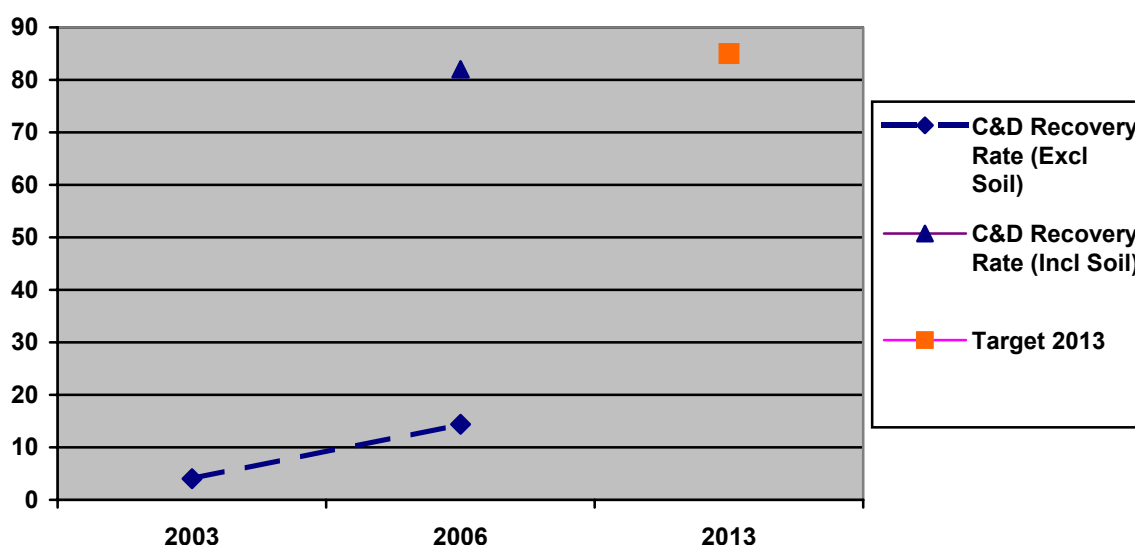


Figure 15.3: Construction & Demolition Recovery Rate

In 2006 over 7.6 million tonnes of Construction and Demolition wastes were collected in the Dublin Region. The majority, approximately 79%, of this was soil and stone material and was recovered/deposited at Local Authority Waste Permit Facilities. Increasingly this material is being brought to permitted facilities outside of the region and in 2006, 61% of soil and stones were recovered outside of the region. The amount of C&D materials such as timber, metals, wood and concrete has increased although there remains considerable opportunity to develop this sector further. Overall the combined recovery rate for C&D waste materials (including soil and stone) was estimated to be 82% and the Region has almost reached its target of 85%. A similar figure was not provided in the Waste Plan and a direct comparison is not possible.

15.4.1 Secondary Indicator - construction and demolition waste recycling quantity

The C&D Waste Recycling tonnages for 2006 were 231,200 tonnes, representing an increase from 2003 when over 128,000 tonnes were recorded.

Secondary Indicator	2003 Performance	2006 Performance
Construction and Demolition Waste Recycling (Tonnages)	128,537	231,200

15.5 WASTE ELECTRICAL AND ELECTRONIC WASTE

The headline indicator for Waste Electrical and Electronic Waste is Kg (household) WEEE collected for recycling per capita. A target of 4Kg by 2006 was established the Waste Plan.

Headline Indicator	2003 Performance	2006 Performance	2006 Target
Kg (household) WEEE Collected for Recycling per capita	2.5 Kg	4.1 Kg	4 Kg

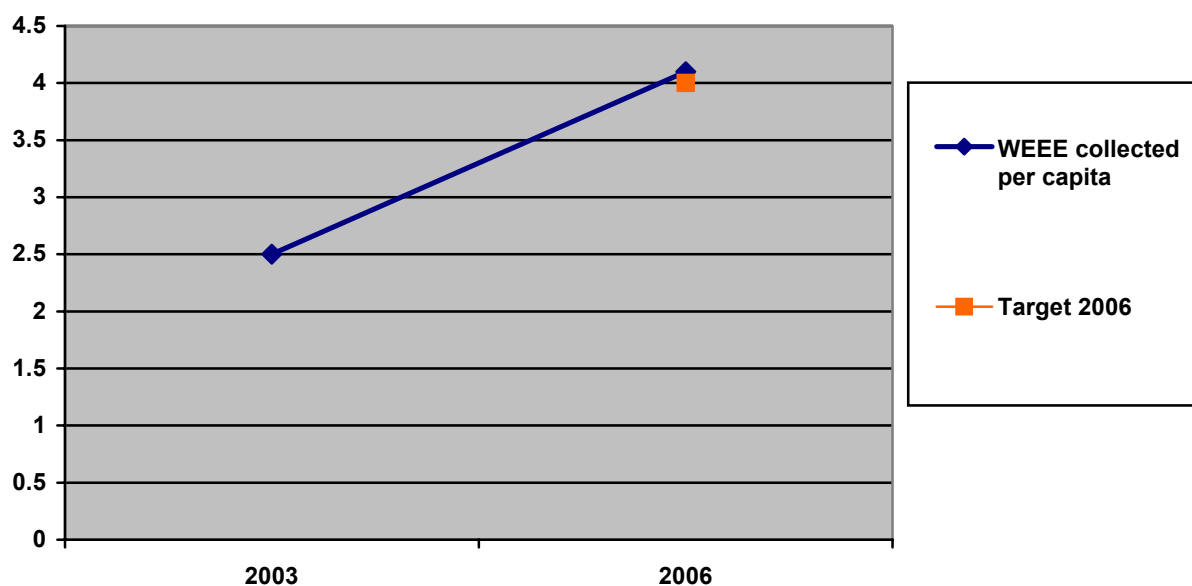


Figure 15.4: WEEE Collected (kg) for Recycling per Capita

Figure 15.4 shows that the Region achieved its target by collecting 4.1 Kg of WEEE per capita for recycling for 2006.

The majority, 86%, of household WEEE was collected from local authority recycling centres with the remainder deposited at designated collection centres for retailers in the region. A total of 4,911 of household WEEE was collected in the Region for in 2006.

15.5.1 Secondary Indicator - Estimated Quantity of WEEE Landfilled

Waste composition surveys undertaken in 2007 of the household black residual bin in the region indicate that small WEEE makes up 1.9% of the bin contents. This figure has been used to estimate the quantity of WEEE landfilled in the Region in 2006 as shown in the table below.

Headline Indicator	2003 Performance	2006 Performance
WEEE landfilled	No data	6,213 tonnes*

* The estimated quantity of household waste landfilled in the Region in 2006 is 327,000 tonnes

15.6 HOUSEHOLD HAZARDOUS WASTE

For household hazardous waste the selected headline indicator is the % household hazardous waste in residual waste bin. The Waste Plan set a target of reducing the percentage of Household Hazardous Waste in the residual waste stream to 0.75% by 2008.

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

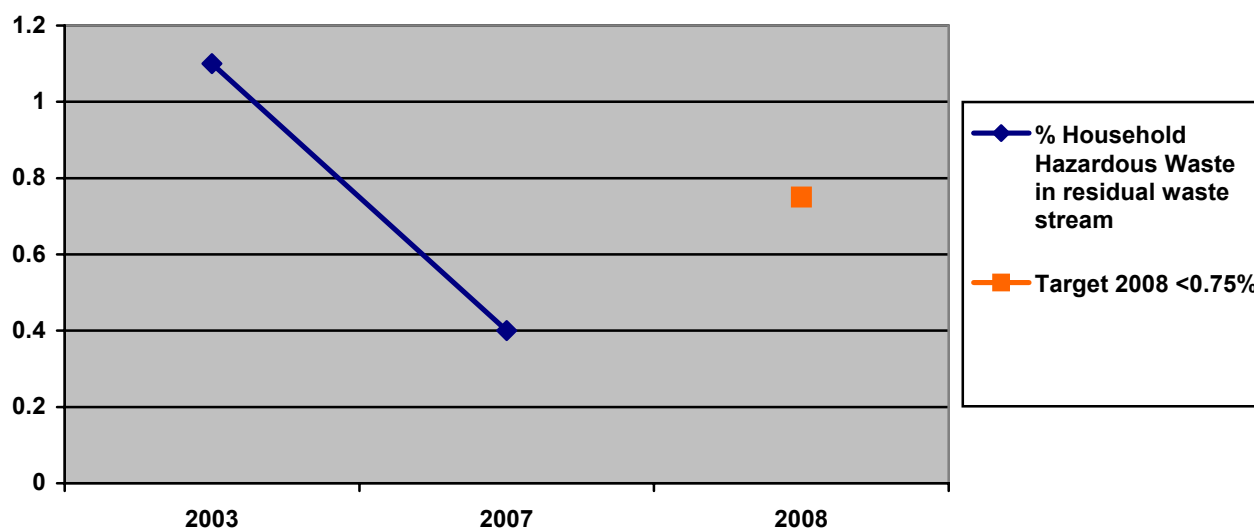


Figure 15.5: % Household Hazardous Waste in Residual Waste Stream

Waste composition surveys undertaken in 2007 of the household black residual bin in the region indicate that hazardous wastes made up 0.4% of the bin contents. No composition surveys were undertaken in 2006 so the 2007 data is shown.

Figure 15.5 shows that the % of household waste in the black bin recorded in 2006 is less than the 2008 target of 0.75%. Increased awareness of hazardous wastes at the household level and expanded options for the collection and recycling of this material, through mobile hazardous events and at recycling centres, are encouraging householders to divert more hazardous materials from the black bin.

15.6.1 Secondary Indicator - Estimated Quantity of Hazardous Waste Landfilled

Based on the composition data recorded in 2007, the estimated quantity of household hazardous waste landfilled in 2006 is shown in the table below. A significant decrease in the concentration of hazardous waste in the black bin was recorded in 2007 and the resulting quantity landfilled has decreased.

Secondary Indicator	2003 Performance	2006 Performance
Household Hazardous Wastes landfilled	5,055 tonnes	1,308 tonnes*

* The estimated quantity of household waste landfilled in the Region in 2006 is 327,000 tonnes

15.7 PACKAGING WASTE

The selected headline indicator for Packaging Waste Recovery is % Recycling of Packaging Waste. Ireland has made significant progress towards meeting National and European targets and the Dublin Region is playing its part as shown by the data below.

Headline Indicator	2003 Performance	2006 Performance	Target
% Recycling of Packaging Waste	37.2%	48.8%	55% by 2011

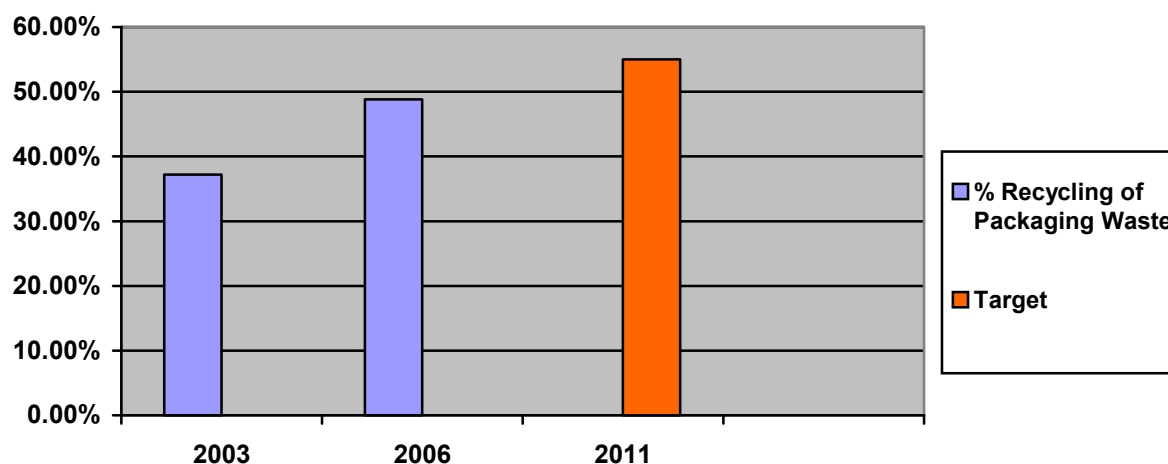


Figure 15.6: Recycling of Packaging Waste

The packaging waste recycling rate in the region has increased from 37.2% in 2003 to 48.8% in 2006 and steady progress continues to be made towards the target of 55%. Quantities of packaging waste recovered were provided by REPAK.

15.7.1 Secondary Indicator - Quantity of Packaging Waste Landfilled

Waste composition surveys of mixed residual commercial waste bins and of the household residual black bin were completed in 2005 and 2007 respectively. The updated data is presented in the following table and shows a decrease in the concentration of packaging waste in the residual household and commercial waste streams.

	Household		Commercial	
	2003	2007	2003	2005
% Packaging Waste	30	20.7	44.8	17.4

An estimated quantity of packaging waste landfilled for 2006 has been generated using the updated composition data and the estimated landfill figures for household and commercial waste.

Secondary Indicator	2003 Performance	2006 Performance
Packaging Waste landfilled	321,190 tonnes	142,927 tonnes

15.8 RECOVERY OF ENERGY FROM WASTE

The Waste Management Plan as set a target for energy recovery of 39% for household waste and 37% for commercial waste. No household and commercial/industrial waste arisings was sent for Energy Recovery from Dublin in 2006.

Headline Indicator	2003 Performance	2006 Performance	Target
Proportion of Household and C&I waste sent for Energy Recovery	0 %	0 %	38% by 2013

It remains the policy of the Dublin Local Authorities region to develop a WTE in Poolbeg, Ringsend for the long-term treatment of residual municipal waste arisings.

The procurement of this facility is on-going and in September 2007 Dublin City Council, on behalf of the 4 Dublin Local Authorities, completed its negotiations with Dublin Waste to Energy Ltd and entered into a contract with the company to design, build, finance and operate the proposed Dublin Waste to Energy Plant at the Poolbeg Peninsula.

The planning and waste licensing statutory processes are well advanced and decisions from An Bord Pleanala and the EPA are expected shortly.

15.8.1 Secondary Indicators - Landfill Gas and WWTP Biogas Recovery

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

Secondary Indicator	2003 Performance	2006 Performance (MWh)
Landfill Gas Recovery	n/a	93, 609
Biogas Recovery Rate at WWTP	n/a	n/a

15.9 LANDFILL DISPOSAL

In the area of waste disposal the quantity of biodegradable waste landfilled has been identified as the most suitable headline indicator. The National Strategy on Biodegradable Waste published by the DEHLG in 2006 set regional targets and these have been included in the Waste Plan by the Dublin Local Authorities.

	Municipal
	2006
% BMW	65.1%*

* EPA National Waste Database 2005

Headline Indicator	2003 Performance	2006 Performance	2013 Target
Tonnage Biodegradable Waste Landfilled	431,340 tonnes	470,361 tonnes*	175,030 tonnes

*The figure presents the quantity of BMW landfilled at facilities in the region only.

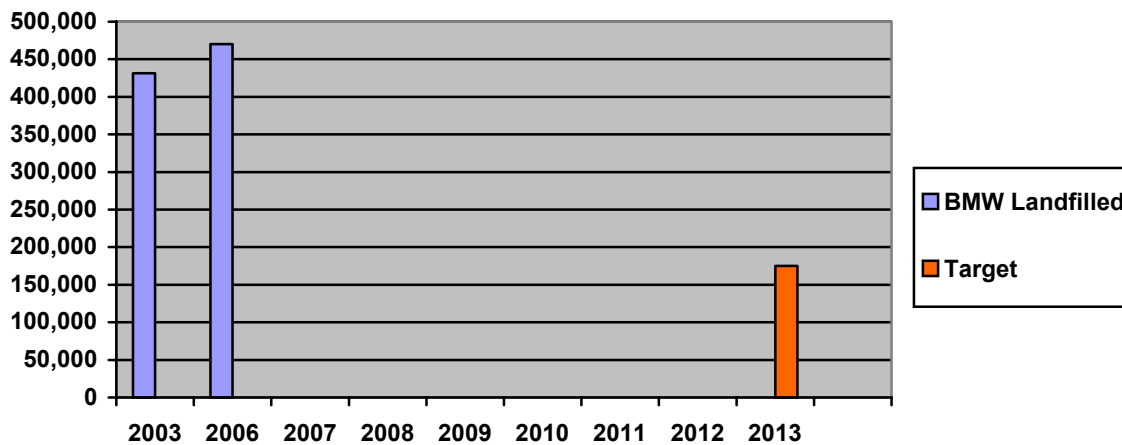


Figure 15.7 BMW Landfilled Quantities

Since the making of the current Waste Plan, Ireland has received a derogation of 4 years on its BMW targets for 2006 and 2009. The 2009 target of 175,030 tonnes has been pushed back to 2013 and remains the long-term target.

Figure 15.7 shows that the level of BMW landfilled has increased in the region with an additional 39,021 tonnes of material being landfilled since 2003. This quantity of BMW reported is for material landfilled at the 2 regional facilities at Arthurstown and Balleally. The long-term diversion target for the Region remains a significant challenge for the Region.

15.9.1 Secondary Indicator - % BMW in the Residual Bin

The BMW percentage of the household waste black bin was determined to be 63.6% from the waste composition surveys completed in 2007.

	Household
	2007
% BMW	63.6%

