



# National Waste Report 2005

## Data Update

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## **National Waste Report 2005: Data Update**

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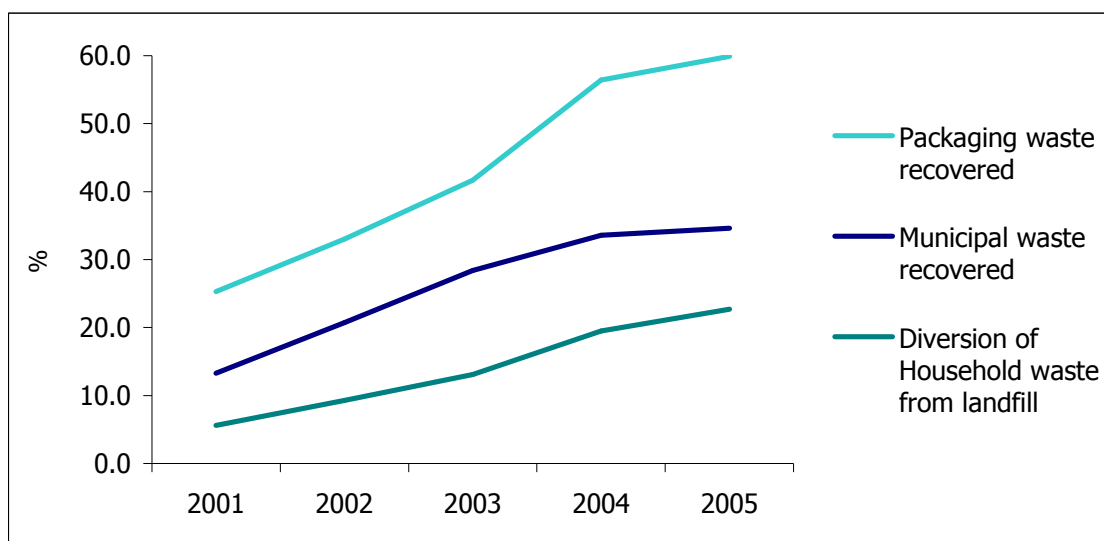
Gratitude is also due to Enviro Consulting Limited, who worked on behalf of the EPA in the collection, compilation and validation of information from local authorities, recycling organisations and EPA-licensed facilities for 2005. The assistance of staff in a number of other organisations is also acknowledged, including Repak and the Central Statistics Office.

## EXECUTIVE SUMMARY

The *National Waste Report 2005* presents the latest available national statistics for the calendar year 2005. The report contains an update on municipal waste collection and management in the Republic of Ireland (with particular reference to biodegradable municipal waste and packaging), construction and demolition waste and the export of waste. The report is prepared under the auspices of the National Waste Prevention Programme. The report provides data that:

- ❑ highlight trends in municipal waste generation and management;
- ❑ illustrate progress towards national and EU targets on the recycling of municipal waste and its diversion from landfill; and
- ❑ will be used in preparing national reports in relation to the EU Waste Statistics Regulation, the Packaging Directive, the Basel Convention and other international obligations.

The figure illustrates key recycling indicators since 2001. Recycling rates continue to increase and Ireland is on track, broadly speaking, to meet the recycling targets associated with these indicators – packaging, municipal waste and household waste.



The recycling of packaging waste continued to increase, standing at 60% recycling in 2005, achieving and exceeding the Packaging Directive target of 50% recycling by 2005. Municipal waste recycling stands at 34.6%, a short distance from the 35% recycling target expected for 2013. The *National Waste Report 2004* recommended a re-evaluation of this target in light of continuing positive progress. The diversion of household waste from landfill is also increasing, standing at 23% in 2005. Considerable progress remains to be made to divert 50% of household waste from landfill by 2013.

The number of bring banks and civic amenity sites continues to increase, with 1,937 and 81 facilities respectively. The quantity of waste deposited at these facilities increased by 12% at bring banks and 25% at civic amenity sites. The kerbside collection of mixed dry recyclables from households increased by 46% in 2005.

The management of biodegradable municipal waste remains a challenge. Implementation of the *National Strategy on Biodegradable Waste*, published in 2006, is expected to divert increasing quantities of biodegradable waste from landfill.

Construction and demolition waste remains a huge waste stream, reflecting the level of economic activity in the construction sector. Indicative recycling rates for construction and demolition waste are 87%, though the recycling of waste other than soil and stones is 43%.

# 1. INTRODUCTION

This report is the latest in the series of national waste reports prepared and published annually by the Environmental Protection Agency. Previous reports have been published for a number of years between 1995 and 2004<sup>1</sup>. The report is now published as part of the National Waste Prevention Programme<sup>2</sup> in order to improve the availability of waste information. A detailed national waste report will be published on a two-year cycle from 2004 onwards, in accordance with the reporting schedule for the EU Waste Statistics Regulation. Every other year, a shorter report will be published, containing an update on certain waste statistics.

The EPA is responsible for producing national statistics on waste<sup>3</sup> generation and management in the Republic of Ireland, including information on waste exports and imports. The objective is to present the most up to date available information on waste generation and management in Ireland, as reported to the EPA. This report presents information for the calendar year 2005. Generators of waste described in this report include households, commercial premises and construction activities.

The management of waste data at the national level has evolved since the commencement of national waste reporting in 1995. A large quantity of information is now gathered from local authorities, landfill operators, recycling organisations and industry (every other year) and the scale of the project grows each year. New national reporting obligations have arisen in recent years in relation to specific waste streams such as waste electrical and electronic equipment, biodegradable municipal waste, end-of-life vehicles and, most recently, batteries. The complexity of the data increases as new reporting obligations are imposed. Yet despite the complexity of the national waste database project, it remains a key aspect of national waste planning and policy-making. The EPA endeavours to generate the best possible waste statistics, based on the soundest available sources of data. To this end, the EPA expands its data-auditing programme each year, most recently encompassing the large volume of data provided by local authorities. The EPA also seeks to revise waste surveys to ensure that redundant questions are removed, thereby reducing the reporting burden to the greatest extent possible.

Added to the scale of the task is the increased complexity of the waste industry. With industry consolidation, and the withdrawal of many local authorities from the direct provision of services, waste often passes through a number of facilities and operators before reaching a final destination. Considerable quantities of waste are exported, and tracking waste statistics abroad presents its own difficulties. While the EPA makes all reasonable efforts to verify information, primary responsibility for the accuracy of the information remains with the survey respondents. The data in this report therefore represent the best available estimate given the present knowledge. As improved information and knowledge comes to light, the methodologies and data presented in this report may be updated.

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<sup>1</sup> *National Waste Database* reports for the years 1998, 2001, 2002, 2003 and 2004 are available at [www.epa.ie/ourenvironment/waste](http://www.epa.ie/ourenvironment/waste).

<sup>2</sup> More information at [www.epa.ie/ourenvironment/waste](http://www.epa.ie/ourenvironment/waste).

<sup>3</sup> Waste is defined in the Waste Management Acts, 1996 to 2005 and in summary means any substance or object that the holder discards or intends or is required to discard, regardless of whether that substance or object has a value or can be recycled.

The following principal data sources were used in compiling the information presented in this report:

- ❑ Local authority survey – annual EPA questionnaire to 34 local authorities;
- ❑ Recycling organisations survey – annual EPA questionnaire to over 200 waste operators;
- ❑ Annual environmental reports from 119 EPA waste-licensed facilities (landfills, hazardous waste treatment facilities and transfer stations);
- ❑ Municipal waste composition survey – results from a major project commissioned by the EPA in 2004/5 under the National Waste Prevention Programme.

All other data sources used are indicated in footnotes throughout the report.

## 2. GENERATION OF MUNICIPAL WASTE

The total amount of municipal waste generated in Ireland can be estimated, based on the reported quantity of municipal waste managed by organisations involved in recycling and landfilling of waste, plus an estimate of uncollected household waste. Local authorities estimate uncollected household waste based on the number of households in their area that do not avail of a waste collection service. This number is only an estimate however and certain issues relating to estimating uncollected household waste are discussed in the household waste section later in this report.

In 2005, it is estimated that a total of 3,050,052 tonnes of municipal waste was generated in Ireland. For the second year running there has been a slowing in the growth of municipal waste generation. There has been a consequent reduction in the amount of municipal waste generated per capita, from 743<sup>4</sup> kg in 2004 to 738<sup>5</sup> kg in 2005.

**Table 1** Municipal waste generation, 2002 to 2005

|                               | 2002<br>(tonnes) | 2003<br>(tonnes) | 2004 <sup>6</sup><br>(tonnes) | 2005<br>(tonnes)       |
|-------------------------------|------------------|------------------|-------------------------------|------------------------|
| Household waste <sup>7</sup>  | 1,679,068        | 1,704,844        | 1,728,154                     | 1,746,408 <sup>8</sup> |
| Commercial waste <sup>9</sup> | 975,744          | 1,141,264        | 1,202,824                     | 1,244,967              |
| Street cleansing waste        | 65,573           | 71,779           | 69,661                        | 58,677                 |
| <b>Total municipal waste</b>  | <b>2,720,385</b> | <b>2,917,886</b> | <b>3,000,638</b>              | <b>3,050,052</b>       |

(Source: landfill annual environmental reports; recycling organisations survey; local authorities)

<sup>4</sup> Based on CSO population data for April 2004 of 4,043,800.

<sup>5</sup> Based on CSO population data for April 2005 of 4,130,700.

<sup>6</sup> Municipal waste generation in 2004 has been revised based on new information on the collection of organic waste from households and commercial sources. See Chapter 7 for further information.

<sup>7</sup> Household waste includes: managed household waste (landfill and recovery); estimate of “uncollected” household waste.

<sup>8</sup> Of 1,746,408 tonnes of household waste estimated to be generated in 2005, 1,543,468 tonnes were managed at landfills or by recyclers, and 202,940 tonnes were classified as “uncollected”.

<sup>9</sup> Commercial waste includes: managed commercial waste (landfill and recovery, including landfill of 58,050 tonnes of non-process industrial waste).

### 3. MANAGEMENT OF MUNICIPAL WASTE

The amount of municipal waste managed is based on actual quantities of waste reported by recycling organisations and licensed landfills. Disposal and recovery rates are expressed as a percentage of total municipal waste managed, i.e. municipal waste recovered plus municipal waste landfilled. The quantity of municipal waste recovered is calculated through direct reporting from recycling organisations. Some 70% of the total quantity recycled in 2005 was verified by the EPA through site visits at 20 recycling organisations.

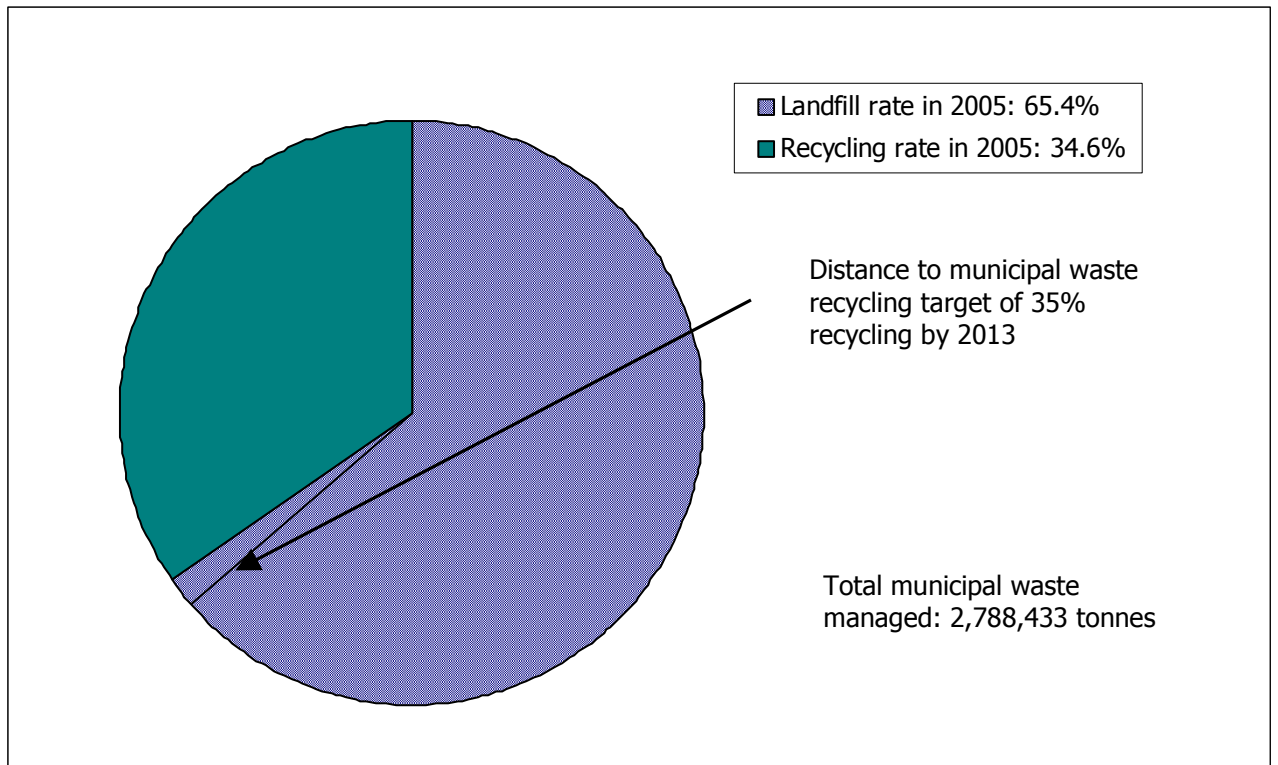
Disposal and recovery rates for the various materials in the municipal waste stream are shown in Table 2. The landfill of municipal waste increased by 0.3% in 2005 and the recovery of municipal waste increased by 9%. This results in an overall increase in the rate of municipal waste recovery from 32.7%<sup>10</sup> in 2004 to 34.6% in 2005, progressing steadily towards the national target of 35% recycling by 2013.

**Table 2 Disposal and recovery of municipal waste, 2005**

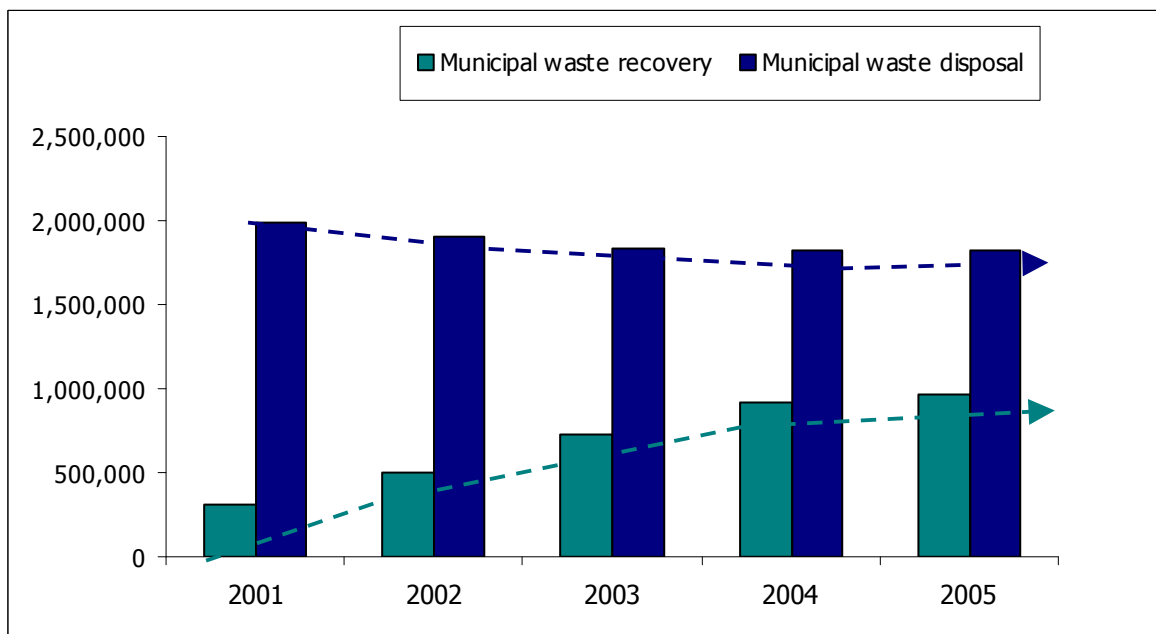
| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Wood                | 213,926                   | 13,939                       | 6.5                        | 199,987                     | 93.5                       |
| Ferrous             | 86,161                    | 24,204                       | 28.1                       | 61,956                      | 71.9                       |
| Glass               | 150,159                   | 53,461                       | 35.6                       | 96,697                      | 64.4                       |
| WEEE                | 34,052                    | 12,312                       | 36.2                       | 21,740                      | 63.8                       |
| Paper and cardboard | 891,264                   | 449,957                      | 50.5                       | 441,307                     | 49.5                       |
| Plastic             | 300,110                   | 241,424                      | 80.4                       | 58,687                      | 19.6                       |
| Other metals        | 14,644                    | 12,521                       | 85.5                       | 2,123                       | 14.5                       |
| Aluminium           | 22,466                    | 20,281                       | 90.3                       | 2,186                       | 9.7                        |
| Textiles            | 157,984                   | 146,790                      | 92.9                       | 11,194                      | 7.1                        |
| Organics            | 715,314                   | 667,512                      | 93.3                       | 47,802                      | 6.7                        |
| Others              | 202,353                   | 181,664                      | 89.8                       | 20,689                      | 10.2                       |
| <b>Total</b>        | <b>2,788,433</b>          | <b>1,824,066</b>             | <b>65.4</b>                | <b>964,367</b>              | <b>34.6</b>                |

(Source: recycling organisations survey, local authority survey, landfill annual environmental reports and EPA municipal waste composition survey)

<sup>10</sup> The municipal waste recovery rate in 2004 has been revised based on new information on the collection of organic waste from households and commercial sources. See Chapter 7 for further information.



**Figure 1** Recycling of municipal waste, 2005



**Figure 2** Recovery and disposal of municipal waste are levelling off

The export of recyclable materials, including municipal waste, in 2005 is detailed in Table 3. A total of 511,787 tonnes of waste metal was exported for reprocessing, predominantly to Spain and Portugal (77%) and the UK (22%). The UK was the principal destination for paper reprocessing, accounting for 39% of the total, while a significant quantity was exported to Asia. It is apparent that a certain proportion of Irish recyclable waste exported to other EU countries is shipped onwards within and outside of the EU.

**Table 3 Destination of recyclable waste streams, including municipal waste, exported in 2005**

|                | Paper & Cardboard | Glass         | Plastic       | Metals         | Wood          | WEEE          | Other         | TOTAL                         |
|----------------|-------------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------------------|
| UK             | 168,962           | 92,961        | 30,522        | 113,695        | 17,492        | 6,262         | 23,881        | <b>453,775</b>                |
| Spain/Portugal | 46,432            |               |               | 392,418        |               |               |               | <b>438,850</b>                |
| Asia           | 84,367            |               | 3,253         |                |               |               | 30            | <b>87,650</b>                 |
| Holland        | 67,656            |               | 147           | 4,049          |               | 725           |               | <b>72,578</b>                 |
| China          | 32,178            |               | 16,467        | 781            |               | 81            | 4             | <b>49,511</b>                 |
| Europe         |                   |               |               |                |               | 13,166        |               | <b>13,166</b>                 |
| Germany        | 1,455             |               | 151           | 411            |               | 762           | 9,717         | <b>12,495</b>                 |
| France         | 5,994             |               | 319           | 239            |               | 584           | 5             | <b>7,140</b>                  |
| Belgium        |                   |               |               | 194            |               | 131           | 547           | <b>872</b>                    |
| Eastern Europe |                   |               |               |                |               | 18            | 744           | <b>762</b>                    |
| Middle East    | 75                |               |               |                |               |               |               | <b>75</b>                     |
| Unspecified    | 22,498            |               |               |                |               |               |               | <b>22,498</b>                 |
| <b>Total</b>   | <b>429,616</b>    | <b>92,961</b> | <b>50,859</b> | <b>511,787</b> | <b>17,492</b> | <b>21,728</b> | <b>34,928</b> | <b>1,159,371<sup>11</sup></b> |

Other: textiles; batteries; composites; waste oil; cooking oil and tyres.

(Source: recycling organisations survey)

A total of 234,696 tonnes of material was recycled in Ireland in 2005, a decrease of 25% compared to 2004. The overall proportion of waste recycled in Ireland dropped to 17% in 2005 from 26% in 2004 as shown in Table 4. Ireland has become increasingly dependent on foreign recycling infrastructure with 83% of recyclable materials exported as shown in Table 5. There are no significant facilities for glass recycling in the Republic of Ireland and with the closure of a paper mill in 2005, only 2.6% of recyclable paper and cardboard was recycled in Ireland compared to 31% in 2004. Waste materials are also imported into Ireland for reprocessing. In 2005 a total of 49,993 tonnes of waste plastic was imported into Ireland. Table 6 shows the quantities of waste exported from and imported into Ireland in 2005.

<sup>11</sup> Includes recyclables from non-municipal sources.

**Table 4 Waste recycled in Ireland in 2004 and 2005, including municipal waste (not including imports)**

| Material            | 2004           |             | 2005           |                 |
|---------------------|----------------|-------------|----------------|-----------------|
|                     | Tonnes         | %           | Tonnes         | % <sup>12</sup> |
| Wood                | 147,909        | 91.8        | 182,495        | 91.3            |
| Aluminium           | 3,450          | 18.1        | 3,530          | 32.2            |
| Other Metals        | 3,849          | 9.9         | 3,730          | 16.5            |
| Textiles            | 4,713          | 44.7        | 1,660          | 14.9            |
| Plastic             | 8,718          | 15.6        | 7,828          | 13.3            |
| Glass               | 3,124          | 4.5         | 3,736          | 3.9             |
| Paper and Cardboard | 118,358        | 31.5        | 11,690         | 2.6             |
| Ferrous Metals      | 3,757          | 0.9         | 3,260          | 0.7             |
| WEEE <sup>13</sup>  |                |             | 12             | 0.1             |
| Others              | 21,751         | 50.6        | 16,755         | 39.7            |
| <b>Total</b>        | <b>315,628</b> | <b>26.2</b> | <b>234,696</b> | <b>16.8</b>     |

(Source: recycling organisations survey)

**Table 5 Waste recycled abroad, including municipal waste, 2004 and 2005**

| Material            | 2004           |             | 2005             |                 |
|---------------------|----------------|-------------|------------------|-----------------|
|                     | Tonnes         | %           | Tonnes           | % <sup>14</sup> |
| WEEE <sup>15</sup>  |                |             | 21,728           | 99.9            |
| Ferrous Metals      | 430,232        | 99.1        | 485,448          | 99.3            |
| Paper and Cardboard | 257,240        | 68.5        | 429,616          | 97.4            |
| Glass               | 65,680         | 95.5        | 92,961           | 96.1            |
| Plastic             | 47,186         | 84.4        | 50,859           | 86.7            |
| Textiles            | 5,822          | 55.3        | 9,503            | 85.1            |
| Other Metals        | 34,929         | 90.1        | 18,893           | 83.5            |
| Aluminium           | 15,642         | 81.9        | 7,446            | 67.8            |
| Wood                | 13,242         | 8.2         | 17,492           | 8.7             |
| Others              | 21,273         | 49.4        | 25,426           | 60.3            |
| <b>Total</b>        | <b>891,240</b> | <b>73.8</b> | <b>1,159,371</b> | <b>83.2</b>     |

(Source: recycling organisations survey)

<sup>12</sup> These percentages refer to the recycling of material in Ireland, as a percentage of the total recycling (in Ireland and abroad) of each material.

<sup>13</sup> No data available for 2004. Domestic WEEE treatment operations commenced in 2006.

<sup>14</sup> These percentages refer to the recycling of material abroad, as a percentage of the total recycling (in Ireland and abroad) of each material.

<sup>15</sup> No data available for 2004.

**Table 6 Export and import of waste, 2005, including municipal waste**

| Material exported or imported for recovery | Export of non-notified waste<br>(tonnes) |                 |                     | Import of non-notified waste<br>(tonnes) |                 |                     |
|--|--|-----------------|---------------------|--|-----------------|---------------------|
|  | Total                                    | Packaging waste | Non-packaging waste | Total                                    | Packaging waste | Non-packaging waste |
|  | <b>Ferrous Metals</b>                    | 485,447         | 37,137              | 448,310                                  | 0               | 0                   |
| <b>Paper and Cardboard</b>                 | 429,616                                  | 232,167         | 197,449             | 0  | 0               | 0                   |
| <b>Glass</b>                               | 92,961                                   | 88,530          | 4,431               | 0  | 0               | 0                   |
| <b>Plastic</b>                             | 50,859                                   | 47,821          | 3,038               | 49,993                                   | 49,993          | 0                   |
| <b>WEEE</b>                                | 21,728                                   |                 | 21,728              | 6  |                 | 6                   |
| <b>Other Metals</b>                        | 18,893                                   | 813             | 18,080              | 2,123                                    | 0               | 2,123               |
| <b>Wood</b>                                | 17,492                                   | 13,208          | 4,284               | 61                                       | 9               | 52                  |
| <b>Textiles</b>                            | 9,503                                    | 0               | 9,503               | 0  | 0               | 0                   |
| <b>Aluminium</b>                           | 7,446                                    | 1,819           | 5,627               | 0  | 0               | 0                   |
| <b>Other</b>                               | 25,426                                   | 15,222          | 10,204              | 0  | 0               | 0                   |
| <b>Total</b>                               | <b>1,159,371</b>                         | <b>436,717</b>  | <b>722,653</b>      | <b>52,183</b>                            | <b>50,002</b>   | <b>2,181</b>        |

Other: batteries; composites; waste oil; cooking oil and tyres.

(Source: recycling organisations survey)

## 4. HOUSEHOLD WASTE

### *Disposal and recovery of household waste*

As indicated in Table 7, 1,543,468 tonnes of household waste was managed by waste operators in Ireland in 2005, an increase of 3% since 2004.

The quantity of household waste recovered continues to increase, up 22%<sup>16</sup> in 2005. The recovery rate was 22.7% in 2005. For the fourth year running, there was a decrease in the reported landfill of household waste, from 1,214,908 tonnes in 2004 to 1,193,872 tonnes in 2005. Disposal and recovery rates for household waste are shown in Table 7. While the trend continues to move in the right direction, there is still some distance to go to meet the national target of 50% diversion of household waste from landfill by 2013.

**Table 7 Disposal and recovery rates in the household waste stream, 2005**

| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Glass               | 121,674                   | 44,173                       | 36.3                       | 77,501                      | 63.7                       |
| WEEE                | 20,672                    | 9,551                        | 46.2                       | 11,121                      | 53.8                       |
| Wood                | 19,010                    | 10,745                       | 56.5                       | 8,266                       | 43.5                       |
| Paper and cardboard | 395,026                   | 229,223                      | 58.0                       | 165,803                     | 42.0                       |
| Ferrous             | 24,184                    | 17,908                       | 74.0                       | 6,276                       | 26.0                       |
| Plastic             | 194,325                   | 164,754                      | 84.8                       | 29,570                      | 15.2                       |
| Aluminium           | 18,533                    | 16,714                       | 90.2                       | 1,819                       | 9.8                        |
| Organics            | 466,002                   | 432,182                      | 92.7                       | 33,820                      | 7.3                        |
| Textiles            | 138,859                   | 131,326                      | 94.6                       | 7,533                       | 5.4                        |
| Other metals        | 5,005                     | 4,775                        | 95.4                       | 230                         | 4.6                        |
| Others              | 140,178                   | 132,520                      | 94.5                       | 7,658                       | 5.5                        |
| <b>Total</b>        | <b>1,543,468</b>          | <b>1,193,872</b>             | <b>77.3</b>                | <b>349,596</b>              | <b>22.7</b>                |

(Source: recycling organisations survey, local authority survey, landfill annual environmental reports and EPA municipal waste composition survey)

#### **Calculation of household waste managed:**

**Household waste managed = household waste landfilled + household waste recovered**

- Household waste landfilled = composition factors for mixed residual waste (Table 8) applied to the total household waste landfilled (as reported by licensed landfill operators).
- Household waste recovered = composition factors for mixed dry recyclables (Table 9) applied to the quantity of mixed dry recyclables collected (as reported by local authorities) + material collected at bring banks and civic amenity sites (as reported by local authorities).

<sup>16</sup> The household waste recovery rate in 2004 has been revised based on new information on the collection of organic waste from households and commercial sources. See Chapter 7 for further information.

## Household waste composition

The composition factors used are those presented in the National Waste Report 2004 - based on surveys of municipal waste conducted in 2004 and 2005. These surveys were managed and funded under the National Waste Prevention Programme.

**Table 8**                      **Composition of mixed residual household waste**

|                   | Non-Packaging (%) | Packaging (%) | Total (%)    |
|-------------------|-------------------|---------------|--------------|
| Organics          | 36.2              |               | <b>36.2</b>  |
| Paper & cardboard | 13.5              | 5.7           | <b>19.2</b>  |
| Plastics          | 2.8               | 11.0          | <b>13.8</b>  |
| Textiles          | 11.0              | 0             | <b>11.0</b>  |
| Glass             | 0.1               | 3.6           | <b>3.7</b>   |
| Ferrous           | 0.3               | 1.3           | <b>1.5</b>   |
| Aluminium         | 0.8               | 0.6           | <b>1.4</b>   |
| Wood              | 0.9               | 0             | <b>0.9</b>   |
| WEEE              | 0.8               |               | <b>0.8</b>   |
| Other metals      | 0.4               | 0             | <b>0.4</b>   |
| Other             | 9.4               | 1.7           | <b>11.1</b>  |
| <b>Total</b>      | <b>76.2</b>       | <b>23.8</b>   | <b>100.0</b> |

(Source: EPA municipal waste composition survey 2004/2005)

**Table 9**                      **Composition of mixed dry recyclable household waste**

|                   | Non packaging (%) | Packaging (%) | Total (%)    |
|-------------------|-------------------|---------------|--------------|
| Paper & Cardboard | 53.6              | 19.1          | 72.7         |
| Plastics          | 1.5               | 11.1          | 12.6         |
| Glass             |                   | 3.7           | 3.7          |
| Ferrous           | 0.1               | 2.7           | 2.8          |
| Textiles          | 1.9               | 0             | 1.9          |
| Aluminium         | 0.1               | 1.5           | 1.6          |
| Organics          | 0.7               |               | 0.7          |
| WEEE              | 0.2               |               | 0.2          |
| Other Metals      | 0.1               | 0             | 0.1          |
| Wood              | 0.1               | 0             | 0.1          |
| Other             | 1.6               | 2.0           | 3.6          |
| <b>Total</b>      | <b>59.9</b>       | <b>40.1</b>   | <b>100.0</b> |

(Source: EPA municipal waste composition survey 2004/2005)

## *Local authorities and household waste*

A summary of information on household waste collection, as reported by local authorities, is shown in Appendix B. This is based on information compiled by local authorities, based on annual reports from waste collection permit holders, plus estimates of home composting and uncollected household waste. A total of 1,140,438 tonnes of household waste was reportedly collected in 2005, with a further 71,074 tonnes delivered directly to landfill by householders. A further 189,247 tonnes of household waste was brought to bring banks and civic amenity sites. Based on sales of compost bins, local authorities estimated that 29,567 tonnes of household waste were composted at home. An estimated 202,940 tonnes of uncollected household waste was generated. Thus the total amount of household waste generated according to local authorities' data is 1,633,266 tonnes. A variance exists between local authority collection data and EPA-compiled waste management data. Some variance is to be expected given that these data come from different sources. However there are several solutions that the EPA is implementing to minimise future variances in reported data:

- waste data is inherently uncertain and discrepancies between different sources of information will always exist – the EPA seeks to reconcile different sources by auditing respondents' data, and comparing sources where two exist, e.g. in relation to packaging waste. However, the EPA aims to produce each national waste report within 12 months – thus there is a finite amount of time spent on reconciling any one year's data.
- waste operators should continue to improve the quality of the data they record and report. Proper classification and categorisation of waste remains a problem that should be resolved – the EPA will offer training to the waste industry on this topic;
- local authorities should continue their roll-out of data audit programmes to validate and verify data at the local level – the EPA will offer training to local authorities on audit and data management techniques.

In order to improve the quality of national statistics, the EPA conducted a number of audits of local authorities in 2006 to verify the municipal waste data submitted. Six local authorities were audited with respect to municipal waste collection data. An estimated 46% of the total municipal waste collected was audited and the data from another 2 local authorities was revised in light of the audit findings. The audits involved checking how data returns from collection permit holders were managed and processed by the local authority to generate summary data for submission to the EPA. The data management systems in operation were generally of high quality and some local authorities have data verification elements included in their enforcement audit programmes. The audits uncovered some issues with regard to the classification of certain types of waste as municipal waste – for example, large quantities of industrial process waste were incorrectly counted as municipal waste. After the audits, municipal waste collected data were revised downwards, mainly on the commercial side.

In response to some of the issues highlighted during the audits and in an effort to improve the quality and timeliness of waste data, the EPA has developed a plan to build capacity in local authorities and their data respondents. The EPA's annual survey of local authorities will focus on a smaller number of waste streams. With this new focus, which will mainly be on household waste collection, local authorities will be in a better position to generate a verified and audited dataset. To ensure consistency and accuracy of the data, and to avoid confusion over what to include in the data, the EPA will provide training to local

authorities in compiling the annual waste survey responses and will also develop a training course for waste operators on compiling their annual reports for the local authorities.

### *Household waste collection*

The biggest change to the domestic waste collection system in 2005 was the introduction of weight or volume based charging (more commonly known as pay-by-use)<sup>17</sup>. There are three systems of pay-by-use charges currently used in Ireland; volume-based systems, tag-based systems and weight-based systems. With volume-based systems householders pay an annual charge for a weekly bin collection, based on the volume of the bin, with higher charges for larger bins. Tag-based systems involve householders purchasing tags to attach to their bag or bin. Collectors only pick up bins with tags and householders therefore only pay for waste collection when they place bags or bins out for collection. Weight-based systems involve householders paying per kilogramme of waste collected. The waste collector weighs the bin and bills the householder based on this weight.

A recent study funded by the EPA Environmental Research, Technological Development and Innovation (ERTDI) Programme<sup>18</sup> found that while pay-by-use systems have been introduced in most local authority areas, some operators still use a flat rate charge. Most areas have a combination of tag-based and volume based systems, depending on the operators, with weight-based systems available in only seven local authority areas.

Waste collection practices differ from local authority to local authority and also within many local authority areas. Table 10 shows that in 15 local authority areas, household waste collection services are provided wholly by the private sector. A total of 19 local authorities continue to provide collection services in their areas. While some separate collection schemes were in place in 2004, most householders with a waste collection service are now provided with separate kerbside collection of dry recyclables and, in some cases, household organic waste. According to data from local authorities, 181,389 tonnes of mixed dry recyclables was collected from households in 2005 and 21,136 tonnes of organic waste. It is interesting to note that 48% of household waste is now collected by the private sector.

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<sup>17</sup> As set out in the 2004 policy document *Waste Management: Taking Stock and Moving Forward*.

<sup>18</sup> O'Callaghan-Platt, A., Davies, A., *A nationwide review of pay-by-use domestic waste collection charges in Ireland*. In preparation. Environmental RTDI Programme 2000-2006.

**Table 10 Public and privately operated kerbside collection schemes**

| Local authority             | Mixed/Residual waste collection by local authority | Mixed/Residual waste collection by private operators | Separate waste collection by local authority | Separate waste collection by private operators |
|-----------------------------|--|--|--|--|
|                             | (Tonnes)   | (Tonnes)   | (Tonnes)                                     | (Tonnes)                                       |
| Carlow County Council       | 10,695   | 11,261   | 0  | 0  |
| Cavan County Council        | 3,186  | 10,786   | 16   | 1,386  |
| Clare County Council        | 1,743  | 20,026   | 821  | 7,058  |
| Cork County Council         | 25,745   | 26,635   | 4,685  | 7,525  |
| Cork City Council           | 34,264   | 6,055  | 6,071  | 4,231  |
| Donegal County Council      | 0  | 21,309   | 0  | 1,494  |
| Dublin City Council         | 152,420  | 10,663   | 21,164                                       | 755  |
| Dun Laoghaire-Rathdown      | 34,660   | 3,223  | 12,302                                       | 1,256  |
| Fingal County Council       | 64,203   | 8,448  | 81   | 10,531   |
| Galway County Council       | 0  | 20,882   | 0  | 9,903  |
| Galway City Council         | 9,002  | 2,018  | 9,106  | 515  |
| Kerry County Council        | 11,796   | 10,337   | 2,352  | 2,379  |
| Kildare County Council      | 18,252   | 28,290   | 4,028  | 3,517  |
| Kilkenny County Council     | 437  | 10,953   | 246  | 3,462  |
| Laois County Council        | 0  | 8,562  | 0  | 1,729  |
| Leitrim County Council      | 0  | 4,767  | 0  | 805  |
| Limerick County Council     | 0  | 22,215   | 0  | 5,050  |
| Limerick City Council       | 0  | 17,578   | 0  | 4,776  |
| Longford County Council     | 0  | 7,370  | 0  | 1,595  |
| Louth County Council        | 0  | 25,079   | 0  | 7,936  |
| Mayo County Council         | 18,708   | 7,760  | 0  | 2,486  |
| Meath County Council        | 0  | 35,632   | 0  | 6,243  |
| Monaghan County Council     | 0  | 10,589   | 0  | 1,785  |
| North Tipp County Council   | 0  | 14,647   | 0  | 4,395  |
| Offaly County Council       | 0  | 14,809   | 0  | 4,178  |
| Roscommon County Council    | 0  | 10,851   | 0  | 1,775  |
| Sligo County Council        | 0  | 9,056  | 0  | 1,421  |
| South Dublin County Council | 61,052   | 7,481  | 17,643                                       | 813  |
| South Tipp County Council   | 12,480   | 6,451  | 2,579  | 1,215  |
| Waterford County Council    | 9,511  | 2,238  | 4,568  | 568  |
| Waterford City Council      | 7,210  | 489  | 6,136  | 0  |
| Westmeath County Council    | 9,672  | 4,014  | 1,394  | 1,165  |
| Wexford County Council      | 14,352   | 7,709  | 3,894  | 2,312  |
| Wicklow County Council      | 0  | 30,345   | 0  | 1,179  |
| <b>Total</b>                | <b>499,387</b>                                     | <b>438,526</b>                                       | <b>97,085<sup>19</sup></b>                   | <b>105,439<sup>19</sup></b>                    |

(Source: local authority survey)

<sup>19</sup> Includes separate collection of organic waste. See Appendix B for more detailed information.

## Central collection facilities

Bring banks and civic amenity sites remain essential facilities for the collection of waste not accepted in kerbside collection schemes, for example, glass, plastics (in some areas), wood, garden waste, waste electrical and electronic equipment (WEEE), batteries and waste chemicals such as paints and weed killers. The static infrastructure for the collection of recyclables continues to improve. A total of 189,247 tonnes of household waste were collected centrally at civic amenity sites and bring banks in 2005. Quantities of waste collected at bring banks rose by 12% while waste collected at civic amenity sites increased by 25% in 2005. Table 11 shows the trends on waste being brought to bring banks and civic amenity sites from 2002 to 2005.

**Table 11 Bring banks and civic amenity sites, 2002 to 2005**

|   | 2002 <sup>20</sup> | 2003 <sup>20</sup> | 2004                | 2005    |
|---|--------------------|--------------------|---------------------|---------|
| <b>Number of bring banks</b>                              | 1,636              | 1,692              | 1,824 <sup>21</sup> | 1,937   |
| <b>Quantity collected at bring banks (tonnes)</b>         | 35,920             | 53,001             | 76,023              | 84,980  |
| Size range of bring banks (no. of bring banks):           |                    |                    |                     |         |
| No data on size   |                    |                    | 591                 | 586     |
| <5 tonnes per annum                                       |                    |                    | 374                 | 322     |
| 5-10 tonnes per annum                                     |                    |                    | 182                 | 169     |
| 10-50 tonnes per annum                                    | no data            | no data            | 480                 | 610     |
| 50-100 tonnes per annum                                   |                    |                    | 117                 | 76      |
| 100-500 tonnes per annum                                  |                    |                    | 30                  | 79      |
| >500 tonnes per annum                                     |                    |                    | 50                  | 95      |
| <b>Number of civic amenity sites</b>                      | 49                 | 60                 | 69                  | 81      |
| <b>Quantity collected at civic amenity sites (tonnes)</b> | 61,197             | 47,686             | 83,562              | 104,267 |
| Size range of civic amenity sites (no. of CA sites):      |                    |                    |                     |         |
| No data on size   |                    |                    | 4                   | 10      |
| <5 tonnes per annum                                       |                    |                    | 8                   | 2       |
| 5-10 tonnes per annum                                     |                    |                    | 1                   | 2       |
| 10-50 tonnes per annum                                    | no data            | no data            | 3                   | 4       |
| 50-100 tonnes per annum                                   |                    |                    | 5                   | 4       |
| 100-500 tonnes per annum                                  |                    |                    | 17                  | 11      |
| >500 tonnes per annum                                     |                    |                    | 31                  | 48      |

(Source: local authority survey)

Table 12 indicates the number of bring banks and civic amenity sites operational in each local authority area in 2005. Despite the availability of separate kerbside collection services for recyclables, these facilities continue to be important for the collection of household waste.

<sup>20</sup> Data on the size range of bring banks and civic waste facilities were not compiled in 2002 or 2003.

<sup>21</sup> Figure published in National Waste Report 2004 was 1,929. This figure was revised to 1,824 after three local authorities provided corrected figures post publication.

**Table 12 Bring banks and civic amenity sites in operation in 2005**

| Local authority        | Bring banks | Civic amenity sites | Local authority  | Bring banks  | Civic amenity sites |
|------------------------|-------------|---------------------|------------------|--------------|---------------------|
| Carlow                 | 39          | 3                   | Limerick City    | 20           | 1                   |
| Cavan                  | 28          | 2                   | Longford         | 25           | 1                   |
| Clare                  | 53          | 4                   | Louth            | 39           | 1                   |
| Cork County            | 188         | 9                   | Mayo             | 89           | 2                   |
| Cork City              | 38          | 1                   | Meath            | 23           | 2                   |
| Donegal                | 56          | 2                   | Monaghan         | 24           | 1                   |
| Dublin City            | 129         | 2                   | North Tipperary  | 39           | 3                   |
| Dun Laoghaire-Rathdown | 76          | 1                   | Offaly           | 58           | 3                   |
| Fingal                 | 81          | 3                   | Roscommon        | 38           | 3                   |
| Galway County          | 92          | 3                   | Sligo            | 42           | 2                   |
| Galway City            | 15          | 1                   | South Dublin     | 50           | 2                   |
| Kerry                  | 89          | 5                   | South Tipperary  | 82           | 2                   |
| Kildare                | 62          | 0                   | Waterford County | 44           | 3                   |
| Kilkenny               | 43          | 3                   | Waterford City   | 26           | 1                   |
| Laois                  | 37          | 1                   | Westmeath        | 48           | 2                   |
| Leitrim                | 38          | 2                   | Wexford          | 125          | 2                   |
| Limerick County        | 47          | 4                   | Wicklow          | 54           | 4                   |
|                        |             |                     | <b>Total</b>     | <b>1,937</b> | <b>81</b>           |

(Source: local authority survey)

### *Uncollected household waste*

In most local authority areas, there is a proportion of households that is not provided with, or chooses not to avail of, waste collection services. Nationally, an average of 76% of households avail of a collection service. In some areas, this figure is as low as 48%, while in the larger urban centres, collection coverage is as high as 100%. Some reasons for this include:

- in some cases, householders may choose to share bins with a neighbour or other family members;
- some dwellings are located too far away from the route of the collection service on offer in the area;
- householders may avail of nearby bring banks and civic waste facilities for recyclable materials;
- some householders have direct access to, or the use of, a local landfill facility;
- many holiday homes are unoccupied for long periods of time during the year;
- householders engage in illegal practices such as backyard burning or fly-tipping.

“Uncollected waste” refers to the waste produced by the portion of the population not provided with a collection service, corrected to take account of local conditions such as shared bins, direct access to landfills etc. Using a standard methodology for each of the local authority areas, the national estimate of “uncollected” household waste in 2005 is 202,940 tonnes, a decrease of 24,434 tonnes since 2004. While standardising the methodology has given a more reliable number, it is still an estimate and work is ongoing in most local authorities to gain an understanding of this uncollected waste and its management routes. Some local authorities have reported difficulties in estimating the number of households that avail of a

collection service where tag-based systems are used, as tags are usually sold through third-party sellers and households may not put a bin out for collection every week.

Active enforcement initiatives are ongoing in many areas to investigate what is happening to uncollected waste. The Department of the Environment, Heritage and Local Government issued a circular in early 2006 requesting local authorities to provide information on the work they have been doing to investigate the extent of unauthorised waste activities in their area. Some have conducted surveys of households that are not provided with, or choose not to avail of, collection services to establish what they are doing with their waste.

For example, one local authority found that there is anecdotal evidence of householders taking their waste directly to landfill in other counties. Some waste collectors classify waste from apartments as “commercial” when they deal with management companies, so these would not be included when estimating the number of households with a collection service. Another local authority mapped collection routes against the location of residential housing in their area and found that 75% of households are on or within 50m of a collection route. Work is now underway to investigate how many of the 75% of households are using a collection service. Other local authorities have suggested that due to an increase in the number of holiday or second homes, some properties are vacant for most of the year. The EPA’s Office of Environmental Enforcement and local authorities are continuing to address problems such as backyard burning, for example through awareness and local radio campaigns, proactive enforcement initiatives and litter hotlines. Local authorities reported the clean-up of 15,723 tonnes of fly-tipped waste, accounting for almost 8% of “uncollected” household waste.

## 5. COMMERCIAL WASTE

Disposal and recovery rates for the commercial waste stream are shown in Table 13. An estimated 1,244,967 tonnes of commercial, or non-household municipal waste, was managed in Ireland in 2005, an increase of 3.5%<sup>22</sup> since 2004.

**Table 13 Disposal and recovery in the commercial waste stream, 2005**

| Material            | Quantity managed (tonnes) | Quantity landfilled <sup>23</sup> (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|--|----------------------------|-----------------------------|----------------------------|
| Wood                | 194,916                   | 3,194                                      | 1.6                        | 191,722                     | 98.4                       |
| Ferrous             | 61,977                    | 6,296                                      | 10.2                       | 55,681                      | 89.8                       |
| WEEE                | 13,380                    | 2,761                                      | 20.6                       | 10,619                      | 79.4                       |
| Glass               | 28,484                    | 9,288                                      | 32.6                       | 19,197                      | 67.4                       |
| Paper and cardboard | 496,238                   | 220,734                                    | 44.5                       | 275,504                     | 56                         |
| Plastic             | 105,786                   | 76,669                                     | 72.5                       | 29,116                      | 27.5                       |
| Other metals        | 9,639                     | 7,746                                      | 80.4                       | 1,893                       | 19.6                       |
| Textiles            | 19,125                    | 15,464                                     | 80.9                       | 3,661                       | 19.1                       |
| Aluminium           | 3,933                     | 3,566                                      | 90.7                       | 367                         | 9.3                        |
| Organics            | 249,312                   | 235,331                                    | 94.4                       | 13,982                      | 5.6                        |
| Other               | 62,176                    | 49,145                                     | 79.0                       | 13,031                      | 21.0                       |
| <b>Total</b>        | <b>1,244,967</b>          | <b>630,194</b>                             | <b>50.6</b>                | <b>614,772</b>              | <b>49.4</b>                |

(Source: recycling organisations survey, local authority survey, landfill annual environmental reports and municipal waste composition survey)

Composition factors are applied to landfill data in order to determine the breakdown of mixed commercial waste going to landfill. The composition factors used are those presented in the National Waste Report 2004, based on surveys conducted in 2004 and 2005. These surveys were managed and funded under the National Waste Prevention Programme.

**Table 14 Composition of mixed residual commercial waste**

|                   | Non-Packaging (%) | Packaging (%) | Total (%)    |
|-------------------|-------------------|---------------|--------------|
| Organics          | 38.4              |               | 38.4         |
| Paper & cardboard | 32.3              | 3.7           | 36.0         |
| Plastics          | 2.5               | 9.0           | 11.5         |
| Glass             | 0                 | 1.6           | 1.6          |
| Textiles          | 1.6               | 0             | 1.6          |
| Other metals      | 0.9               | 0.3           | 1.3          |
| Ferrous           | 0.1               | 0.8           | 1.0          |
| Aluminium         | 0                 | 0.6           | 0.6          |
| Wood              | 0.1               | 0.3           | 0.4          |
| WEEE              | 0.3               |               | 0.3          |
| Other             | 6.2               | 0.9           | 7.1          |
| <b>Total</b>      | <b>82.6</b>       | <b>17.4</b>   | <b>100.0</b> |

(Source: EPA municipal waste composition survey)

<sup>22</sup> The commercial waste managed in 2004 has been revised based on new information on the collection of organic waste from households and commercial sources. See Chapter 7 for further information.

<sup>23</sup> Includes 58,050 tonnes of non-process industrial waste landfilled.

## 6. LANDFILL

A total of 32 landfills accepted 1,824,066 tonnes of municipal waste for disposal in 2005. This consisted of 1,193,872 tonnes of household waste and 630,194 tonnes of non-household municipal waste. The breakdown of waste reported as having been accepted at each landfill is presented in Table 15. Landfill is the only disposal option currently available in Ireland for municipal waste. A summary of all landfills operating in 2005, including landfills accepting municipal waste, is provided in Appendix C.

**Table 15 Municipal waste landfills operating in 2005**

| EPA Licence Reg. No. | Landfill           | Waste Management Planning Region | Household waste (tonnes) | Commercial waste (tonnes) | Non-process industrial waste (tonnes) | Total municipal waste (tonnes) |
|----------------------|--------------------|----------------------------------|--------------------------|---------------------------|---------------------------------------|--------------------------------|
| W0001-03             | North Kerry        | Clare Limerick Kerry             | 22,958                   | 10,208                    |                                       | 33,166                         |
| W0017-02             | Gortadroma         | Clare Limerick Kerry             | 20,285                   | 19,433                    |                                       | 39,718                         |
| W0109-01             | Inagh              | Clare Limerick Kerry             | 30,773                   | 22,169                    |                                       | 52,942                         |
| W0027-02             | Pollboy            | Connaught                        | 53,131                   | 47,912                    | 18,692                                | 119,735                        |
| W0067-01             | Rathroeen          | Connaught                        | 15,186                   | 9,890                     | 758                                   | 25,834                         |
| W0059-02             | Ballaghaderreen    | Connaught                        | 15,309                   | 41                        |                                       | 15,350                         |
| W0021-01             | Derrinnumera       | Connaught                        | 23,856                   | 4,509                     | 591                                   | 28,956                         |
| W0178-01             | Connaught Regional | Connaught                        | 81                       | 81                        |                                       | 162                            |
| W0022-01             | East Cork          | Cork                             | 25,071                   | 1,900                     | 255                                   | 27,226                         |
| W0012-02             | Kinsale Road       | Cork                             | 37,219                   | 2,530                     |                                       | 39,749                         |
| W0089-01             | Derryconnell       | Cork                             | 8,031                    | 1,112                     |                                       | 9,143                          |
| W0068-02             | Youghal            | Cork                             | 2,205                    | 707                       | 154                                   | 3,066                          |
| W0024-01             | Ballynacarrick     | Donegal                          | 21,000                   | 13,417                    |                                       | 34,417                         |
| W0004-03             | Arthurstown        | Dublin                           | 497,274                  |                           |                                       | 497,274                        |
| W0009-02             | Balleally          | Dublin                           | 70,004                   | 51,195                    |                                       | 121,199                        |
| W0015-01             | Ballyogan          | Dublin                           | 6,558                    | 555                       |                                       | 7,113                          |
| W0081-02             | KTK                | Kildare                          |                          | 241,225                   |                                       | 241,225                        |
| W0026-02             | Kyletalesha        | Midlands                         | 19,614                   | 27,042                    | 299                                   | 46,955                         |
| W0029-02             | Derryclure         | Midlands                         | 14,818                   | 3,545                     | 2,170                                 | 20,533                         |
| W0028-01             | Ballydonagh        | Midlands                         | 16,533                   | 4,479                     | 829                                   | 21,841                         |
| W0078-01             | Ballaghveny        | Midlands                         | 16,663                   | 6,421                     | 72                                    | 23,156                         |
| W0060-02             | Whiteriver         | North East                       | 33,448                   | 20,764                    | 20,137                                | 74,349                         |
| W0077-02             | Corranure          | North East                       | 36,866                   | 9,217                     |                                       | 46,083                         |
| W0020-01             | Scotch Corner      | North East                       | 19,237                   | 3,964                     | 8,085                                 | 31,286                         |
| W0146-01             | Knockharley        | North East                       | 84,938                   | 51,176                    |                                       | 136,114                        |
| W0016-02             | Killurin           | South East                       | 11,812                   | 1,129                     |                                       | 12,941                         |
| W0025-01             | Powerstown         | South East                       | 24,641                   | 4,474                     |                                       | 29,115                         |
| W0030-02             | Dunmore            | South East                       | 11,237                   | 7,205                     | 84                                    | 18,526                         |
| W0074-02             | Donohill           | South East                       | 12,703                   | 4,218                     | 1,708                                 | 18,629                         |
| W0075-01             | Tramore            | South East                       | 25,167                   |                           |                                       | 25,167                         |
| W0018-01             | Kilbarry           | South East                       | 10,773                   | 6                         | 4,216                                 | 14,995                         |
| W0066-02             | Rampere            | Wicklow                          | 6,481                    | 1,620                     |                                       | 8,101                          |
|                      |                    | <b>Total</b>                     | <b>1,193,872</b>         | <b>572,144</b>            | <b>58,050</b>                         | <b>1,824,066</b>               |

(Source: waste licence annual environmental reports)

## 7. BIODEGRADABLE MUNICIPAL WASTE

Approximately 72% of household and commercial waste managed in Ireland in 2005 is biodegradable. The largest fraction of biodegradable municipal waste is paper and cardboard (44%), followed by organic waste (food and garden waste) at 37%. As shown in Table 16, an estimated 2,007,859 tonnes of biodegradable municipal waste was generated in Ireland in 2005 of which 65% was landfilled and the remaining 35% recycled.

**Table 16 Biodegradable municipal waste generation and management, 2005**

| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Wood                | 213,926                   | 13,939                       | 6.5                        | 199,987                     | 93.5                       |
| Paper and cardboard | 891,264                   | 449,957                      | 50.5                       | 441,307                     | 49.5                       |
| Textiles            | 157,984                   | 146,790                      | 92.9                       | 11,194                      | 7.1                        |
| Organics            | 744,685                   | 696,883 <sup>24</sup>        | 93.6                       | 47,802 <sup>25</sup>        | 6.4                        |
| <b>Total</b>        | <b>2,007,859</b>          | <b>1,307,570</b>             | <b>65.1</b>                | <b>700,289</b>              | <b>34.9</b>                |

(Source: recycling organisations survey, local authority survey, landfill annual environmental reports and EPA municipal waste composition survey)

Progressive targets have been set out in the Landfill Directive<sup>26</sup> to reduce the proportion of biodegradable municipal waste landfilled. The primary goal is to reduce dependence on landfill in favour of more environmentally sound alternatives. By 2006, Member States are restricted to landfilling a maximum of 75% of the total weight of biodegradable municipal waste generated in 1995, the baseline year. This target is further reduced to 50% of the 1995 baseline by 2009 and 35% by 2016. Ireland has opted to avail of a four-year derogation, or postponement, of these target dates - illustrated in Table 17. In reality, the trend for disposal of biodegradable municipal waste in landfill is increasing. In 2005, the amount of biodegradable municipal waste landfilled was 101.4% of the 1995 baseline, so there is a long way to go to reverse this trend and meet these targets.

<sup>24</sup> Includes 29,371 tonnes of organic contaminants from non-biodegradable packaging waste (glass, plastic and ferrous metals) landfilled.

<sup>25</sup> Table 9 published in *National Waste Report 2004* has been revised based on new information on the collection of organic waste from households and commercial sources. The following table shows the revised figures for quantity recovered in 2004:

| Material | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|----------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Organics | 746,532                   | 696,955                      | 93.4                       | 49,578                      | 6.6                        |

Consequent revisions for quantities of household and commercial organic waste recovery were taken into account in Chapters 4 and 5 respectively. See Appendix D for a new set of tables relating to the recovery of municipal waste in 2004.

<sup>26</sup> Council Directive 1999/31/EC on the landfill of waste.

A *National Strategy for Biodegradable Waste*<sup>27</sup> was published by the Department of the Environment, Heritage and Local Government in April 2006. As well as establishing the targets to be met under the Directive, it sets out measures aimed at the separate collection, recovery and recycling of biodegradable waste and proposes measures to progressively divert biodegradable municipal waste from landfill.

**Table 17 Biodegradable municipal waste diversion-from-landfill targets**

**Baseline**

|      |  | <b>Quantity generated (tonnes)</b> |
|------|--|------------------------------------|
| 1995 |  | 1,289,911                          |

**Targets**

| <b>Target Year<sup>28</sup></b> | <b>Landfill Directive Target</b>  | <b>Maximum quantity allowed to be landfilled (tonnes)</b> |
|---------------------------------|-----------------------------------|---|
| 2010                            | 75% of quantity generated in 1995 | 967,433   |
| 2013                            | 50% of quantity generated in 1995 | 644,956   |
| 2016                            | 35% of quantity generated in 1995 | 451,469   |

**Current position**

|      |  | <b>Quantity landfilled (tonnes)</b> |
|------|--|-------------------------------------|
| 2004 |  | 1,304,426                           |
| 2005 |  | 1,307,570                           |

(Source: local authority survey, landfill annual environmental reports and municipal waste composition survey)

Kerbside collection schemes for organic waste are now operating in 16 local authority areas, compared to 10 in 2004<sup>29</sup>. The scale of these collection schemes varies from small-scale pilot schemes collecting 100 tonnes per annum, to more wide-spread collections in certain urban areas collecting up to 3,000 tonnes per annum. In 2005, 21,136 tonnes of organic waste from households was collected via kerbside schemes compared to 10,816 tonnes<sup>30</sup> in 2004. This is reportedly the most sought after category of organic waste by compost facilities as separately collected material makes the best quality compost. A further 12,684 tonnes of organic waste from households was collected through civic amenity facilities. Local authorities also estimate that 29,567 tonnes of household organic waste was composted at home in 2005, based on sales of compost bins and assuming around 200kg is composted per year per compost bin.

<sup>27</sup> More information is available at [www.environ.ie](http://www.environ.ie).

<sup>28</sup> The Landfill Directive (1999/31/EC) allows Ireland to avail of a derogation under Article 5 of the Directive which postpones each target for 4 years.

<sup>29</sup> This was reported in the *National Waste Report 2004* as 12 local authorities. The figure was revised to 10 based on new information on the collection of organic waste from households and commercial sources.

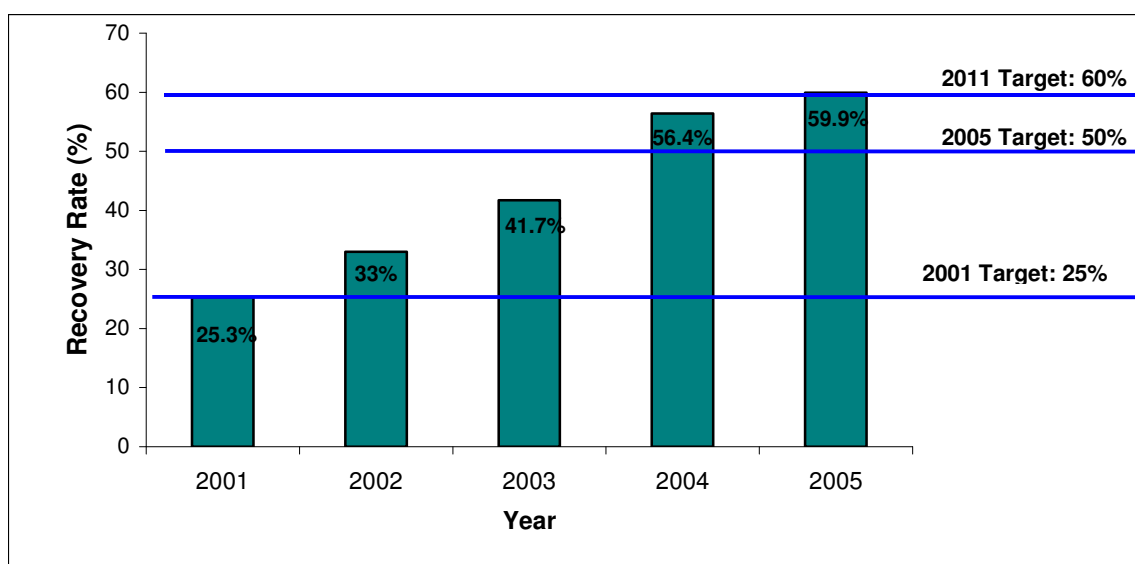
<sup>30</sup> This was reported in the *National Waste Report 2004* as 20,078 tonnes. The figure was revised based on new information on the collection of organic waste from households and commercial sources.

## 8. PACKAGING WASTE

The quantity of packaging waste recovered is calculated by analysing the returns made by recycling organisations. The packaging waste recovery rate continues to increase, from 56% in 2004 to 60% in 2005. This comfortably exceeds the EU target of 50% recycling in 2005. Table 18 provides details on packaging recovery by material type. The recovery of packaging waste increased by 16% from 479,540 tonnes in 2004 to 554,632 tonnes in 2005. Some 70% of the total quantity of all waste recycled in 2005, of which packaging waste is a subset, was verified by the EPA through site visits. The EPA also liaises with Repak on an ongoing basis to cross-check the reported recovery of packaging waste.

**Table 18 Packaging waste generation, disposal and recovery, 2005**

| Material            | Gross quantity available (tonnes) | Quantity landfilled (tonnes) <sup>31</sup> | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|-----------------------------------|--|----------------------------|-----------------------------|----------------------------|
| Wood                | 120,880                           | 2,535                                      | 2.1                        | 118,345                     | 97.9                       |
| Paper and cardboard | 325,888                           | 92,668                                     | 28.4                       | 233,219                     | 71.6                       |
| Ferrous             | 58,672                            | 18,284 <sup>32</sup>                       | 31.2                       | 40,388                      | 68.8                       |
| Glass               | 143,807                           | 51,568 <sup>32</sup>                       | 35.9                       | 92,239                      | 64.1                       |
| Other metals        | 2,530                             | 1,716                                      | 67.9                       | 813                         | 32.1                       |
| Plastic             | 218,018                           | 165,431 <sup>32</sup>                      | 75.9                       | 52,586                      | 24.1                       |
| Aluminium           | 12,549                            | 10,730                                     | 85.5                       | 1,819                       | 14.5                       |
| Textiles            | 215                               | 215  | 100.0                      | 0                           | 0.0                        |
| Others              | 42,663                            | 27,441                                     | 64.3                       | 15,222                      | 35.7                       |
| <b>Total</b>        | <b>925,221</b>                    | <b>370,589</b>                             | <b>40.1</b>                | <b>554,632</b>              | <b>59.9</b>                |



**Figure 3 Recovery of packaging waste, 2001-2005, and progress towards targets.**

<sup>31</sup> Includes 16,265 tonnes of non-process industrial packaging waste.

<sup>32</sup> 29,371 tonnes of food contamination of non-biodegradable packaging (glass, plastic and ferrous metals) has been deducted from this landfill dataset. See Table 16.

## 9. NOTIFIED EXPORTS OF WASTE

A total of 534,199 tonnes of waste was exported under TFS notification<sup>33</sup> in 2005, the broad categories of which are shown in Table 19. These records represent a summary of notified exports in 2005, regulated by local authorities.

The import of waste is regulated by the Environmental Protection Agency. There were 27 tonnes of waste oils and 2.96 tonnes of general industrial waste imported in 2005, a rounded total of 30 tonnes. The movement of waste oil, fluorescent lamps and waste electrical and electronic equipment from Northern Ireland increased in 2006 and this will be described in the next national waste report.

**Table 19** Categories of notified waste exports, 2005

| Waste category   | Principal constituents  | Quantity (tonnes) |
|--|---|-------------------|
| Hazardous waste  | Solvents and other wastes from the pharmachem sector and other industrial sectors | 146,811           |
| Contaminated soil  | Contaminated soil and dredging spoil  | 140,442           |
| Industrial non-hazardous waste   | Meat and bone meal, construction and demolition waste                             | 128,561           |
| Municipal waste and construction and demolition waste mixtures (non-hazardous) | Mixed recyclable waste, trommel fines and construction and demolition waste       | 118,385           |
| <b>Total</b>   |   | <b>534,199</b>    |

Overall, the export of hazardous waste (excluding contaminated soil) decreased by 30,189 tonnes in 2005, from 177,000 tonnes in 2004. Some reductions of note relate to the export of:

- general solvent waste (down 14,266 tonnes);
- general chemical waste (down 4,831 tonnes);
- acid and alkali waste (down 2,972 tonnes);
- asbestos waste (down 1,577 tonnes);
- hazardous electrical equipment (down 1,484 tonnes); and
- small batteries (down 245 tonnes).

The export of several categories saw an increase:

- halogenated solvent waste (up 976 tonnes);
- lead-acid batteries (up 643 tonnes);
- photographic chemical waste (up 450 tonnes);
- healthcare risk waste (up 247 tonnes).

<sup>33</sup> Council Regulation 259/93 controls the export and import of certain wastes, typically hazardous waste and unsegregated or mixed non-hazardous waste.

Of particular note is the increased export of non-hazardous municipal waste. This is comprised principally of residues from the pre-treatment (sorting) of municipal waste and construction and demolition waste<sup>34</sup>. Table 23 shows the source by county of these mixed loads. It should be noted that these local authority areas may not necessarily have been the source of the waste. Of 118,385 tonnes of mixed municipal waste exported, 16,352 tonnes were burned as a fuel, and the remaining 102,033 tonnes were subjected to various operations to recover organic, inorganic and metallic fractions.

The following tables provide more detail on the fate and destination of notified waste exports in 2005.

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<sup>34</sup> Some construction and demolition waste is included in this category due to the mixing at transfer stations of recyclable materials from households, commercial premises and construction and demolition activities and their shipment as mixed loads.

**Table 20 Hazardous and non-hazardous waste exported in 2005, notified**

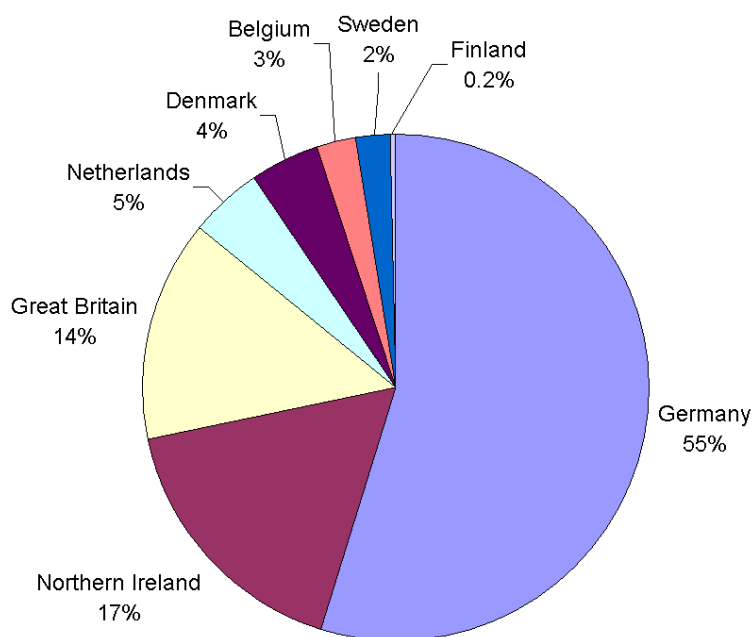
| <b>Waste type</b>  | <b>Total exported (tonnes)</b> | <b>Exported for disposal (tonnes)</b> | <b>Exported for recovery (tonnes)</b> |
|--|--------------------------------|---------------------------------------|---------------------------------------|
| <b>Hazardous waste</b>   |                                |                                       |                                       |
| Solvents (including halogenated solvents where n.o.s.)         | 81,229                         | 23,077                                | 58,151                                |
| Industrial hazardous waste other                               | 19,675                         | 14,950                                | 4,725                                 |
| Solvents (halogenated, where specified)                        | 8,132                          | 4,520                                 | 3,611                                 |
| Equipment (electrical, electronic, mechanical)                 | 7,637                          | 50                                    | 7,587                                 |
| Batteries (lead-acid, vehicle)                                 | 7,320                          |                                       | 7,320                                 |
| Sludges and filter cakes                                       | 5,471                          | 4,606                                 | 865                                   |
| Chemical waste other   | 3,420                          | 1,931                                 | 1,489                                 |
| Acid and alkali waste  | 2,679                          | 1,154                                 | 1,525                                 |
| Asbestos waste   | 2,488                          | 2,488                                 |                                       |
| Oil waste (mineral oil)  | 2,163                          | 24                                    | 2,139                                 |
| Photographic chemical waste                                    | 1,990                          |                                       | 1,990                                 |
| Paint, ink and varnish waste                                   | 1,701                          | 393                                   | 1,308                                 |
| Absorbents, wiping cloths etc. (EWC 150202)                    | 896                            | 661                                   | 235                                   |
| Packaging (contaminated or containing residues)                | 838                            | 685                                   | 153                                   |
| Healthcare risk waste  | 434                            | 434                                   |                                       |
| Laboratory and general chemical waste                          | 191                            | 123                                   | 68                                    |
| Pesticides, herbicides (including sheep dip)                   | 135                            | 125                                   | 10                                    |
| Fluorescent lamps  | 106                            |                                       | 106                                   |
| Batteries (small, non-lead acid)                               | 96                             |                                       | 96                                    |
| Thermal treatment and combustion residues                      | 92                             | 60                                    | 32                                    |
| Oily sludges   | 63                             | 63                                    |                                       |
| Medicines (including veterinary medicines)                     | 25                             | 25                                    |                                       |
| Metal- and heavy metal-containing waste                        | 15                             | 15                                    |                                       |
| Salts and saltcake   | 8                              |                                       | 8                                     |
| Polychlorinated biphenyls (including contaminated equipment)   | 8                              | 8                                     |                                       |
| <b>Sub-total hazardous waste</b>                               | <b>146,811</b>                 | <b>55,392</b>                         | <b>91,418</b>                         |
| Contaminated soil  | <b>140,442</b>                 | <b>133,258</b>                        | <b>7,184</b>                          |
| <b>Non-hazardous waste</b>                                     |                                |                                       |                                       |
| Municipal waste, dry recyclables & EWC 191212 (non-hazardous)  | 118,385                        |                                       | 118,385                               |
| Meat and bone meal and animal by-products (non-hazardous)      | 92,474                         |                                       | 92,474                                |
| Construction and demolition waste (non-hazardous)              | 13,221                         | 1,504                                 | 11,717                                |
| Shredder residue (non-hazardous)                               | 9,508                          | 9,508                                 |                                       |
| Other non-hazardous waste (non-hazardous)                      | 6,302                          | 2,029                                 | 4,272                                 |
| Sludges and filter cakes (non-hazardous)                       | 6,034                          | 6,034                                 |                                       |
| Thermal treatment and combustion residues (non-hazardous)      | 644                            | 240                                   | 404                                   |
| Equipment (electrical, electronic, mechanical) (non-hazardous) | 192                            |                                       | 192                                   |
| Healthcare waste (non-hazardous)                               | 186                            | 186                                   |                                       |
| <b>Sub-total non-hazardous</b>                                 | <b>246,947</b>                 | <b>19,502</b>                         | <b>227,444</b>                        |
| <b>Totals</b>  | <b>534,199</b>                 | <b>208,152</b>                        | <b>326,046</b>                        |

**Table 21 Recovery and disposal of notified waste exports, 2005, notified**

|     |   | Hazardous waste | Contaminated soil | Municipal waste | Non-hazardous waste | Total          |
|-----|---|-----------------|-------------------|-----------------|---------------------|----------------|
| D1  | Landfill  | 6,442           | 31                |                 |                     | 6,474          |
| D5  | Engineered landfill   | 158             | 2                 |                 | 9,748               | 9,907          |
| D8  | Biological pre-treatment  | 660             |                   |                 |                     | 660            |
| D9  | Physico-chemical pre-treatment                                    | 3,941           | 133,225           |                 | 2,677               | 139,843        |
| D10 | Incineration  | 43,842          |                   |                 | 1,560               | 45,403         |
| D12 | Permanent storage   | 24              |                   |                 |                     | 24             |
| D13 | Blending or mixing pre-treatment                                  | 63              |                   |                 | 5,517               | 5,580          |
| D14 | Repackaging pre-treatment   | 8               |                   |                 |                     | 8              |
| D15 | Storage prior to disposal   | 252             |                   |                 |                     | 252            |
|     | <b>Sub-total disposal</b>   | <b>55,392</b>   | <b>133,258</b>    | <b>0</b>        | <b>19,502</b>       | <b>208,152</b> |
| R1  | Use as fuel   | 33,437          |                   | 16,352          | 61,436              | 111,225        |
| R2  | Solvent reclamation/regeneration                                  | 23,595          |                   |                 | 12                  | 23,607         |
| R3  | Recycling or reclamation of organic materials other than solvents | 4,248           |                   | 56,976          | 11,117              | 72,341         |
| R4  | Recycling or reclamation of metals                                | 18,687          |                   | 11,400          | 1,088               | 31,175         |
| R5  | Recycling or reclamation of inorganic materials                   | 97              | 7,184             | 11,310          | 4,233               | 22,824         |
| R6  | Regeneration of acids or bases                                    | 2,390           |                   |                 |                     | 2,390          |
| R8  | Recovery of components from catalysts                             | 105             |                   |                 |                     | 105            |
| R9  | Used oil re-refining or reuse of waste oil                        | 55              |                   |                 |                     | 55             |
| R11 | Use of waste from another recovery activity                       |                 |                   | 15,413          |                     | 15,413         |
| R12 | Waste exchange prior to recovery                                  | 410             |                   |                 |                     | 410            |
| R13 | Storage prior to recovery   | 8,396           |                   | 6,934           | 31,173              | 46,503         |
|     | <b>Sub-total recovery</b>   | <b>91,418</b>   | <b>7,184</b>      | <b>118,385</b>  | <b>109,059</b>      | <b>326,046</b> |
|     | <b>TOTAL</b>  | <b>146,811</b>  | <b>140,442</b>    | <b>118,385</b>  | <b>128,561</b>      | <b>534,198</b> |

**Table 22 Destination and fate of notified waste exports, 2005, notified**

|                  | Incineration  | Landfill      | Other disposal | Total disposal | Reuse as fuel  | Solvent recovery | Organic (non-solvent) material recovery | Metal recovery | Inorganic material recovery | Other recovery | Total recovery | Grand Total    |
|------------------|---------------|---------------|----------------|----------------|----------------|------------------|---|----------------|-----------------------------|----------------|----------------|----------------|
| Germany          | 23,671        | 11,459        | 128,431        | <b>163,561</b> | 63,396         | 269              | 1,262                                   | 4,249          | 5,849                       | 53,869         | <b>128,894</b> | 292,455        |
| Northern Ireland |               |               |                |                |                |                  | 66,943                                  | 12,734         | 11,310                      | 55             | <b>91,042</b>  | 91,042         |
| Great Britain    | 12,028        | 40            | 44             | <b>12,112</b>  | 16,720         | 23,298           | 3,251                                   | 9,743          | 424                         | 8,958          | <b>62,393</b>  | 74,505         |
| Netherlands      | 1,167         | 74            | 16,363         | <b>17,604</b>  | 691            | 20               | 487                                     | 466            | 5,170                       | 1,000          | <b>7,835</b>   | 25,439         |
| Denmark          | 73            | 4,808         | 117            | <b>4,998</b>   | 17,905         |                  |   | 431            |                             |                | <b>18,336</b>  | 23,334         |
| Belgium          | 7,160         |               | 1,413          | <b>8,573</b>   | 1,456          |                  | 317                                     | 3,253          | 71                          | 934            | <b>6,031</b>   | 14,604         |
| Sweden           |               |               |                |                | 11,057         |                  |   |                |                             |                | <b>11,057</b>  | 11,057         |
| Finland          | 1,304         |               |                | <b>1,304</b>   |                |                  |   |                |                             |                |                | 1,304          |
| France           |               |               |                |                |                | 19               |   | 294            |                             |                | <b>313</b>     | 313            |
| Other            |               |               |                |                |                |                  | 82                                      |                |                             |                | <b>82</b>      | 82             |
| Italy            |               |               |                |                |                |                  |   |                |                             | 60             | <b>60</b>      | 60             |
| USA              |               |               |                |                |                |                  |   | 5              |                             |                | <b>5</b>       | 5              |
| <b>Total</b>     | <b>45,403</b> | <b>16,381</b> | <b>146,368</b> | <b>208,152</b> | <b>111,225</b> | <b>23,607</b>    | <b>72,341</b>                           | <b>31,175</b>  | <b>22,823</b>               | <b>64,876</b>  | <b>326,046</b> | <b>534,199</b> |



**Figure 4 Destination of notified waste exports, 2005**

**Table 23 Export of waste, notifications processed by local authorities, 2005**

| Local Authority        | Contaminated soil | Solvents      | Other hazardous waste | Municipal waste | Other non-hazardous waste | Total          |
|------------------------|-------------------|---------------|-----------------------|-----------------|---------------------------|----------------|
|                        | (tonnes)          | (tonnes)      | (tonnes)              | (tonnes)        | (tonnes)                  | (tonnes)       |
| Dublin City            | 131,687           | 11,265        | 14,803                | 27,488          | 16,255                    | 201,498        |
| Cork County            | 147               | 70,074        | 12,535                |                 | 7,690                     | 90,447         |
| Louth                  | 2                 |               | 389                   | 12,406          | 23,635                    | 36,432         |
| South Dublin           |                   | 58            | 5,816                 | 22,234          | 299                       | 28,407         |
| Kilkenny               |                   |               | 51                    |                 | 26,867                    | 26,918         |
| Galway County and City |                   | 208           | 783                   |                 | 19,715                    | 20,706         |
| Meath                  |                   |               |                       |                 | 17,244                    | 17,244         |
| Limerick County        |                   | 128           | 1                     | 13,532          | 106                       | 13,768         |
| Cork City              | 2,014             |               | 23                    | 10,760          | 130                       | 12,927         |
| Longford               |                   |               |                       | 12,465          |                           | 12,465         |
| Cavan                  |                   |               | 12                    | 331             | 9,453                     | 9,796          |
| Kildare                |                   | 1,421         | 7,716                 |                 | 94                        | 9,231          |
| Waterford City         |                   | 225           | 3,691                 | 437             | 3,613                     | 7,966          |
| Fingal                 |                   | 373           | 1,321                 | 5,885           | 185                       | 7,763          |
| Laois                  | 5,150             |               | 2,333                 |                 |                           | 7,483          |
| Wexford                |                   |               |                       | 4,111           | 2,487                     | 6,598          |
| Clare                  |                   | 1,068         | 2,279                 | 2,134           | 20                        | 5,502          |
| Kerry                  |                   | 142           | 126                   | 3,259           |                           | 3,527          |
| Wicklow                |                   | 3,040         | 286                   |                 | 54                        | 3,380          |
| Offaly                 | 22                |               | 2,701                 |                 |                           | 2,723          |
| Waterford County       |                   |               | 721                   | 1,795           | 144                       | 2,660          |
| Donegal                |                   |               | 748                   | 135             |                           | 884            |
| Monaghan               |                   |               | 500                   | 1,400           |                           | 1,900          |
| Roscommon              |                   | 1,156         | 96                    |                 |                           | 1,252          |
| Westmeath              |                   | 19            | 244                   |                 | 451                       | 715            |
| North Tipperary        |                   | 98            | 24                    |                 | 119                       | 240            |
| South Tipperary        |                   | 83            | 151                   |                 |                           | 234            |
| Carlow                 |                   |               | 60                    |                 |                           | 60             |
| Dun Laoghaire-Rathdown | 1,420             |               |                       |                 |                           | 1,420          |
| Mayo                   |                   |               | 20                    |                 |                           | 20             |
| Sligo                  |                   |               | 20                    |                 |                           | 20             |
| Leitrim                |                   |               |                       | 13              |                           | 13             |
| <b>Total</b>           | <b>140,442</b>    | <b>89,360</b> | <b>57,450</b>         | <b>118,385</b>  | <b>128,561</b>            | <b>534,199</b> |

## 10. CONSTRUCTION AND DEMOLITION WASTE

The total quantity of construction and demolition waste collected in 2005, as reported by local authorities, is estimated at 14,931,486 tonnes.

Table 24 illustrates the reported recovery and disposal of construction and demolition waste managed through the collection permit, waste permit and waste licence systems. In 2005, some 14.9 million tonnes of construction and demolition waste was reported as collected by authorised waste collection permit holders, while a total of 12,979,337 tonnes was reported to be recovered and 448,425 tonnes disposed of at authorised waste facilities. The resulting discrepancy (1,503,724 tonnes) highlights the need for waste operators and local authorities to improve the overall quality of the data they record and report. To ensure consistency and accuracy of the data, the EPA will provide training to local authorities in compiling the annual waste survey responses and will also develop a training course for waste operators on compiling their annual reports for the local authorities.

No data on waste generation is currently available from the construction industry. With the introduction of waste management planning into construction projects, this data should in time become available. The EPA will provide technical assistance to the industry on the collation of data and the development of reporting mechanisms.

**Table 24 Collection and management of construction and demolition waste, 2005**

|   |                      |                 |
|---|----------------------|-----------------|
| <b>Collection (tonnes)</b>                  | 14,931,486           |                 |
| <b>Management (tonnes)</b>                  | <b>Recovery</b>      | <b>Disposal</b> |
| Recovery at EPA-licensed landfills:         |                      |                 |
| - cover/landscaping material                | 2,872,933            |                 |
| - other landfill engineering purposes       |                      |                 |
| Recovery at local authority-permitted sites | 10,106,404           |                 |
| Disposal at EPA licensed landfills          |                      | 448,425         |
| <b>Total</b>                                | <b>12,979,337</b>    | <b>448,425</b>  |
|   | <b>Recovery rate</b> | <b>86.9%</b>    |

Construction and demolition waste includes fractions such as soil and stones, concrete and rubble, wood, glass, metal and plastic. The soil and stone fraction, comprising 85% of total construction and demolition waste collected, is the easiest to recover and most of the recovered quantity outlined in Table 24 can be attributed to this fraction. Table 25 and Table 26 illustrate the recovery rate for soil and stones (94.8%) and all other construction and demolition waste fractions (43.3%) respectively.

**Table 25 Collection and management of construction and demolition waste, soil and stones, 2005**

|   |                   |                 |
|---|-------------------|-----------------|
| <b>Collection of soil and stones (tonnes)</b>   | 12,645,862        |                 |
| <b>Management (tonnes)</b>  |                   |                 |
|   | <b>Recovery</b>   | <b>Disposal</b> |
| Recovery at EPA licensed landfills<br>Cover/landscaping material<br>Other landfill engineering purposes | 2,591,559         |                 |
| Recovery at local authority-permitted sites   | 9,397,552         |                 |
| Disposal at EPA licensed landfills  |                   | 439,568         |
| <b>Total</b>  | <b>11,989,111</b> | <b>439,568</b>  |
| <b>Recovery rate</b>  |                   |                 |
|   |                   | <b>94.8%</b>    |

**Table 26 Collection and management of construction and demolition waste, excluding soil and stone, 2005**

|   |                 |                 |
|---|-----------------|-----------------|
| <b>Collection of other construction and demolition waste fractions (excluding soil and stones) (tonnes)</b> | 2,285,624       |                 |
| <b>Management (tonnes)</b>  |                 |                 |
|   | <b>Recovery</b> | <b>Disposal</b> |
| Recovery at EPA licensed landfills<br>Cover/landscaping material<br>Other landfill engineering purposes     | 281,374         |                 |
| Recovery at local authority-permitted sites   | 708,852         |                 |
| Disposal at EPA licensed landfills  |                 | 8,857           |
| <b>Total</b>  | <b>990,225</b>  | <b>8,857</b>    |
| <b>Recovery rate</b>  |                 |                 |
|   |                 | <b>43.3%</b>    |

## APPENDIX A – INDICATORS

| Indicator  | 2001           | 2002           | 2003             | 2004                | 2005 <sup>35</sup> |
|--|----------------|----------------|------------------|---------------------|--------------------|
| <b>Municipal Waste</b>                                     |                |                |                  |                     |                    |
| Municipal waste collected/person                           | 0.59 tonnes    | 0.63 tonnes    | 0.64 tonnes      | 0.67 tonnes         | 0.68 tonnes        |
| Municipal waste arising/person                             | 0.69 tonnes    | 0.69 tonnes    | 0.73 tonnes      | 0.74 tonnes         | 0.74 tonnes        |
| Disposal rate for household and commercial waste collected | 86.7%          | 79.3%          | 71.6%            | 67.3%               | 65.4%              |
| Recovery rate for household and commercial waste collected | 13.3%          | 20.7%          | 28.4%            | 32.7%               | 34.6%              |
| Number landfills accepting municipal waste                 | 48             | 39             | 35               | 34                  | 32                 |
| Number of bring banks                                      | 1,436          | 1,636          | 1,692            | 1,824 <sup>36</sup> | 1,937              |
| Number of civic amenity sites                              |                | 49             | 60               | 69                  | 81                 |
| <b>Household waste</b>                                     |                |                |                  |                     |                    |
| Household waste collected/person                           | 0.34 tonnes    | 0.37 tonnes    | 0.36 tonnes      | 0.37 tonnes         | 0.37               |
| Household waste arising/person                             | 0.37 tonnes    | 0.43 tonnes    | 0.43 tonnes      | 0.43 tonnes         | 0.43               |
| Disposal rate for household waste                          | 94.4%          | 90.7%          | 86.9%            | 81.0%               | 77.3%              |
| Recovery rate for household waste                          | 5.6%           | 9.3%           | 13.1%            | 19.0%               | 22.7%              |
| <b>Commercial waste</b>                                    |                |                |                  |                     |                    |
| Commercial waste collected/person                          | 0.25 tonnes    | 0.25 tonnes    | 0.29 tonnes      | 0.30 tonnes         | 0.30 tonnes        |
| Disposal rate for commercial waste collected               | 76.2%          | 62.5%          | 52.7%            | 50.2%               | 50.6%              |
| Recovery rate for commercial waste collected               | 23.8%          | 37.5%          | 47.4%            | 49.8%               | 49.4%              |
| <b>Packaging waste</b>                                     |                |                |                  |                     |                    |
| Best estimate of total quantity arising                    | 872,917 tonnes | 899,125 tonnes | 1,006,287 tonnes | 850,911 tonnes      | 925,221 tonnes     |
| Packaging waste arising/person                             | 0.223 tonnes   | 0.229 tonnes   | 0.25 tonnes      | 0.21 tonnes         | 0.22 tonnes        |
| Best estimate of packaging waste recovered                 | 221,266 tonnes | 296,389 tonnes | 419,600 tonnes   | 479,540 tonnes      | 554,632 tonnes     |
| Packaging waste recovered/person                           | 0.056 tonnes   | 0.076 tonnes   | 0.105 tonnes     | 0.119 tonnes        | 0.134 tonnes       |
| National recovery rate                                     | 25.3%          | 33%            | 41.7%            | 56.4%               | 59.9%              |

<sup>35</sup> Per person calculations are based on CSO population data for April 2005 of 4,130,700 people.

<sup>36</sup> Figure published in National Waste Report 2004 was 1,929. This figure was revised to 1,824 after three local authorities provided corrected figures post publication.

## APPENDIX B - HOUSEHOLD WASTE, AS REPORTED BY LOCAL AUTHORITIES IN 2005

| Local authority                       | Mixed residual collection (Black Bins) | Separate kerbside collection of mixed dry recyclables (Green Bins) | Separate kerbside collection of food and garden waste (Brown Bins) | Household waste delivered directly to landfill face by householders | "Uncollected" household waste | Estimate of home composting | Household waste brought to Bring banks | Household waste brought to CA sites | Total Household Waste |
|---------------------------------------|--|--|--|---|-------------------------------|-----------------------------|--|-------------------------------------|-----------------------|
| Dublin City Council                   | 163,083                                | 21,861   | 58   | 0   | 0                             | 4,147                       | 9,864                                  | 9,315                               | <b>208,327</b>        |
| Dun Laoghaire-Rathdown County Council | 37,883                                 | 13,099   | 459  | 430   | 144                           | 2,205                       | 4,637                                  | 19,080                              | <b>77,936</b>         |
| Fingal County Council                 | 72,651                                 | 10,504   | 108  | 5,801   | 0                             | 151                         | 3,874                                  | 4,552                               | <b>97,641</b>         |
| South Dublin County Council           | 68,533                                 | 13,407   | 5,049  | 8,905   | 0                             | 943                         | 3,863                                  | 3,876                               | <b>104,576</b>        |
| <b>Dublin Region sub-total</b>        | <b>342,149</b>                         | <b>58,871</b>  | <b>5,674</b>   | <b>15,136</b>   | <b>144</b>                    | <b>7,446</b>                | <b>22,237</b>                          | <b>36,822</b>                       | <b>488,481</b>        |
| Cork County Council                   | 52,379                                 | 11,909   | 300  | 5,587   | 14,674                        | 5,000                       | 16,548                                 | 8,437                               | <b>114,834</b>        |
| Cork City Council                     | 40,319                                 | 10,302   | 0  | 2,955   | 3,976                         | 300                         | 1,999                                  | 1,718                               | <b>61,570</b>         |
| <b>Cork Region sub-total</b>          | <b>92,698</b>                          | <b>22,211</b>  | <b>300</b>   | <b>8,542</b>  | <b>18,650</b>                 | <b>5,300</b>                | <b>18,547</b>                          | <b>10,155</b>                       | <b>176,404</b>        |
| Galway County Council                 | 20,882                                 | 9,339  | 564  | 2,878   | 16,435                        | 1,461                       | 2,303                                  | 1,751                               | <b>55,614</b>         |
| Galway City Council                   | 11,020                                 | 4,193  | 5,428  | 0   | 800                           | 40                          | 2,193                                  | 178                                 | <b>23,852</b>         |
| Leitrim County Council                | 4,767                                  | 805  | 0  | 0   | 2,926                         | 300                         | 556                                    | 221                                 | <b>9,575</b>          |
| Mayo County Council                   | 26,468                                 | 2,486  | 0  | 3,594   | 9,347                         | 800                         | 1,498                                  | 2,643                               | <b>46,836</b>         |
| Roscommon County Council              | 10,851                                 | 1,775  | 0  | 814   | 12,124                        | 210                         | 665                                    | 1,300                               | <b>27,738</b>         |
| Sligo County Council                  | 9,056                                  | 1,421  | 0  | 0   | 1,858                         | 488                         | 1,133                                  | 591                                 | <b>14,548</b>         |
| <b>Connaught Region sub-total</b>     | <b>83,044</b>                          | <b>20,019</b>  | <b>5,992</b>   | <b>7,286</b>  | <b>43,490</b>                 | <b>3,299</b>                | <b>8,348</b>                           | <b>6,684</b>                        | <b>178,162</b>        |

| Local authority                    | Mixed residual collection (Black Bins) | Separate kerbside collection of mixed dry recyclables (Green Bins) | Separate kerbside collection of food and garden waste (Brown Bins) | Household waste delivered directly to landfill face by householders | "Uncollected" household waste | Estimate of home composting | Household waste brought to Bring banks | Household waste brought to CA sites | Total Household Waste |
|------------------------------------|--|--|--|---|-------------------------------|-----------------------------|--|-------------------------------------|-----------------------|
| Clare County Council               | 21,769                                 | 7,811  | 68   | 2,603   | 12,572                        | 200                         | 1,420                                  | 2,145                               | <b>48,587</b>         |
| Kerry County Council               | 22,133                                 | 4,266  | 465  | 4,962   | 14,127                        | 1,800                       | 2,445                                  | 1,696                               | <b>51,894</b>         |
| Limerick County Council            | 22,215                                 | 4,790  | 260  | 1,486   | 11,829                        | 600                         | 2,111                                  | 1,640                               | <b>44,931</b>         |
| Limerick City Council              | 17,578                                 | 4,618  | 158  | 0   | 2,510                         | 127                         | 1,055                                  | 497                                 | <b>26,544</b>         |
| <b>Mid West Region sub-total</b>   | <b>83,695</b>                          | <b>21,485</b>  | <b>951</b>   | <b>9,051</b>  | <b>41,039</b>                 | <b>2,727</b>                | <b>7,030</b>                           | <b>5,978</b>                        | <b>171,956</b>        |
| Cavan County Council               | 13,972                                 | 1,402  | 0  | 958   | 9,461                         | 500                         | 1,723                                  | 1,690                               | <b>29,705</b>         |
| Louth County Council               | 25,079                                 | 6,529  | 1,407  | 3,006   | 5,143                         | 67                          | 1,841                                  | 9,095                               | <b>52,167</b>         |
| Meath County Council               | 35,632                                 | 6,243  | 0  | 60  | 2,744                         | 1,200                       | 1,265                                  | 4,562                               | <b>51,705</b>         |
| Monaghan County Council            | 10,589                                 | 1,785  | 0  | 0   | 6,242                         | 330                         | 735                                    | 2,377                               | <b>22,057</b>         |
| <b>North East Region sub-total</b> | <b>85,271</b>                          | <b>15,959</b>  | <b>1,407</b>   | <b>4,024</b>  | <b>23,589</b>                 | <b>2,097</b>                | <b>5,564</b>                           | <b>17,723</b>                       | <b>155,634</b>        |
| Carlow County Council              | 21,956                                 | 0  | 0  | 4,252   | 1,111                         | 379                         | 1,032                                  | 2,168                               | <b>30,898</b>         |
| Kilkenny County Council            | 11,390                                 | 3,708  | 0  | 2,576   | 13,610                        | 981                         | 1,786                                  | 1,015                               | <b>35,067</b>         |
| South Tipperary County Council     | 18,931                                 | 3,794  | 0  | 199   | 4,107                         | 630                         | 1,620                                  | 1,021                               | <b>30,301</b>         |
| Waterford County Council           | 11,749                                 | 2,986  | 2,150  | 1,470   | 0                             | 360                         | 1,178                                  | 4,754                               | <b>24,647</b>         |
| Waterford City Council             | 7,699                                  | 2,489  | 3,647  | 207   | 0                             | 209                         | 1,144                                  | 1,609                               | <b>17,004</b>         |
| Wexford County Council             | 22,061                                 | 6,206  | 0  | 1,721   | 10,120                        | 1,900                       | 3,317                                  | 1,246                               | <b>46,571</b>         |
| <b>South East Region sub-total</b> | <b>93,786</b>                          | <b>19,183</b>  | <b>5,797</b>   | <b>10,425</b>   | <b>28,948</b>                 | <b>4,459</b>                | <b>10,077</b>                          | <b>11,813</b>                       | <b>184,488</b>        |

| Local authority                  | Mixed residual collection (Black Bins) | Separate kerbside collection of mixed dry recyclables (Green Bins) | Separate kerbside collection of food and garden waste (Brown Bins) | Household waste delivered directly to landfill face by householders | "Uncollected" household waste | Estimate of home composting | Household waste brought to Bring banks | Household waste brought to CA sites | Total Household Waste |
|----------------------------------|--|--|--|---|-------------------------------|-----------------------------|--|-------------------------------------|-----------------------|
| Laois County Council             | 8,562                                  | 1,729  | 0  | 3,032   | 0                             | 360                         | 806                                    | 1,340                               | <b>15,829</b>         |
| Longford County Council          | 7,370                                  | 1,595  | 0  | 0   | 2,521                         | 160                         | 415                                    | 131                                 | <b>12,191</b>         |
| North Tipperary County Council   | 14,647                                 | 4,395  | 0  | 1,716   | 3,669                         | 270                         | 865                                    | 1,359                               | <b>26,921</b>         |
| Offaly County Council            | 14,809                                 | 4,178  | 0  | 2,221   | 4,967                         | 320                         | 1,689                                  | 886                                 | <b>29,070</b>         |
| Westmeath County Council         | 13,686                                 | 2,560  | 0  | 5,362   | 3,721                         | 129                         | 996                                    | 1,917                               | <b>28,369</b>         |
| <b>Midlands Region sub-total</b> | <b>59,074</b>                          | <b>14,456</b>  | <b>0</b>   | <b>12,331</b>   | <b>14,878</b>                 | <b>1,239</b>                | <b>4,771</b>                           | <b>5,633</b>                        | <b>112,381</b>        |
| Kildare County Council           | 46,542                                 | 7,412  | 133  | 3,273   | 0                             | 1,600                       | 2,395                                  | 4,908                               | <b>66,264</b>         |
| Donegal County Council           | 21,309                                 | 1,494  | 0  | 537   | 16,379                        | 1,400                       | 3,638                                  | 789                                 | <b>45,546</b>         |
| Wicklow County Council           | 30,345                                 | 298  | 881  | 470   | 15,823                        | 0                           | 2,373                                  | 3,761                               | <b>53,951</b>         |
| <b>TOTAL</b>                     | <b>937,913</b>                         | <b>181,389</b>   | <b>21,136</b>  | <b>71,074</b>   | <b>202,940</b>                | <b>29,567</b>               | <b>84,980</b>                          | <b>104,267</b>                      | <b>1,633,266</b>      |

## APPENDIX C – LANDFILLS IN OPERATION IN 2005

|    | Local authority / Operator | Facility Name                      | Waste Licence Reg No. | Total in 2004 (tonnes) | Total in 2005 (tonnes) | Disposal                 |   |                           |  |                           |                       | Recovery                                 |                                  |                       |
|----|----------------------------|------------------------------------|-----------------------|------------------------|------------------------|--------------------------|---|---------------------------|--|---------------------------|-----------------------|--|----------------------------------|-----------------------|
|    |                            |                                    |                       |                        |                        | Household Waste (Tonnes) | Commercial Waste <sup>37</sup> (Tonnes) | Industrial Waste (Tonnes) | Construction & Demolition Waste (Tonnes) | Street Sweepings (Tonnes) | Other Wastes (Tonnes) | Construction & Demolition Waste (Tonnes) | Composted Organic Waste (Tonnes) | Other Wastes (Tonnes) |
| 1  | Carlow County Council      | Powerstown Landfill                | W0025-01              | 28,332                 | 45,407                 | 24,641                   | 4,474                                   | 0                         | 0  | 1,142                     | 0                     | 15,151                                   | 0                                | 0                     |
| 2  | Cavan County Council       | Corranure Landfill                 | W0077-02              | 49,597                 | 52,624                 | 36,866                   | 9,217                                   | 279                       | 0  | 471                       | 0                     | 5,790                                    | 0                                | 0                     |
| 3  | Clare County Council       | Ballyduff Beg Inagh                | W0109-01              | 44,112                 | 59,725                 | 30,773                   | 22,169                                  | 0                         | 0  | 0                         | 0                     | 3,200                                    | 2,760                            | 822                   |
| 4  | Cork City Council          | Kinsale Road Landfill              | W0012-02              | 51,365                 | 49,641                 | 37,219                   | 2,530                                   | 0                         | 0  | 5,800                     | 0                     | 0  | 4,092                            | 0                     |
| 5  | Cork County Council        | East Cork Landfill                 | W0022-01              | 117,151                | 78,080                 | 25,071                   | 2,155                                   | 3,024                     | 0  | 0                         | 56                    | 47,774                                   | 0                                | 0                     |
| 6  | Cork County Council        | Raffeen Landfill                   | W0023-01              | 0                      | 180,000                | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 180,000                                  | 0                                | 0                     |
| 7  | Cork County Council        | Youghal Landfill                   | W0068-02              | 20,473                 | 17,722                 | 2,205                    | 861                                     | 0                         | 0  | 0                         | 0                     | 14,655                                   | 0                                | 0                     |
| 8  | Cork County Council        | Derryconnell Landfill              | W0089-01              | 8,324                  | 10,245                 | 8,031                    | 1,112                                   | 0                         | 13                                       | 0                         | 0                     | 1,089                                    | 0                                | 0                     |
| 9  | Donegal County Council     | Ballynacarrick Landfill            | W0024-02              | 37,746                 | 46,540                 | 21,000                   | 13,417                                  | 35                        | 6  | 1,321                     | 361                   | 10,400                                   | 0                                | 0                     |
| 10 | Donegal County Council     | Glenalla Landfill                  | W0125-01              | 0                      | 34,474                 | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 34,474                                   | 0                                | 0                     |
| 11 | Donegal County Council     | Muckish Landfill                   | W0126-01              | 0                      | 34,667                 | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 34,667                                   | 0                                | 0                     |
| 12 | Dun Laoghaire-Rathdown     | Ballyogan Landfill/ Recycling Park | W0015-01              | 168,178                | 490,525                | 6,558                    | 555                                     | 0                         | 0  | 0                         | 0                     | 483,412                                  | 0                                | 0                     |

<sup>37</sup> Includes non-process industrial waste

|    | Local authority / Operator     | Facility Name          | Waste Licence Reg No. | Total in 2004 (tonnes) | Total in 2005 (tonnes) | Disposal                 |   |                           |  |                           |                       | Recovery                                 |                                  |                       |
|----|--------------------------------|------------------------|-----------------------|------------------------|------------------------|--------------------------|---|---------------------------|--|---------------------------|-----------------------|--|----------------------------------|-----------------------|
|    |                                |                        |                       |                        |                        | Household Waste (Tonnes) | Commercial Waste <sup>37</sup> (Tonnes) | Industrial Waste (Tonnes) | Construction & Demolition Waste (Tonnes) | Street Sweepings (Tonnes) | Other Wastes (Tonnes) | Construction & Demolition Waste (Tonnes) | Composted Organic Waste (Tonnes) | Other Wastes (Tonnes) |
| 13 | Fingal County Council          | Balleally Landfill     | W0009-02              | 252,073                | 131,236                | 70,004                   | 51,195                                  | 6,635                     | 0  | 0                         | 3,402                 | 0  | 0                                | 0                     |
| 14 | Fingal County Council          | Dunsink Landfill       | W0127-01              | 0                      | 206,900                | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 206,900                                  | 0                                | 0                     |
| 15 | Galway County Council          | Pollboy Landfill       | W0027-02              | 154,743                | 187,573                | 53,131                   | 66,604                                  | 0                         | 0  | 1,074                     | 1,385                 | 65,379                                   | 0                                | 0                     |
| 16 | Kerry County Council           | North Kerry Landfill   | W0001-03              | 48,054                 | 34,431                 | 22,958                   | 10,208                                  | 26                        | 474                                      | 759                       | 6                     | 0  | 0                                | 0                     |
| 17 | Kilkenny County Council        | Dunmore Landfill       | W0030-02              | 57,878                 | 22,222                 | 11,237                   | 7,289                                   | 0                         | 123                                      | 617                       | 0                     | 2,956                                    | 0                                | 0                     |
| 18 | Laois County Council           | Kyletalesha Landfill   | W0026-02              | 52,648                 | 76,712                 | 19,614                   | 27,341                                  | 218                       | 363                                      | 89                        | 780                   | 21,764                                   | 2,578                            | 3,969                 |
| 19 | Limerick County Council        | Gortadroma             | W0001-03              | 78,819                 | 61,286                 | 20,285                   | 19,433                                  | 500                       | 0  | 2,230                     | 804                   | 14,555                                   | 66                               | 3,413                 |
| 20 | Louth County Council           | Whiteriver             | W0060-02              | 69,841                 | 101,074                | 33,448                   | 40,902                                  | 184                       | 439                                      | 3,631                     | 2,030                 | 20,441                                   | 0                                | 0                     |
| 21 | Mayo County Council            | Derrinnumera Landfill  | W0021-01              | 29,280                 | 29,983                 | 23,856                   | 5,100                                   | 0                         | 0  | 524                       | 435                   | 0  | 68                               | 0                     |
| 22 | Mayo County Council            | Rathroeen Landfill     | W0067-01              | 29,359                 | 26,502                 | 15,186                   | 10,649                                  | 0                         | 0  | 543                       | 0                     | 0  | 123                              | 0                     |
| 23 | Monaghan County Council        | Scotch Corner Landfill | W0020-01              | 57,434                 | 48,083                 | 19,237                   | 12,049                                  | 1,020                     | 214                                      | 730                       | 5,681                 | 527                                      | 8,625                            | 0                     |
| 24 | North Tipperary County Council | Ballaghaveny Landfill  | W0078-01              | 32,621                 | 25,594                 | 16,663                   | 6,493                                   | 295                       | 0  | 1,068                     | 1,076                 | 0  | 0                                | 0                     |
| 25 | Offaly County Council          | Derryclure Landfill    | W0029-02              | 118,750                | 51,484                 | 14,818                   | 5,715                                   | 0                         | 0  | 0                         | 3,114                 | 27,837                                   | 0                                | 0                     |
| 26 | Roscommon County Council       | Ballagherreen Landfill | W0059-02              | 31,682                 | 17,347                 | 15,309                   | 41                                      | 289                       | 0  | 180                       | 41                    | 1,488                                    | 0                                | 0                     |
| 27 | South Dublin County Council    | Arthurstown Landfill   | W0004-03              | 424,067                | 504,774                | 497,274                  | 0                                       | 0                         | 0  | 0                         | 0                     | 7,500                                    | 0                                | 0                     |

|    | Local authority / Operator     | Facility Name                          | Waste Licence Reg No. | Total in 2004 (tonnes) | Total in 2005 (tonnes) | Disposal                 |   |                           |  |                           |                       | Recovery                                 |                                  |                       |
|----|--------------------------------|--|-----------------------|------------------------|------------------------|--------------------------|---|---------------------------|--|---------------------------|-----------------------|--|----------------------------------|-----------------------|
|    |                                |  |                       |                        |                        | Household Waste (Tonnes) | Commercial Waste <sup>37</sup> (Tonnes) | Industrial Waste (Tonnes) | Construction & Demolition Waste (Tonnes) | Street Sweepings (Tonnes) | Other Wastes (Tonnes) | Construction & Demolition Waste (Tonnes) | Composted Organic Waste (Tonnes) | Other Wastes (Tonnes) |
| 28 | South Tipperary County Council | Donohill Landfill                      | W0074-02              | 23,275                 | 20,416                 | 12,703                   | 5,926                                   | 96                        | 365                                      | 1,308                     | 17                    | 0  | 0                                | 0                     |
| 29 | Waterford City Council         | Kilbarry Landfill                      | W0018-01              | 16,394                 | 31,482                 | 10,773                   | 4,222                                   | 1,277                     | 1,008                                    | 1,599                     | 0                     | 12,603                                   | 0                                | 0                     |
| 30 | Waterford County Council       | Dungarvan Waste Disposal Site          | W0032-02              | 15,535                 | 1,380                  | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 1,380                                    | 0                                | 0                     |
| 31 | Waterford County Council       | Tramore Waste Disposal Site            | W0075-01              | 45,589                 | 90,297                 | 25,167                   | 0                                       | 0                         | 0  | 0                         | 0                     | 65,041                                   | 76                               | 13                    |
| 32 | Westmeath County Council       | Ballydonagh Landfill                   | W0028-02              | 30,778                 | 50,823                 | 16,533                   | 5,308                                   | 75                        | 0  | 0                         | 0                     | 28,907                                   | 0                                | 0                     |
| 33 | Westmeath County Council       | Marlinstown Landfill                   | W0071-02              | 24,000                 | 4,686                  | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 4,686                                    | 0                                | 0                     |
| 34 | Wexford County Council         | Killurin Landfill                      | W0016-02              | 86,807                 | 74,087                 | 11,812                   | 1,129                                   | 0                         | 0  | 451                       | 4                     | 0  | 0                                | 60,692                |
| 35 | Wicklow County Council         | Ballymurtagh Landfill Facility         | W0011-01              | 19,110                 | 76,380                 | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 76,380                                   | 0                                | 0                     |
| 36 | Wicklow County Council         | Rampere Landfill                       | W0066-02              | 16,991                 | 9,180                  | 6,481                    | 1,620                                   | 206                       | 0  | 338                       | 0                     | 535                                      | 0                                | 0                     |
| 37 | Dundalk Town Council           | Dundalk Landfill/ Civic Waste Facility | W0034-02              | 3,018                  | 97,198                 | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 97,198                                   | 0                                | 0                     |
| 38 | Neiphin Trading Ltd.           | Kerdiffstown                           | W0047-01              | 169,768                | 363,129                | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 363,129                                  | 0                                | 0                     |
| 39 | KTK Landfill Limited           | KTK Landfill Limited                   | W0081-02              | 352,035                | 353,625                | 0                        | 241,225                                 | 27,038                    | 5,302                                    | 0                         | 0                     | 56,474                                   | 23,586                           | 0                     |
| 40 | KTK Sand & Gravel Ltd          | KTK Sand & Gravel Ltd                  | W0156-01              | 64,667                 | 241,965                | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 241,965                                  | 0                                | 0                     |
| 41 | Swalcliffe                     | Swalcliffe                             | W0181-01              |                        | 4,454                  | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 4,454                                    | 0                                | 0                     |

|              | Local authority / Operator         | Facility Name                        | Waste Licence Reg No. | Total in 2004 (tonnes) | Total in 2005 (tonnes) | Disposal                 |   |                           |  |                           |                       | Recovery                                 |                                  |                       |
|--------------|------------------------------------|--------------------------------------|-----------------------|------------------------|------------------------|--------------------------|---|---------------------------|--|---------------------------|-----------------------|--|----------------------------------|-----------------------|
|              |                                    |                                      |                       |                        |                        | Household Waste (Tonnes) | Commercial Waste <sup>37</sup> (Tonnes) | Industrial Waste (Tonnes) | Construction & Demolition Waste (Tonnes) | Street Sweepings (Tonnes) | Other Wastes (Tonnes) | Construction & Demolition Waste (Tonnes) | Composted Organic Waste (Tonnes) | Other Wastes (Tonnes) |
| 42           | Tegral Building Products Limited   | Ballylinan Landfill Site             | W0046-01              | 2,461                  | 11,878                 | 0                        | 0                                       | 178                       | 0  | 0                         | 0                     | 0  | 0                                | 11,700                |
| 43           | Murphy Concrete Manufacturing Ltd. | Murphy Concrete Manufacturing Ltd.   | W0129-01              | 173,037                | 330,973                | 0                        | 0                                       | 4,082                     | 326,891                                  | 0                         | 0                     | 0  | 0                                | 0                     |
| 44           | Murphy Concrete Manufacturing Ltd. | Murphy Concrete Manufacturing Ltd    | W0151-01              | 682,015                | 686,662                | 0                        | 0                                       | 0                         | 0  | 0                         | 0                     | 686,662                                  | 0                                | 0                     |
| 45           | Greenstar Holdings Limited         | Knockharley Landfill                 | W0146-01              | 1,394                  | 169,803                | 84,938                   | 51,176                                  | 7                         | 0  | 0                         | 0                     | 33,562                                   | 120                              | 0                     |
| 46           | Greenstar Holdings Limited         | Connaught Regional Residual Landfill | W0178-01              | 0                      | 162                    | 81                       | 81                                      | 0                         | 0  | 0                         | 0                     | 0  | 0                                | 0                     |
| 47           | Bord Na Mona                       | Clonbulloge Ash Repository           | W0049-01              | 34,561                 | 32,571                 | 0                        | 0                                       | 32,571                    | 0  | 0                         | 0                     | 0  | 0                                | 0                     |
| 48           | Bord Na Mona                       | Srahmore Peat Deposition Site        | W0199-01              | 0                      | 113,227                | 0                        | 0                                       | 0                         | 113,227                                  | 0                         | 0                     | 0  | 0                                | 0                     |
| <b>TOTAL</b> |                                    |                                      |                       | <b>3,723,962</b>       | <b>5,389,228</b>       | <b>1,193,872</b>         | <b>630,194</b>                          | <b>78,038</b>             | <b>448,425</b>                           | <b>23,875</b>             | <b>19,192</b>         | <b>2,872,933</b>                         | <b>42,090</b>                    | <b>80,609</b>         |

## Appendix D – Revision to tables from *National Waste Report 2004*

New information was provided by local authorities in relation to the collection of organic waste from households and commercial sources in 2004. As a result, the amount of organic waste recovered has been amended. The tables relating to the disposal and recovery of municipal waste, household waste, commercial waste and biodegradable municipal waste have consequently been revised below. The revised numbers are highlighted in bold text.

**Table 3 Disposal and recovery of municipal waste, 2004**

| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Wood                | 175,330                   | 14,180                       | 8.1                        | 161,150                     | 91.9                       |
| Ferrous             | 70,712                    | 24,449                       | 34.6                       | 46,263                      | 65.4                       |
| Glass               | 123,446                   | 54,642                       | 44.3                       | 68,804                      | 55.7                       |
| Paper and cardboard | 821,903                   | 446,306                      | 54.3                       | 375,597                     | 45.7                       |
| WEEE                | 21,392                    | 11,856                       | 55.4                       | 9,536                       | 44.6                       |
| Plastic             | 295,890                   | 239,986                      | 81.1                       | 55,904                      | 18.9                       |
| Other metals        | 13,827                    | 12,229                       | 88.4                       | 1,597                       | 11.6                       |
| Aluminium           | 22,854                    | 20,378                       | 89.2                       | 2,476                       | 10.8                       |
| Organics            | 716,652                   | 667,075                      | 93.1                       | <b>49,578</b>               | 6.9                        |
| Textiles            | 157,521                   | 146,986                      | 93.3                       | 10,535                      | 6.7                        |
| Others              | 284,059                   | 180,432                      | 63.5                       | 103,627                     | 36.5                       |
| Total               | 2,703,603                 | 1,818,536                    | 67.3                       | 885,068                     | 32.7                       |

**Table 6 Disposal and recovery rates in the household waste stream, 2004**

| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Glass               | 111,693                   | 45,313                       | 40.6                       | 66,381                      | 59.4                       |
| WEEE                | 14,688                    | 9,179                        | 62.5                       | 5,510                       | 37.5                       |
| Paper and cardboard | 353,746                   | 233,446                      | 66.0                       | 120,300                     | 34.0                       |
| Wood                | 16,661                    | 11,152                       | 66.9                       | 5,508                       | 33.1                       |
| Ferrous             | 22,881                    | 18,557                       | 81.1                       | 4,324                       | 18.9                       |
| Plastic             | 187,131                   | 167,261                      | 89.4                       | 19,871                      | 10.6                       |
| Aluminium           | 18,186                    | 16,795                       | 92.3                       | 1,392                       | 7.7                        |
| Organics            | 460,874                   | 440,131                      | 95.5                       | <b>20,743</b>               | 4.5                        |
| Textiles            | 137,830                   | 133,310                      | 96.7                       | 4,520                       | 3.3                        |
| Other metals        | 5,006                     | 4,849                        | 96.9                       | 157                         | 3.1                        |
| Others              | 172,083                   | 134,916                      | 78.4                       | 37,167                      | 21.6                       |
| Total               | 1,500,780                 | 1,214,908                    | 81.0                       | 285,872                     | 19.0                       |

**Table 8 Disposal and recovery in the commercial waste stream, 2004**

| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | National landfill rate (%) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|
| Wood                | 158,669                   | 3,027                        | 1.9                        | 155,642                     | 98.1                       |
| Ferrous             | 47,831                    | 5,892                        | 12.3                       | 41,939                      | 87.7                       |
| WEEE                | 6,704                     | 2,677                        | 39.9                       | 4,027                       | 60.1                       |
| Paper and cardboard | 468,157                   | 212,860                      | 45.5                       | 255,297                     | 55                         |
| Plastic             | 108,759                   | 72,725                       | 66.9                       | 36,034                      | 33.1                       |
| Textiles            | 19,691                    | 13,676                       | 69.5                       | 6,016                       | 30.5                       |
| Aluminium           | 4,668                     | 3,584                        | 76.8                       | 1,084                       | 23.2                       |
| Glass               | 11,753                    | 9,330                        | 79.4                       | 2,423                       | 20.6                       |
| Other metals        | 8,821                     | 7,381                        | 83.7                       | 1,440                       | 16.3                       |
| Organics            | 255,778                   | 226,944                      | 88.7                       | <b>28,834</b>               | 11.3                       |
| Others              | 111,976                   | 45,516                       | 40.6                       | 66,460                      | 59.4                       |
| Total               | 1,202,824                 | 603,628                      | 50.2                       | 599,196                     | 49.8                       |

**Table 9 Biodegradable municipal waste generation and management, 2004**

| Material            | Quantity managed (tonnes) | Quantity landfilled (tonnes) | Quantity recovered (tonnes) | National recovery rate (%) |
|---------------------|---------------------------|------------------------------|-----------------------------|----------------------------|
| Wood                | 175,330                   | 14,180                       | 161,150                     | 91.9                       |
| Paper and cardboard | 821,903                   | 446,306                      | 375,597                     | 45.7                       |
| Textiles            | 157,521                   | 146,986                      | 10,535                      | 6.7                        |
| Organics            | 746,532                   | 696,955                      | <b>49,578</b>               | 6.6                        |
| Total               | 1,901,286                 | 1,304,426                    | 596,860                     | 31.4                       |