

June 2011



Waste Data Overview



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A: Introduction:

Waste generation in the UK can be divided into three main sectors; construction and demolition, commercial and industrial, and local authority collected waste. This document provides an overview of waste and recycling data in all three sectors. It summarises waste and recycling statistics on total waste arisings, international comparisons, materials including food, packaging and hazardous waste, and greenhouse gas emissions from waste management. It presents the latest figures and data sources in all three areas, in line with the Government's [Waste Policy Review](#) published in June 2011.

This overview is not designed to be fully comprehensive of all the data available, but instead to give an up to date summary of the best available information at the time of publication.

Summary of key statistics presented in the overview:

Total waste figures

- Waste production in the UK is gradually declining and reached 288.6mt in 2008, with the largest contribution coming from the construction and demolition sector. Of this total, 45 per cent was recovered while 48 per cent was deposited onto or into the land.
- Similar to the UK, waste production in England is declining and reached 228.0mt of waste in 2008. Construction and demolition remains the largest contributing sector. In 2008, 43 per cent of England's waste was disposed of into or onto the land, and 46 per cent was recovered.

Construction & demolition waste

- In total, 86.9mt of construction and demolition waste was generated in England in 2008, of which 62 per cent was recycled or recovered and 26 per cent was sent to landfill.

Commercial & industrial waste

- Commercial and industrial waste generation in England declined to 47.9mt in 2009. Of this total, 52 per cent was recycled or reused and 24 per cent sent to landfill.

Local authority collected waste

- The UK generated a total 32.5mt of local authority collected waste in 2009, of which 49 per cent was landfilled and 42 per cent had some value recovered.
- England generated 26.5mt of local authority collected waste in 2009/10, 23.7mt of which derived directly from households. Of this total, 39 per cent of local authority collected waste was sent for recycling and 47 per cent was landfilled.
- Since 2002/03, total waste generated per household has declined to 1036kg per year. Of this total, almost 40 per cent was recycled, composted or reused. Green recycling in particular has increased, and compost now comprises the largest component of recycled household waste, replacing paper and card.

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Other waste types

- Packaging waste rose between 2001 and 2009 to 10.8mt. At the same time, total recovery and recycling has increased to 67 per cent of all packaging waste in 2009.
- An estimated 8.3mt of food and drink waste is produced in the UK each year, of which 65 per cent is avoidable.
- The production of hazardous waste in England and Wales decreased by 31 per cent since 2007, totalling 4.41mt in 2009

Greenhouse gas emissions from waste

- Greenhouse gas emissions from the waste sector have been declining since 1990, totalling 17.9Mt CO₂e in 2009.

For further information visit the Waste and Recycling pages on the [Defra](#) website. Alternatively, the [National Statistics](#) release calendar lists recent statistical publications.

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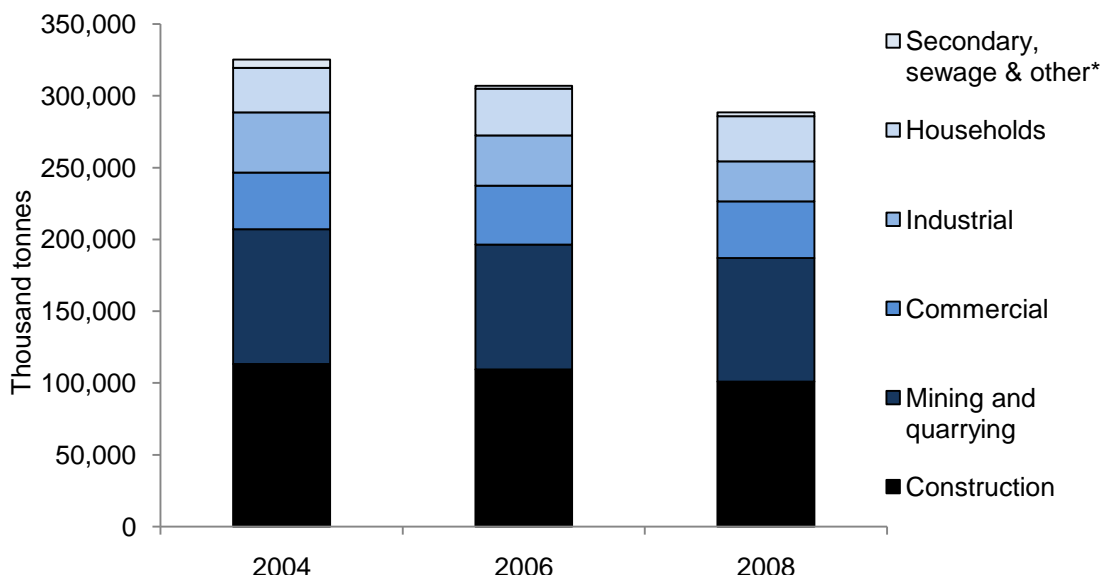
B: Total waste generation & management:

B1: UK

Key Statistics: Waste production in the UK is gradually declining and reached 288.6mt in 2008, with the largest contribution coming from the construction and demolition sector. Of this total, 45 per cent was recovered while 48 per cent was deposited onto or into the land.

- B1.1 In the UK, in 2008, total waste generation was estimated at 288.6 million tonnes (mt)¹. This is a decrease of 6.0 per cent from 307.1mt in 2006 and of 11.3 per cent from 325.3mt in 2004.
- B1.2 In 2008, the largest contributing sector was construction and demolition (101.0mt), followed by mining and quarrying (86.0mt), commercial and industrial sectors (67.3mt), household sources (31.5mt) and the remaining arisings combined (2.7mt).
- B1.3 In terms of the composition of the total waste generated in the UK in 2008, the bulk of the material was mineral waste (193.9mt, 67 per cent of total waste), followed by general and mixed waste (59.1mt, 20 per cent), paper & card (12.3mt, 4 per cent), animal & vegetable wastes (12.0mt, also 4 per cent), metal & scrap (6.9mt, 2 per cent) and chemical and other² (4.4mt, also 2 per cent).

Figure 1 Total UK waste generation, by sector, 2004 to 2008



* 'Other' includes healthcare wastes, batteries & accumulators, & wastes containing PCB.
 Source: Defra – Waste Statistics Regulation return to Eurostat, 2004 to 2008

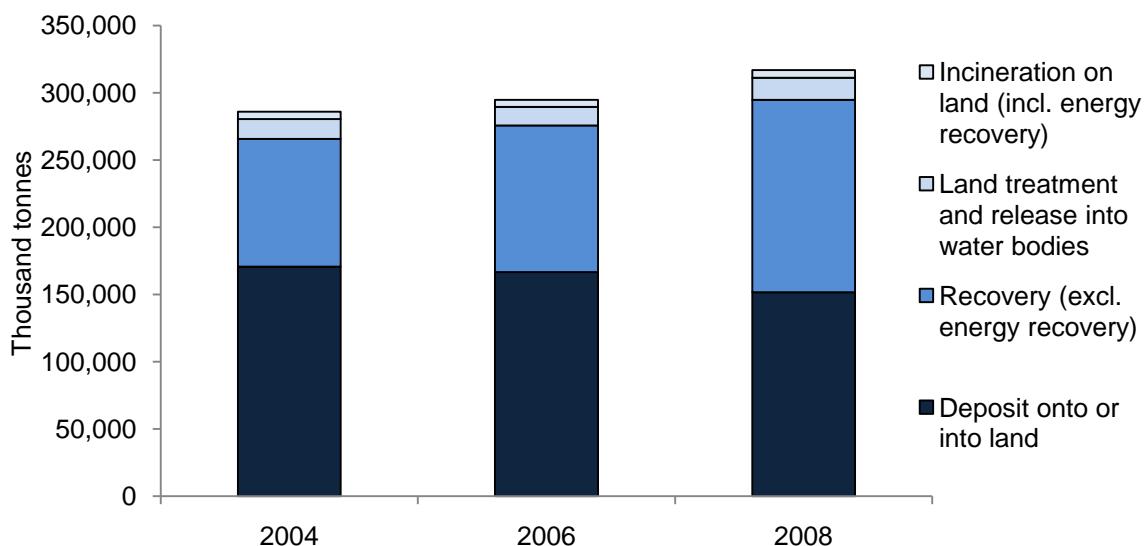
¹ These figures are lower than the totals supplied to Eurostat under the Waste Statistics Regulation, which also include secondary wastes (e.g. wastes generated by the waste management facilities from processes handling wastes generated elsewhere in the economy). Defra considers this double counting of waste generation and hence excludes such wastes from national reporting.

² 'Other' includes healthcare wastes, batteries & accumulators, and wastes containing PCB.

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- B1.4 Of the total waste managed³ in the UK, in 2008, 48 per cent was deposited onto or into land, 45 per cent was recovered (excluding energy recovery), 5 per cent underwent land treatment and release into water bodies and 2 per cent was incinerated on land (including energy recovery).

Figure 2 Total UK waste management, by method, 2004 to 2008



Source: Defra – Waste Statistics Regulation return to Eurostat, 2004 to 2008

B2: England

Key Statistics: Similar to the UK, waste production in England is declining and reached 228.0mt of waste in 2008. Construction and demolition remains the largest contributing sector. In 2008, 43 per cent of England's waste was disposed of into or onto the land, and 46 per cent was recovered.

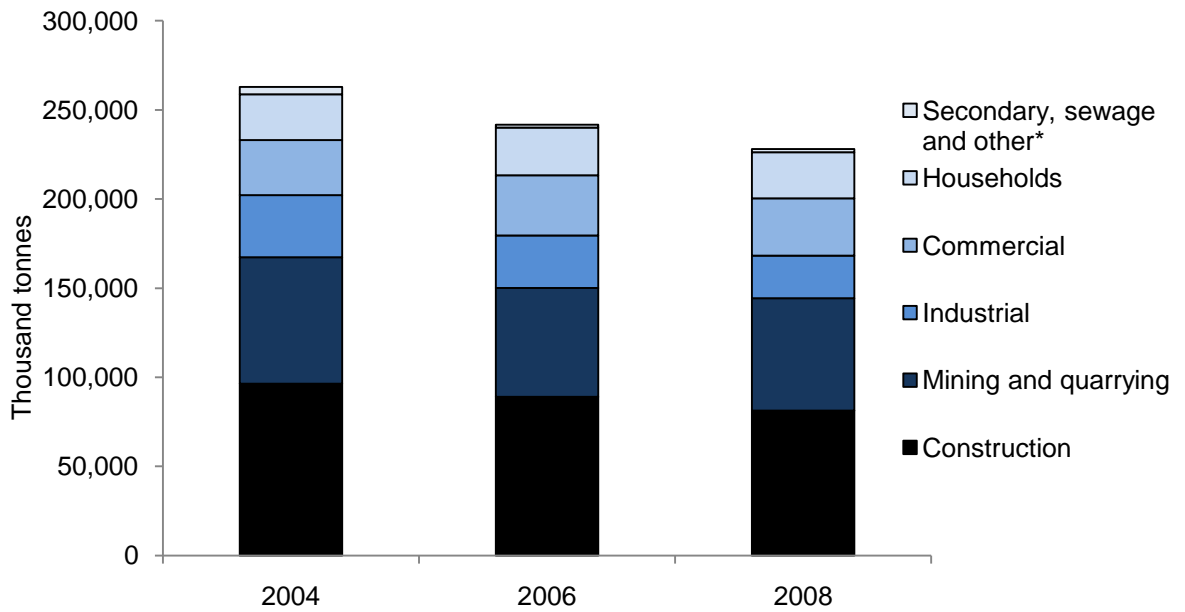
- B2.1 In England, in 2008, total waste generation was estimated at 228.0mt. This is a decrease from 241.7mt in 2006⁴.
- B2.2 In 2008, the largest contributing sector was construction and demolition (81.4mt⁵), followed by mining and quarrying (62.9mt), commercial and industrial sectors (56.0mt), household sources (25.9mt) and the remaining arisings combined (1.7mt).

³ Figures for waste managed do not necessarily equal those for waste generation, due to the manipulation of different data sources for each, some degree of weight loss through treatment (e.g. loss of water), and the exclusion from waste management totals of waste generated in the UK which is exported for treatment/disposal.

⁴ The 2010 data is currently being collated and prepared ready for submission to Eurostat in 2012

⁵ This figure (source: Defra return to Eurostat) is lower than the C&D total (source: WRAP) shown in the next section because it excludes reuse and recovery on site

Figure 3 Total waste generation in England, by sector, 2004 to 2008

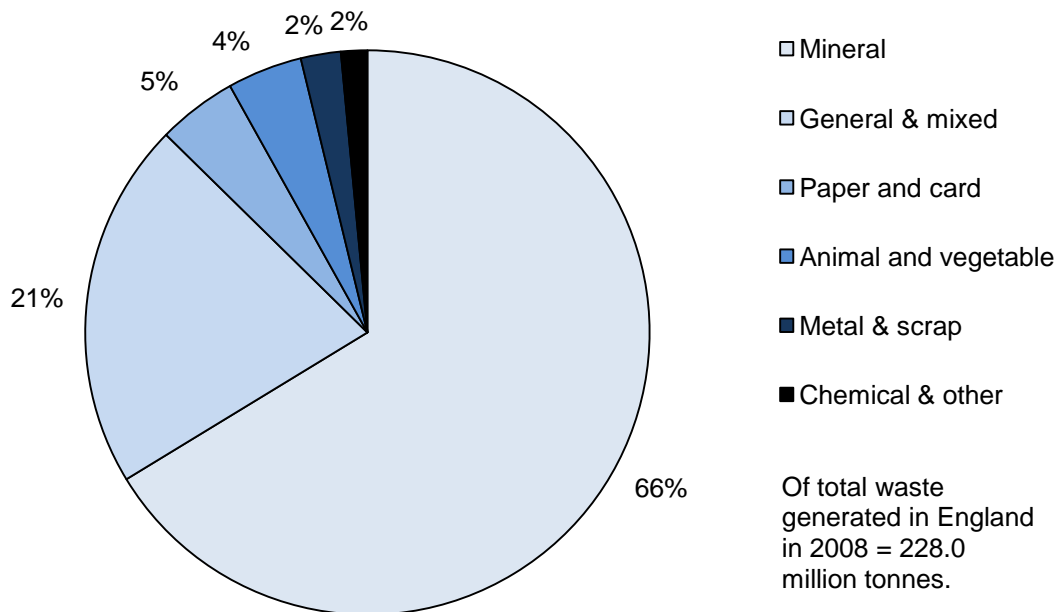


* 'Other' includes healthcare wastes, batteries & accumulators, dredging spoils and solidified/stabilised/vitrified wastes.

Source: Defra – Waste Statistics Regulation return to Eurostat, 2004 to 2008

B2.3 In terms of the composition of total waste generated in England in 2008, the bulk of the material was mineral waste (151.2mt, 66 per cent), followed by general and mixed waste (48.0mt, 21 per cent), paper & card (10.4mt, 5 per cent), animal & vegetable wastes (9.8mt, 4 per cent), metal & scrap (5.2mt, 2 per cent) and chemical & other (3.4mt, also 2 per cent).

Figure 4 Total waste generation in England, by waste type, 2008



Source: Defra – Waste Statistics Regulation return to Eurostat, 2008

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- B2.4 Of the total waste managed in England, in 2008, 43 per cent was deposited onto or into land, 46 per cent was recovered (excluding energy recovery).
- B2.5 In 2009, data demonstrate a 45 per cent fall in the volume of waste disposed of in landfill since 2000. This equated to a total of 44.0mt of waste being sent to landfill in 2009⁶.

Did you know? In England and Wales, there were 497 operational permitted landfills at the end of 2009, which contain 614 million cubic metres of available landfill capacity. This equates to less than eight years of landfill life left at non-hazardous waste sites

⁶ European Union and voluntary waste targets are outlined in Annex 1.

C: The waste sectors:

C1: Construction & demolition⁷

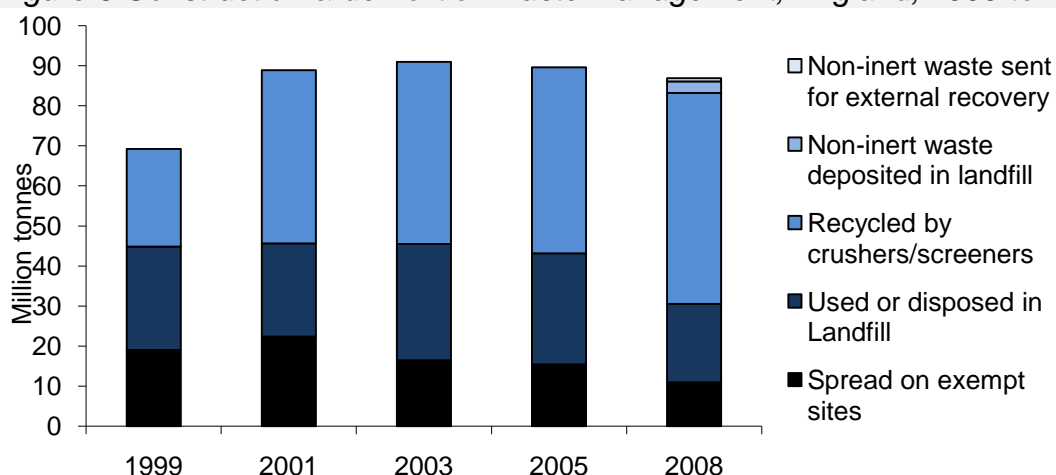
Key Statistics: In total, 86.9mt of construction and demolition waste was generated in England in 2008, of which 62% was recycled or recovered and 26% was sent to landfill.

C1.1 Construction and demolition (C&D) waste decreased between 2004 and 2008. Total UK generation of C&D waste amounted to 113.2mt in 2004 and then decreased to 109.5mt in 2006 and 101.0mt in 2008. C&D waste generation accounted for 35 per cent of total UK waste generation in 2008.

Did you know? Under the Revised Waste Framework Directive, 70 per cent of all C&D waste must be recycled or recovered by 2020

C1.2 In 2009, WRAP (Waste & Resources Action Programme) examined existing datasets (supplemented by original survey research) to provide estimates for the levels of arisings, use and disposal of the full range of C&D wastes in England in 2008. Prior to that study, the Department of Communities and Local Government (CLG) undertook surveys on C&D waste arisings and use in England, reporting on arisings and use of aggregates biennially between 1999 and 2005.

Figure 5 Construction & demolition waste management, England, 1999 to 2008

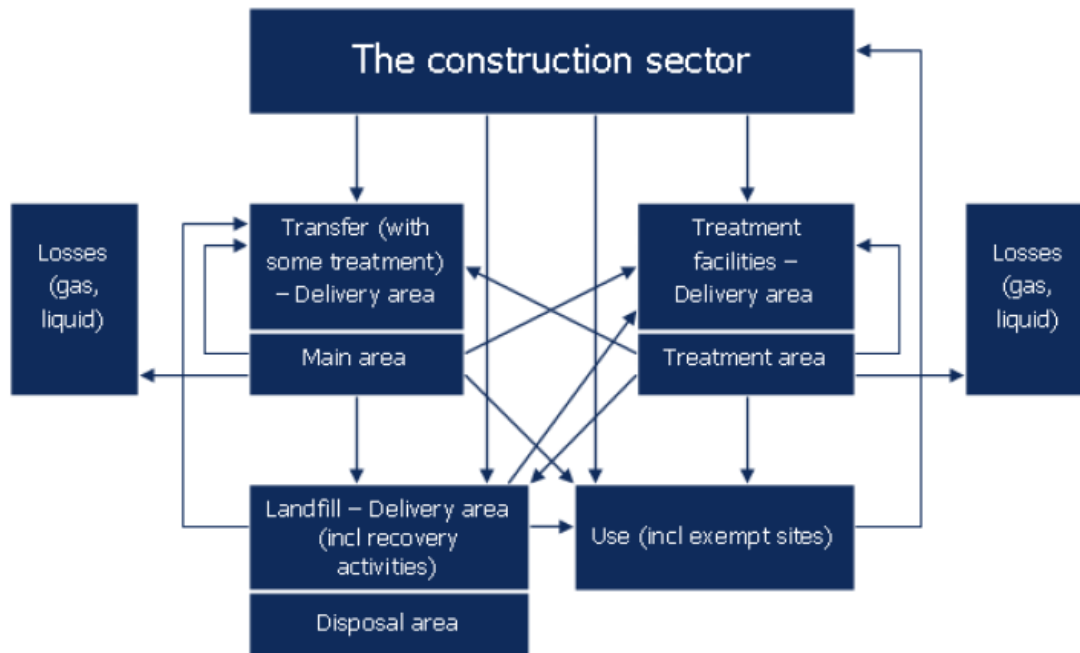


Sources: CLG: Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England (1999, 2001, 2003 and 2005)
 WRAP: 'Updating data on construction, demolition and excavation waste' report (2008)

⁷ C&D waste includes waste produced through excavation activities

C1.3 According to WRAP's 2009 study, C&D waste generated in England remained stable at about 90mt from 2001 to 2008. In 2008, total C&D waste for England was estimated by WRAP at 86.9mt⁸, of which 53.6mt (62%) was recycled or recovered (both on and off site), 11.0mt (13%) was spread on exempt sites, and the remaining 22.4mt (26%) was sent to landfill (including backfilling at quarries and landfill engineering).

Figure 6 A process flow diagram to track waste flows arising from the C&D sector



Source: WRAP 'Updating data on construction, demolition and excavation waste' report (2008)

⁸ Figure from WRAP analysis, which includes waste recovered/reused on site. The WRAP analysis was used to inform the England contribution to WSR figures, with the wastes recovered/reused on site aspect excluded as required under the Regulation. Consequently, the UK WSR figures quoted above and England WRAP figures are not directly comparable.

C2: Commercial & industrial⁹

Key Statistics: Commercial and industrial waste generation in England declined to 47.9mt in 2009. Of this total, 52 per cent was recycled or reused and 24 per cent sent to landfill.

- C2.1 Commercial and industrial (C&I) waste generation in England totalled 47.9mt in 2009, a decline from 67.9mt in 2002/3 (equating to a 29 per cent fall in C&I waste, despite a 10 per cent increase in the total business population over the same period). In 2009, the industrial sector accounted for 24.1mt of waste (a decrease of 13.5mt, equating to 36 per cent since 2002/3), and the commercial sector accounted for 23.8mt of waste (a decrease of 6.5mt, equating to 21 per cent since 2002/3). In 2009, the national economy was recovering from a recession. The results discussed in this section are likely, in part, to reflect the prevailing economic conditions at the time.
- C2.2 In December 2010¹⁰, Defra published the results of the Department's Survey of Commercial and Industrial Waste Arisings for 2009, according to the arrangements approved by the UK Statistics Authority. Of the C&I waste generated in England in 2009, 52 per cent (equating to 25.0mt) was recycled or reused (a rise from 42 per cent in 2002/3). Of the remainder, 24 per cent (equating to 11.3mt) was sent to landfill (a decline from 41 per cent in 2002/3) and 2 per cent incinerated with energy recovery.

Table 1 C&I waste by region, England, 2002/3 & 2009

Region	Waste 2002/3 (000 tonnes)	Waste 2009 (000 tonnes)	% change (from 2002/3 to 2009)
North West ¹	8,335	7,527	-9.7
North East	4,599	2,357	-48.7
Yorkshire and The Humber	11,136	6,944	-37.6
East Midlands	8,093	6,308	-22.0
West Midlands	7,265	5,247	-27.8
East of England	6,564	4,507	-31.3
London	7,507	4,811	-35.9
South East	8,852	6,250	-29.4
South West	5,556	3,977	-28.4
TOTAL	67,907	47,928	-29.4

Source: Defra, EA

Notes:¹ North West estimates produced from analysis of the North West 2008/09 survey

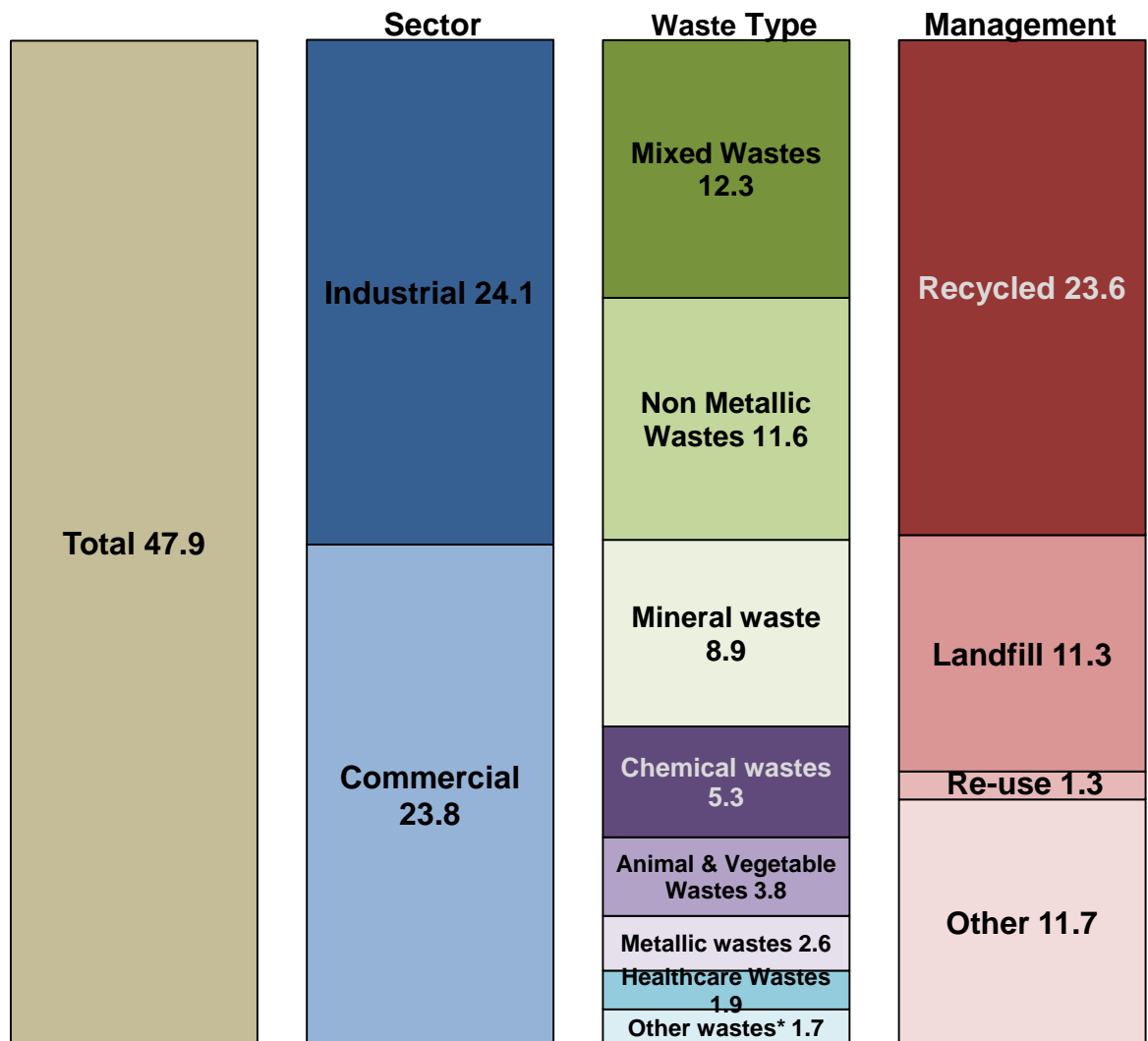
⁹ Data generated from two Business Waste surveys conducted by Defra in 2002/3 and 2009

¹⁰ A slight correction to the results was made post-release and the revised results were re-published in June 2011. The latest results are shown here.

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C2.3 Since 2002/3, the makeup of the C&I sector has changed, and this is perhaps more marked when considering regional results, particularly in areas where big waste producers such as power generators or large metal or other manufacturing activities have been traditionally based. The North East and Yorkshire and The Humber have shown the greatest proportional decline in waste. The North West estimate shows the smallest decrease.

Figure 7 Total C&I waste by sector, waste type and management method, England, 2009



Source: Defra, Environment Agency

*Other includes common sludges, discarded equipment and non-wastes

Million tonnes

C2.4 At a sector level, the retail and wholesale sector contribute by far the largest waste tonnage, followed by the power & utilities sector, the other services sector, and the metal manufacturing sector.

Table 2 C&I waste by broad business sector, England, 2009

Sector ¹	Waste (000 tonnes)	Sector recycling & reuse rate (%)
Food, drink & tobacco	4,667	51.2
Textiles / wood / paper / publishing	3,450	58.9
Power & utilities	5,720	46.3
Chemicals / non-metallic minerals manufacturing	3,847	42.0
Metal manufacturing	4,235	53.1
Machinery & equipment (other manufacturing)	2,164	65.5
Subtotal – Industrial	24,084	51.3
Retail & wholesale	9,212	59.6
Hotels & catering	2,671	45.0
Public administration & social work	2,890	29.1
Education	1,481	34.4
Transport & storage	2,189	71.0
Other services	5,402	55.7
Subtotal – Commercial	23,844	52.8
TOTAL	47,928	52.1

Source: Defra, EA

Notes:¹ Based on Standard Industrial Classification (2007) groupings – see Annex 2

- C2.5 In total, SMEs with less than 50 employees generated 35% of the total C&I waste recorded in 2009 (equating to 16.6mt). The smallest business size band represented only 5 per cent of C&I waste, although these businesses are over 70 per cent of the business population in England.

Table 3 C&I waste by company size, as a percentage of total C&I waste, England, 2009

Company sizeband (total employment)	Waste 2009 (000 tonnes)	Percentage of total 2009 C&I waste (%)	Business population (000s)
0-4	2,286	4.8	1,575
5-9	3,581	7.5	295
10-19	4,528	9.4	175
20-49	6,221	13.0	119
50-99	5,135	10.7	41
100-249	9,058	18.9	23
250+	17,120	35.7	10
TOTAL	47,928	100.0	2,238

Source: Defra, C&I Survey 2009

C3: Local authority waste:

The remaining waste is frequently defined according to three main categories that overlap in their definition:

- Municipal waste, as described in the Landfill Directive, includes both household waste and that from other sources which is similar in nature and composition. This will include a significant proportion of waste generated by businesses and not collected by Local Authorities.

- Local Authority Collected Waste (LACW), comprises all waste collected by local authorities. That is household waste and business waste where collected by the local authority. It also includes non municipal fractions collected by the local authority such as construction and demolition waste.

- Household waste comprises the total waste generated directly from households and collected by local authorities.

This section will look at these three categories of waste and draw out key trends in order to make comparisons at international, national and regional levels.

C3.1 UK and international comparisons

Key Statistics: The UK generated a total 32.5mt of LACW in 2009, of which 49 per cent was landfilled and 50 per cent had some value recovered.

C3.1.1 In total, 32.5mt of LACW was generated in the UK in 2009 (this was a 2.5 per cent decline since the previous year), of which 49 per cent was landfilled. Of the remaining waste, 50 per cent (16.2mt of waste) had some value recovered by recycling, composting, reuse or energy recovery.

C3.1.2 In terms of UK regional data, the East of England was found to have the highest recycling, composting and reuse rate at 45.7 per cent while London had the lowest recycling, composting and reuse rate at 27.4 per cent. The region in the UK with the lowest proportion of LACW being sent to landfill is the West Midlands (28.5 per cent) while Northern Ireland has the highest at 66.1 per cent.

C3.1.3 The amount of municipal waste generated in the UK, in 2009, was equivalent to 526 kg per person, 3 per cent higher than the EU27 average of 512 kg per person. The gap between the UK and the EU27 average has been closing year on year since 2004 when the UK figure was 18 per cent higher than the EU27 average.

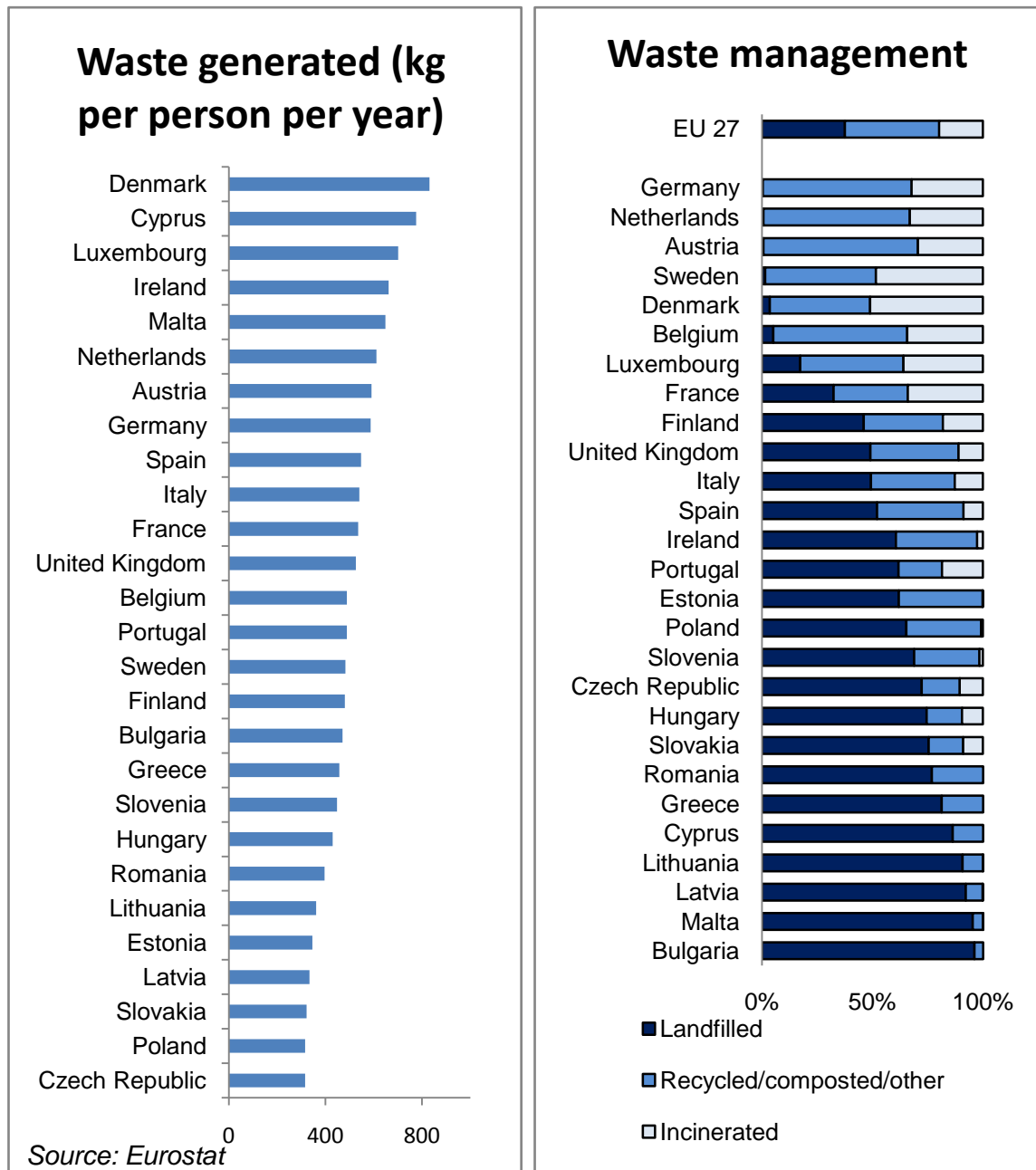
C3.1.4 In 2009, a total of 49 per cent of all UK generated municipal waste was landfilled, compared to the EU27 average of 37 per cent, whilst 38 per cent of UK municipal waste was recycled, compared to the EU27 average of 41 per cent.

C3.1.5 The UK demonstrated a 38 per cent reduction in non recycled household waste per person between 2000/01 and 2009/10. Moreover, total household waste generated

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per person in the UK decreased by 8.3 per cent over the same period, with each person generating 466kg of waste on average in 2009/10. Of this total, 39.5 per cent was recycled or composted. For more information on European waste statistics visit the [Eurostat](http://ec.europa.eu/eurostat) website.

Figure 8 Municipal waste generation and management in the European Union, 2009



C3.2 England

Key Statistics: England generated 26.5mt of local authority collected waste in 2009/10, 23.7mt of which derived directly from households. Of this total, 38.6 per cent of local authority collected waste was sent for recycling and 46.9 per cent was landfilled.

C3.2.1 In 2009/10, England generated 26.5mt of LACW, a decline from 27.3mt in 2008/09. Of this total, 38.6 per cent of LACW was recycled, composed or reused, a rise from 36.8 per cent in 2008/09.

C3.2.2 Between 2008/09 and 2009/10 the amount of LACW being sent to landfill declined by 9.4 per cent, from 13.8mt (50.3 per cent of the total) to 12.5mt (46.9 per cent of the total). The proportion of LACW disposed of in landfill has declined year on year since 2000/01.

Tables 4 & 5 Household & LACW summary statistics, England, 1995/96 to 2008/09

Thousand tonnes

Household statistics	1995/96	1997/98	1999/00	2001/02	2003/04	2005/06	2007/08	2008/09	2009/10
Total household waste	22,300	23,333	24,760	25,524	25,447	25,454	25,287	24,334	23,666
of which:									
Household waste recycled	1,400	1,915	2,547	3,197	4,521	6,796	8,735	9,146	9,398
(Household waste recycling rate)	(6.3%)	(8.2%)	(10.3%)	(12.5%)	(17.8%)	(26.7%)	(34.5%)	(37.6%)	(39.7%)

LACW statistics ¹¹	1995/96	1997/98	1999/00	2001/02	2003/04	2005/06	2007/08	2008/09	2009/10
Total LACW	24,300	25,711	27,480	28,905	29,114	28,745	28,506	27,334	26,541
of which:									
LACW recycled/composted	1,500	2,067	3,095	3,921	5,537	7,799	9,703	10,082	10,275
LACW landfilled	17,700	21,798	21,963	22,421	20,936	17,873	15,513	13,784	12,490
LACW incinerated/other	2,000	1,846	2,422	2,563	2,642	3,054	3,290	3,529	3,871

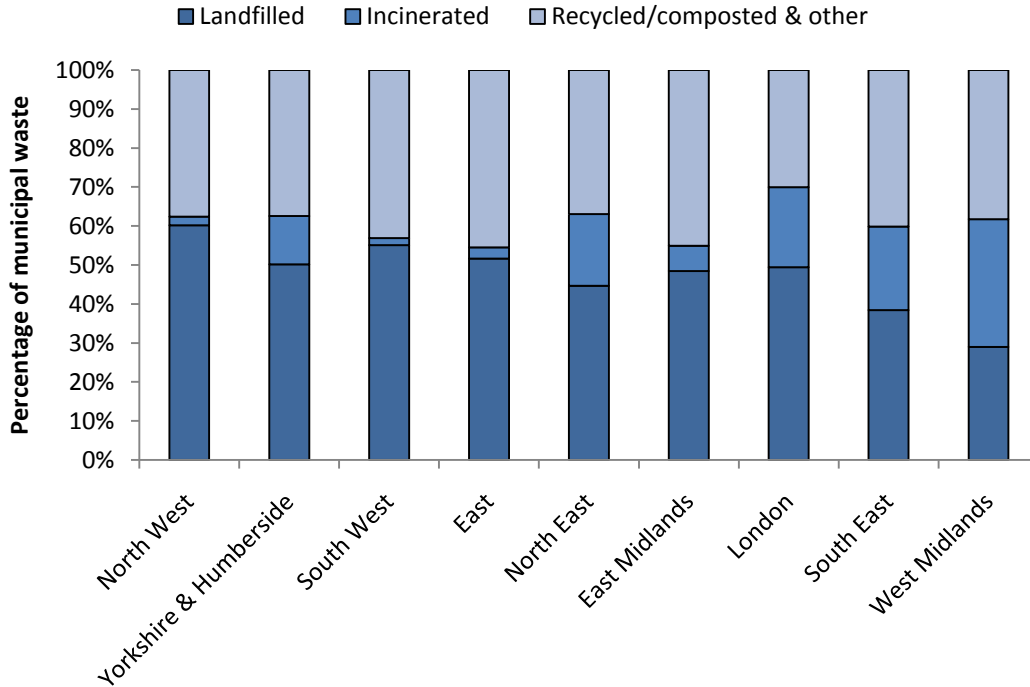
Source: Defra, WasteDataFlow

¹¹ The figures in the lower 3 rows are from management data, whereas the figures in the first row 'Total LACW' are from collection data sources. Due to the different data sources, the management data does not sum to equal the collection data.

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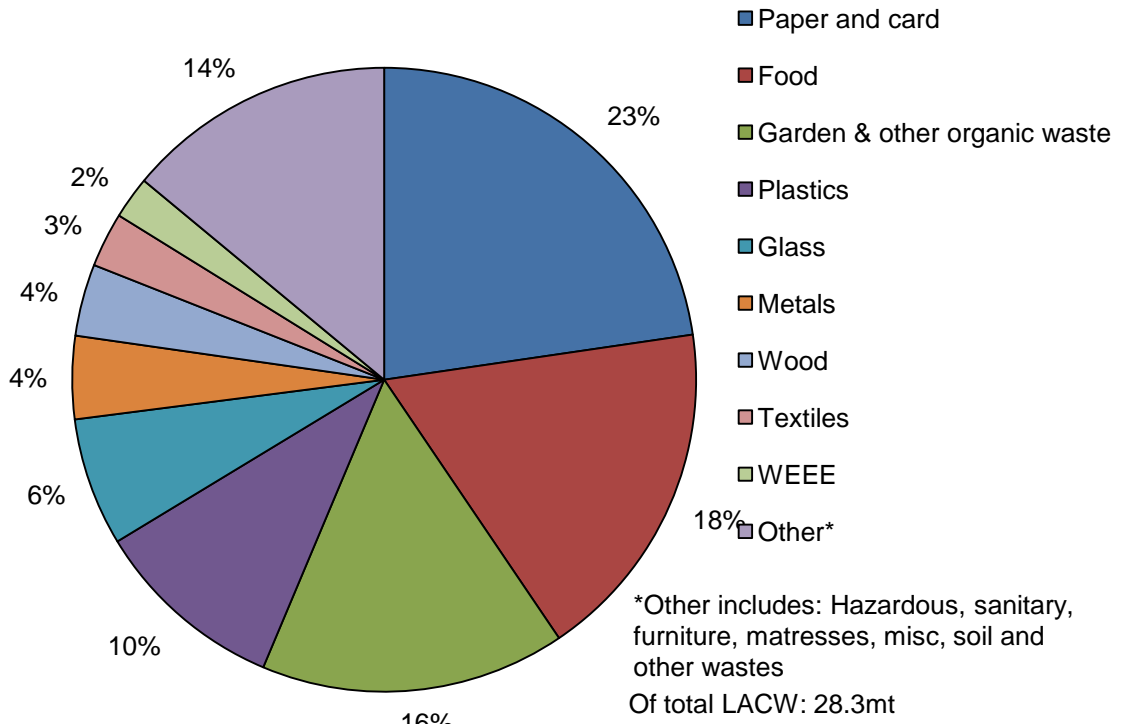
C3.2.3 In 2009/10, the North West sent 59.2 per cent of their LACW to landfill, the greatest percentage of all regions, and the West Midlands sent 28.5 per cent, the smallest percentage. The West Midlands incinerated (with energy recovery) 33.0 per cent of LACW, yet the South West incinerated only 1.7 per cent.

Figure 9 Management of LACW by GO region, England, 2009/10



Source: Defra, WasteDataFlow

Figure 10 LACW composition, England 2006/07



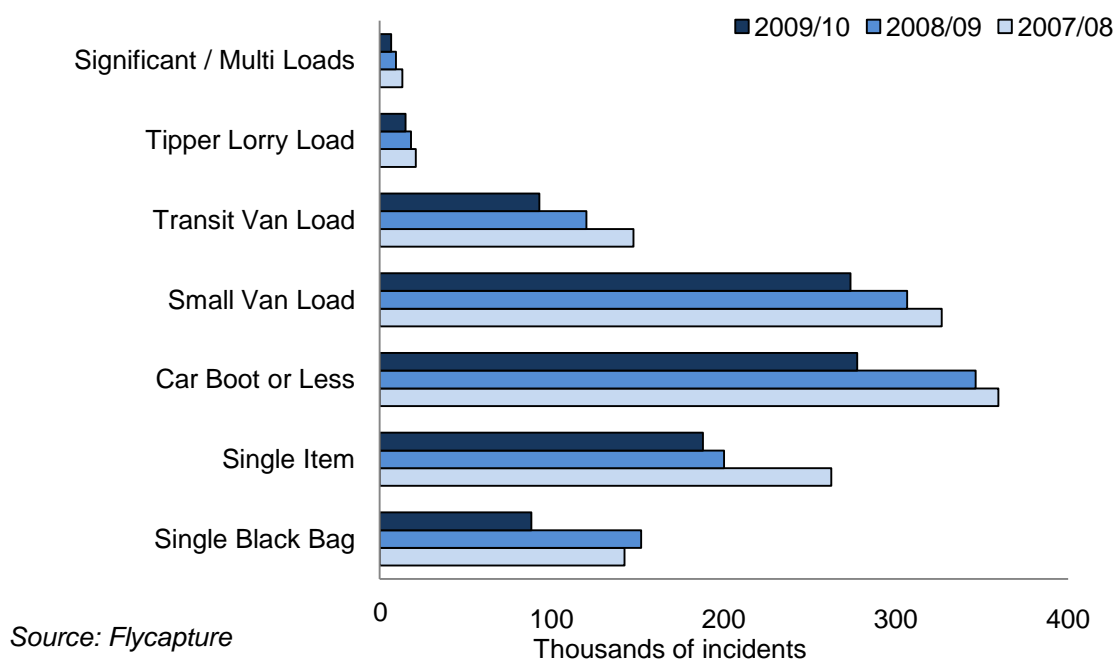
Source: Defra - Municipal Waste Composition: A Review of Municipal Waste Component Analyses 2009

C3.2.4 In 2006/07¹², the major components of LACW in England were paper and card (23 per cent), food waste (18 per cent), garden and other organic waste (16 per cent) and plastics (10 per cent), which together formed 66 per cent of all LACW.

C3.2.5 In total, 65 per cent of local authorities (equating 211 authorities) are now collecting five or more recyclables at kerbside, and 99 per cent collect at least two. Moreover, 50 local authorities now provide a food waste collection service.

C3.2.6 In 2009/10 there were nearly 947 thousand incidents of fly tipping dealt with by local authorities in England, as recorded by Flycapture. This is an 18.7 per cent decrease from 2008/09¹³. The estimated clearance cost of illegally dumped waste, reported by Local Authorities in 2009/10, was £45.8 million, a reduction of £9.2 million compared to 2008/09. An estimated 49 per cent of all fly tips occurred along the highway.

Figure 11 Fly tipping incidents by size, England 2007/08, 2008/09 & 2009/10



C3.2.7 In 2009/10, a total of 63 per cent of fly tips dealt with by local authorities in England involved household waste, 8 per cent were reported as commercial black bag or other commercial waste and 6 per cent were recorded as consisting of C&D waste.

¹² This is the most recent detailed data on the composition of LACW waste in England retrieved from a Defra report, *Municipal Waste Composition: A Review of Municipal Waste Component Analyses 2009*

¹³ Careful interpretation of the data is required. Changes in the reporting practices of individual authorities can have a significant impact on overall figures. For example, one authority reported 175,000 incidents in 2008/09 but fewer than 2,000 in 2009/10, due largely to a change in reporting practices.

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- C3.2.8 The most common size of fly-tips in England in 2009/10 occurred within the car boot or less category (29.3 per cent) followed by small van load (28.9 per cent) and single item (19.8 per cent).
- C3.2.9 Local authorities in England carried out 2,457 prosecutions against fly tipping in 2009/10, of which 97 per cent resulted in a successful outcome. Authorities also issued 116,554 warning letters, 37,191 statutory notices, 25,874 fixed penalty notices, and 2,067 formal cautions in response to fly-tipping incidents in 2009/10. Further fly tipping data can be found on the [Defra](#) website.
- C3.2.10 The Environment Agency (EA) also reported 1047 illegal waste dumping incidents in England in 2009/10 according to Flycapture, an increase from 676 incidents in 2008/09. This reflects the greater support that the EA has given to some local authorities in tackling small-scale fly tipping in areas of high waste crime. The increase in small scale fly tipping incidents has resulted in a decrease in the average fine.
- C3.2.11 The EA took 165 prosecutions forward in relation to illegal waste activities, resulting in over £500,000 in fines. Average fine per prosecution was £5,022, where a fine was the outcome.
- C3.2.12 The number of serious organised waste crime incidents dealt with by the EA fell slightly from 165 in 2008/09 to 154 incidents in 2009/10.

C3.3 Household waste

Key Statistics: Since 2002/03, total waste generated per household has declined to 1036kg per year. Of this total, almost 40 per cent was recycled, composted or reused. Green recycling in particular has increased, and compost now comprises the largest component of recycled household waste, replacing paper and card.

- C3.3.1 In 2009/10, household waste accounted for 89.0 per cent of England's LACW. England generated 23.7mt of household waste in 2009/10 (a 2.7 per cent reduction from 2008/09), of which 39.7 per cent (equating to 9.4mt) was sent for recycling, composting or reuse (an increase from 37.6 per cent in 2008/09). This can be compared with 2000/01 data which demonstrated 23mt of household waste being generated annually, and only 11.2 per cent (equating to 2.9mt) being recycled, composted or reused. Moreover, there has been a change in the composition of recycled waste over time, shifting from paper and card as the largest component in 2000/01 (followed by compost and glass), to compost as the largest component in 2009/10 (followed by co-mingled¹⁴, and then paper and card).

¹⁴ Co-mingled waste is the collection of a number of recyclable materials in the same box or bin, for example paper, glass and plastics, and has become more widespread in recent years.

Waste Data Overview

C3.3.2 Total household waste per household increased from 1033kg per household per year in 1991/92 to a peak at 1202kg per household per year in 2002/03. Total household waste per household has since declined to 1124kg per household per year in 2007/08, 1072kg per household per year in 2008/09, and 1036kg per household per year in 2009/10. Of this total, 411kg was recycled, composted or reused in 2009/10, while 625kg was not.

Did you know? Under the Revised Waste Framework Directive, 50 per cent of waste from households must be recycled by 2020

C3.3.3 In 2009/10 a total of 457kg of household waste was generated per person per year. Of this total, 181kg was recycled (equating to 39.7 per cent of the total compared with 37.6 per cent in 2008/09) and 275kg not recycled per person per year. This is an increase in recycling from 11kg per person per year in 1991/92.

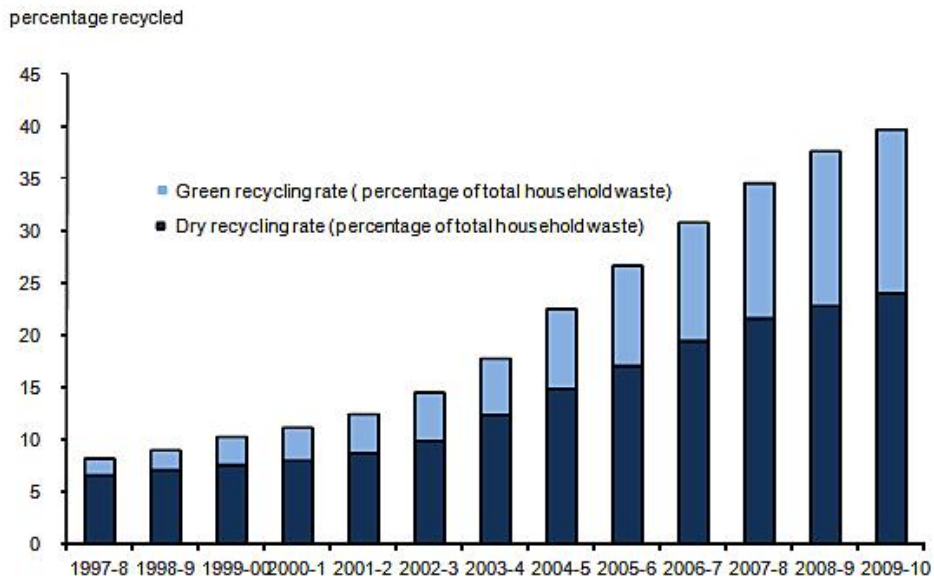
C3.3.4 Green recycling (composting) has increased from 1.6 per cent in 1997/98 to 15.7 per cent in 2009/10, whilst recycling of other materials (dry recycling) has increased from 6.6 per cent to 24.0 per cent in the same period.

C3.3.5 The regional recycling rates in England in 2009/10 was highest in the East of England at 46.1 per cent, and lowest in London at 31.8 per cent. This is an increase from 2000/01 when the highest regional recycling rate was 16.4 per cent in the South East and the lowest was 4.1 per cent in the North East.

C3.3.6 In 2009/10, of the 358 local authorities in England, 39 had a recycling rate higher than 50 per cent, 122 had a recycling rate between 40 and 50 percent, 136 between 30 and 40 per cent, and 61 had a rate of 30 per cent or lower.

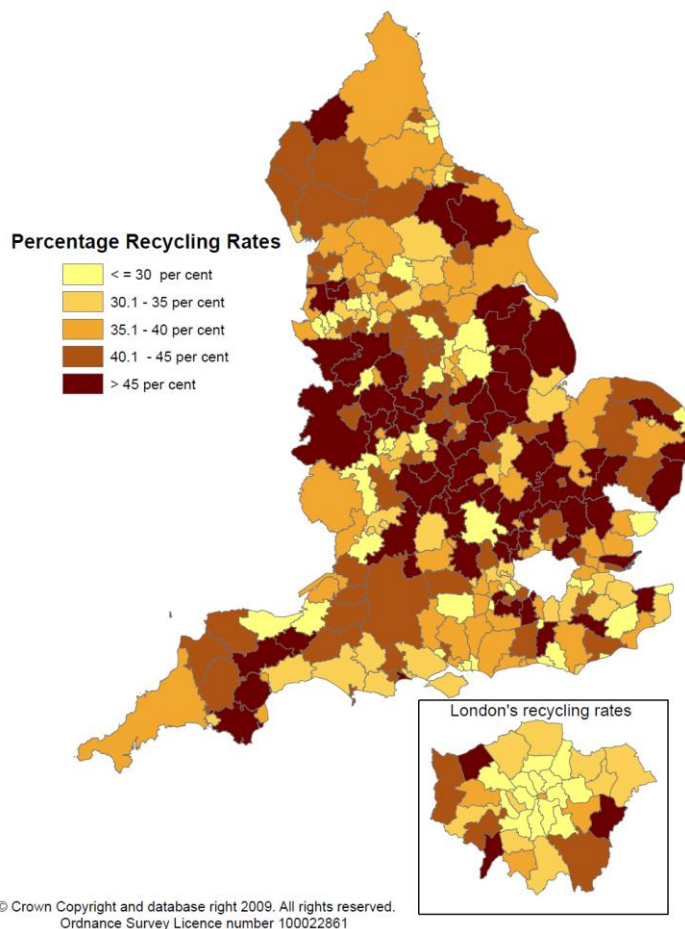
Waste Data Overview

Figure 12 Green and dry recycling rates of household waste, England 1997/98 to 2009/10



Source: Defra, WasteDataFlow

Figure 13 Local authority recycling rates, England, 2009

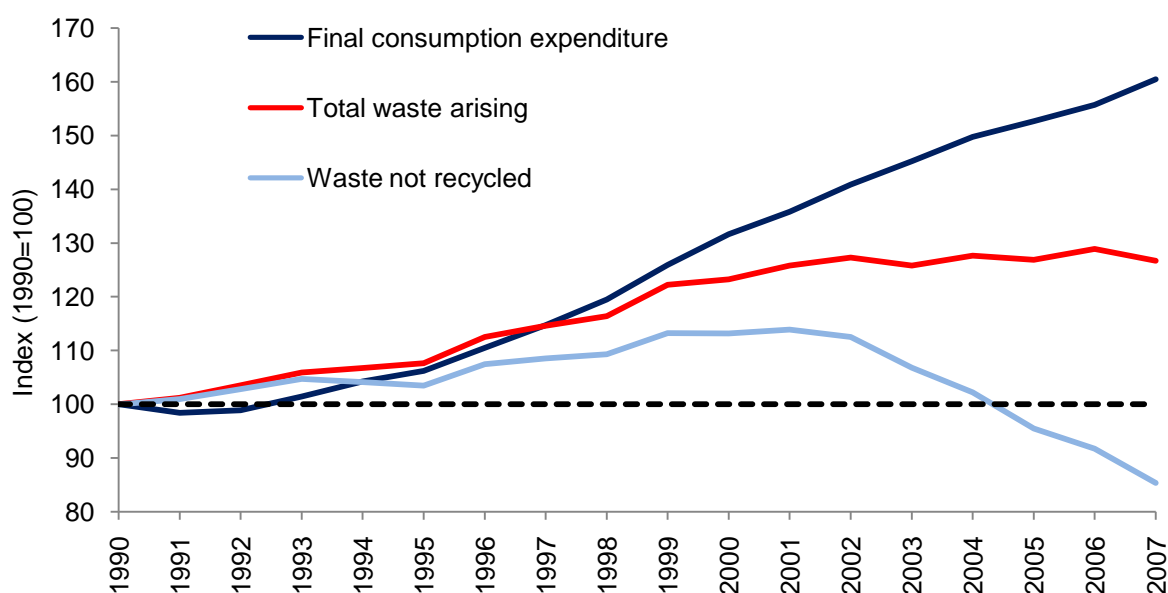


Waste Data Overview

C3.3.7 In 2009/10, the local authorities with the highest recycling rates were Staffordshire Moorlands District Council (West Midlands) with 61.4 per cent, South Oxfordshire District Council (South East) with 61.4 per cent and Rochford District Council (Eastern) with 61.2 per cent. For more information on municipal and household waste visit the [Defra](#) website.

C3.3.8 Household final consumption expenditure (HHFCE) is a measure of traditional consumer spending. This incorporates the purchase of all goods and services but does not include the purchase of dwellings or expenditure on valuables, considered part of capital formation, or business expenditure. Below, HHFCE is calculated as an index from the 1990 base period. In the UK, between 1991 and 2007, the HHFCE index increased 63 per cent. Waste not recycled, also calculated as an index, broadly increased between 1990 and 2001 before declining to 2007. The total waste arising index increased 27 per cent between 1990 and 2002 and has since fluctuated around this level between 2002 and 2007.

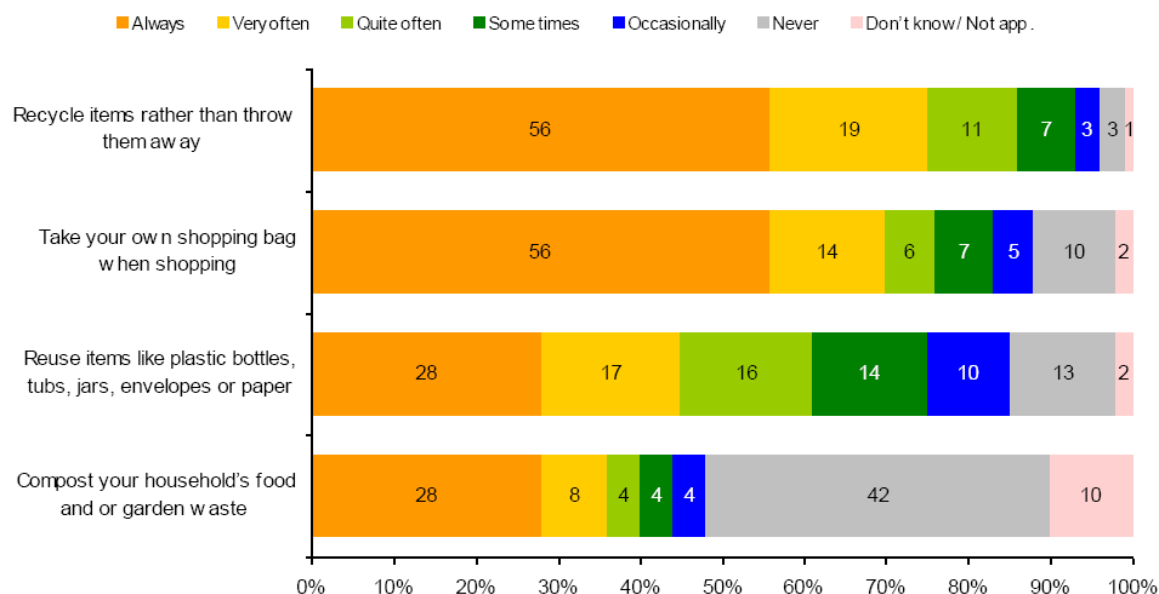
Figure 14 Household final consumption expenditure and waste arising, UK, 1990 to 2007



Source: ONS, Defra

C3.3.9 As recorded in the 2009 Defra 'Public Attitudes and Behaviours Towards the Environment – tracker survey', 91 per cent of respondents said that they were recycling items rather than throwing them away. A total of 56 per cent said that they 'always' did this and 30 per cent said that they did this 'very' or 'quite' often. For further information, see the 2009 ['Public attitudes and behaviours towards the environment – tracker survey'](#).

Figure 15 Frequency of personal recycling behaviours, England, 2009



Source: Defra – Public Attitudes and Behaviours Towards the Environment – tracker survey 2009

C4: Other waste:

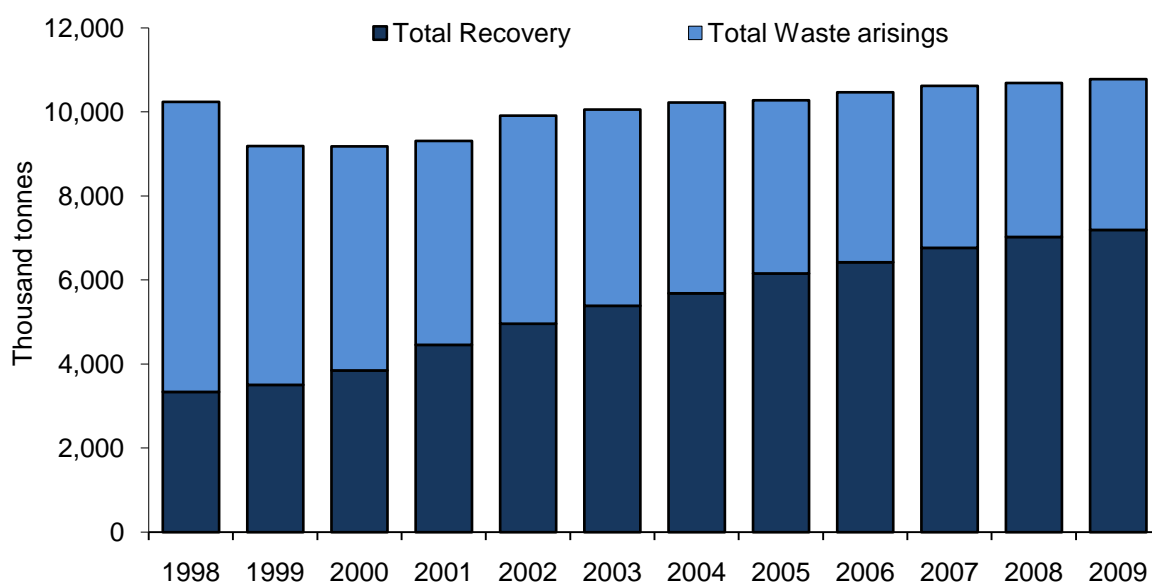
C4.1 Packaging waste

Key Statistics: Packaging waste rose between 2001 and 2009 to 10.8mt. At the same time, total recovery and recycling has increased to 67 per cent of all packaging waste in 2009.

C4.1.1 Total packaging waste in the UK waste stream was 10.2mt in 1998 before it decreased to 9.2mt in 1999. The total then increased steadily between 2001 and 2009, from 9.3mt in 2001 to 10.8mt in 2009.

C4.1.2 Around half of packaging waste is derived from C&I waste and half from household waste. Total recovery and recycling of packaging in the UK has more than doubled from 3.3mt in 1998, 33 per cent of all packaging waste, to 7.2mt in 2009, 67 per cent of all packaging waste. Despite this, only 24 per cent of the UK's plastic packaging is currently recycled.

Figure 16 Packaging recovery & total packaging in the UK waste stream, 1998 to 2009



Source: Defra

C4.2 Food waste

Key Statistics: An estimated 8.3mt of food and drink waste is produced in the UK each year, of which 65 per cent is avoidable.

C4.2.1 As reported in the 2009 WRAP report, 'Household Food and Drink Waste in the UK', an estimated 8.3mt of food and drink waste are generated by households in the UK each year. Of the 8.3mt of food and drink waste per year, 7.0mt (85 per cent) is food, with the remaining 1.3mt per year being drink.

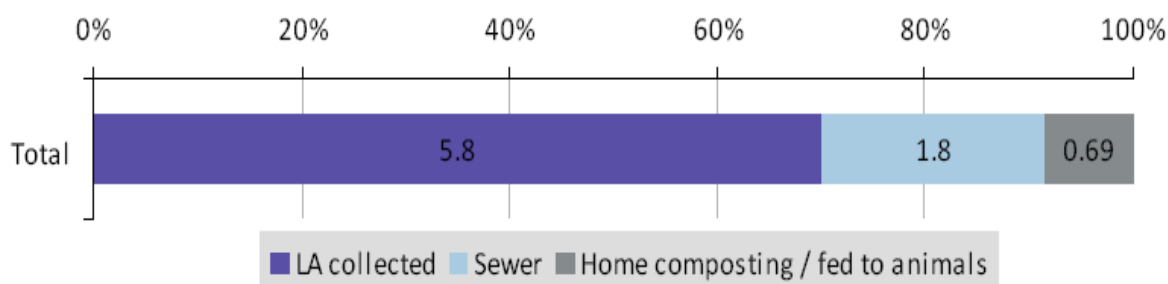
C4.2.2 Approximately 65 per cent (5.3mt) of the total food and drink waste generated is 'avoidable' (i.e. waste that is edible at some point prior to disposal). The total cost of avoidable food waste in the UK is £12 billion per year or £480 per household per year. This represents 15 per cent of expenditure on food and drink brought into the home.

C4.2.3 The majority of the cost of avoidable food waste per year is attributed to food (£10.6 billion), rather than beverages (£1.6 billion).

C4.2.4 The food group responsible for the largest proportion of food waste generated each year (over a third or 3mt per year) is fruit, vegetables and salad.

C4.2.5 Of the 8.3mt of food and drink waste generated, 5.8mt per year (70 per cent) is collected by local authorities, mainly via the residual waste stream (general bin) and food-waste kerbside collections. A further 1.8mt per year is disposed of via the sewer. The [WRAP report](#) provides further details.

Figure 17 Weight of food & drink waste generated in the UK, split by disposal route



Figures within bar state waste in millions of tonnes per year

Source: WRAP – Household Food and Drink Waste in the UK Report, 2009.

C4.2.6 The above WRAP study has also been linked to the Family Food 2008 purchases data. The results reveal that in general, higher price food items were wasted at a lower rate than lower price food items. Also, single person households wasted 22 per cent of their food and drink purchases and all other household types wasted 14 per cent.

C4.2.7 This '[Household Food and Drink Waste linked to Food and Drink Purchases](#)' report also includes information on the amount of nutrients, food types and portions of fruit & vegetables wasted.

C4.3 Hazardous waste

Key Statistics: The production of hazardous waste in England and Wales decreased by 31 per cent since 2007, totalling 4.41mt in 2009

C4.3.1 According to the EA, hazardous waste production in England and Wales has decreased by 31 per cent since 2007, totalling 4.41mt in 2009.

C4.3.2 The total tonnage of hazardous waste sent to landfill has broadly decreased since 2000, totalling 0.56mt in 2009. The percentage of total hazardous waste that is incinerated has remained between 5 and 8 per cent during the 2000 to 2009 period. The total tonnage of hazardous waste that is recycled or reused has decreased since 2000, totalling 1.02mt in 2009.

C4.3.4 In 2008, the UK produced 119 kg per capita of hazardous waste. This can be compared with other EU countries using figure 19.

Figure 18 Treatment of hazardous waste, England & Wales, 2000 to 2009

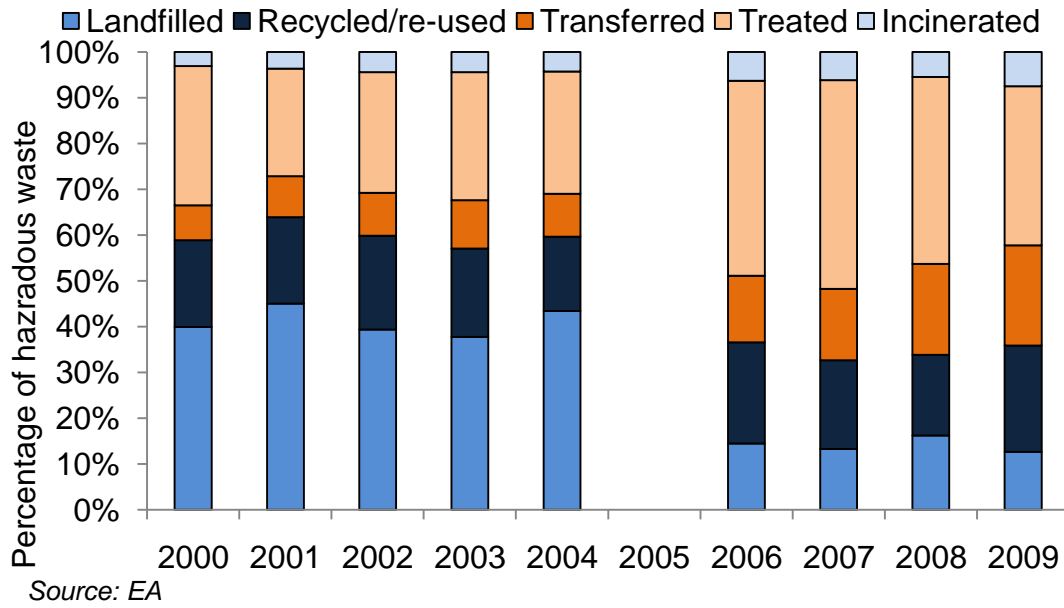
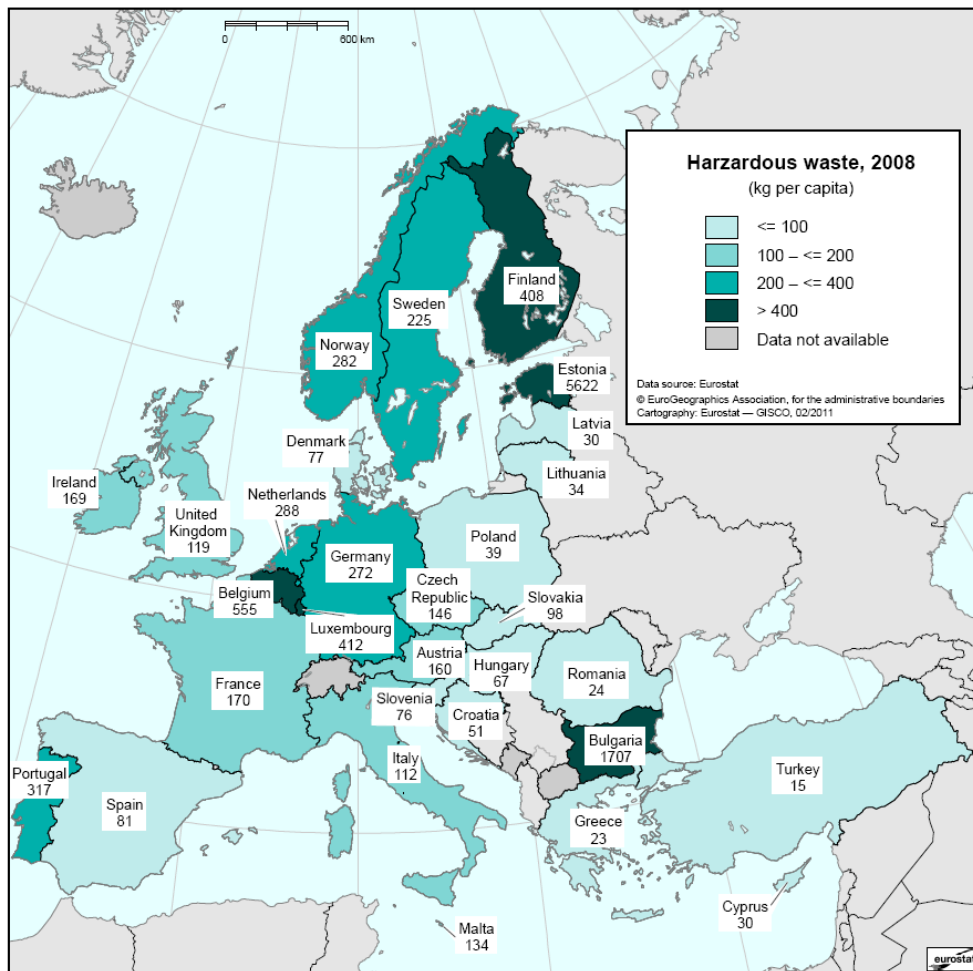


Figure 19 Hazardous waste production in the European Union, 2008



Source: Eurostat

D: Greenhouse gas emissions from waste management

Key Statistics: Greenhouse gas emissions from the waste sector have been declining since 1990, totalling 17.9mt CO₂e in 2009.

- D1 According to DECC, the waste sector is estimated to have accounted for 3.2 per cent of all direct UK emissions in 2009. This figure includes emissions from waste sent to landfill, incineration without energy recovery, and waste water handling.
- D2 Greenhouse gas (GHG) emissions from the waste management sector in the UK decreased by 69.7 per cent from 1990 to 2009, from 59.0mt CO₂e in 1990 to 17.9mt¹⁵ CO₂e in 2009. Further data on UK emissions of GHGs can be found on the [DECC](#) website.
- D3 WRAP estimates that avoidable food waste accounts for greenhouse gas emissions of 20mt¹⁶ CO₂e per year. This equates to approximately 3% of the UK's domestic greenhouse gas emissions. Further information can be found on the [WRAP](#) website.

¹⁵ This figure is generated from a DECC model based upon the Greenhouse Gas Inventory and includes emissions from waste sent to landfill, incineration without energy recovery, and waste water handling

¹⁶ This figure is based upon WRAP's estimations of total waste produced (whether sent to landfill, composted or recycled) from the entire food chain including agriculture, food manufacture, packaging, distribution and transport, storage and preparation

Waste Data Overview

E: Annex

1: Current EU & voluntary waste targets

Waste Targets		2006	2007	2008	2009	2010	2011	2012	2013	2015	2020	EU/UK	Status
Key targets													
Landfill diversion targets for BMW	a. % of 1995 levels					75%			50%		35%	EU target	Statutory
	b. Thousand tonnes equivalent					26,766			17,844		12,491	EU target	Statutory
Recycling and composting of household waste (% of total waste for the target years) - includes re-use						40%					50%	EU target - Revised Waste Framework Directive makes statutory.	Statutory - with Revised WFD
Construction, demolition and extraction (% recycled/recovered in the target year)											70%	Revised Waste Framework Directive	Statutory - with Revised WFD
Producer responsibility targets													
Packaging - recycling (already achieved 56% as at 2006)				55%								EU producer responsibility target	Statutory
Vehicles - recovery (% of total in the target year)		85%								95%		EU producer responsibility target	Statutory
Vehicles - recycling (% of total in the target year)		80%								85%		EU producer responsibility target	Statutory
Electrical and electronic equipment		50-										EU producer responsibility	Statutory

Waste Data Overview

Waste Targets	2006	2007	2008	2009	2010	2011	2012	2013	2015	2020	EU/UK	Status
(% recycled/recovered in the target year)	80%*										target	
Large industrial and automotive batteries (% recycled/recovered in the target year)						100%					EU producer responsibility target	Statutory
Portable batteries (% recycled/recovered in the target year)						50-75%					EU producer responsibility target	Statutory
Other targets												
Free carrier bags - plastic and paper (% reduction in bag numbers from 2006)				50%							Voluntary target set by British Retail Consortium (BRC) - Monitored by WRAP	Aspirational

Notes: Waste targets are set for calendar years, not financial years

** Range depends on product category*

F: Glossary of acronyms

BMW	Biodegradable Municipal Waste
C,D&E	Construction, Demolition & Excavation
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
C&I	Commercial & Industrial
CLG	Communities and Local Government
EA	Environment Agency
ESS	Environment Statistics Service
EU27	The 27 countries belonging to the EU as of 1 st January 2007
GO	Government Office
HHFCE	Household Final Consumption Expenditure
LA	Local Authority
LATS	Landfill Allowance Trading Scheme
mt	Million tonnes
Mt CO₂e	Million tonnes carbon dioxide equivalent
ONS	Office for National Statistics
SME	Small and medium enterprise
t	Tonnes
WEEE	Waste Electrical and Electronic Equipment
WRAP	Waste and Resources Action Programme
WSR	Waste Statistics Regulation