



Department
for Environment
Food & Rural Affairs



Digest of Waste and Resource Statistics – 2015 Edition

January 2015



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Foreword

Waste and resource are subjects for which there is a wealth of published data. It can therefore sometimes be challenging to readily find the data of interest. The aim of this Digest is to help by bringing together a wide range of key statistics on waste and resource into one publication.

The Digest is aimed at a wide audience, including policymakers, analysts and specialists in the Defra Network, Environment Agency, WRAP, other organisations, the waste sector, academia, other researchers and consultancies.

The authors are indebted to all those who helped develop the Digest by suggesting and providing material and commenting on the drafts.

Introduction

The Digest of Waste and Resource Statistics is a compendium of statistics on a range of waste and resource areas, based on data published mainly by Defra, WRAP, the Environment Agency, Office for National Statistics and Eurostat. They are collated in this Digest for ease of use.

The various sets of data are not all for the same time periods but the most recent available data has been used.

The Digest starts with a section on resource use in the UK, followed by sections looking at waste.

Official Statistics

These statistics have been produced to the high professional standards set out in the Code of Practice for Official Statistics, which sets out eight principles including meeting user needs, impartiality and objectivity, integrity, sound methods and assured quality, frankness and accessibility.

More information on the Official Statistics Code of Practice can be found at www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html.

Waste Prevention Metrics

Included in the Digest are 6 data sets which have been chosen as being suitable indicators, taken collectively, for monitoring waste prevention. These are:

- Raw Material Consumption per unit of GDP
- Waste arisings by sector (construction and demolition, commerce, industry, household)
- Hazardous waste arisings by sector
- Waste arising per unit of gross value added for the commercial and industrial sector.
- GHG emissions from landfill.
- Gross value added of the repair and reuse sector.

These items have been individually labelled 'waste prevention metric' within the Digest.

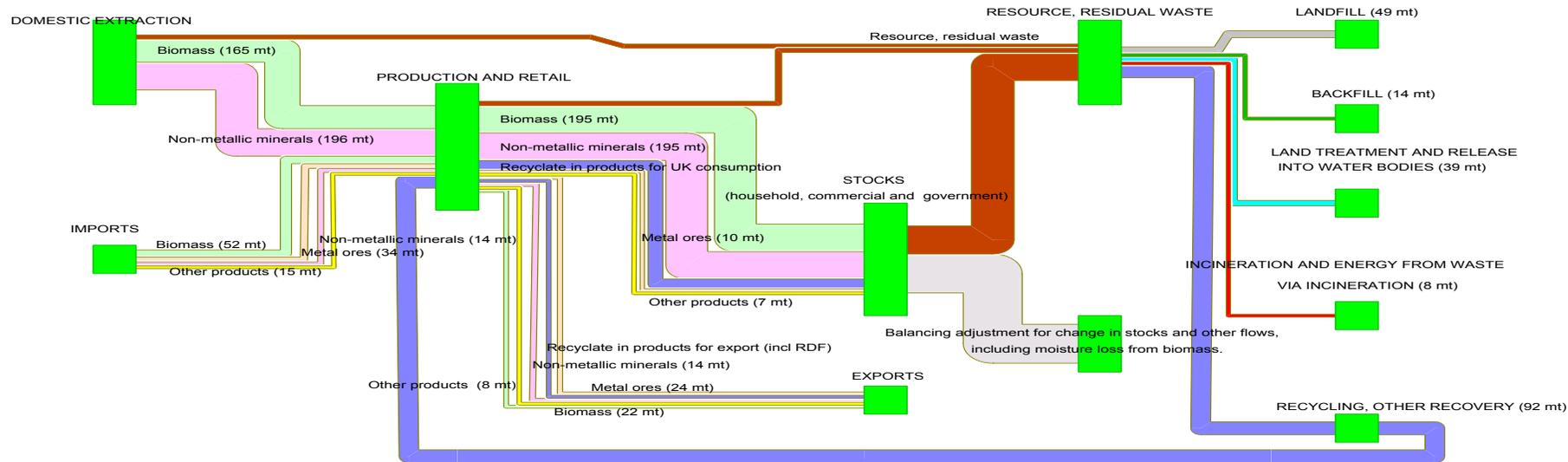
Developing metrics to serve as indicators to monitor progress on waste prevention is a key part of the Waste Prevention Programme for England. More information is available through the link below:

www.gov.uk/government/publications/waste-prevention-programme-for-england

Section 1: Resource flows, efficiency of resource use, energy from resource

Resource flows

Figure 1.1: Sankey diagram of flow of resource in the UK, 2012, (excluding fossil fuels and energy carriers)



- Figure 1.1 depicts the flow of material resource, including waste, in the UK in one year (2012).
- A Sankey diagram approach is helpful in depicting the 'circular economy' and can quickly illustrate the relative sizes of throughput of resource and the proportion recovered, including recycling. Broadly speaking, the flows are from left to right, apart from 'recycling, other recovery' which flows clockwise.
- Some processes, such as metal re-melt, allow recycling many times in a closed loop, whilst others, such as formation of glass aggregate, recycle materials once to a lower value product

Notes: Data on landfill, backfill, incineration, land treatment, recycling and other recovery are from Eurostat. Please note that the 'pipes' are not all to scale. The data for domestic extraction, imports and exports is drawn from the material flows within the Environmental Accounts published by ONS.

Source: www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows

UK Domestic Extraction

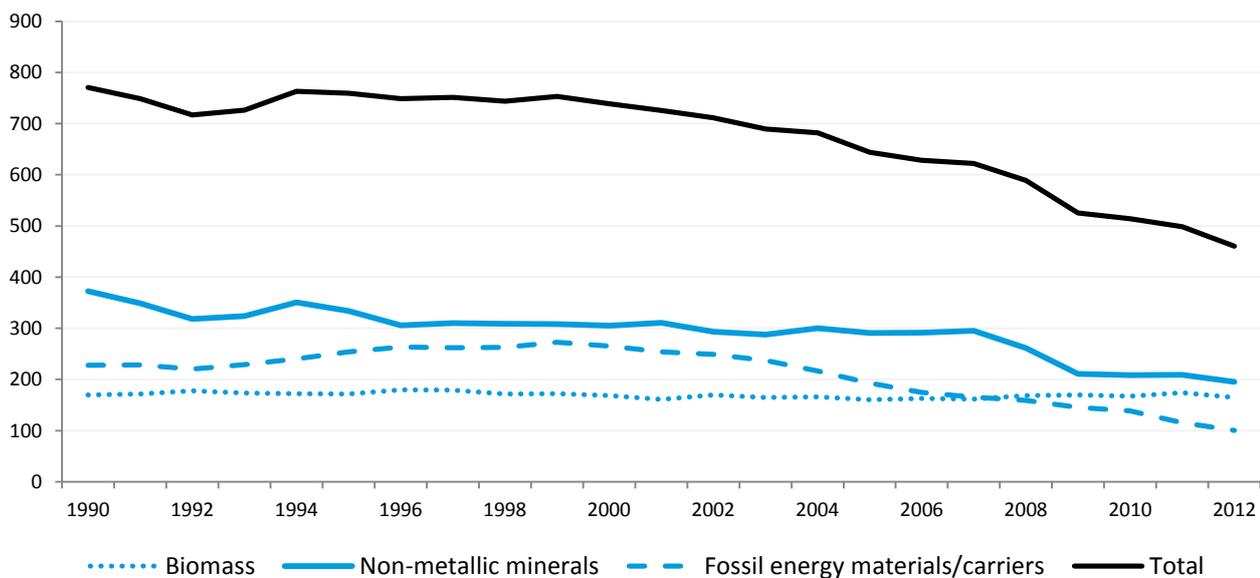
Table 1.1: UK Domestic Extraction 2003 – 2012

Million metric Tonnes

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Biomass	165	166	160	163	162	169	169	167	174	165
Metal Ores	0	0	0	0	0	0	0	0	0	0
Non-metallic minerals	288	300	291	291	295	262	211	209	209	196
Fossil energy materials/carriers	237	216	193	175	165	159	145	138	115	100
Total	690	682	644	629	623	589	526	514	499	460

Figure 1.2: UK Domestic Extraction 1990 – 2012

Million metric tonnes



- Since 2000, the quantity of materials extracted for use in the UK has gradually declined and fell to 460 million metric tonnes in 2012, 7.7 per cent lower than in 2011 (500 million tonnes).
- This represented 7.2 tonnes per capita (per person) in 2012.

Notes: Metal ores are not included on the chart as the quantity extracted is small

Source: Department for Environment, Food and Rural Affairs; Food and Agriculture Organization of the United Nations; Eurostat; European Forest Institute; Kentish Cobnuts Association; British Geological Survey, www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows – Figure 23

UK Imports and Exports

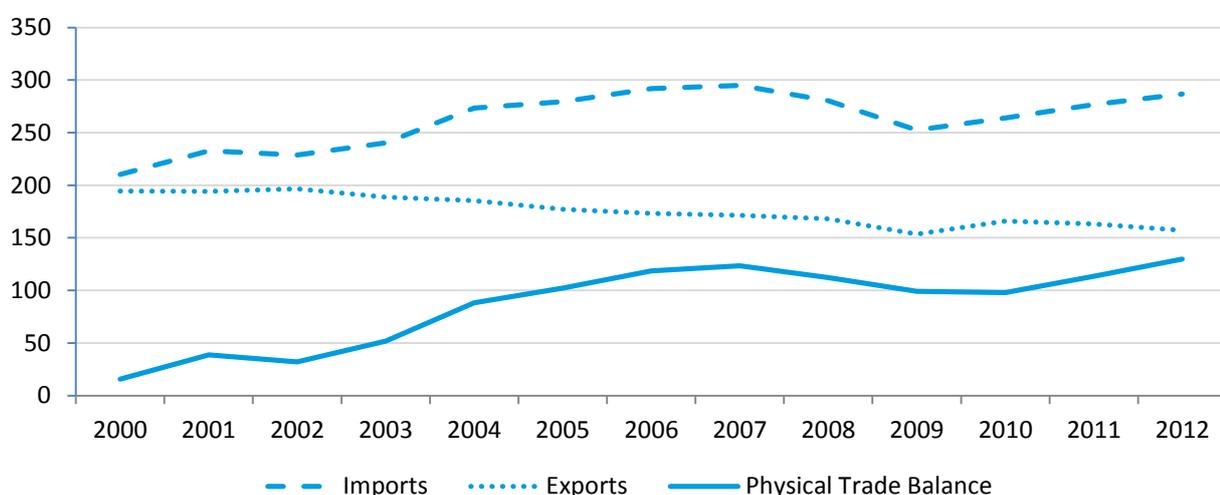
Table 1.2: UK Imports, Exports and Physical Balance 2003 – 2012

Million metric tonnes

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Imports	240	273	280	292	295	280	253	264	277	287
Exports	189	185	177	173	172	168	154	166	163	157
Physical Balance	52	88	102	118	124	112	99	98	113	130

Figure 1.3: UK Imports, Exports and Physical Balance 2000 – 2012

Million metric tonnes



- The Physical Trade balance equals Imports minus Exports.
- In 2012, the Physical Trade balance was 130 million tonnes.
- The increase in the physical trade balance in recent years was due to both an increase in imports and a decrease in exports.

Source: HM Revenue and Customs, Office for National Statistics

www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows – Figure 24

UK Domestic Material Consumption

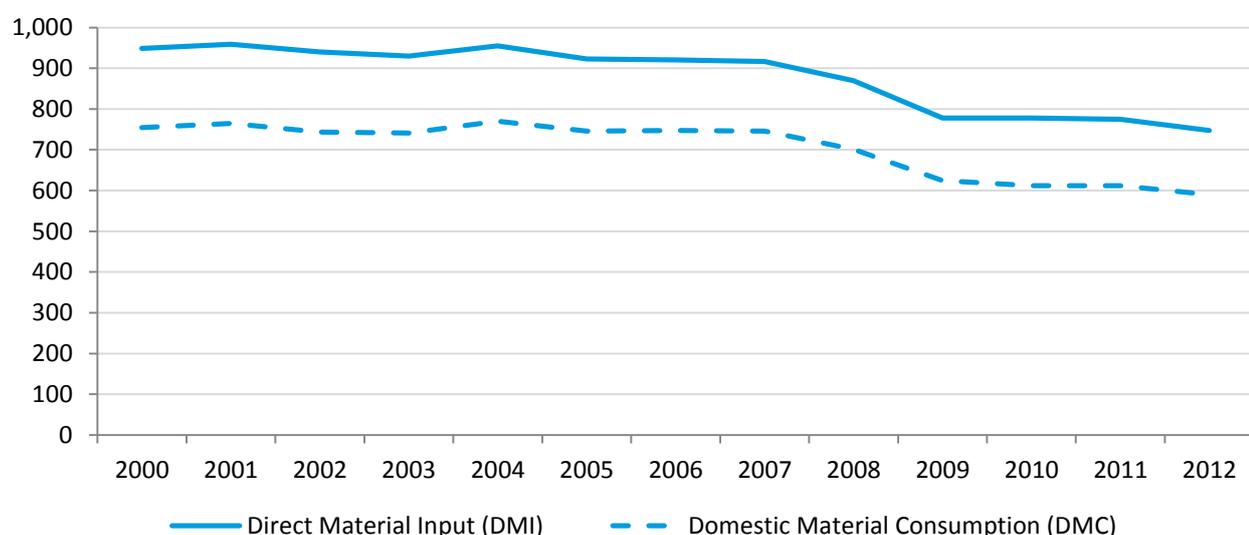
Table 1.3: UK Direct Material Input (DMI) and Domestic Material Consumption (DMC), 2003 – 2012.

Million metric tonnes

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Direct Material Input (DMI)	930	955	923	920	917	869	778	778	775	747
Domestic Material Consumption	741	770	746	747	745	701	625	612	612	590

Figure 1.4: UK Direct Material Input and Domestic Material Consumption, 2000 to 2012

Million metric tonnes



- In 2012, DMC was 590 million tonnes, and DMI was 747 million tonnes – the lowest levels recorded across the series.
- In 2012, DMI represented 11.7 tonnes per capita and DMC represented 9.3 tonnes per capita.

Notes: Direct Material Input (DMI) (Domestic extraction + Imports) measures the total amount of materials available for use in the economy, Domestic Material Consumption (DMC) (Domestic extraction + Imports – Exports) measures the amount of materials used in the economy, and is calculated by subtracting exports from DMI.

Source: Office for National Statistics

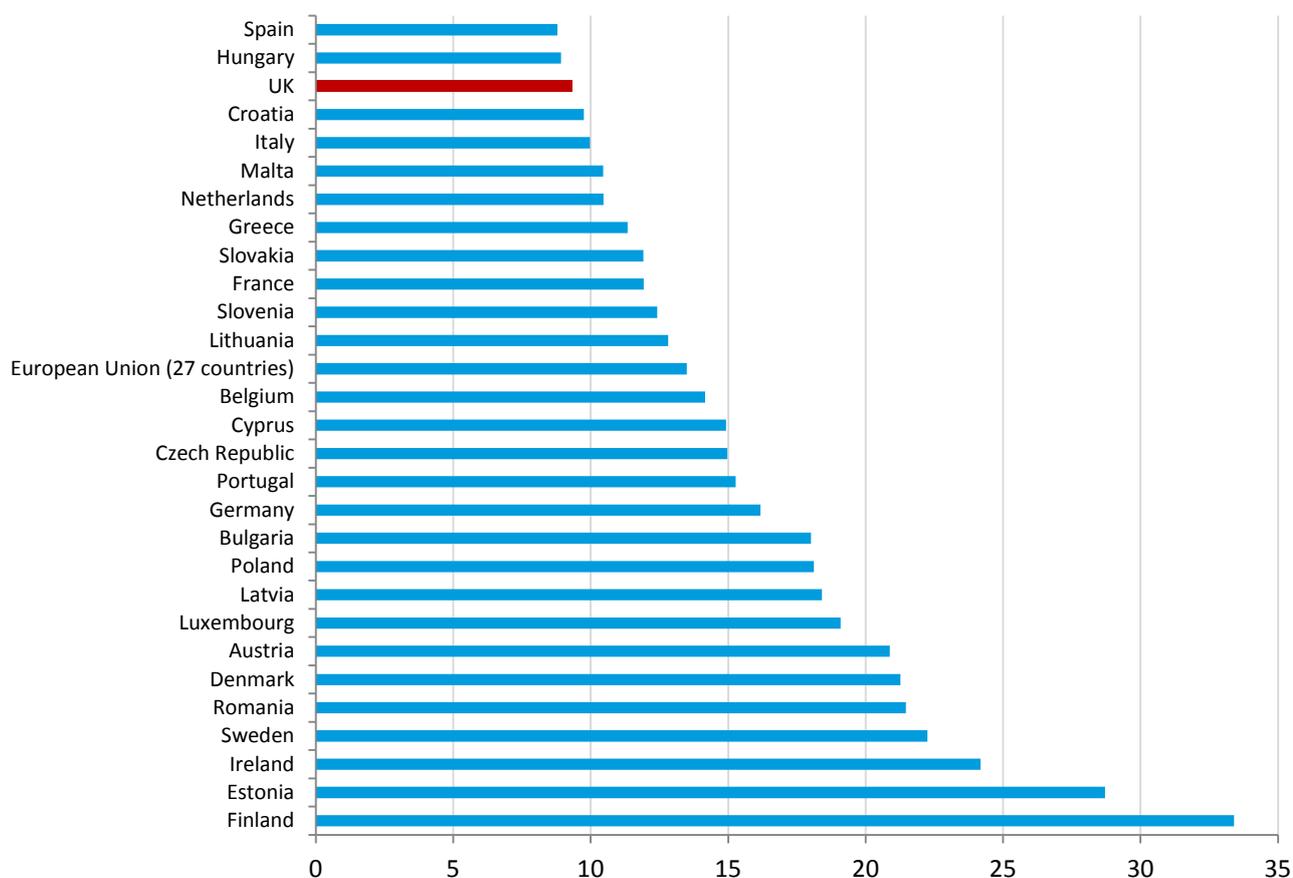
www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows – Figure 25

(A time series of DMC and DMI per capita is also available in the environmental accounts via the link below www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-355628) The Material Flows Account link

Domestic Material Consumption per capita

Figure 1.5: Domestic Material Consumption, for EU member states, 2012

Tonnes per capita



- In 2012, DMC per capita was highest in Finland at 33.4 tonnes per capita and lowest in Spain at 8.8 tonnes.
- In 2012, the UK figure of 9.3 tonnes per capita, was the third lowest figure, and below the EU-27 figure of 13.5 tonnes per capita. This is due to the UK extracting a significantly lower amount of non-metallic minerals.
- Finland's high level of DMC per capita reflects a low population density and a high resource extraction from woodlands.
- Figures should be treated with some caution, particularly when making comparisons across Member States, as we have not robustly verified the quality of the data from other Member States.

Source: Eurostat

http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=t2020_r1110&plugin=1

Raw Material Consumption (RMC) and Domestic Material Consumption (DMC), UK

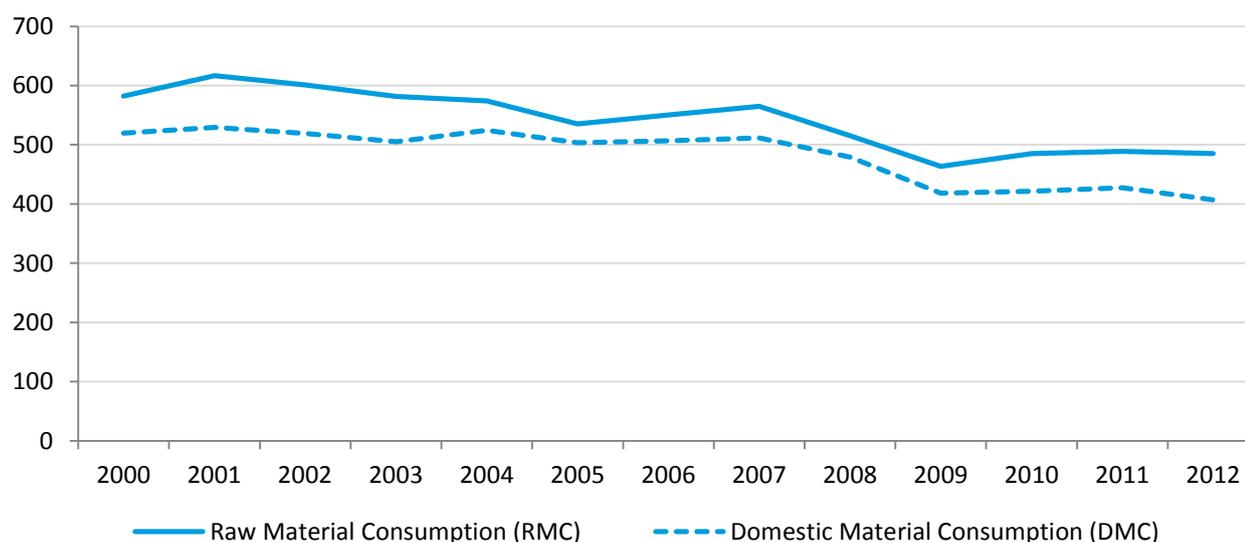
Table 1.4: Raw Material Consumption and Domestic Material Consumption (excluding fossil fuels), UK, 2003 - 2012

Million metric tonnes

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
RMC	582	574	535	550	565	516	464	485	489	485
DMC	505	524	504	507	512	479	419	422	428	407

Figure 1.6: UK Raw Material Consumption and Domestic Material Consumption (excluding fossil fuels), 2000 - 2012

Million metric tonnes



- In 2012, RMC excluding fossil fuels was 485 million tonnes, which was 19 per cent higher than DMC at 407 million tonnes.
- RMC estimates peaked in 2001 at 617 million tonnes, which was almost 17 per cent higher than DMC at 529 million tonnes.

Notes: A limitation of the DMC indicator is its 'asymmetry': it measures the domestic extraction of material resources in tonnes of gross harvest and ore, whereas the imports are measured according to the weight of goods crossing the boundary independent of how far the imported products have been processed (Eurostat, 2012).

The Raw Material Consumption (RMC) indicator is designed to overcome this asymmetry. In addition to domestic extraction, RMC includes imports expressed or converted into their Raw Material Equivalents (RME) (into equivalents of domestic extraction from the rest of the world to produce the respective goods).

Source: Department of Environment, Food and Rural Affairs, Office for National Statistics
www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows – Figure 27

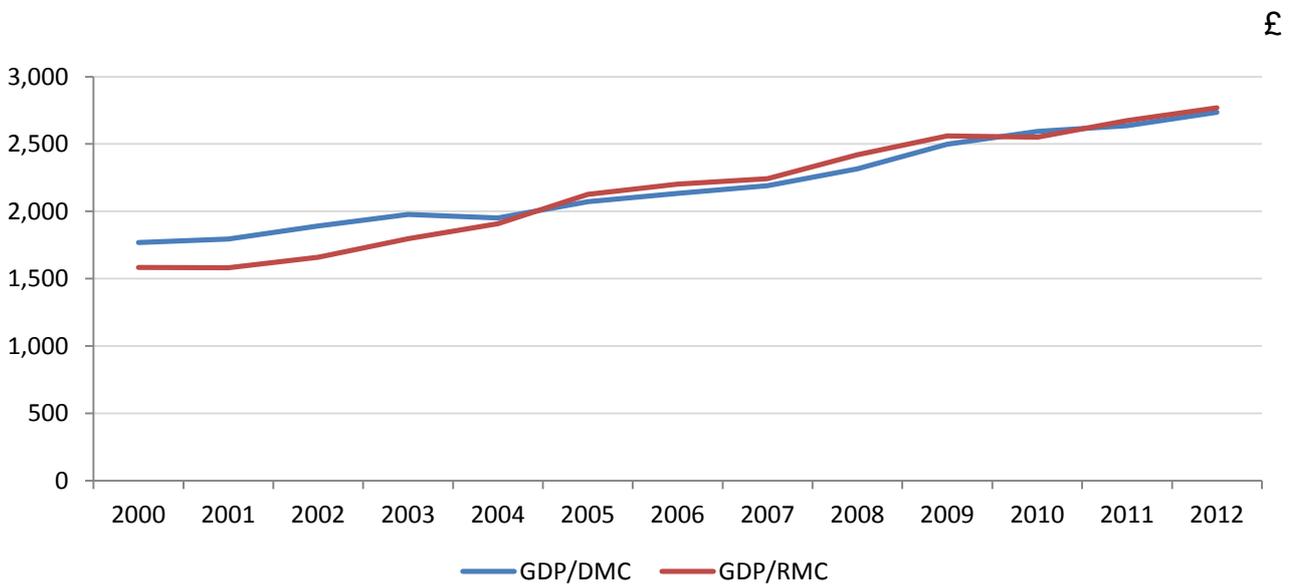
Efficiency of raw material usage

Gross Domestic Product in relation to Raw Material Consumption, and Domestic Material Consumption, UK

Table 1.5: Gross Domestic Product per tonne of Raw Material Consumption and Domestic Material Consumption, (Chain Volume Measure (CVM) UK, 2004 – 2012

	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP per tonne of RMC	1,908	2,127	2,203	2,242	2,420	2,560	2,550	2,674	2,769
GDP per tonne of DMC	1,951	2,071	2,133	2,190	2,317	2,499	2,594	2,636	2,737

Figure 1.7: GDP per tonne of RMC and DMC, UK, 2000 – 2012, £



- The amount of Gross Domestic Product generated per tonne of Raw Material Consumption has shown a steady increase over time.
- The amount of Gross Domestic Product generated per tonne of Domestic Material Consumption has also shown a steady increase over time.

Notes: GDP given in CVM.

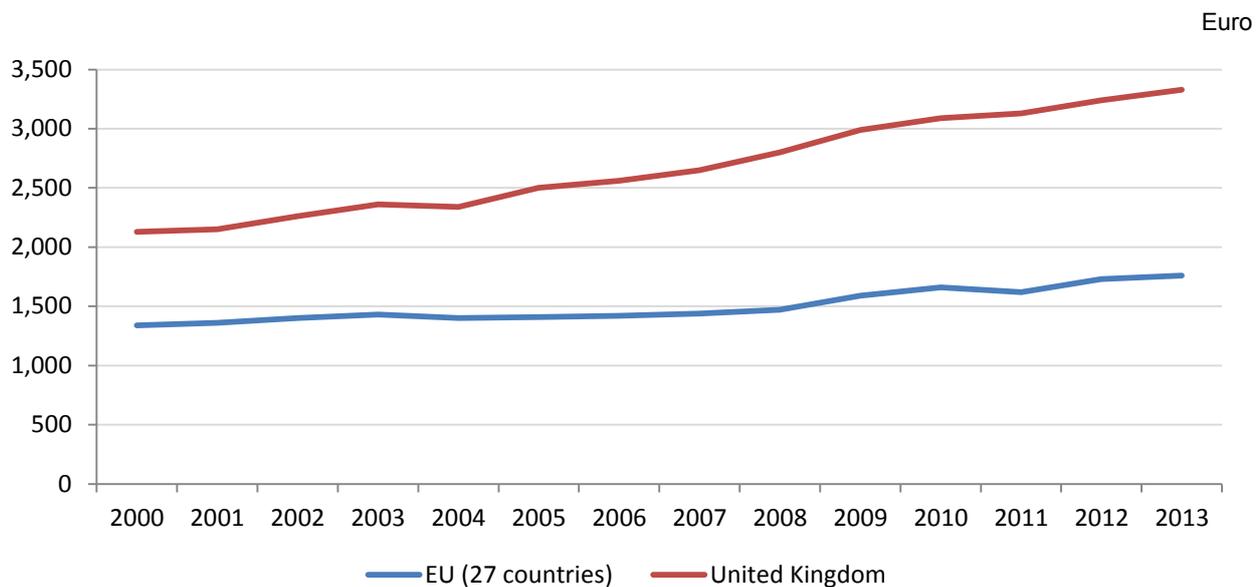
Source: Office for National Statistics

www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows
– Figure 27

www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-336654

Gross Domestic Product per tonne of Domestic Material Consumption (DMC)

Figure 1.8: GDP per tonne of DMC, EU-27 and UK, 2004 – 2013



- GDP per tonne of Domestic Material Consumption has shown an increase since 2004 for both the UK and the EU-27.
- This possibly suggests some weakening in any link between economic growth and DMC.

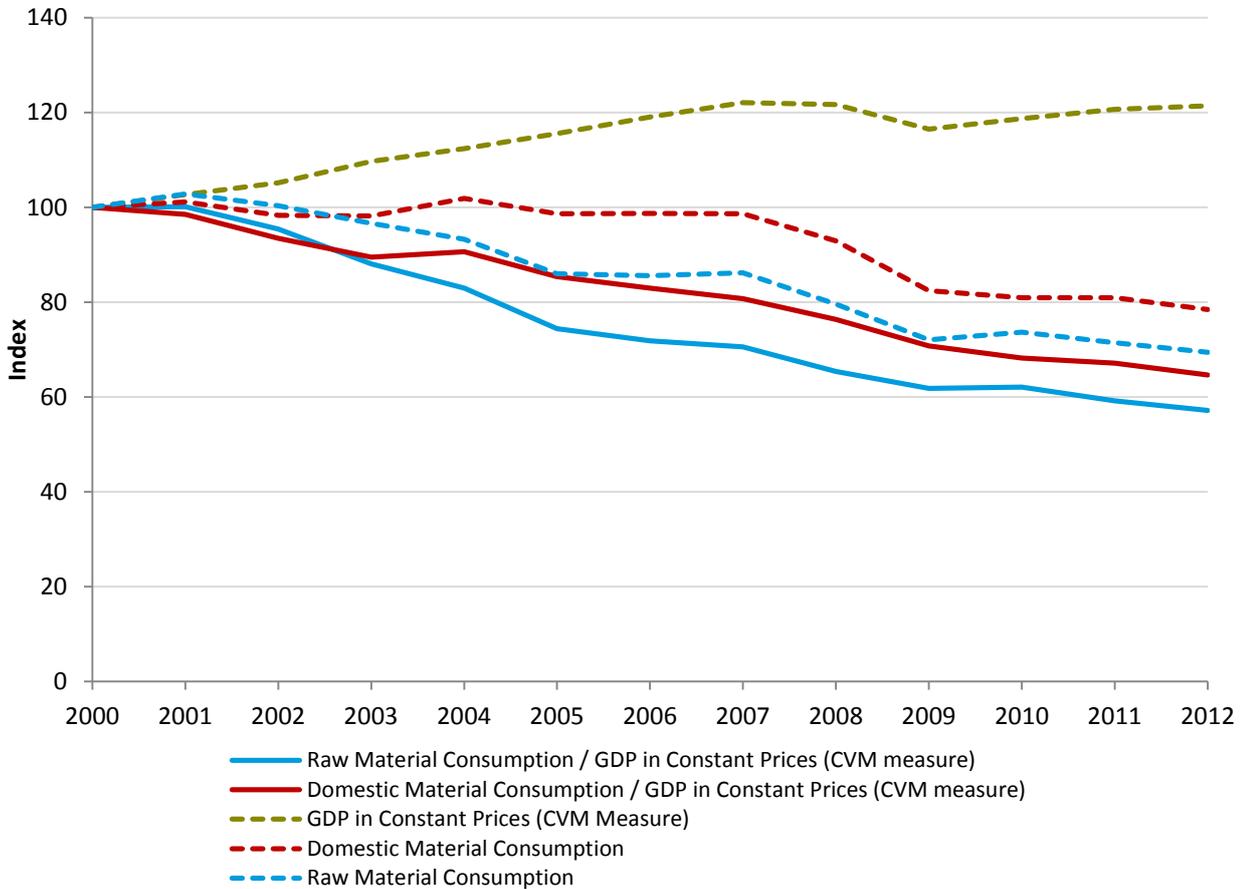
Notes: Resource productivity is gross domestic product (GDP) divided by domestic material consumption (DMC).

For the calculation of resource productivity Eurostat uses the GDP in units of Euros in chain-linked volumes to the reference year 2005 at 2005 exchange rates.

Source: epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdpc100

Growth in the economy and efficiency of resource use.

Figure 1.9 – Index values of Raw Material Consumption and Domestic Material Consumption per unit of GDP in constant prices, UK, 2000 - 2012. (Waste Prevention Metric)



- Since 2000, raw material resource consumption per unit of GDP has reduced.
- This suggests that there has been some decoupling of resource use and income generation across the economy.

Notes: GDP given in CVM.
Source: Office for National Statistics
www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html#tab-Material-flows
 – Figure 27
www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/tsd---blue-book-2012-dataset.html

Energy from Resource

Table 1.6: Electricity generated from renewable sources, UK, 2009 – 2013, Gigawatt hours

GWh

	2009	2010	2011	2012	2013
Landfill gas	4,929	5,037	5,092	5,154	5,169
Sewage sludge digestion	603	697	764	719	761
Energy from waste ¹	1,509	1,597	1,643	2,034	1,987
Co-firing with fossil fuels	1,625	2,332	2,964	1,783	309
Animal Biomass ²	637	627	615	643	628
Anaerobic digestion	43	111	272	499	707
Plant Biomass ³	1,327	1,594	1,749	4,083	8,933
Total	10,674	11,996	13,098	14,914	18,494

¹–Biodegradable part only

²–Includes the use of poultry litter and meat and bone

³–Includes the use of straw combustion and short rotation coppice energy crops.

- The amount of electricity generated from renewable resources in the UK has increased since 2009.
- In 2013, 5 per cent of energy generated was from renewable sources.

Source:

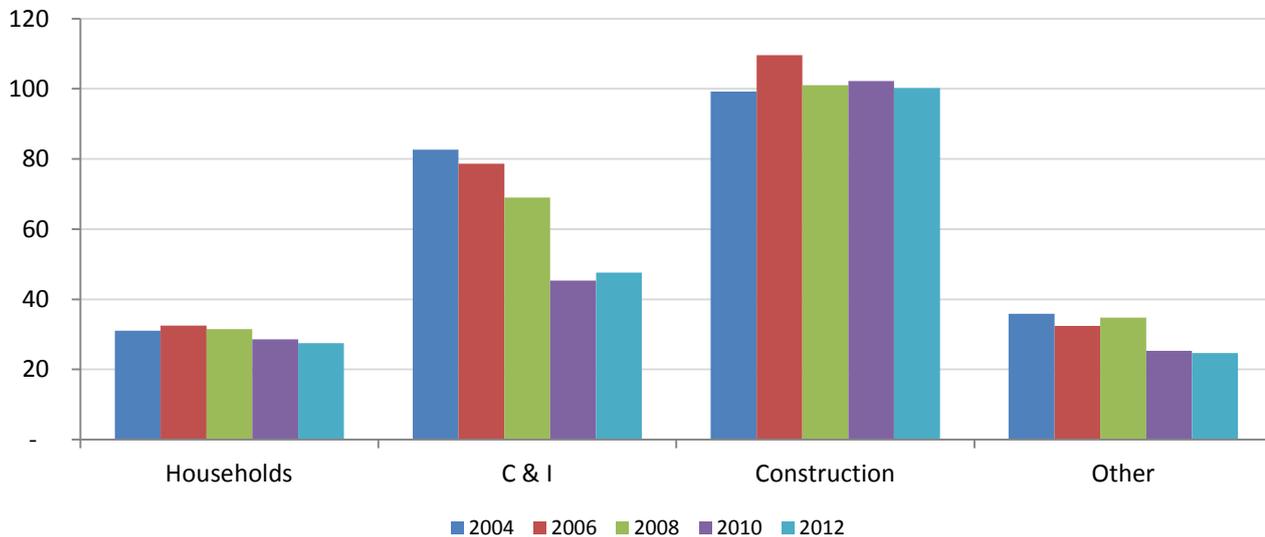
www.gov.uk/government/uploads/system/uploads/attachment_data/file/338768/DUKES_2014_internet_content.pdf

Section 2: Waste Generation

Waste Arisings

Figure 2.1: Waste arisings by sector¹, UK, 2004 – 2012 (*Waste Prevention Metric*)

Million tonnes



¹ – Classifications are based on NACE Codes. Construction is defined as NACE Code F (which includes dredging). For a list of NACE codes included in C&I, see [Glossary](#) on page 82. 'Other' waste includes waste from the mining and quarrying, and agriculture, forestry and fishing sectors – defined as NACE codes A and B

- Figure 2.1 shows the amount of waste produced in the UK from 2004 -2012.
- The construction sector produces the largest amount of waste.

Notes: Please note that whilst figures for UK arisings are reasonably robust for all years, for years prior to 2010 there were some significant methodological differences compared to later years. Readers are advised therefore to exercise caution when drawing any observations or conclusions from looking at trends which include years prior to 2010.

Source: Eurostat.

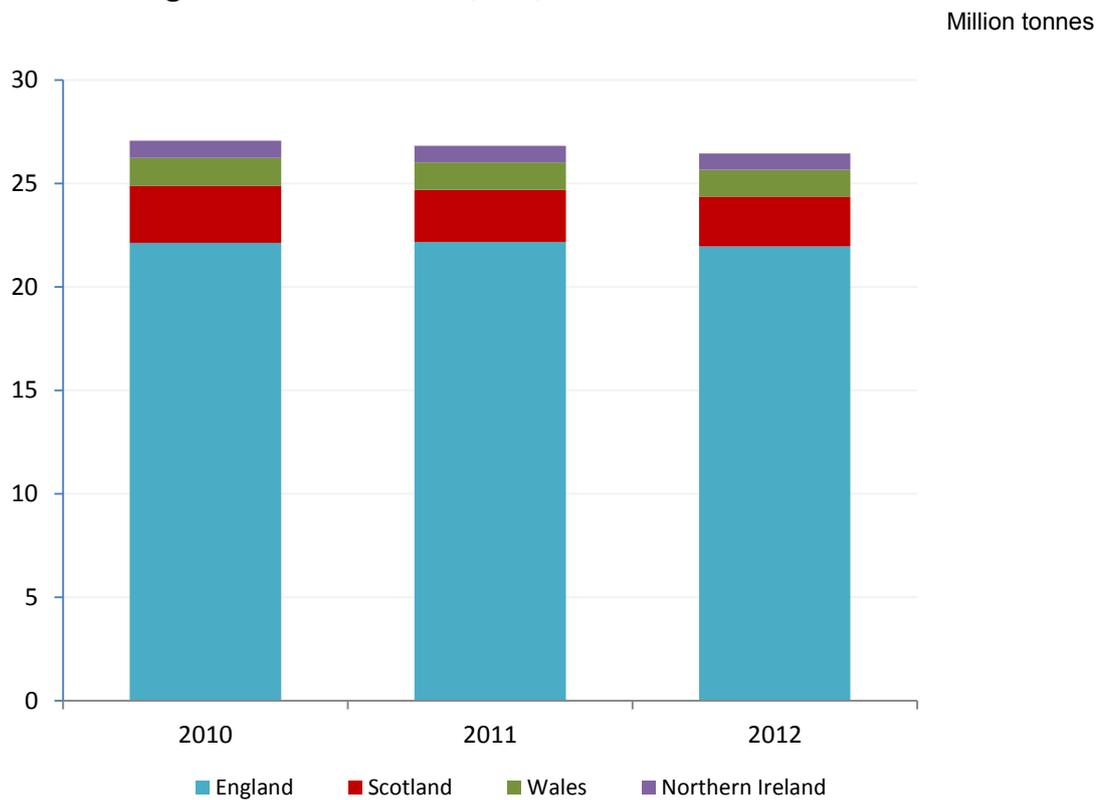
<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=ten00107&plugin=1>

Waste from Households

Table 2.1: Waste arisings from households (Million tonnes) and household expenditure (2012 prices) UK, 2010 -2012

Waste from Households arisings (million tonnes)	2010	2011	2012
UK	27.1	26.8	26.5
England	22.1	22.2	22.0
Scotland	2.8	2.5	2.4
Wales	1.3	1.3	1.3
Northern Ireland	0.8	0.8	0.8
UK total household annual expenditure £ (2012 prices)	26,385	25,828	25,428

Figure 2.2: Waste arisings from households, UK, 2010 -2012



- The 'waste from households' calculation was first published by Defra in May 2014. It was introduced for statistical purposes to provide a harmonised UK indicator with a comparable calculation in each of the four UK countries and to provide a consistent approach to report recycling rates at UK level on a calendar year basis under the Waste Framework Directive (2008/98/EC).
- Waste arising from households in the UK fell by 2 per cent between 2010 and 2012. This could in part be the result of a fall in average household expenditure over the same period.
- The total weekly average household expenditure in the UK dropped by nearly 4 per cent in 2012 compared to 2010.

Notes: Waste from households' includes waste from: Regular household collection, Civic amenity sites, 'Bulky waste' 'Other household waste'. It does not include street cleaning/sweeping, gully emptying, separately collected healthcare waste, asbestos waste. 'Waste from households' is a narrower measure than 'municipal waste' and 'council collected waste'.

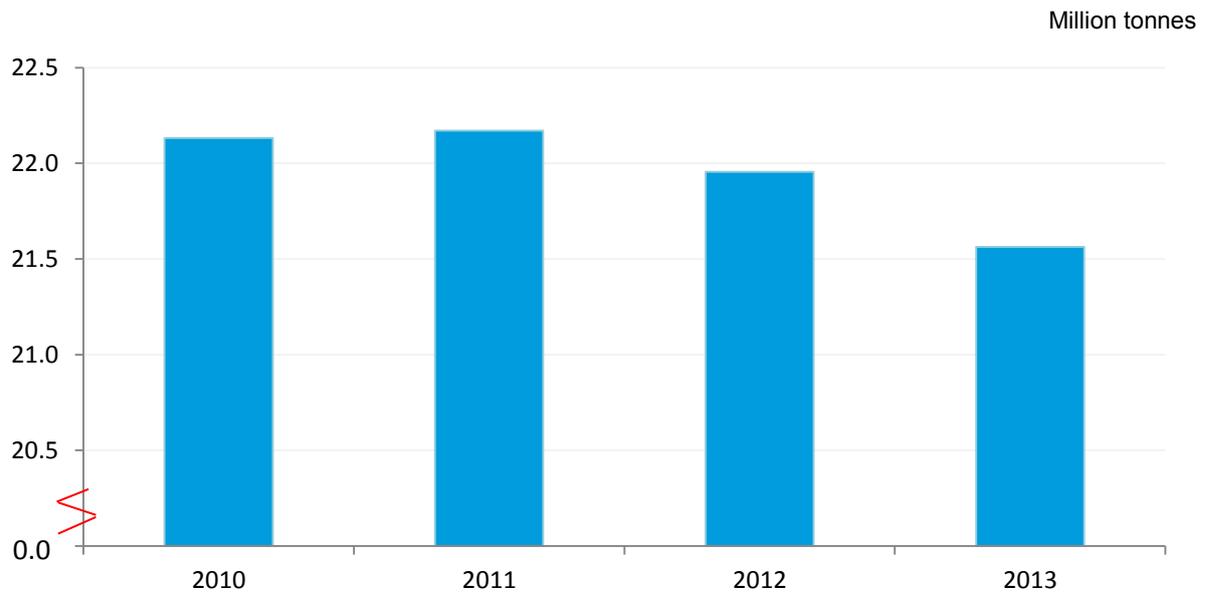
Source: Defra, Sept 2014, www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management. Table 1 Row 9

ONS: Total weekly average household expenditure - www.ons.gov.uk/ons/rel/family-spending/family-spending/2013-edition/rpt-chapter-4--trends-in-household-expenditure-over-time.html#tab-Table-4-1-to-Table-4-3 Table 4.1 Row 52

Table 2.2: Waste from households, England, 2010 – 2013 (Waste Prevention Metric)

	2010	2011	2012	2013
Total waste generated from households (000 tonnes)	22,131	22,170	21,956	21,564
Waste generated (kg per person)	425	419	411	403

Figure 2.3: Waste from households, England, 2010 -2013



- Total waste generated by households fell by 2 per cent from 22.1 million tonnes in 2010 to 21.6 million tonnes in 2013. This amounted to 403 kg per person in 2013.
- A breakdown of the previous measure of household waste covering national, regional and local authorities can be downloaded on the gov.uk website.

Source: Defra, Nov 2014,

www.gov.uk/government/uploads/system/uploads/attachment_data/file/375947/WfH_spreadsheet_for_publication_4_ods. Calendar year data, Table 1 Row 2.

Household waste covering national, regional and local authority breakdown:

www.gov.uk/government/uploads/system/uploads/attachment_data/file/375941/LA_and_Regional_spreadsheet_2013-14_publicationV1.ods

Commercial and Industrial Waste

Table 2.3 Commercial and Industrial Waste¹, UK and England, 2012

Thousand Tonnes

Source of estimate	UK	England
Returns made under the EU Waste Statistics Regulation	47,567	38,976
Reconcile Project		43,839

¹ –Classifications are based on NACE Codes. For a list of NACE codes included in C&I, see [Glossary](#) on page 82.

- For the returns made under the EU Waste Statistics Regulation, waste generated from commercial and industrial activities was estimated to be 48 million tonnes in 2012 in the UK , with some 39 million tonnes of this coming from England.
- The estimated waste generation from commercial and industrial economic activities from the Reconcile Project was 44 million tonnes for England in 2012.
- The difference is because Reconcile uses wet weight for sludges and dredging spoils, whilst the Waste Statistics Regulation uses dry weight.

Source: Waste Statistics Regulation return 2012, Reconcile Project

www.gov.uk/government/uploads/system/uploads/attachment_data/file/363004/UK_Statistical_release_FINALv4_1_0_10_2014.pdf - Table 4

Table 2.4: Commercial and Industrial Waste arisings by sector, UK, 2009 – 2012

Thousand tonnes

	2009	2010	2011	2012
Manufacture of food products, beverages and tobacco	2,752	3,371	3,052	3,294
Manufacture of textiles, apparel, leather	467	454	471	474
Manufacture of wood and wood products	2,047	2,193	2,264	2,160
Manufacture of coke and petroleum products, chemicals, pharmaceuticals, rubber and plastic	3,578	3,607	4,404	4,533
Manufacture of basic metals and metal products	1,767	1,746	2,080	2,144
Manufacture of computer, electrical equipment, machinery, vehicles	689	681	711	732
Manufacture of furniture, other manufacturing, repair	252	268	271	258
Electricity, gas, steam supply	3,907	3,345	3,886	4,965
Water, sewerage, remediation	1,918	1,733	1,578	1,475
Commercial sectors G to U - Services	27,620	27,965	27,595	27,531
Total C& I arisings	44,998	45,363	46,312	47,567

Classifications are based on NACE Codes

- In broad terms the services sector produces around 60 per cent of commercial and industrial waste each year.
- Some sectors saw an increase in waste between 2009 and 2012.

Source: Defra, Reconcile project 2014[Defra - Reconcile Project](#)

Packaging in UK

Table 2.5: Packaging waste, UK, 2011 - 2012

	2011			2012			EU Target (%)
	Total packaging waste arising (thousand tonnes)	Total recovered/recycled (thousand tonnes)	Recovery / recycling rate (%)	Total packaging waste arising (thousand tonnes)	Total recovered /recycled (thousand tonnes)	Recovery / recycling rate (%)	
Aluminium	160.9	73.7	45.8	162.2	62.4	38.5	
Steel	648.7	373.7	57.6	645.5	358.0	55.5	
Total Metal	809.6	447.4	55.3	807.7	420.5	52.1	50.0
Paper	3,817.9	3,232.5	84.8	3,848.4	3,327.8	86.5	60.0
Paper composting		6.7					
Glass	2,740.0	1,751.9	63.9	2,399.2	1,626.6	67.8	60.0
Plastic	2,515.8	609.9	24.2	2,553.6	644.1	25.2	22.5
Wood composting		0.4					
Wood	1,023.9	600.3	58.7	1,023.9	525.1	51.3	15.0
Other	22.4			22.6			
Total recycling		6,649.1	60.8		6,544.1	61.4	55.0
Energy from Waste		685.6			821.0		
Total	10,929.7	6,641.9	67.1	10,655.3	7,365.0	69.1	60.0

- Estimates of packaging waste placed on the market are reviewed on an ad-hoc basis by government and industry stakeholders and estimates of recycling rates are based on volumes of Packaging Recycling Notes reported to the Environment Agency.

Notes: 2012 UK data have been reported to the Commission (earlier in summer 2014) and will replace 2011 data on data.gov website in 2015.

Source: Defra, EA:

www.gov.uk/government/policies/reducing-and-managing-waste/supporting-pages/packaging-waste-producer-responsibility-regimes

Battery Waste

Table 2.6: Recovery rate for batteries, UK, 2010 - 2013

	Collection rate Target (%)	Collection rate (%)
2010	10.00	9.45
2011	18.00	18.03
2012	25.00	28.34
2013	30.00	32.37

- The UK has been meeting its collection target for batteries since 2011.

Source: Environment Agency

npwd.environment-agency.gov.uk/FileDownload.ashx?FileId=f070e4e3-2af5-4824-a7d0-65f40ce25ca0

Hazardous Waste Arisings

Table 2.7: Hazardous waste arisings by waste sector¹, UK, 2004 - 2012 (Waste Prevention Metric)

	Thousand tonnes				
	2004	2006	2008	2010	2012
Household	32	1,165	859	1,592	1,306
C&I	4,245	5,864	3,834	2,899	3,173
Construction	225	586	1,258	1,018	1,057
Other	418	308	367	328	395

¹ – Classifications are based on NACE Codes. Construction is defined as NACE Code F (which includes dredging). For a list of NACE codes included in C&I, see [Glossary](#) on page 82. ‘Other’ waste includes waste from the mining and quarrying, and agriculture, forestry and fishing sectors – defined as NACE codes A and B

- Table 2.7 shows the amount of hazardous waste produced in the UK from 2004 - 2012.
- There have been methodological changes to the way data is calculated between 2008 and 2010 therefore 2010 and 2012 data is not completely comparable to the earlier years.

Notes: Please note that whilst figures for UK arisings are reasonably robust for all years, for years prior to 2010 there were some significant methodological differences compared to later years. Readers are advised therefore to exercise caution when drawing any observations or conclusions from looking at trends which include years prior to 2010.

Source: Eurostat

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_wasgen&lang=en

Section 3: Waste Hierarchy and destiny of waste

Depiction of Waste Hierarchy

Figure 3.1 Waste hierarchy



- Article 4 of the revised EU Waste Framework Directive (Directive 2008/98/EC) sets out five steps for dealing with waste, ranked according to environmental impact - the 'waste hierarchy'.
- The definitions of each of the stages can be found in Article 3 of the Directive.
- It gives top priority to preventing waste. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill).
- A very key principle in the backdrop to the hierarchy is to pursue efficient use of resource.

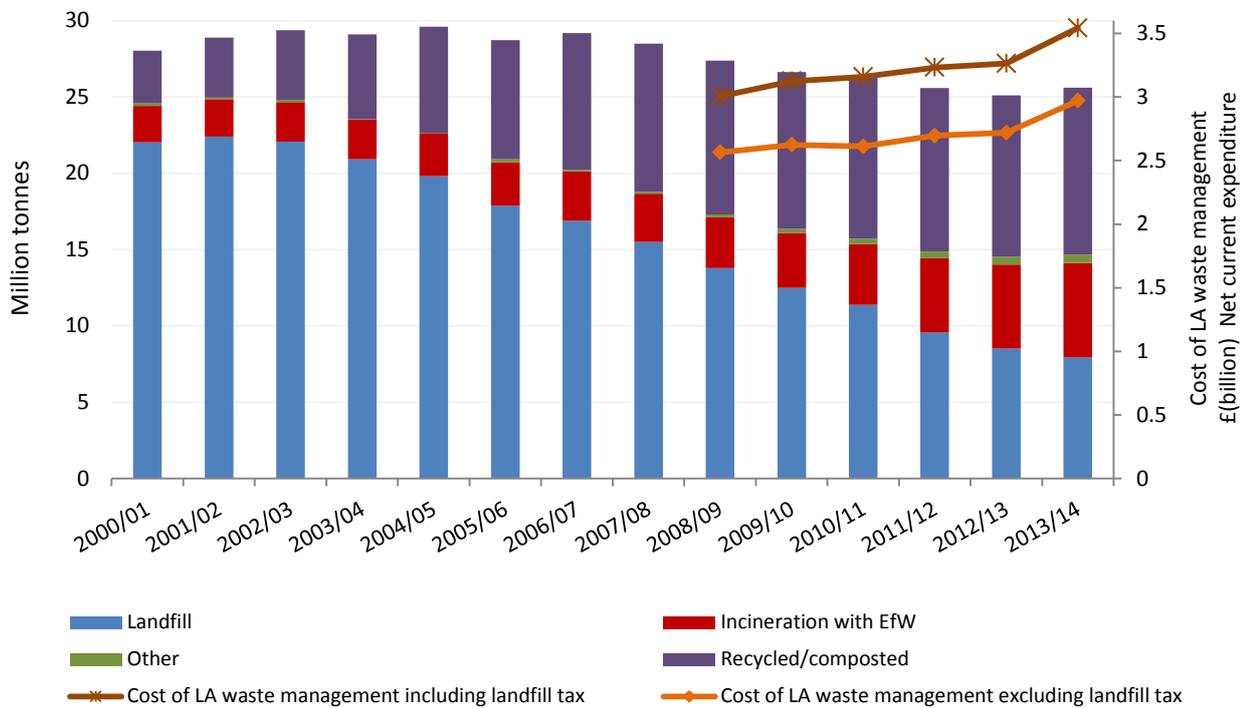
Source: European Commission's Community Strategy for Waste Management

www.gov.uk/government/uploads/system/uploads/attachment_data/file/69403/pb13530-waste-hierarchy-guidance.pdf

Destiny of waste -

Local Authority Collected Waste

Figure 3.2: Local Authority collected waste management, England, 2000/1 – 2013/14

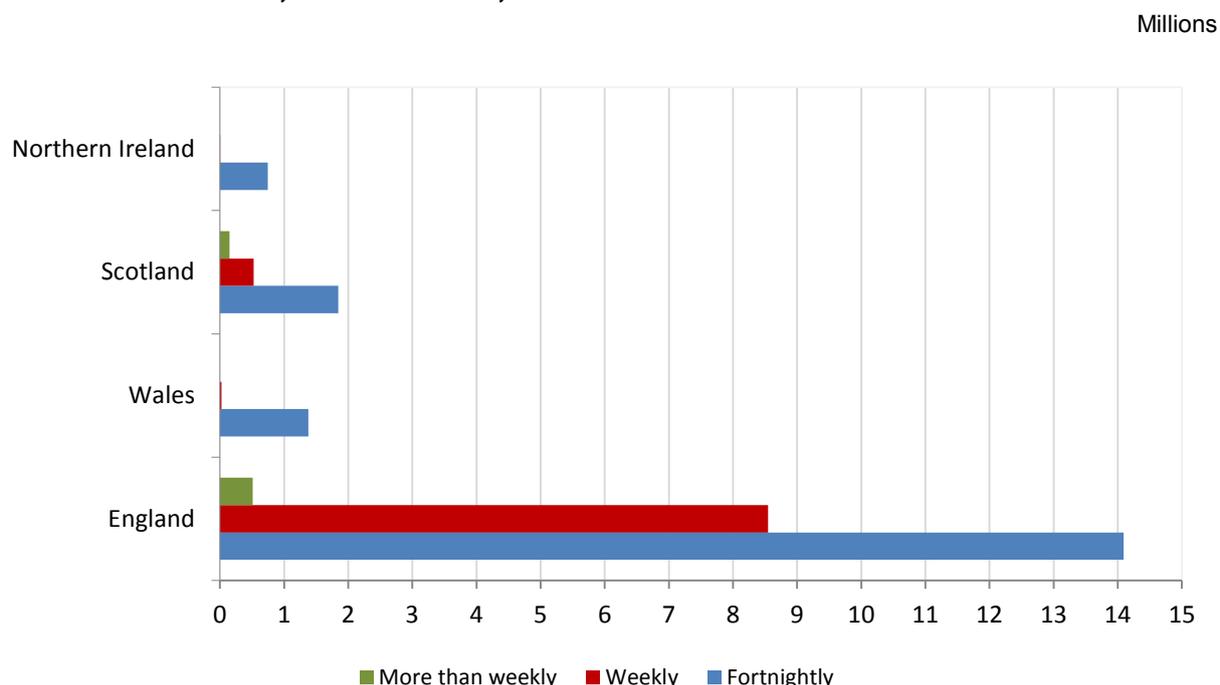


- Local authority managed waste is a combination of waste from households and waste from streets, parks and grounds and some commercial and industrial waste.
- The total amount of waste managed by local authorities was 25.6 million tonnes in 2013/14. This is 2.3 per cent higher than 2012/13 but down 9.1 per cent on 2000/01 when the total waste managed was 28.0 million tonnes.
- Cost of local authority waste management covers net current expenditure on waste collection, recycling, waste minimisation, waste disposal (including landfill tax) and climate change costs.
- In 2013/14 the cost of local authority waste management was around £3.5 billion in England. The cost excluding landfill tax amounted to almost £3 billion.

Source: Defra, DCLG
 Local authority waste management:
www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables See Table 2 of the Local authority collected waste generation from April 2000 to March 2014 (England and regions) and local authority data April 2013 to March 2014
 Cost of local authority waste:
www.gov.uk/government/collections/local-authority-revenue-expenditure-and-financing. See Revenue outturn data (RO5) cultural, environmental, regulatory and planning services. The cost is based on net current expenditure. The cost of LA waste without landfill tax was derived by deducting the landfill tax from the waste disposal part of the cost.

Local authority household residual waste collection schemes from kerbside

Figure 3.3: Frequency of local authorities collecting residual waste from households by household numbers, UK countries, 2013/14



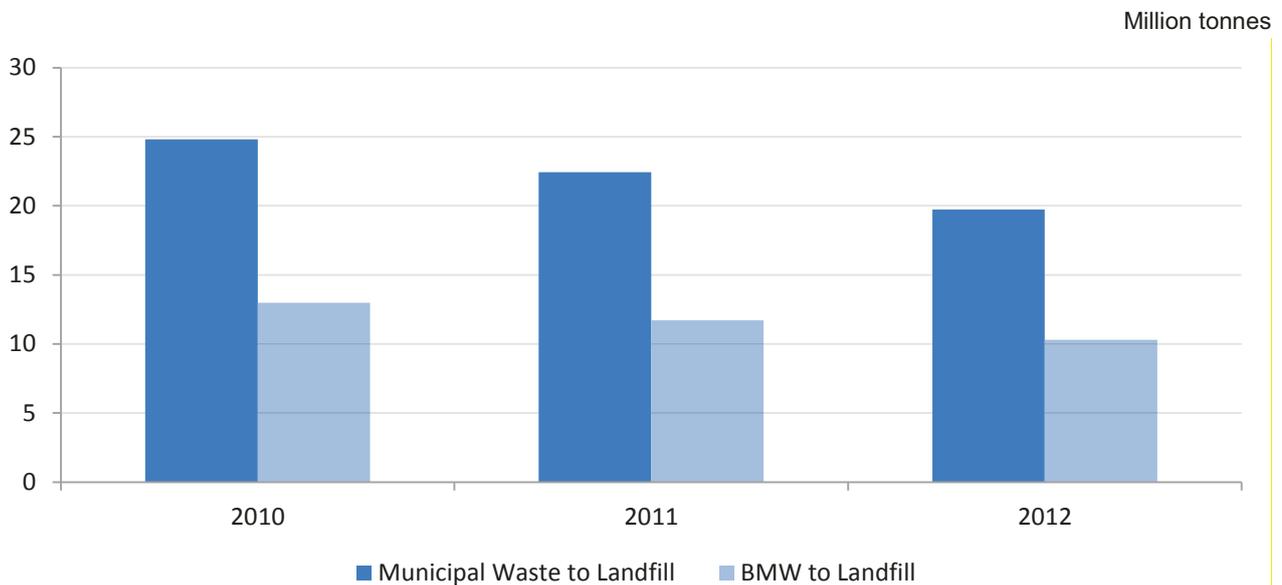
- Figure 3.3, represents WRAP's best understanding of the residual waste collection schemes offered by UK local authorities.
- Collections that are offered to a small proportion of households within a Local Authority (less than 5 per cent or fewer than 3,000 households, whichever is lowest) are not included in the analysis.
- In Northern Ireland residual waste is collected fortnightly, for all but around 1,000 households who have a weekly collection.
- In Wales it is mainly fortnightly but 22.5 thousand households have a weekly collection.
- In England and Scotland there are some authorities where collections are more than weekly.

Notes: In any authority a scheme may not be available to every household. Where an authority operates more than one scheme, each scheme has been included. If an authority provides a weekly and fortnightly collection, and both schemes are above the threshold, it will be counted under both frequencies so the percentages do not necessarily add up to 100 per cent.

Source: WRAP - laportal.wrap.org.uk/Statistics.aspx

Municipal Waste to landfill including Biodegradable Municipal Waste (BMW)

Figure 3.4: Municipal waste to landfill, Biodegradable municipal waste to landfill, UK, 2010 – 2012



- The tonnage of municipal waste sent to landfill has decreased from 25 million tonnes in 2010 to 20 million tonnes in 2012.
- Of this municipal waste sent to landfill, 10 million tonnes was Biodegradable Municipal waste in 2012.

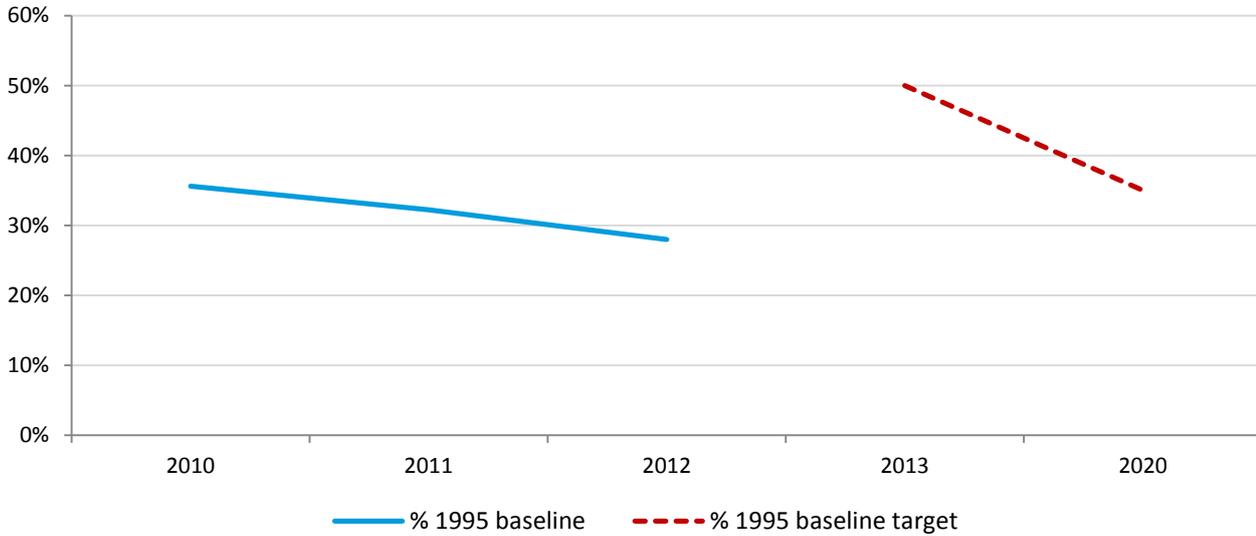
Notes: Municipal waste here comprises waste from households and other waste which, because of its nature or composition, is similar to waste from households.

Source: Waste Data Interrogator, Defra Statistics

www.gov.uk/government/uploads/system/uploads/attachment_data/file/363004/UK_Statistical_release_FINALv4_10_10_2014.pdf - Figures 3 and 4

Biodegradable Municipal Waste to landfill in UK as % of target

Figure 3.5: Percentage of target baseline (1995) for biodegradable municipal waste to landfill, UK, 2010 – 2012 and UK target in 2013 and 2020



- In 2012 the amount of Biodegradable Municipal Waste sent to landfill was 29 per cent of the 29,000 tonnes sent in 1995.
- There is an EC target to contain BMW to landfill to within 50 per cent of the 1995 tonnage (baseline) by 2013 and 35 per cent by 2020. The UK is already below both of these targets.

Source: Waste Data Interrogator, Defra Statistics

www.gov.uk/government/uploads/system/uploads/attachment_data/file/363004/UK_Statistical_release_FINALv4_1_0_10_2014.pdf - Figures 3 and 4

Composition, biodegradability and recyclability of Municipal Solid Waste (MSW) to landfill

Table 3.1: Calculated Composition and biodegradability of Municipal Solid Waste to landfill in 2011, England and Wales, for European Waste catalogue codes 19.12.12 and 20.03.01

	EWC code 19.12.12	EWC code 20.03.01	Total
Tonnes per annum (2011)	8,431,131	9,088,763	17,519,894
Composition (%)	Mean of EWC code 19.12.12	Mean of EWC code 20.03.01	Weighted Average
Paper	10.3	10.6	10.5
Card	9.1	7.7	8.4
Plastic film	9.4	8.4	8.9
Dense plastics	13.2	9.6	11.3
Sanitary waste	1.3	3.1	2.2
Wood	10.0	5.3	7.6
Textiles and shoes	5.9	5.6	5.7
Glass	1.3	3.0	2.2
Food waste	8.2	21.3	15.0
Garden waste	1.8	3.5	2.7
Other organic	1.3	2.1	1.7
Metals	3.2	3.7	3.5
WEEE	1.4	1.5	1.5
Hazardous waste and batteries	1.1	0.9	1.0
Carpet, underlay and furniture	7.0	5.0	6.0
Other combustibles	2.7	1.4	2.0
Bricks, plaster and soil	7.9	4.1	5.9
Other non-combustible	1.7	1.5	1.6
Fines < 10mm	3.3	1.8	2.5
Total	100.0	100.0	100.0
Est biodegradability	46.3	56.1	51.4
Est. combustibility	84.4	86.1	85.3
Est recyclability	23.8	27.2	25.6

- The primary aim of this analysis was to provide information about municipal solid waste landfilled, in terms of its composition and the amount of biodegradable material landfilled, under a range of European Waste Catalogue codes, with particular emphasis on codes 19.12.12 and 20.03.01, given their importance with municipal waste (see 'notes' below).
- The results suggest that the combined biodegradability of material landfilled under the two EWC codes is around 51 per cent, and the combined estimated recyclability is around 26 per cent.

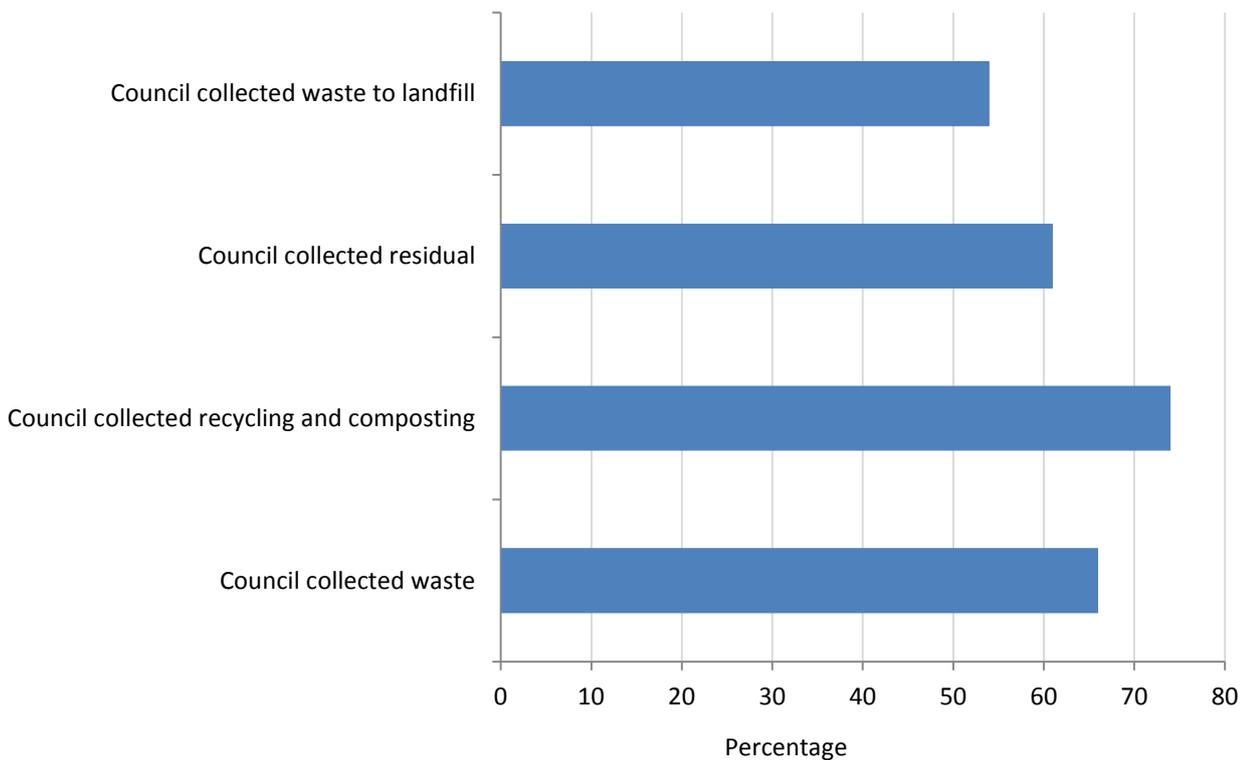
Notes: Municipal waste' here is waste from households and other waste which, because of its nature or composition, is similar to waste from households.
EWC (European Waste Catalogue) code 19.12.12 is other wastes from mechanical treatment of wastes; EWC code 20.03.01 is mixed municipal wastes. Material recorded under these two codes accounts for around 96 per cent of the material recorded under mixed waste codes that could be regarded as municipal waste.

Source:

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17447>

Estimated biodegradability of council-collected waste

Figure 3.6: Estimated biodegradability of council collected waste, England, 2010/11

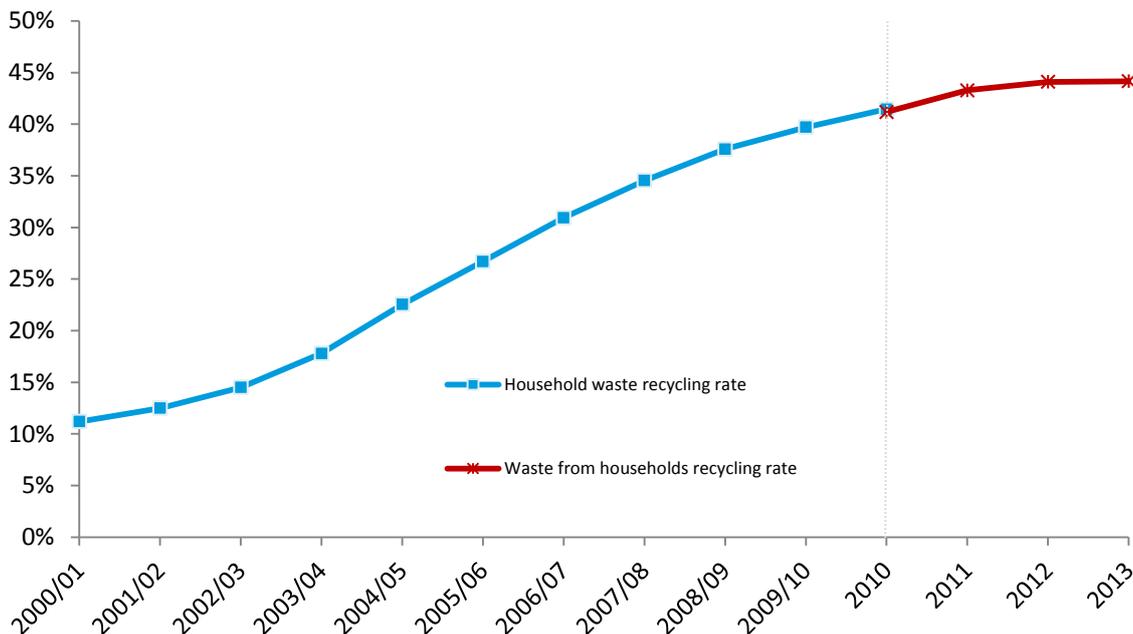


- The estimated biodegradability of council collected waste ranges from 61 to 74 per cent.
- Note that figures in this chart are not directly comparable with those in Table 3.1 because of differences in methodology. More information is available within the reports.

Source: Analysis of biodegradability of residual waste based on subtraction of diverted materials – Resource 2014
randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=19389 – Executive Summary

Waste from households: recycling

Figure 3.7: Waste from households recycling rate, England, 2000/1 to 2013



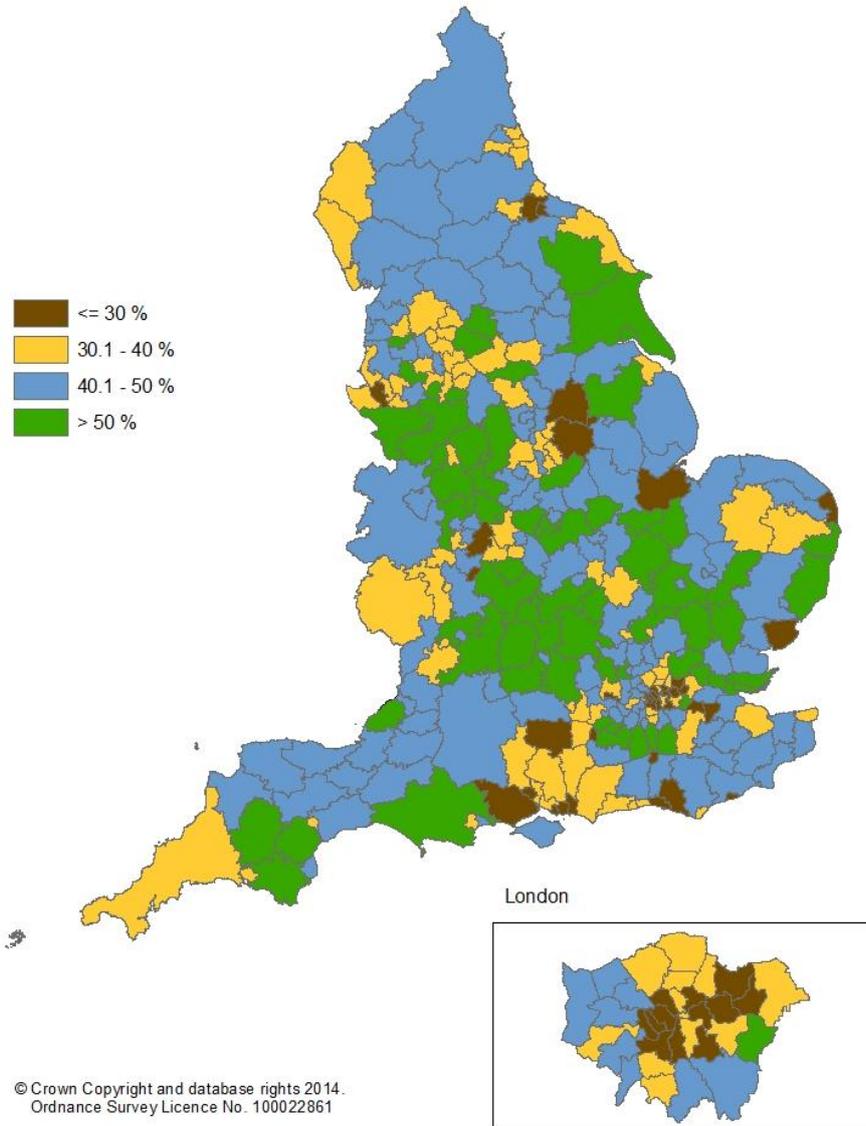
- The waste from household measure was introduced in May 2014 and based on a calendar year. It is a narrower version of the 'Household waste' measure which was previously used and excludes waste not considered to have come directly from households, such as recycling from street bins, parks and grounds. It is therefore not possible to link the two measures over time as their definitions are different and they do not measure exactly the same thing
- The annual rate of 'waste from households' recycling for 2013 was 44.2 per cent, marginally up on the 44.1 per cent achieved in 2012. It is up by 3.0 percentage points since the 2010 calendar year, the earliest year for which data for this specific measure are available.

Source: Defra, Nov. 2014

[www.gov.uk/government/uploads/system/uploads/attachment_data/file/375945/Statistics Notice Nov 2014 Final 3 .pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/375945/Statistics_Novice_Nov_2014_Final_3_.pdf) – Figure 4

Figure 3.8 Percentage of household waste sent for recycling, reuse or composting, England, 2013/14

Percentage of household waste sent for recycling, reuse or composting, 2013/14



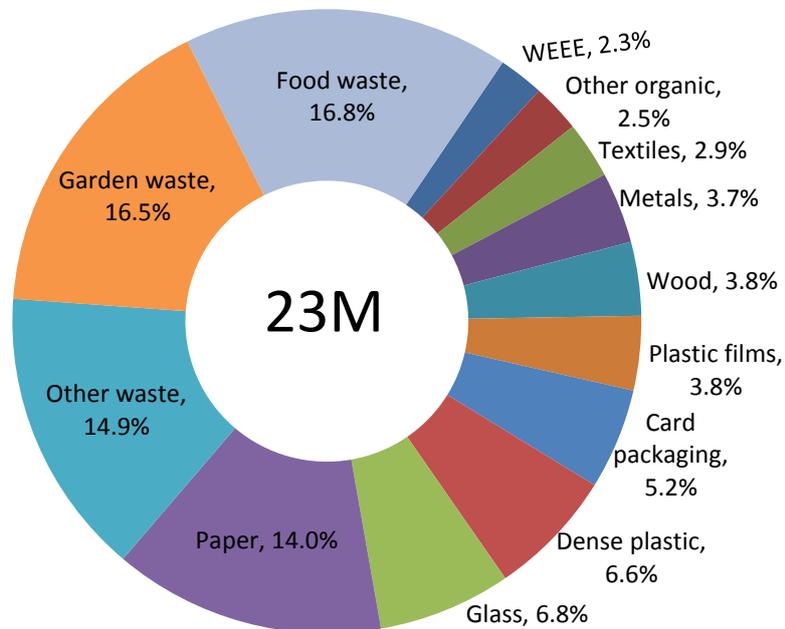
- At Local Authority level, recycling rates ranged from 18 per cent to 66 per cent.
- There is a tendency for recycling rates to be similar in adjacent areas although high and low recycling rates are spread across England.

Source: WasteDataFlow, snapshot taken in October
www.gov.uk/government/uploads/system/uploads/attachment_data/file/375945/Statistics_Novice_Nov_2014_Final_3.pdf - Figure5

Section 4: Waste Composition

Composition of local authority collected waste.

Figure 4.1: Composition of local authority collected waste, England 2010/11



- Figure 4.1 shows a compositional study commissioned by Defra. It covers the breakdown of waste arisings collected by local authorities in 2010/11 and covers both households and non-household waste.
- Roughly a third of total waste can be attributed to food and garden wastes.
- Other waste (15 per cent) includes: Furniture, Mattresses, Soil, Miscellaneous combustible, Miscellaneous non-combustible, Sanitary, Hazardous and other unspecified waste.
- Paper accounts for 14 per cent and Waste electrical and electronic equipment (WEEE) accounts for the smallest proportion (2 per cent).

Source: Defra, Resource Futures Ltd.

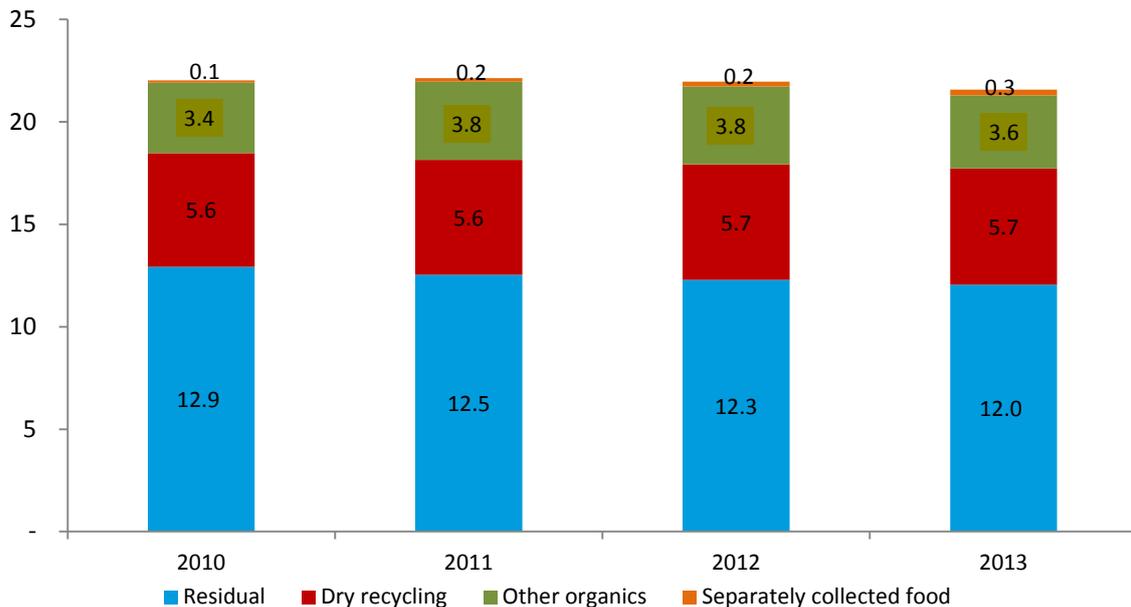
randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=18237 .

See Annex on data tables for local authority waste arising summary.

Composition of waste from households

Figure 4.2: Composition of waste from households, England, 2010- 2013

Million tonnes



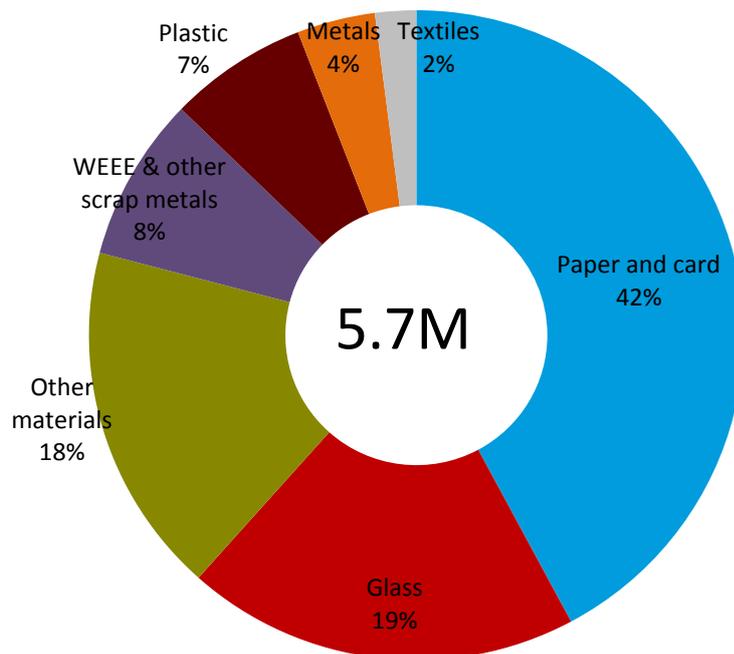
- **Residual waste** includes waste from households' regular collections e.g. black bags, bulky waste, household civic amenity waste, 'other household waste' and rejects from recycling.
- **Dry recycling** includes paper and card, glass, plastic, waste electrical and electronic equipment (WEEE), scrap metals as well as other materials.
- **Other organics** includes green garden waste, mixed garden and food waste, wood for composting and other compostable waste.
- At the aggregate level, the composition of 'waste from households' has changed very little since 2010.

Source: WasteDataFlow

[www.gov.uk/government/uploads/system/uploads/attachment_data/file/375945/Statistics Novice Nov 2014 Final_3 .pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/375945/Statistics_Novice_Nov_2014_Final_3.pdf) - Figure 2

Composition of dry recycling

Figure 4.3: Composition of dry recycling, England, 2013



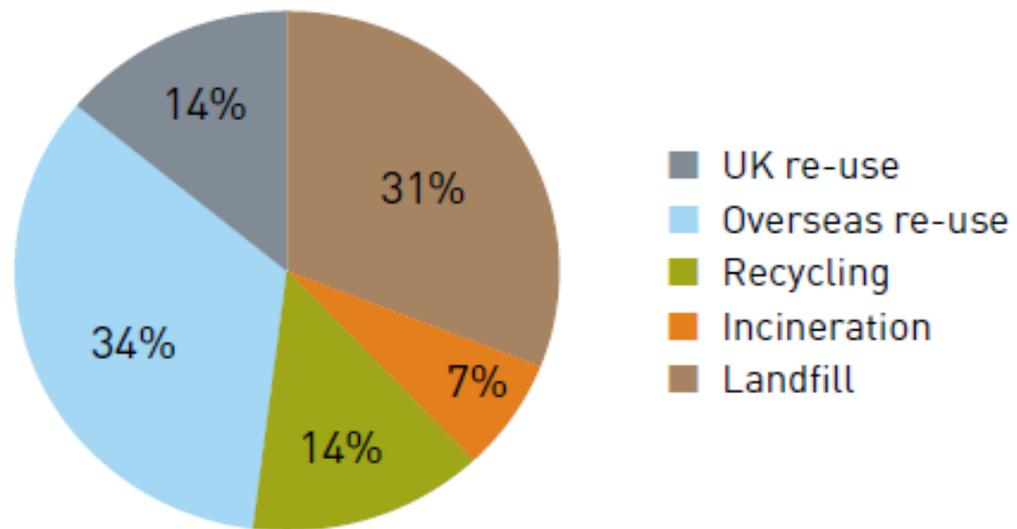
- Dry recycling includes furniture, wood, mattresses and other recycled materials.
- In 2013, approximately 5.7 million tonnes of dry recycling came from households in England.

Source: WasteDataFlow

www.gov.uk/government/uploads/system/uploads/attachment_data/file/375945/Statistics_Novice_Nov_2014_Final_3.pdf - Figure 3

Fate of clothing waste in UK

Figure 4.4: the fate of clothing waste in the UK, 2011



- The majority of clothing waste in the UK in 2011 was re-used overseas or landfilled.
- 7 per cent was incinerated, while only 14 per cent was recycled.
- 350 thousand tonnes of end-of-life clothes go to landfill each year.

Source: WRAP, 2011

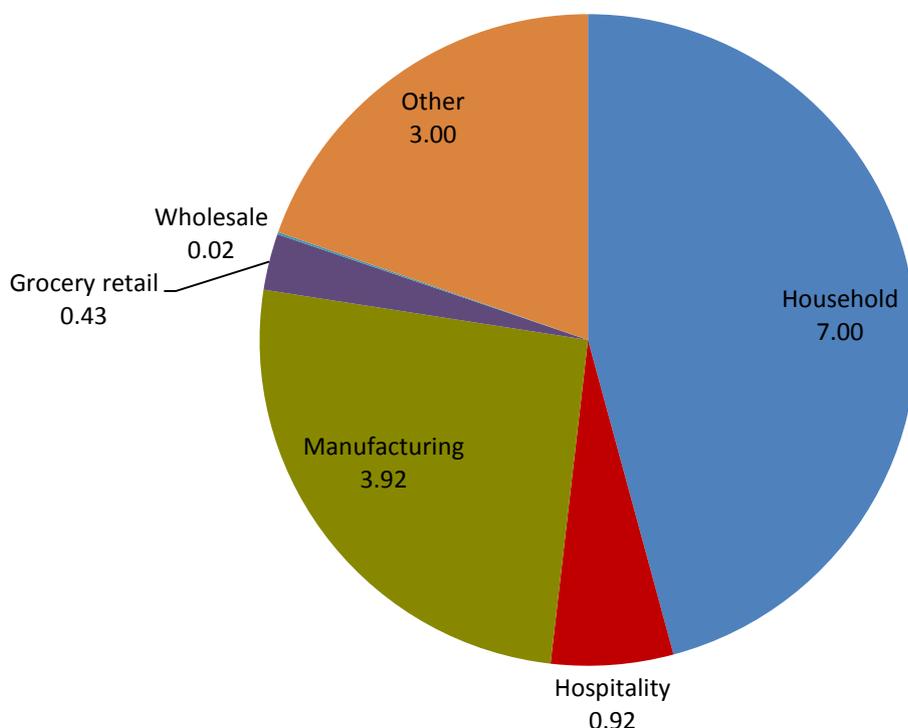
www.wrap.org.uk/content/valuing-our-clothes - Figure 4

Section 5: Food Waste

UK food and drink waste through the food chain

Figure 5.1: Food and drink waste, UK, 2011-12

Million tonnes



- 15 million tonnes of food and drink was wasted in the food chain in 2011-12. This is equivalent to around one third of the 41 million tonnes of food that is bought annually in the UK.
- The highest proportion of this waste in the food chain was wasted in households, with 7 million tonnes being thrown away in the UK in 2012, or just under half of the 15 million tonnes that is thrown away.
- Of the 7 million tonnes of household food and drink waste, 4.2 million tonnes was avoidable, 1.2 million tonnes was possibly avoidable and just 1.8 million tonnes was unavoidable.

Notes: Avoidable waste is food and drink thrown away because it is no longer wanted or has been allowed to go past its best. The vast majority of avoidable food is composed of material that was, at some point prior to disposal, edible. Possibly avoidable waste is food that some but not all people would eat, and unavoidable waste is elements that are not suitable for consumption. Further details can be found in the glossary.

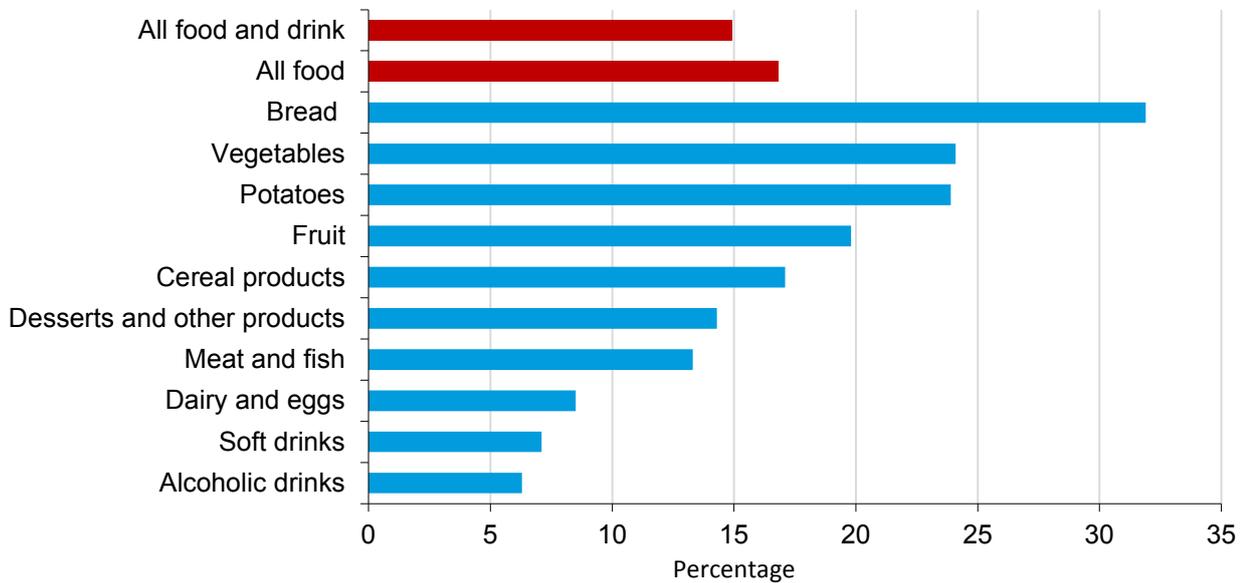
Source: Handy Facts and Figures on Waste in the UK, WRAP 2013 and Household Food and Drink Waste in the UK, WRAP 2012

www.gov.uk/government/uploads/system/uploads/attachment_data/file/361759/foodpocketbook-2014report-08oct14.pdf Figure 5.1

[www.wrap.org.uk/sites/files/wrap/UK%20Estimates%20December%202014%20\(Handy%20Facts\)_0.pdf](http://www.wrap.org.uk/sites/files/wrap/UK%20Estimates%20December%202014%20(Handy%20Facts)_0.pdf)

Proportion of purchased that is wasted

Figure 5.2: Percentage of edible household food purchases that are wasted, UK, 2010



- Over 15 per cent of edible food and drink is wasted each year.
- The highest percentage of food and drink wasted is bread (32 per cent), while the lowest percentage is alcoholic drinks (6 per cent).
- WRAP estimate the cost of avoidable food and drink waste is £480 per household or £12 billion per year for the UK.

Notes: Avoidable waste is food and drink thrown away because it is no longer wanted or has been allowed to go past its best. The vast majority of avoidable food is composed of material that was, at some point prior to disposal, edible. Further details can be found in the glossary.

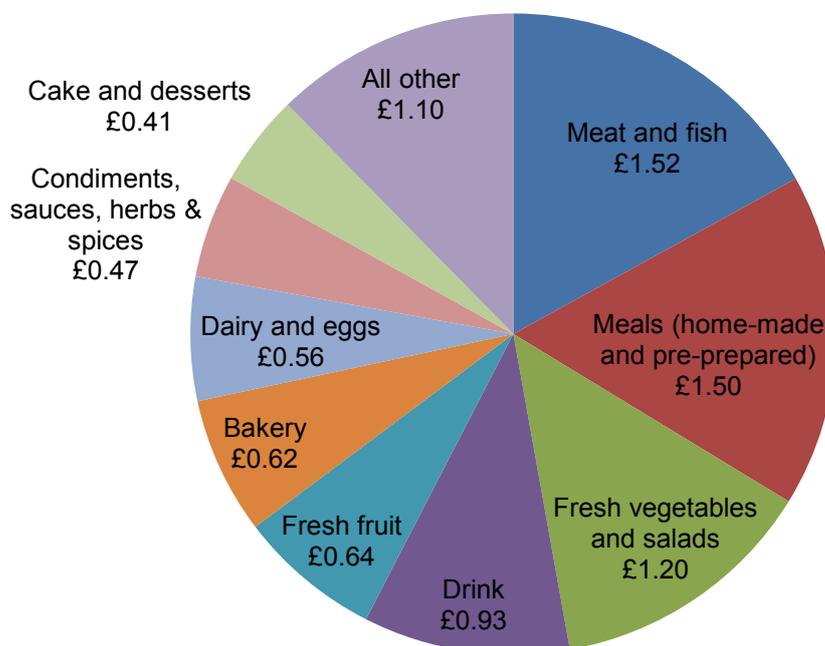
Source: Household food and drink purchases linked to waste, Defra 2010.

www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf -Figure 5.4

www.gov.uk/government/uploads/system/uploads/attachment_data/file/137950/defra-stats-foodfarm-food-foodwastepurchases-100727.pdf

Cost of avoidable food and drink waste per household.

Figure 5.3: Cost of avoidable food and drink waste per household per week, UK, 2012



- The retail cost of avoidable food and drink waste from UK homes was around £9 per household per week or 14 per cent of the average £66 that households spend per week.
- Meat and fish contributed the highest cost of avoidable food and drink waste at £1.52 (17 per cent), with cake and desserts contributing the lowest cost at £0.41 (5 per cent).

Notes: avoidable waste is food and drink thrown away because it is no longer wanted or has been allowed to go past its best. The vast majority of avoidable food is composed of material that was, at some point prior to disposal, edible.

Further details can be found in the glossary.

Source: WRAP Household Food and Drink Waste in the United Kingdom, 2012.

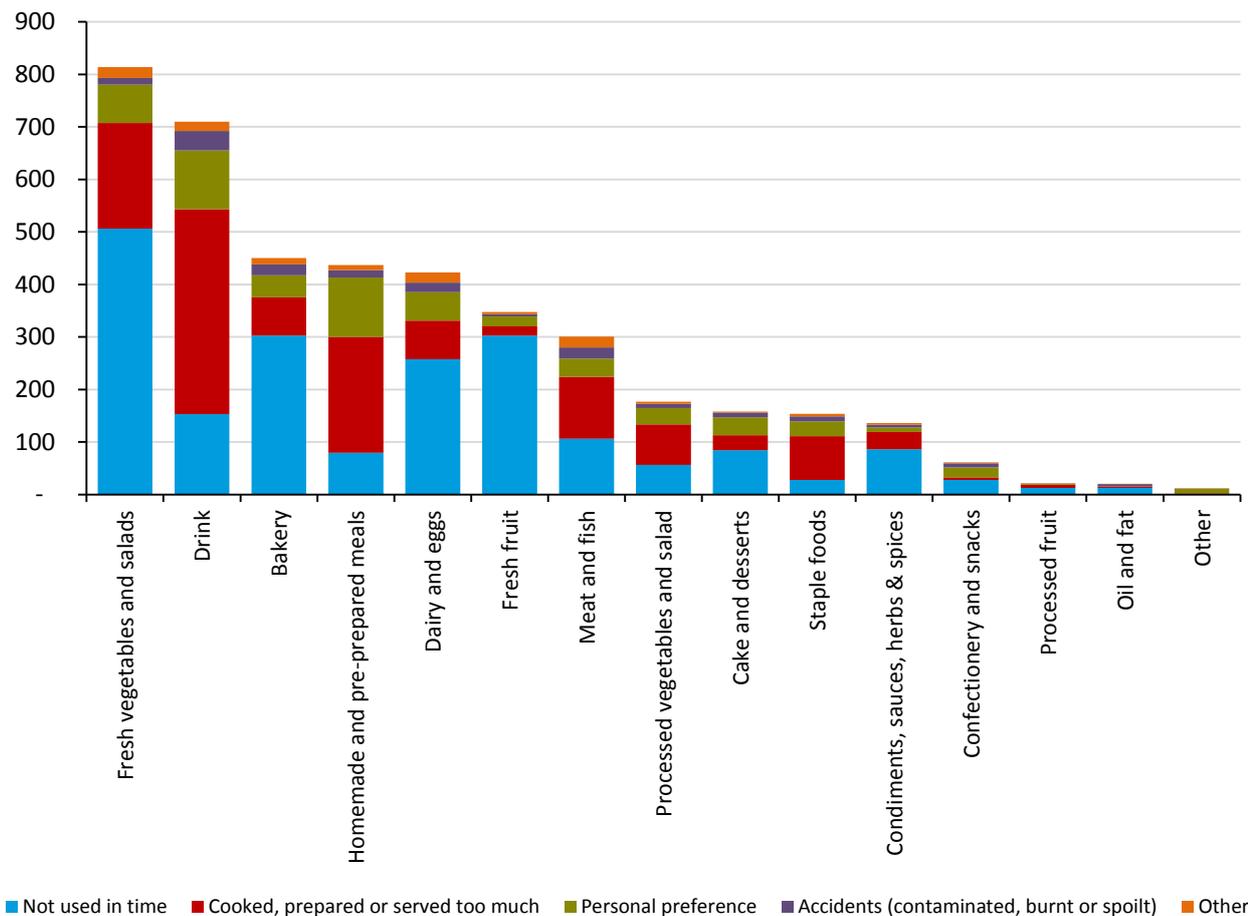
www.gov.uk/government/uploads/system/uploads/attachment_data/file/361759/foodpocketbook-2014report-08oct14.pdf- Figure 5.2

www.wrap.org.uk/sites/files/wrap/hhfdw-2012-main.pdf.pdf

Avoidable food and drink waste

Figure 5.4: Avoidable food and waste by food group, UK, 2012

Thousand tonnes



- In 2012, 4.2 million tonnes of avoidable food waste was disposed of by households. 48 per cent was not used in time, 32 per cent was due to too much being cooked or served.
- 2 million tonnes of food was not used in time – of this, 25 per cent was fresh vegetables and salad, fresh fruit and bakery made up another 15 per cent each.

Notes: avoidable waste: food and drink thrown away because it is no longer wanted or has been allowed to go past its best. The vast majority of avoidable food is composed of material that was, at some point prior to disposal, edible.

Further details can be found in the glossary.

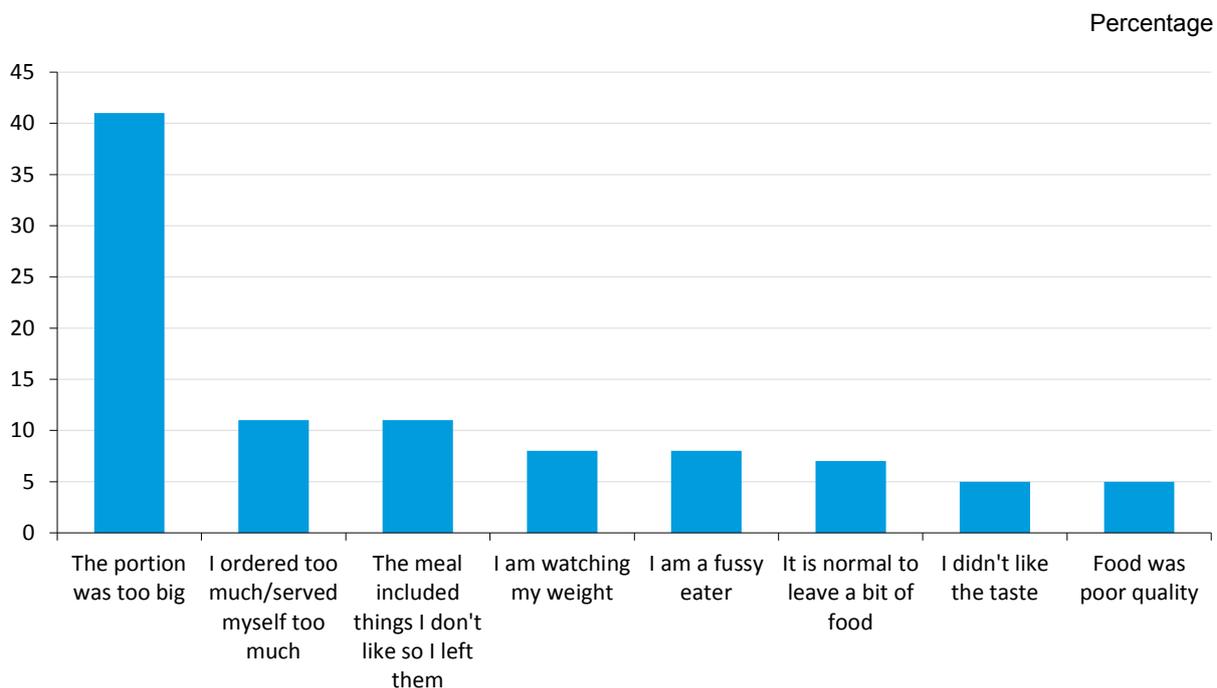
Source: Household Food and Drink Waste in the United Kingdom 2012

www.gov.uk/government/uploads/system/uploads/attachment_data/file/361759/foodpocketbook-2014report-08oct14.pdf - Figure 5.7

www.wrap.org.uk/sites/files/wrap/hhfdw-2012-main.pdf.pdf

Understanding out of home consumer food waste

Figure 5.5 Understanding consumer food waste, when eaten outside the home, UK, 2012



- Two fifths of meal leavers (41 per cent) stated that they left food as the portion served was too big, another 11 per cent stated that they ordered/served themselves too much.
- Not liking the taste and food being poor quality were the reasons the least percentage of people stated for leaving food, at 5 per cent each.
- Chips and vegetables are the foods most likely to be left.

Notes: This is food wasted by consumers, when eating meals outside the home, such as in restaurants and pubs.

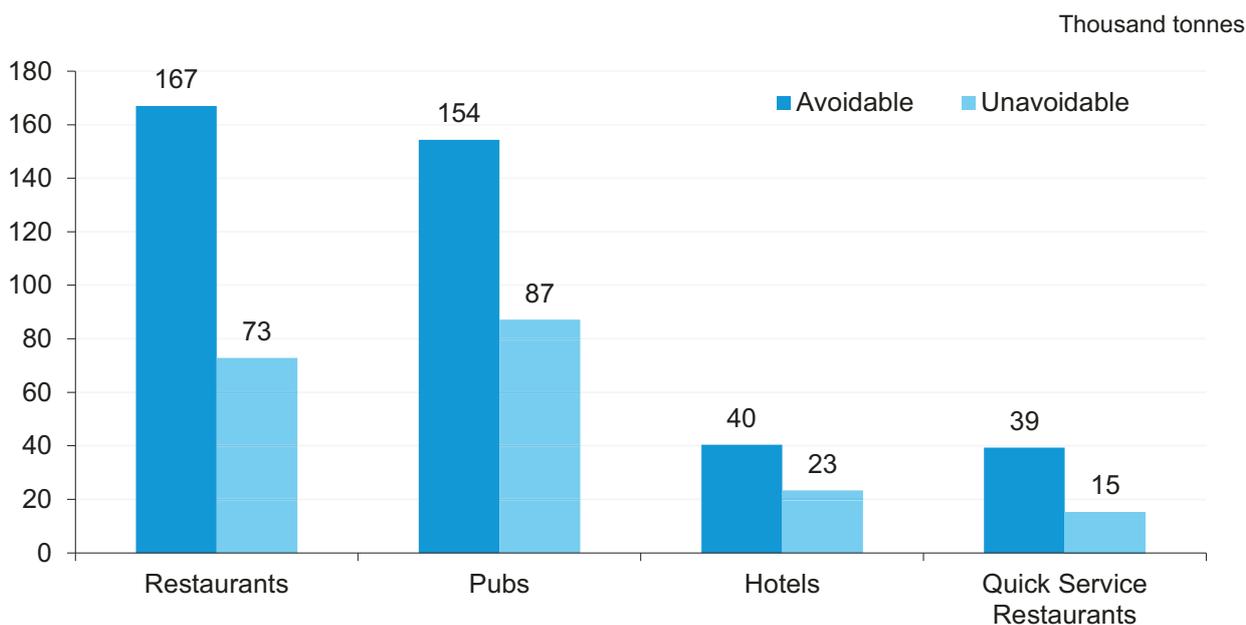
Source: Understanding out of home consumer food waste, WRAP 2013

www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf -Figure 5.4

www.wrap.org.uk/sites/files/wrap/OOH%20Report.pdf

Hospitality sector food waste going to landfill, UK

Figure 5.6: Food waste going to landfill from the hospitality sector, UK, 2009



- Waste going to landfill from the hospitality sector in 2009 was estimated at 1.5 million tonnes, which included 600 thousand tonnes of food waste (41 per cent).
- Of this 600 thousand tonnes, 400 thousand tonnes was avoidable.
- WRAP estimates UK hospitality businesses pay over £1 billion a year buying food that is subsequently wasted.

Notes: avoidable waste is food and drink thrown away because it is no longer wanted or has been allowed to go past its best. The vast majority of avoidable food is composed of material that was, at some point prior to disposal, edible.

Further details can be found in the glossary.

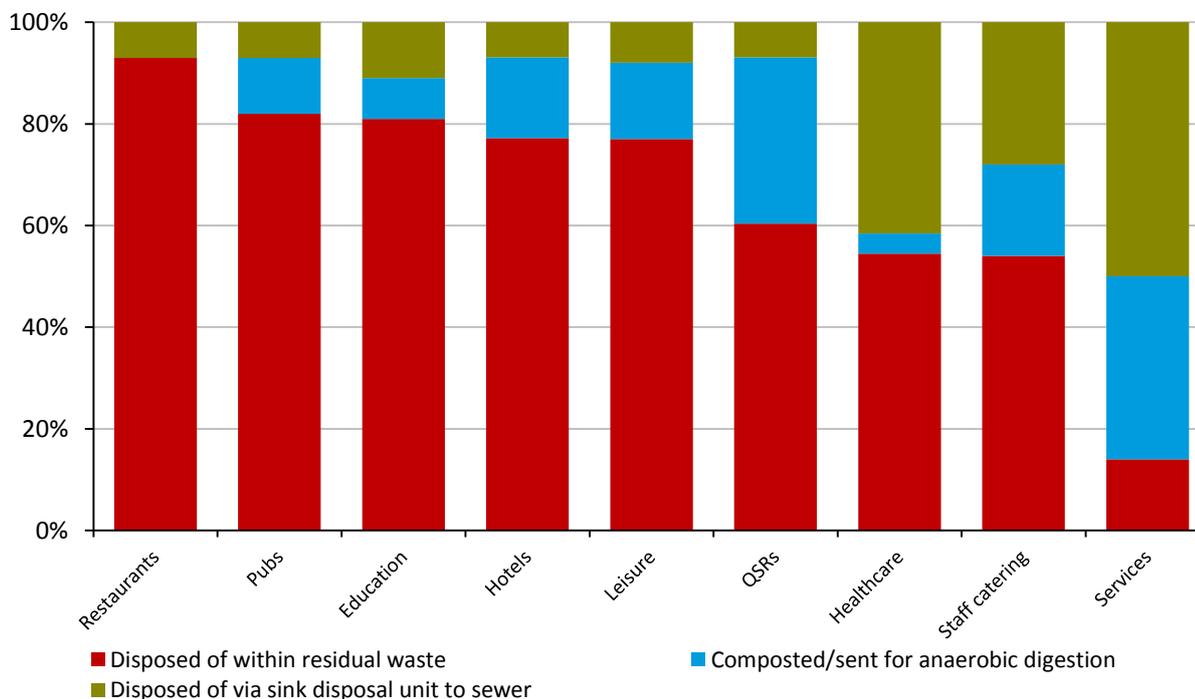
Source: The composition of waste disposed of by the UK Hospitality Industry, WRAP 2011

www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf - Figure 5.3

www.wrap.org.uk/content/composition-waste-disposed-uk-hospitality-industry-1

Management of Food Waste for the UK Hospitality and Food Sector

Figure 5.7: Management of food waste by UK Hospitality and Food Sector, 2013



- Services and quick service restaurants (QSRs) composted the most food waste at 36 per cent and 33 per cent respectively, while restaurants did not compost any food waste.
- Education and healthcare composted the next least at 8 per cent and 4 per cent respectively.
- Services disposed of the majority of food waste via sink disposal unit (50 per cent) followed by healthcare organisations (42 per cent).

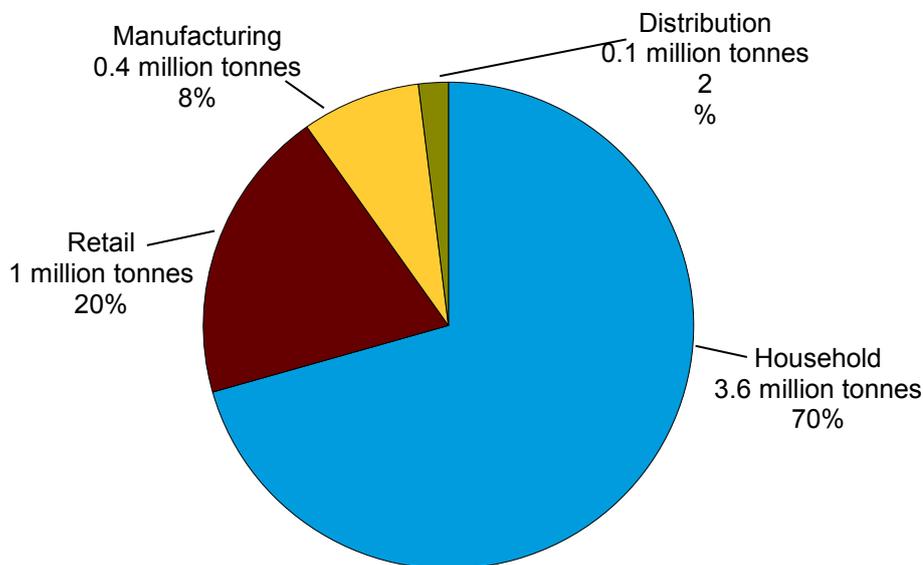
Source: Overview of Waste in the UK Hospitality and Food Service Sector 2013, WRAP

www.gov.uk/government/uploads/system/uploads/attachment_data/file/361759/foodpocketbook-2014report-08oct14.pdf Figure 5.3

www.wrap.org.uk/content/overview-waste-hospitality-and-food-service-sector

Food and drink packaging waste in the supply to households, UK

Figure 5.8: Packaging waste in the supply of food to households, UK, 2010



- An estimated 3.6 million tonnes of grocery packaging enters households, this is over two thirds of the overall grocery packaging.
- Food and drink packaging emissions amount to 8.7 million tonnes of CO₂ equivalent (mtCO₂e), 6.1 mtCO₂e is for household purchases.

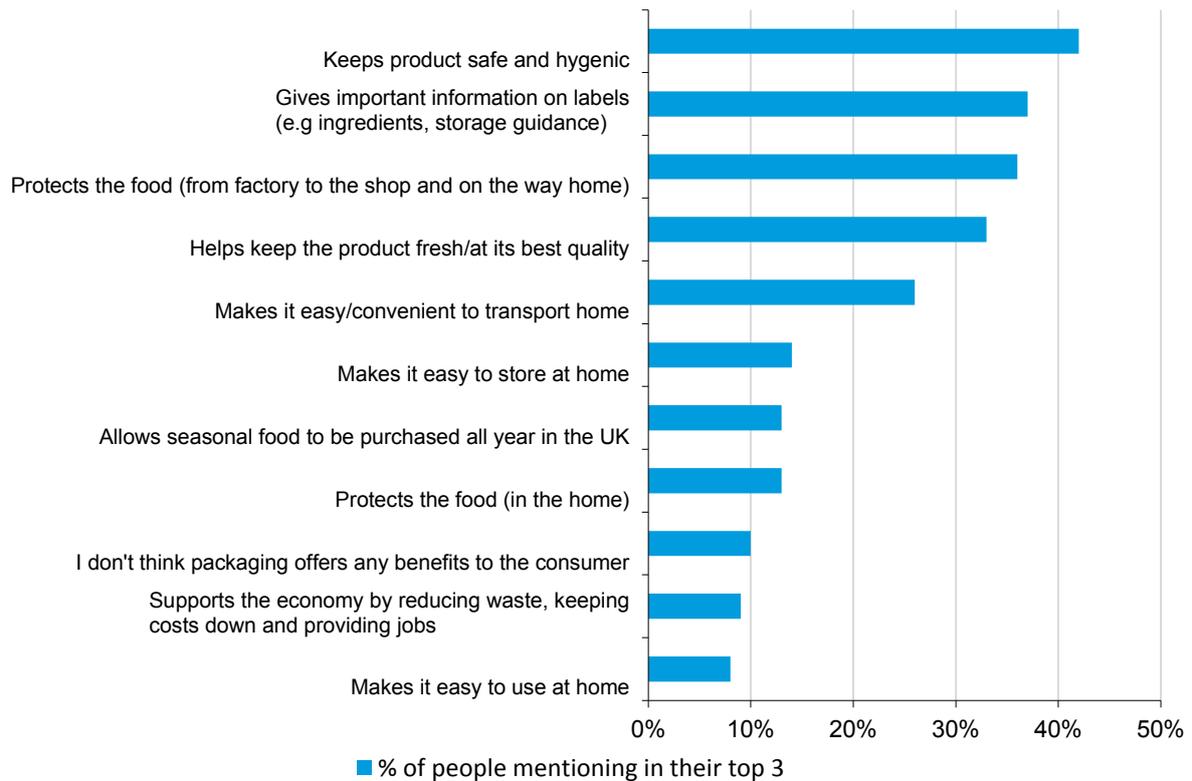
Source: Waste arisings in the supply of food and drink to households in the UK, WRAP 2010

www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf. Figure 5.6

www.wrap.org.uk/content/waste-arisings-supply-food-and-drink-uk-households

Consumer attitudes to food waste and food packaging

Figure 5.9: Consumer attitudes to food packaging, UK, 2012



- Previous research has shown that fruit and vegetables are among the high wasting food items (see Figure 5.2). 62 per cent of respondents agreed with the statement: 'keeping fresh fruit and vegetables in their packaging makes them sweat and go off quicker', but in fact the opposite is true.

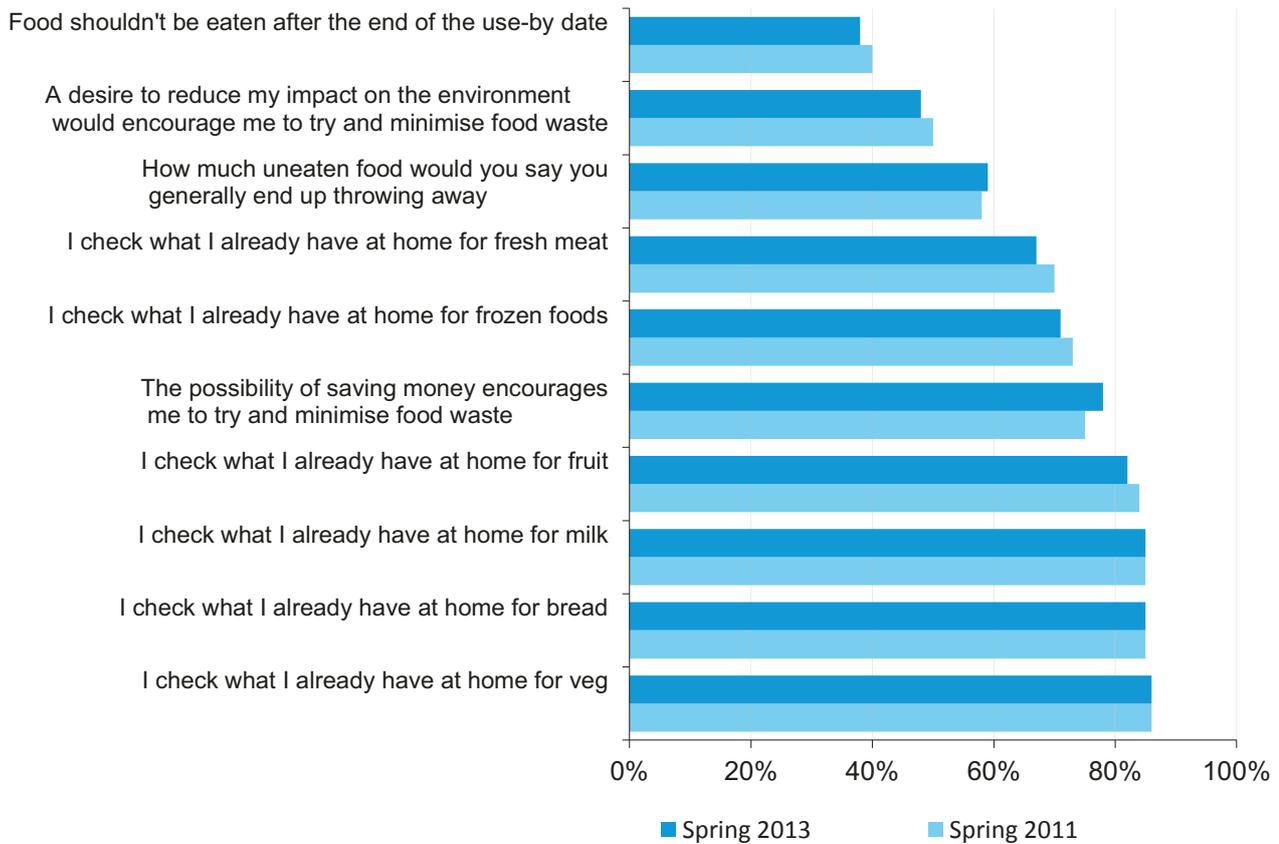
Source: Consumer attitudes to food waste and food packaging, WRAP 2013.

www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf. - Figure 5.7

www.wrap.org.uk/sites/files/wrap/Report%20-%20Consumer%20attitudes%20to%20food%20waste%20and%20packaging_0.pdf

Public attitudes and behaviours

Figure 5.10: Public attitudes and behaviours, GB, 2011 and 2013



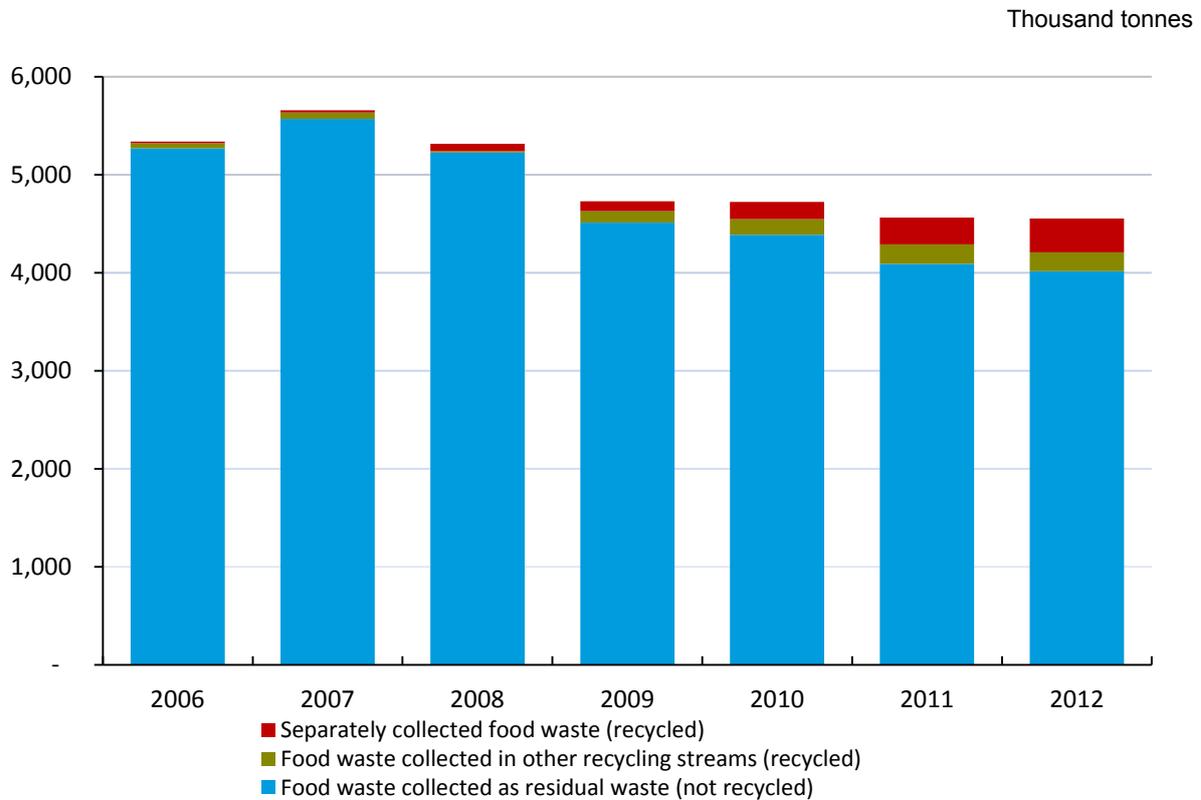
- The Spring 2013 Tracker Survey conducted by WRAP shows that consumers are still misinterpreting food date labelling, with only 38 per cent understanding the 'use-by date' message.
- Most response levels have not changed between the tracker survey conducted in Spring 2011 and the more recent Spring 2013 survey.

Notes: These statistics provide response levels on awareness of issues because people, on average, give responses that indicate the behaviour they aspire to rather than actual behaviour. This survey was conducted online across GB.

Source:
www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf - Figure 5.8

Food waste collections

Figure 5.11: Food waste collected in household kerbside collections, UK, 2006 – 2012



- In 2012, 12 per cent of food waste collected by local authorities was recycled, compared with 1 per cent in 2006. In 2012, 8 per cent was collected separately while 4 per cent was mixed with green garden waste.
- Separately collected food waste has increased from under 15 thousand tonnes in 2006 to nearly 350 thousand tonnes in 2012. This is over 20 times the 2006 amount.

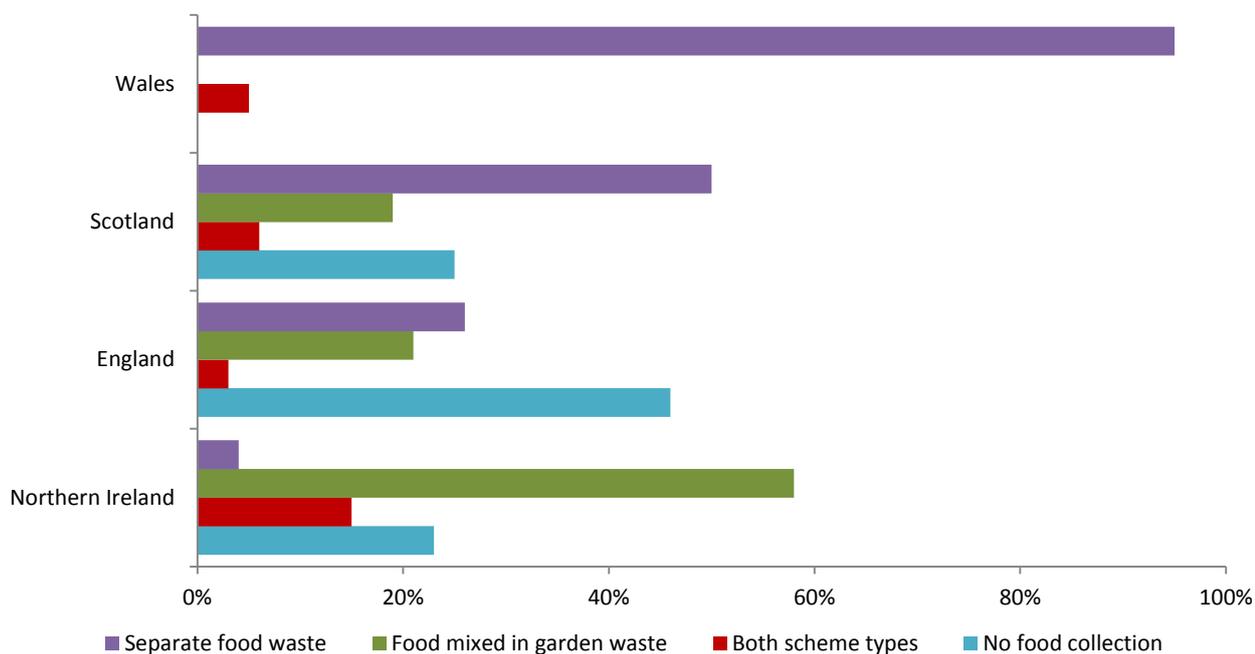
Source: Synthesis of Food Waste Compositional Data, WRAP 201

www.gov.uk/government/uploads/system/uploads/attachment_data/file/361759/foodpocketbook-2014report-08oct14.pdf - Figure 5.5

www.wrap.org.uk/sites/files/wrap/hhfdw-synthesis-food-waste-composition-data.pdf

Percentage of Local authorities collecting food waste

Figure 5.12: Percentage of local authorities collecting food waste, UK countries, 2013/14



- Figure 5.12 covers the types of collection schemes operated by all authorities in the UK
- 95 per cent of local authorities in Wales have separate food waste collections, with 5 per cent running both separate food waste and food mixed in with garden waste schemes.
- In England, Scotland and Northern Ireland some local authorities just collected food waste mixed in garden waste.

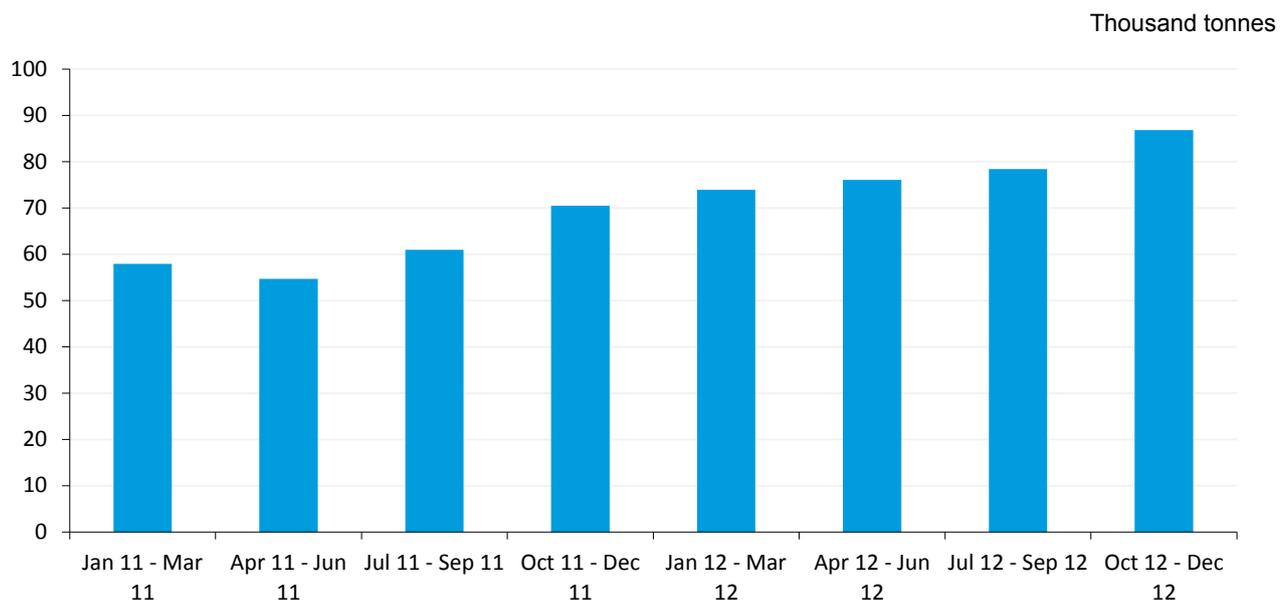
Notes: In any authority a scheme may not be available to every household.

Source: WRAP

[WRAP Dry recycling performance benchmarks](#)

Recycling of separately collected food waste, UK

Figure 5.13: Recycling of separately collected food waste, UK, 2011-12



- In 2012, Local authorities in the UK collected over 315 thousand tonnes of separately collected food waste for recycling from households, a 29 per cent increase on 2011.
- In 2012, over 5 million households received a food waste collection service, up by 26 per cent on 2011. This is almost a fifth of UK households.

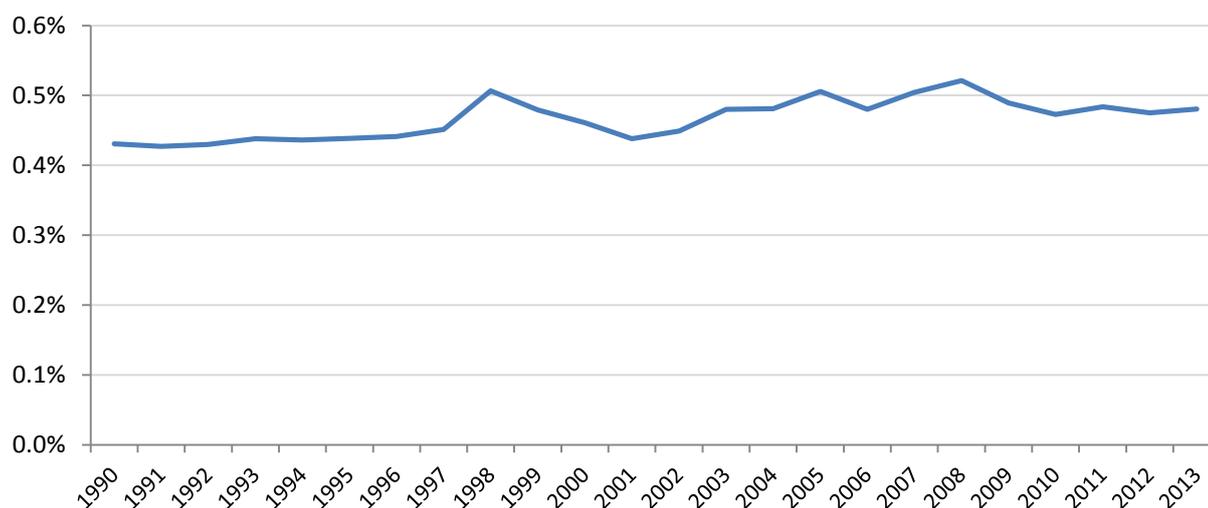
Source: WasteDataFlow, questions 10 and 12, 2012

www.gov.uk/government/uploads/system/uploads/attachment_data/file/315418/foodpocketbook-2013update-29may14.pdf - Figure 5.5
www.wastedataflow.org/

Section 6 Economic characteristics of the waste sector

Gross Value Added of the waste sector as a percentage of the whole economy.

Figure 6.1: GVA of the waste sector as a percentage of the economy, UK, 1990 – 2013



- Figure 6.1 uses the chain volume measure of GVA. This measure already takes price fluctuations into account.
- In 2013 the GVA that the waste sector generated showed a slight increase (0.48 per cent of the economy's GVA).

Source: Office for National Statistics – National Accounts – GVA given in CVM

<http://www.ons.gov.uk/ons/rel/naa2/second-estimate-of-gdp/q3-2014/rft-gdp-o--lower-aggregates-data.xls>

Gross Value Added by waste management sector

Table 6.1: GVA by waste management sectors, UK, 2008 – 2013

£m (2013 prices)

	2008	2009	2010	2011	2012	2013
Waste collection	2,131	2,419	2,312	2,604	2,793	2,642
Waste treatment and disposal	1,582	1,094	1,221	1,622	1,194	1,434
Materials recovery	1,936	1,317	1,981	2,054	2,033	1,354

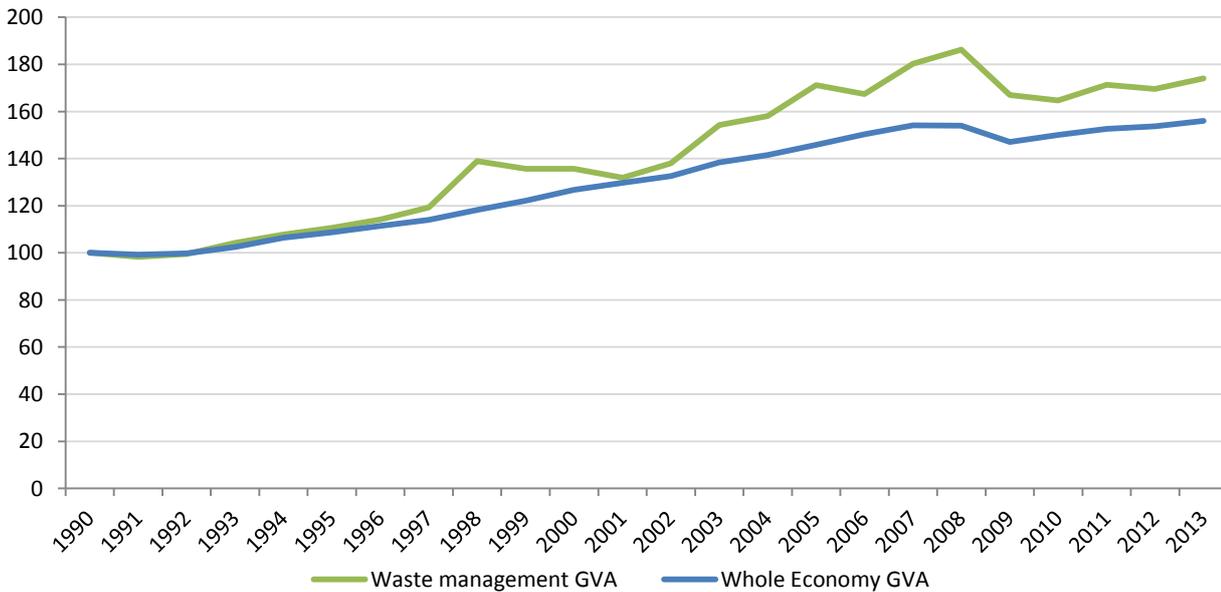
- Between 2008 and 2013 Gross Value Added (GVA) of the all waste sectors fluctuated.

Source: Office for National Statistics – Annual Business Survey

www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-341896

GVA of waste management sector

Figure 6.2: Index of GVA over time of the waste management sector and the whole economy in constant prices¹, UK, 1990 – 2013, (1990=100)



¹ – UK National Accounts Chain Value Measure (CVM) – waste sector defined by SIC 38

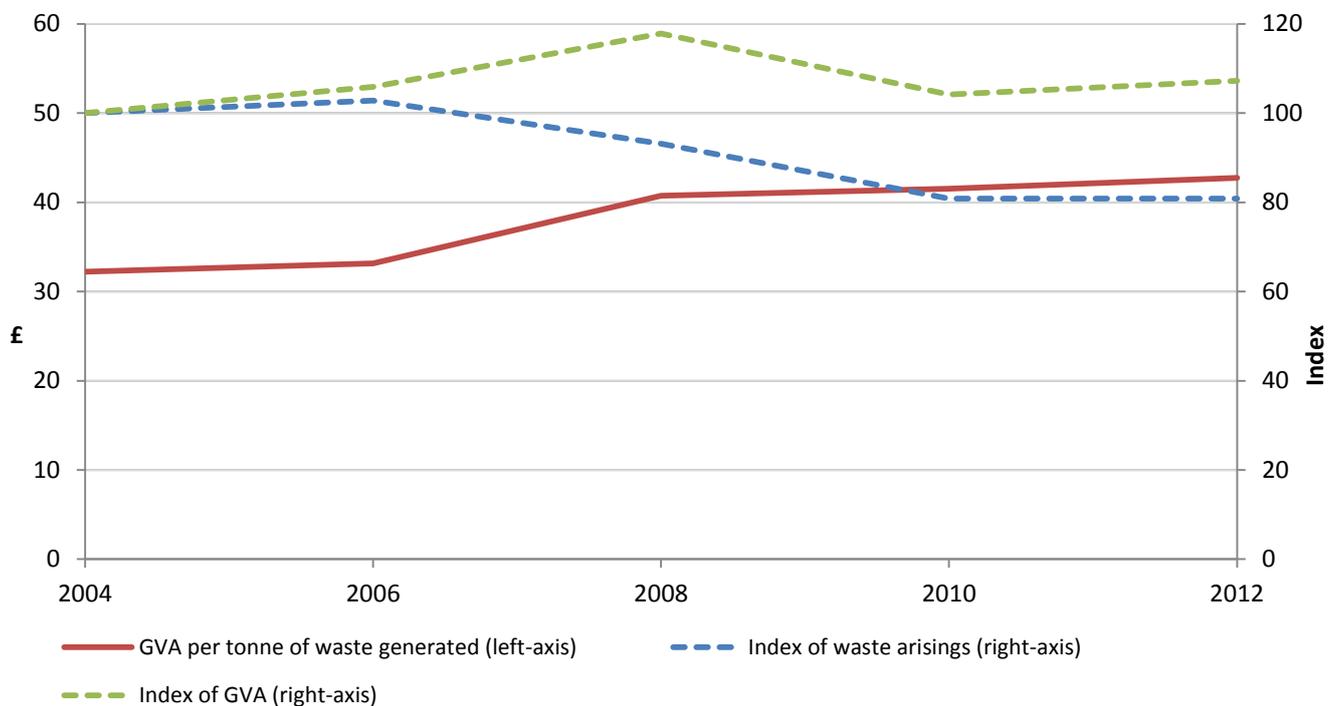
- Between 1990 and 2013 Gross Value Added (GVA) of the waste sector fluctuated more than that of the whole economy.
- Over the past two decades the Gross Value Added of the waste and resource management sector has grown at a faster rate than the wider economy.
- However, at the start of the 2008-9 recession the GVA of the waste sector fell considerably and, while now improving, has not yet recovered to its pre-recession level.

Source: Office for National Statistics – National Accounts - GVA given in CVM

www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/tsd---blue-book-2012-dataset.html

Gross Value Added per tonne of waste arisings, UK

Figure 6.3: Gross value added by waste sector in constant prices (CVM measure) per tonne of waste¹ and Indices of waste arisings and GVA, 2004 - 2012, (1990=100) (UK)



¹ Tonnages have been adjusted to avoid double counting and mining waste and dredging spoils are excluded as we do not believe these are treated by the waste sector (as defined by ONS for calculating the sectors GVA) so are not relevant for this GVA per tonne metric.

- Over the past decade the value we extracted from managing waste resource has shown some increase.
- This reflects a reduction in waste arisings and relatively stable GVA over the period.

Source: www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/tsd---blue-book-2012-dataset.html

Waste arisings from Commercial and Industrial sectors in relation to their economic performance

Table 6.2: GVA of key commercial and industrial sectors per tonne of waste arisings for the same sectors, UK, 2009 – 2012

£

	2009	2010	2011	2012
Manufacture of food products, beverages and tobacco	7,031	5,978	6,984	6,347
Manufacture of textiles, apparel, leather	9,704	10,311	10,033	9,628
Manufacture of wood and wood products	5,313	4,998	4,571	4,543
Manufacture of coke and petroleum products, chemicals, pharmaceuticals, rubber and plastic	10,509	10,083	7,936	7,323
Manufacture of basic metals and metal products	8,084	8,688	7,469	7,375
Manufacture of computer, electrical equipment, machinery, vehicles	56,198	64,753	65,472	65,623
Manufacture of furniture, other manufacturing, repair	46,385	45,509	47,276	46,499
Electricity, gas, steam supply	3,931	4,775	3,855	2,994
Water, sewerage, remediation	4,724	5,200	6,080	6,445
Commercial sectors G to U - Services	39,520	39,582	40,950	41,855
Total C&I arisings	27,846	28,117	28,088	27,790

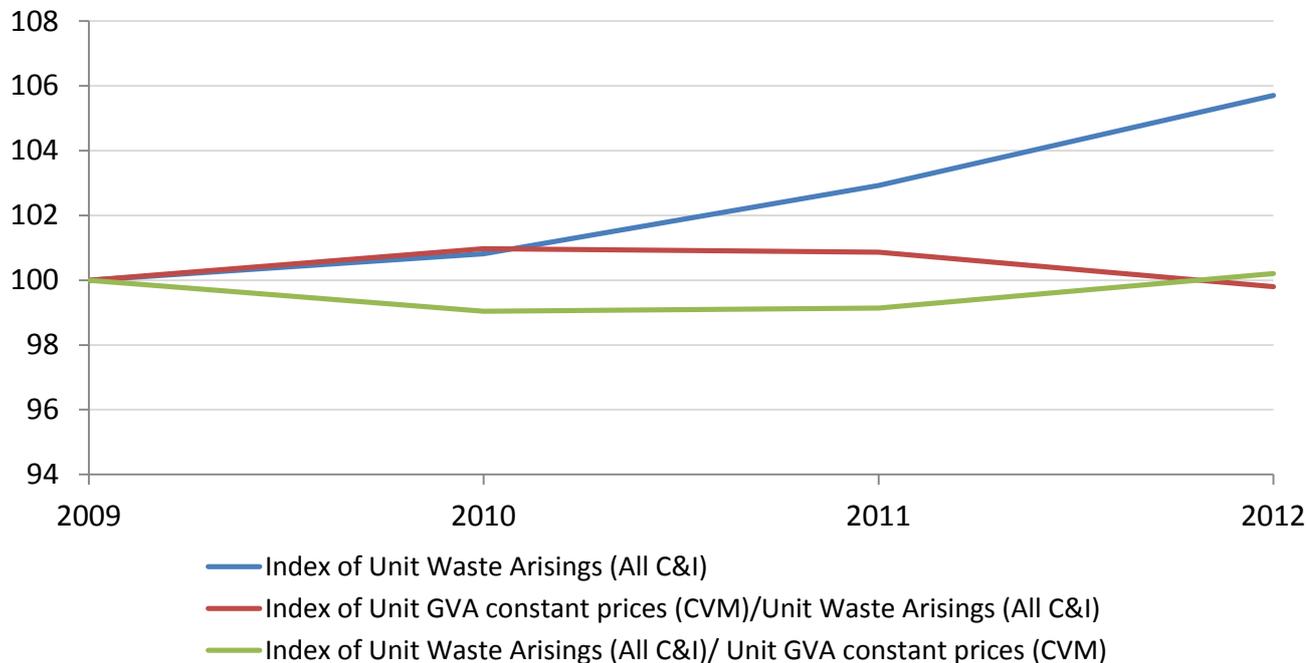
Classifications are based on NACE Codes

- At a sector level waste efficiency appears to vary significantly, particularly within the, energy, and food manufacturing sectors.
- It is unclear whether this is the result of issues in the calculation methodology, the impact of the recession, or other contributing factors.

Source: Office for National Statistics – National Accounts – CVM measure, Defra – Reconcile project 2014
www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/tsd---blue-book-2012-dataset.html
[Defra - Reconcile Project](#)

Index of GVA and C&I waste

Figure 6.4: Graph comparing index trends in waste arisings, tonnes of waste per £ of GVA and £ of GVA per tonne of waste for the UK's commercial and industrial sectors¹, 2009 – 2012, UK. (Index of waste per unit of GVA is also a Waste Prevention Metric)



¹ Classifications are based on NACE Codes. For a list of NACE codes included in C&I, see [Glossary](#) on page 82.

- Between 2009 and 2012, waste arisings for commercial and industrial sectors as a whole, increased, but GVA per unit of waste arisings saw a decrease in 2012.

Notes: The metric is based on Defra C&I data and UK National Statistics National Accounts. GVA given in CVM. Combining the two provides a measure of waste intensity per unit of output at a sectoral level.

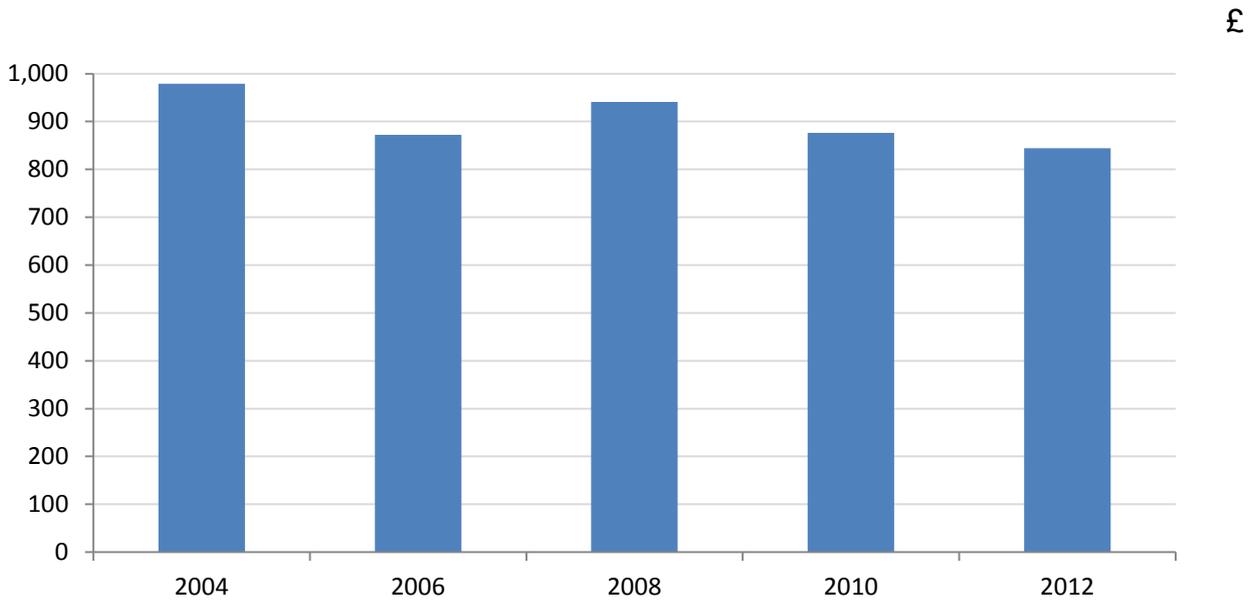
Source: Reconcile project, 2014, ONS National Accounts, CVM

www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/tsd---blue-book-2012-dataset.html

[Defra - Reconcile Project](#)

GVA of the construction sector per tonne of waste

Figure 6.5: GVA of the construction sector per tonne of construction waste¹, UK, 2004 -2012



¹ Classifications are based on NACE Codes. Construction is defined as NACE Code F (which includes dredging).

- For 2004 – 2012, GVA per tonne of Construction waste fluctuated from £845 to £980 per tonne.

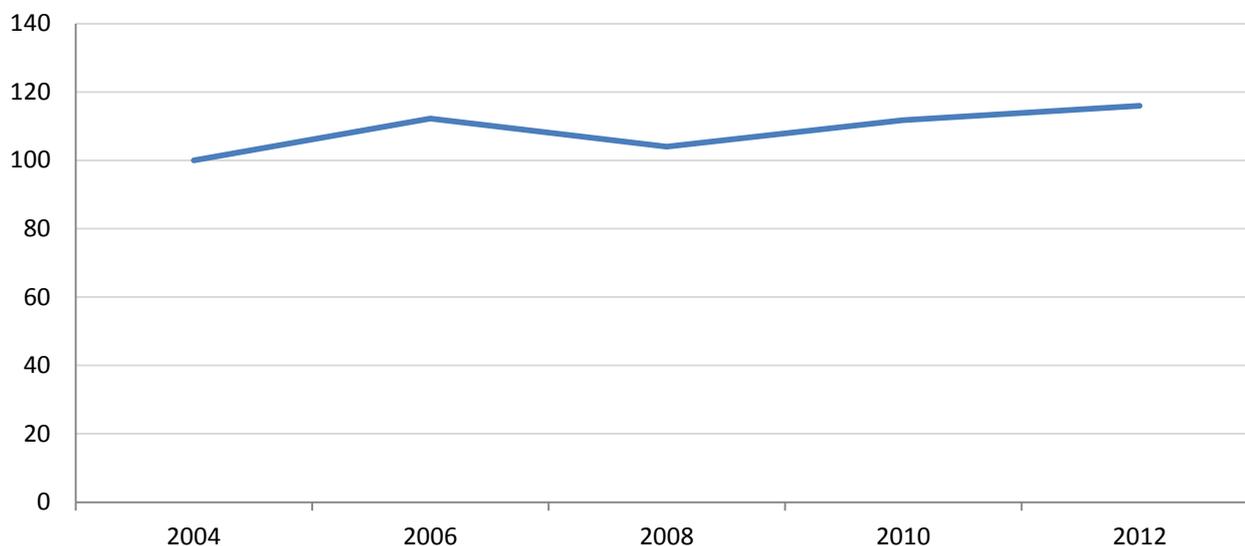
Notes: Please note that whilst figures for UK arisings are reasonably robust for all years, for years prior to 2010 there were some significant methodological differences compared to later years. Readers are advised therefore to exercise caution when drawing any observations or conclusions from looking at trends which include years prior to 2010.

Source: Waste Statistics Regulation returns 2012

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=ten00107&plugin=1>

Waste from the construction sector in relation to its economic performance.

Figure 6.6: Graph showing index of tonnes of waste per £ of GVA for the UK's construction sector¹, 2004 – 2012 (*Tonnes of waste per £ of GVA is a Waste Prevention Metric*)



¹ Classifications are based on NACE Codes. Construction is defined as NACE Code F (which includes dredging).

- The tonnes of Construction waste per £ of GVA has fluctuated between 2004 and 2012.

Notes: Please note that whilst figures for arisings are reasonably robust for all years, for years prior to 2010 there were some significant methodological differences compared to later years. Readers are advised therefore to exercise caution when drawing any observations or conclusions from looking at trends which include years prior to 2010.

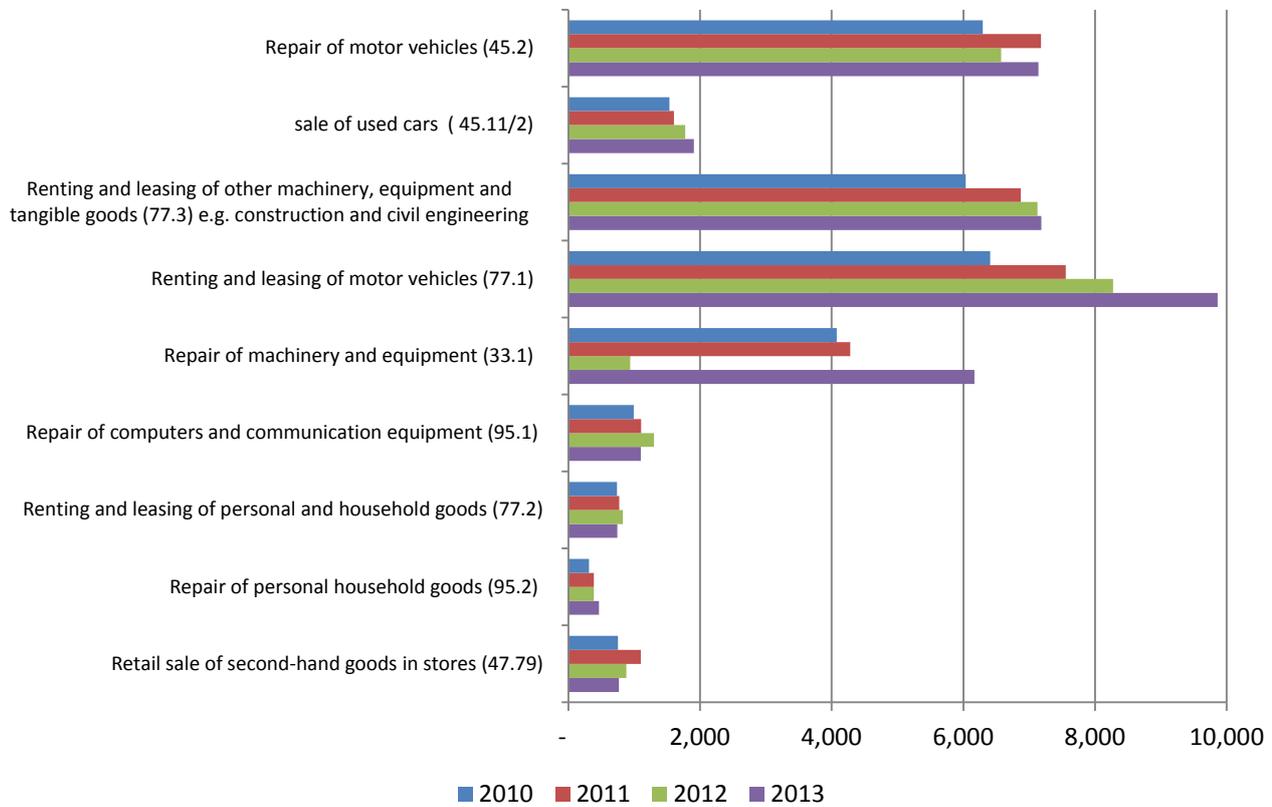
Source: Waste Statistics Regulation returns 2012

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=ten00107&plugin=1>

GVA for repair, re-use and leasing sectors, UK, 2010 – 2013

Figure 6.7: GVA for repair, re-use and leasing sectors, UK, 2010 – 2013 (Waste Prevention Metric)

£

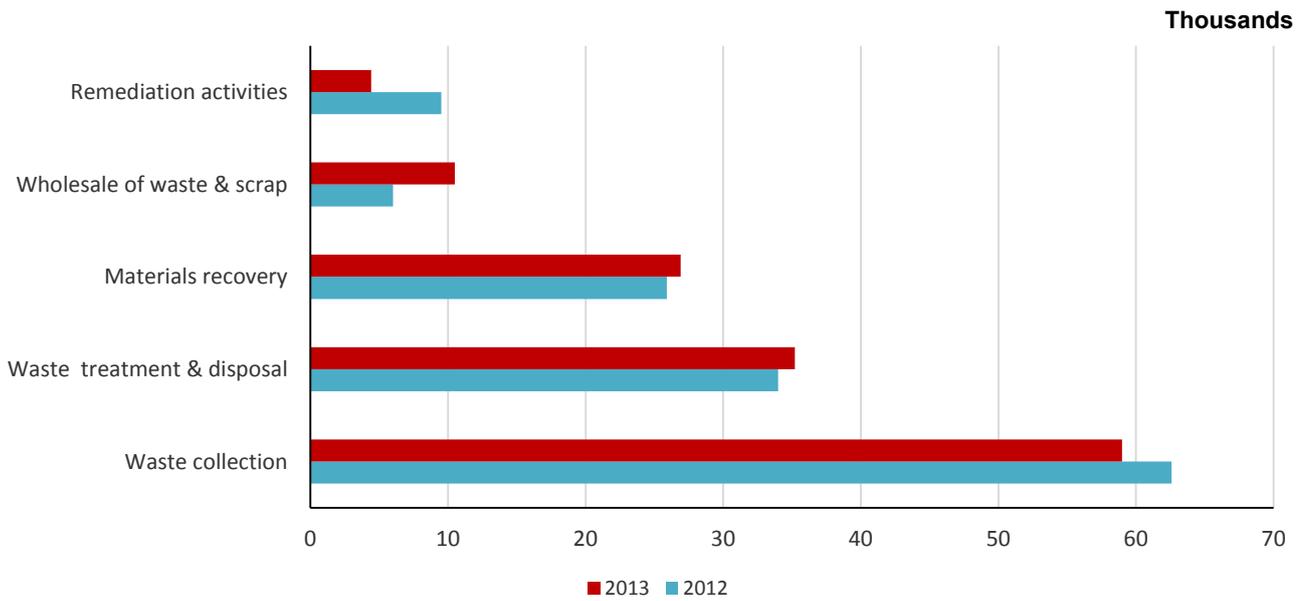


- Repair, renting and leasing of motor vehicles makes up around half of the total GVA from the repair, reuse and leasing sector covered in the above chart.

Source: www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-341896

Employees in the waste sector

Figure 6.8: Employees in the waste sector, GB, 2012 – 2013



- Total number of employees in the waste industry covers both full time and part time employees, from the private and public sectors.
- The waste collection industry covers employees in both hazardous and non-hazardous waste. The materials recovery industry covers both dismantling of wrecks and also recovery of sorted materials.
- The waste treatment and disposal industry also covers hazardous and non-hazardous waste. Although the number of employees in this sector has increased this is due to a rise in the number of employees in the non-hazardous area of this industry.
- In 2013, 3 out of the 5 sectors experienced increases in the number of employees compared to 2012.
- Employees data presented are estimated and subject to standard errors, therefore should be treated with caution.

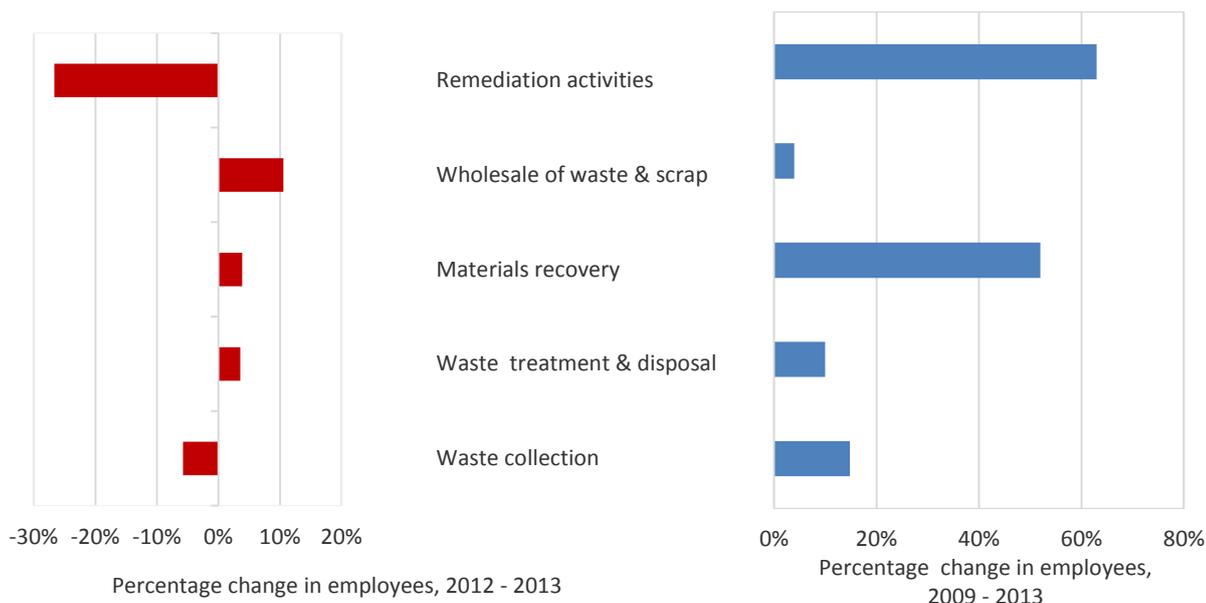
Source: ONS

www.ons.gov.uk/ons/rel/bus-register/business-register-employment-survey/index.html

Business Register and Employment Survey (BRES) 2012 - Table 1: Broad Industry Group (SIC2007) (revised). (Excel sheet 71Kb)

Table 1: Annual employee and employment estimates for GB and UK in September 2012 split by Broad Industry Group (SIC2007). Results given by full-time/part-time and public/private splits.

Figure 6.9: Percentage change in employees in the waste industry in Great Britain, between 2009-2013 and 2012-2013



- Figure 6.9 is based on the percentage growth in the number of employees in the waste industry between 2009 - 2013, and 2012 - 2013.
- The percentage growth covers both full and part time employees in both public and private sectors of the waste industry.
- Between 2009 and 2013, all sectors within the waste industry experienced increases - the largest increase was in the Remediation activities and other waste management services, whilst the smallest was in the wholesale of waste & scraps.
- Conversely, between 2012 and 2013 employee numbers in the Remediation activities fell by over 27 per cent whilst the Wholesale of waste and scrap industry rose by 11 per cent.
- Employees data presented are estimated and subject to standard errors, therefore should be treated with caution.

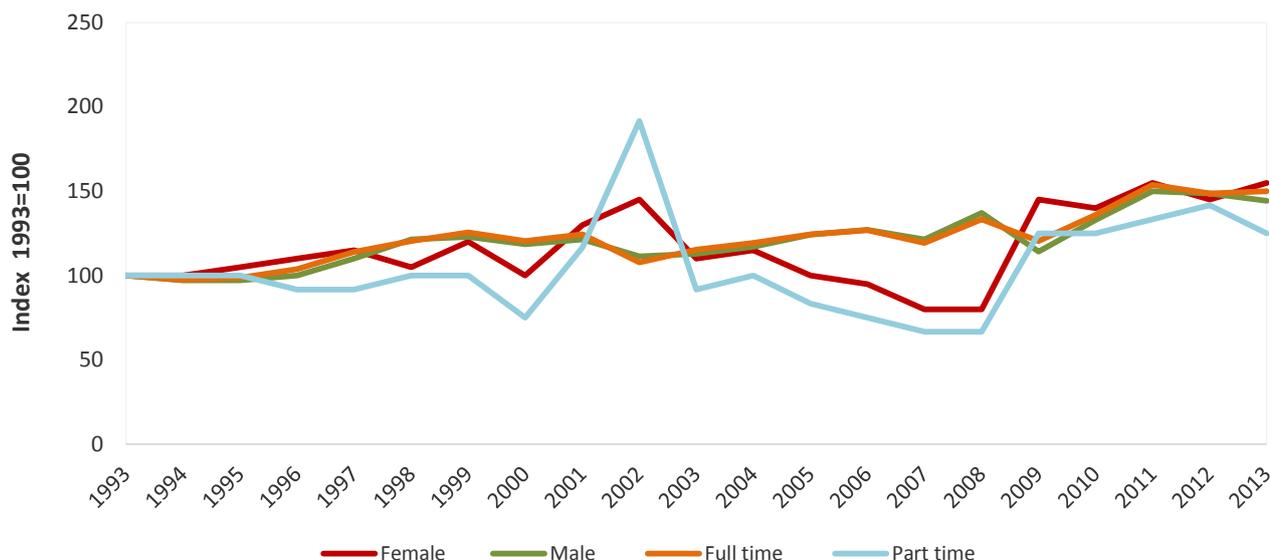
Source: ONS

www.ons.gov.uk/ons/rel/bus-register/business-register-employment-survey/index.html

Business Register and Employment Survey (BRES) 2012 - Table 1: Broad Industry Group (SIC2007) (revised). (Excel sheet 71Kb)

Table 1: Annual employee and employment estimates for GB and UK in September 2012 split by Broad Industry Group (SIC2007). Results given by full-time/part-time and public/private splits.

Figure 6.10: Employees in the waste sector, UK, 1993 – 2013. (1993 = 100)



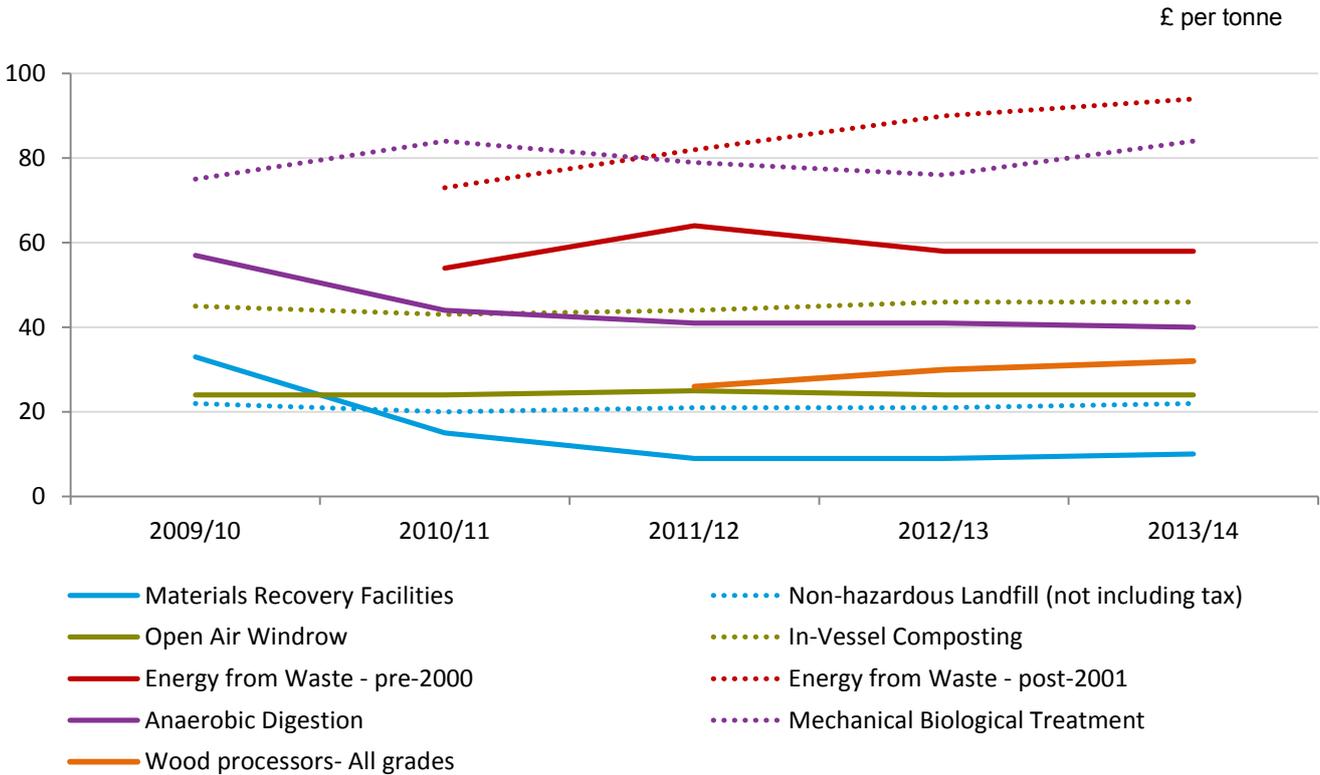
- Figure 6.10 covers all employee jobs in both public and private sectors of the waste industry in the UK excluding the Wholesale waste & scrap sector.
- Data is based on June series of each year and covers full and part time jobs as well as number of male and female jobs in the waste industry.
- The index for male jobs (both part time and full time) is very similar to that of full time jobs and has been steady over the years. While the index for female jobs (also covering full and time) follows similar index pattern to that of part time jobs.
- Part time jobs in the waste industry peaked in 2002 mostly due to a sharp increase in the female part time jobs in June 2002 which increased by 78 per cent from the previous year. Part time male employment increased by 40 per cent within the same period (not shown).
- Employees data presented are estimated and subject to standard errors, therefore should be treated with caution.

Notes: Data cover June series, for SIC 38-39. Data is not seasonally adjusted. Employment in the waste sector excludes the Wholesale waste and scrap sector.

Source: Annual Business Survey – Office for National Statistics
www.ons.gov.uk/ons/rel/lms/labour-market-statistics/july-2014/table-jobs03.xls

Gate Fees

Figure 6.11: Median Gate Fees for various waste streams, UK, 2009/10 – 2013/14



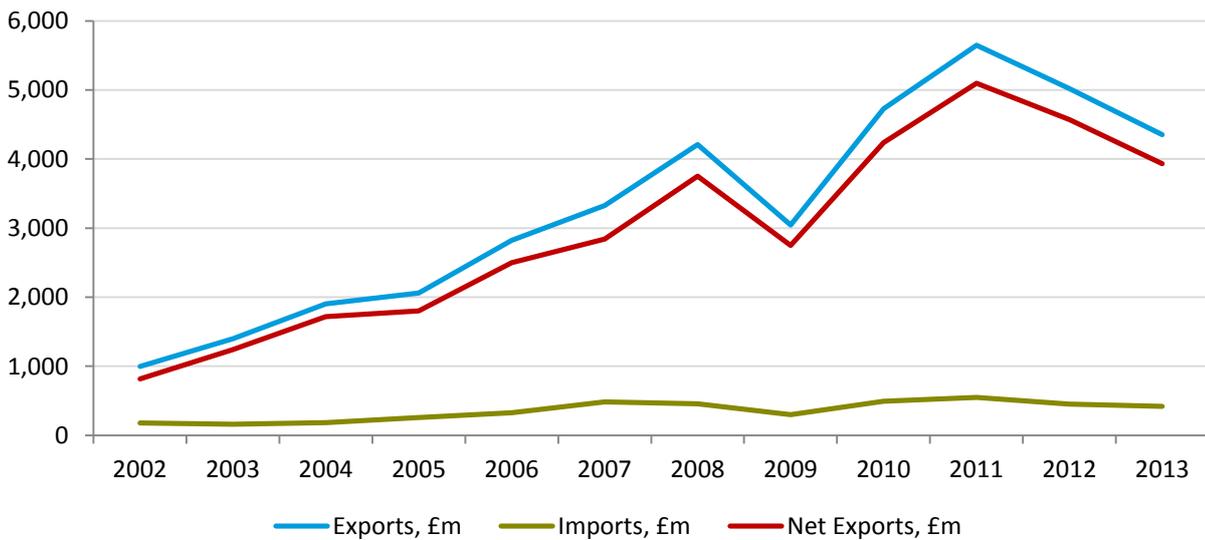
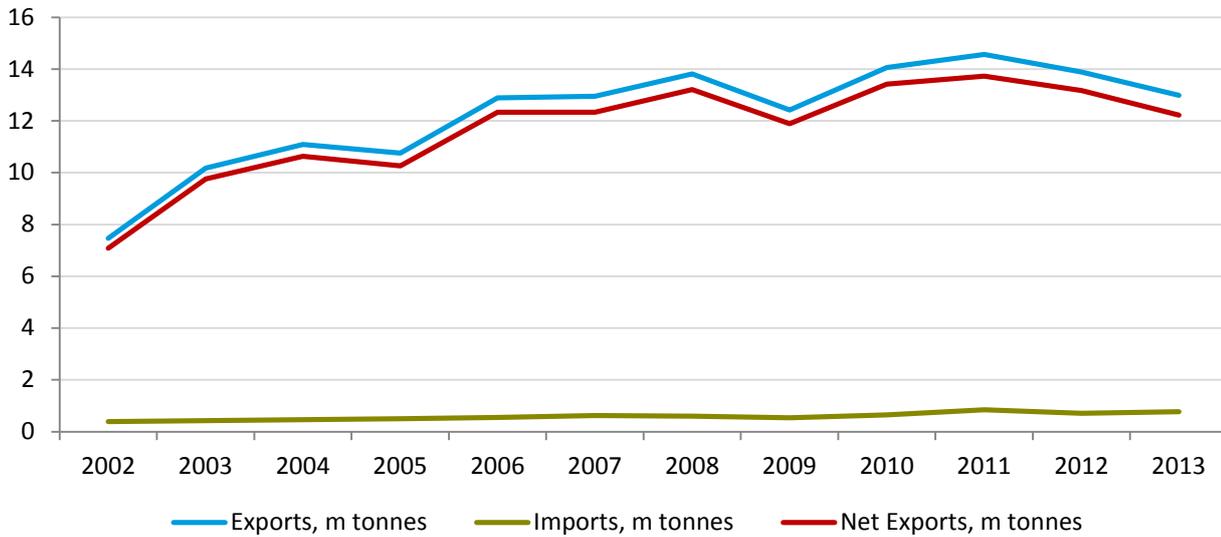
- Gate Fees for non-hazardous landfill are shown excluding landfill tax, which pushes the median cost per tonne to over £100. This additional tax would make energy from waste a preferable method.
- Materials Recovery Facilities have the lowest gate fees, but they also have the largest range of gate fees (-£100 to £96).
- Anaerobic Digestion and In Vessel Composting sites would be competing for the same waste types. Figure 6.9 shows Anaerobic Digestion to have a lower median price, but they have similar ranges of prices.

Notes: Energy from Waste – pre- 2000 are plants built before 2000, which were built in a different way to those built post-2000. Operating costs tend to be lower in the ‘older’ facilities.

Source: WRAP
www.wrap.org.uk/content/wrap-gate-fees-report-2014-0

Exports of scrap materials

Figures 6.12 and 6.13: Exports, Imports and Net Exports of scrap materials in million tonnes and £m, UK, 2002 - 2013



- As Figures 6.12 and 6.13 show the UK exports more scrap materials than imports.
- In 2013 the UK exported 13 million tonnes of scrap materials, worth over £4.3 billion.
- In 2002, around 80 per cent of the tonnage of net exports was waste metals, that has fallen to around 60 per cent in 2013, but in monetary terms waste metals continue to account for around 80 per cent of net exports.

Source: WRAP. HMRC Trade database
www.uktradeinfo.com/Pages/Home.aspx

Exports of Refuse-Derived Fuel

Table 6.3: Exports of Refuse-Derived Fuel (RDF) from England and Wales, 2010 - 2013

	Tonnes			
	2010	2011	2012	2013
Export of refuse – derived fuel	8,529	250,234	960,861	1,799,425

- Refuse derived fuel is a fuel produced from waste that has undergone some sort of processing from minimal sorting and baling to more complex mechanical treatments.
- Exports of refuse derived fuel to energy from waste facilities elsewhere in the European Union have increased dramatically in recent years as it becomes a more favoured management route for waste.

Notes: There were no exports prior to 2010.

Source: Environment Agency.

www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml

Section 7: Waste Infrastructure

Processing capacity, England

Table 7.1: Organics Treatment, England, 2012

	Thousand tonnes
Compost (including In Vessel Composting)	5,080
Anaerobic Digestion (Commercial, R&D and On-farm)	1,280
Anaerobic Digestion (industrial) ¹	250
Sub-total	6,610
MBT ²	2,360
Total	8,970

¹ - the Industrial AD input data excludes sites co-located with drinks manufacturers which process large volumes of liquid and which discharge the treated water to sewer. It is estimated that these amount to an additional 3.5 million tonnes of throughput.

² - MBT figures presented as mixed input waste stream

- In 2012, the majority of organic waste was processed by composting.
- The data here were collected through a survey and showed, for 2012, for the UK, a 78 per cent capacity utilisation for composting facilities.

Source: WRAP

www.wrap.org.uk/sites/files/wrap/ASORI%202012.pdf pages 3 and 4

Number and Capacity of Final Treatment facilities, UK and England

Table 7.2: Number and capacity of final treatment facilities, UK and England, 2012

Facility type	Measure	UK	England
Energy recovery	Number of facilities	27	13
	of which dedicated to the processing of MSW	-	-
	Capacity (000t/yr.)	2,893	2,111
Incineration	Number of facilities	87	65
	Capacity (000t/yr.)	8,385	7,992
Recovery other than energy recovery (includes backfilling)	Number of facilities	3,542	1,895
	Permitted Capacity		
Deposit onto or into land (landfill)	Number of facilities	594	478
	Rest (remaining) Capacity (m ³)	633,203	505,438

000 t/yr. = thousand tonnes per year

MSW – Municipal Solid Waste

Energy recovery refers to facilities where the main purpose is generation of energy, or formal R1 accreditation has been awarded. For further information, please see methodological notes below

- Table 7.2 contains information on the number and capacity of various facilities for the final treatment of waste. This information on **infrastructure** is based on mandatory reporting of permitted and licensed sites which is collated by the environment agencies in each of the countries in the UK.
- The 'Energy Recovery' only includes facilities where the primary function is generating energy (e.g. cement kilns) or Municipal Waste Incinerators that have applied for and been granted formal R1 accreditation (an EC standard on efficiency factors) by the relevant Environment Agency. In 2012, no Municipal Waste Incinerators had formal R1 status.

Notes: R1 accreditation is an EC standard based on efficiency factors. Application is voluntary, so the number of plants meeting R1 standards may be in excess of the number actually accredited.

Recovery operations covered by simple exemptions or simple registrations are not included. These operations are classed as low risk or low volume and do not have to report activity to Environment Agencies.

The permitted capacity of Energy Recovery and Incineration facilities includes municipal, commercial and industrial waste, and will be higher than the actual volume of waste treated.

Source: Waste Statistics Regulation returns 2012

www.gov.uk/government/statistics/uk-waste-data - Table 5

Permitted estate at end of 2013, England

Table 7.3: Permitted estate at the end of 2013, England

Waste management method	Sites permitted at end 2013	Sites that accepted waste in 2013	Millions tonnes managed in 2013
Landfill	480	331	41.1
Transfer	3,195	2,416	42.2
Treatment	2,334	1,701	49.3
Metal recycling	2,530	1,243	13.6
Incineration	134	77	7.5
Use of waste	232	156	3.0
Land disposal	230	143	13.7
Total	9,135	6,067	170.4

- In 2013 there were around two-thirds of permitted sites accepting waste.
- Three quarters of permitted Transfer sites were accepting waste in 2013, whilst only half of metal recycling sites accepted waste.

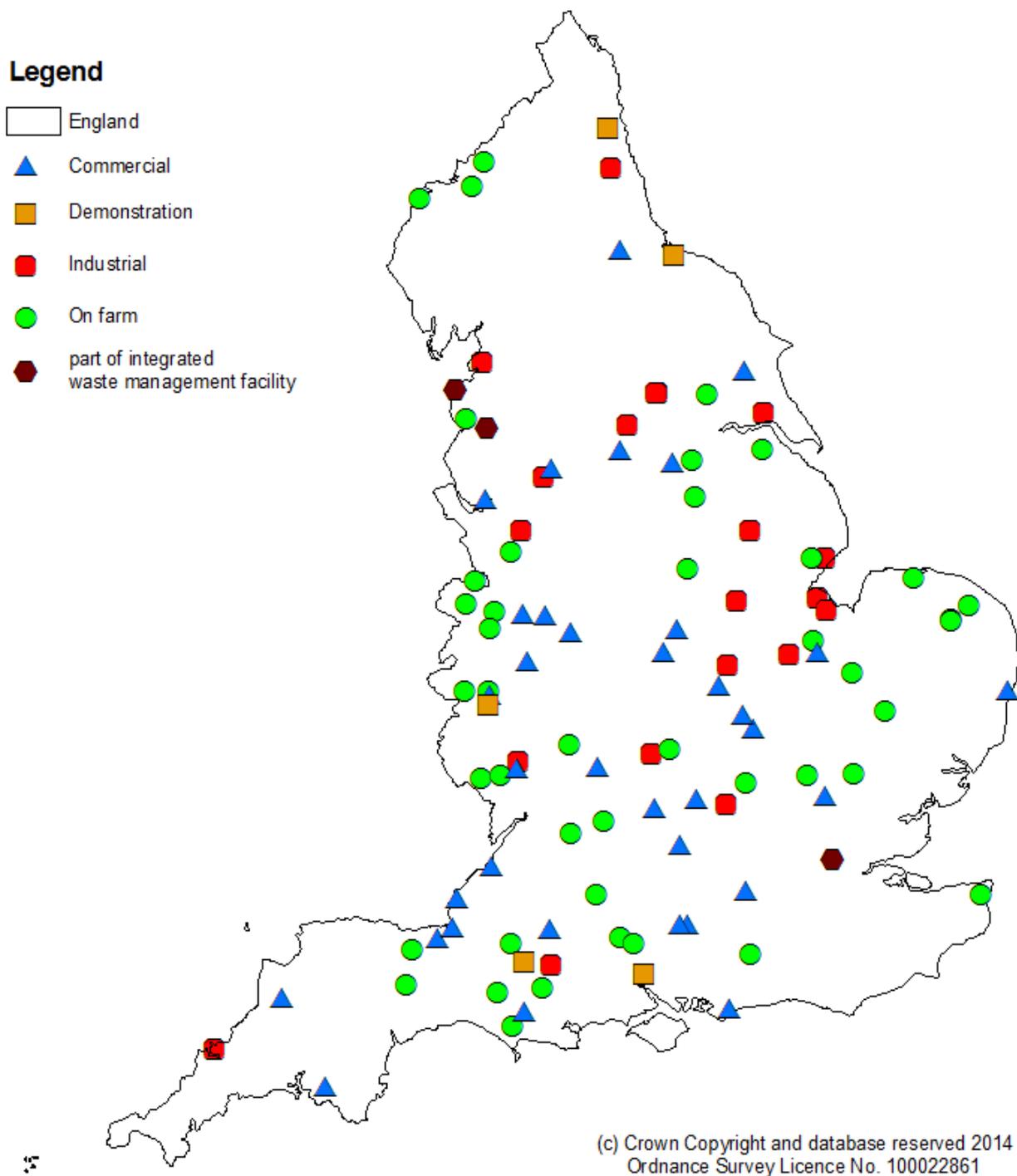
Notes: There is a possibility of waste being double-counted because an item of waste can pass through more than one facility.

Source: Environment Agency, Waste management 2013

www.gov.uk/government/statistics/waste-management-for-england-2013

Anaerobic digestion

Figure 7.1: Anaerobic Digestion sites, England, 2014

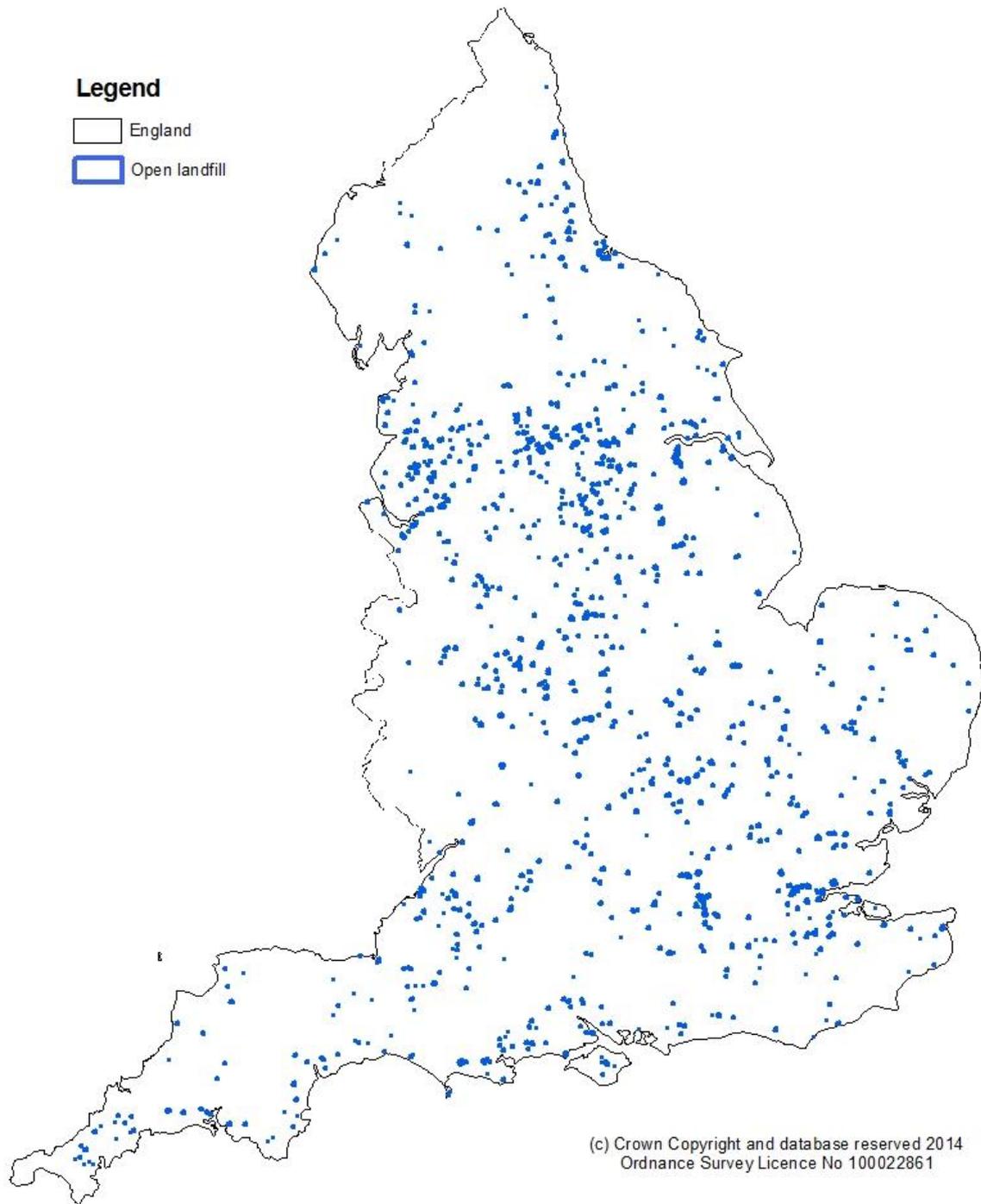


• As at 30th September 2014, there were 140 operational anaerobic digestion sites.

Source: [WRAP](#)

Landfill sites

Figure 7.2: Landfill sites, England, 2013



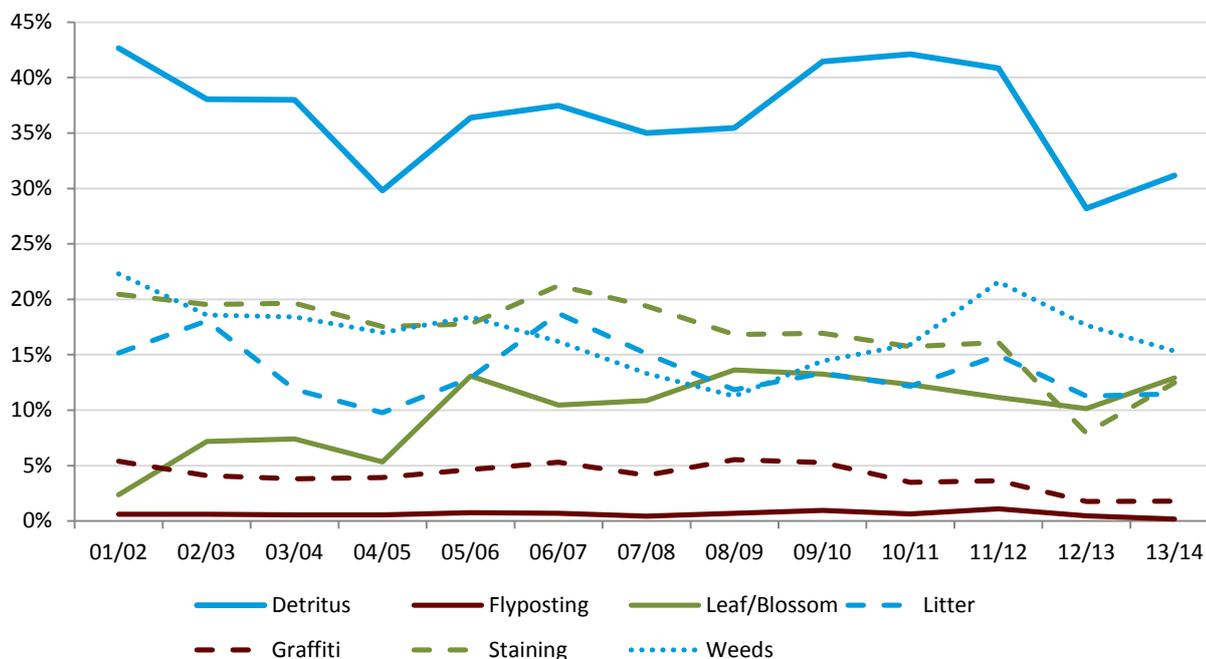
Source: Environment Agency

www.geostore.com/environment-agency/WebStore?xml=environment-agency/xml/ogcDataDownload.xml

Section 8: Environmental issues relating to waste

Local Environment Quality - percentage of survey sites below an acceptable standard

Figure 8.1: Percentage of survey sites below an acceptable standard¹, England, 2001/02 - 2013/14



¹An acceptable standard is Grade B and above – Predominantly free with some minor instances of the issue to none of the issues present

- Overall, litter and graffiti seem to have shown a long-term improvement in standards.
- Flyposting seems to have scored consistently well.

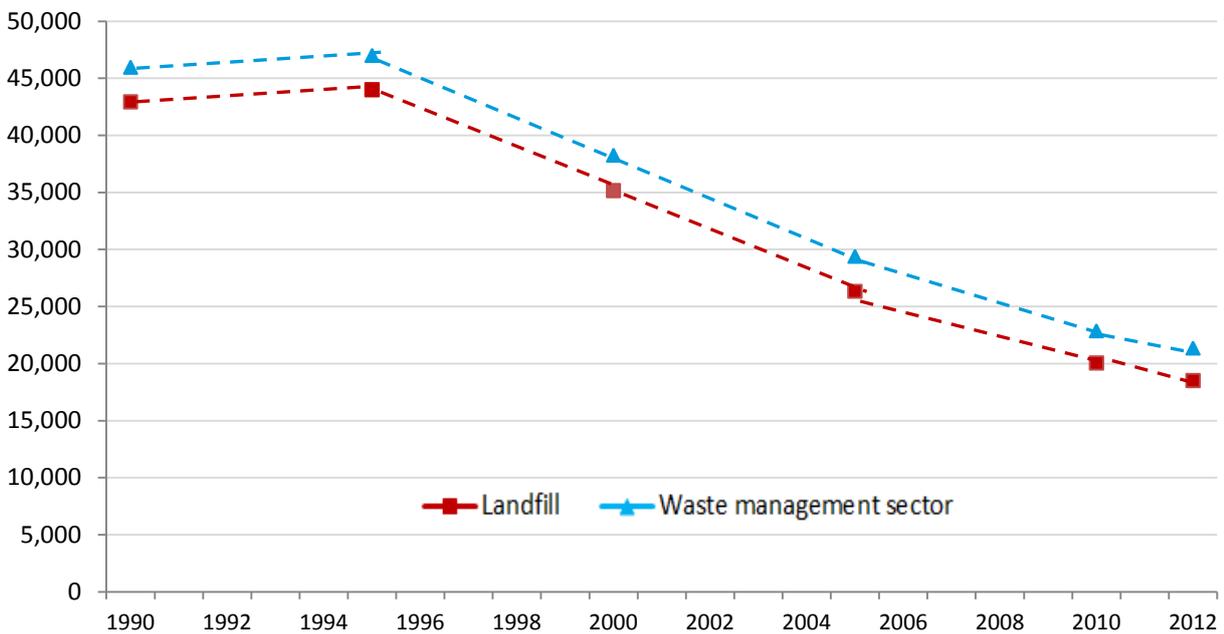
Notes: Due to a change in site selection methodology between 2012/12 and 2013/14, it is not possible to make any comparisons between years. In 2013/14, surveys were carried out at 7,200 'survey sites' which represented 10 land uses across England.

Source: KBT, The Local Environmental Quality Survey of England 2013/14 (LEQSE)

www.keepbritaintidy.org/Documents/Files/LEQSE%202014/KBT_LEQSE%202014_Online%20Final.pdf – Figure 4

Emissions from landfill

Figure 8.2: Historical trend of methane (CH₄) emissions from landfill and waste management sector, UK, 1990 – 2012 (*Waste Prevention Metric*)



- The above chart shows CH₄ emissions measured as ‘carbon dioxide equivalents’.
- The amount of CH₄ emitted from landfills depends on the difference between methane generation and methane capture at landfill.
- Emissions have decreased since 1995 due to reductions in waste sent to landfill due to the introduction of landfill tax and an increase in recycling, the waste PFI programme, as well as improvements in landfill management and the introduction of CH₄ capture technology.

Source: DECC

www.gov.uk/government/uploads/system/uploads/attachment_data/file/337874/non_co2_projections_july_2014.pdf

Total emissions avoided by waste management activity

Table 8.1: Total emissions avoided by waste management activity, England, 2011/12

Material managed	Treatment method (thousand tonnes waste)			Total CO2 saved/emitted
	Recycling/ reuse/ composting	Energy recovery	Landfill	Tonnes CO ₂ equivalent (positive values are savings)
Glass	1,140			298,022
Paper and card	2,588			2,201,092
Metal	581			1,655,256
Plastic	354			420,445
Organic	4,108			1,011,261
Wood	662			759,612
WEEE	258			207,222
Batteries	8			4,505
Tyres	9			18,057
Furniture	23			20,925
Rubble	1,434			13,008
Soil	35			10
Plasterboard	50			6,695
Oil	6			4,147
Other	126			0
Composite	13			-8,757
Paint	2			5,498
Textiles	114			302,173
Co-mingled	0			0
IBA	0			0
Residual	0	4,876	9,804	-2,660,937
Total waste treated	11,511	4,876	9,804	4,258,233

- Table 8.1 shows greenhouse gas emissions avoided or produced by waste management activity.
- In very general terms, landfilling or incinerating waste will produce emissions, whilst recycling material avoids the 'embedded emissions' which would be generated in producing that material again.

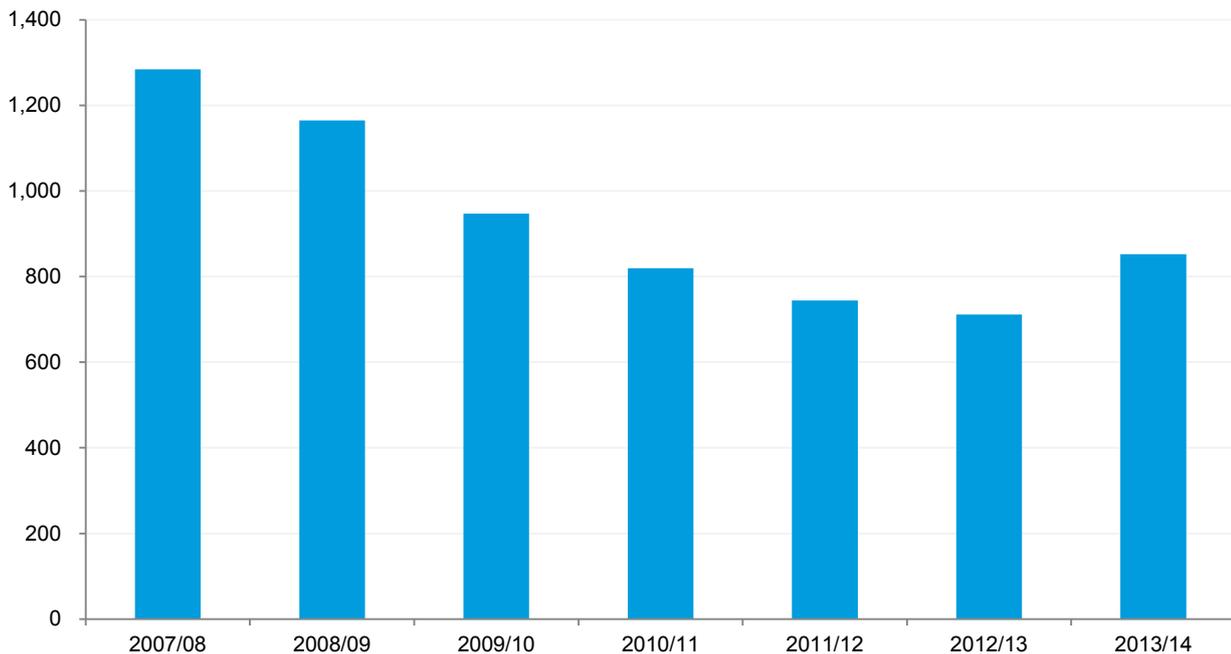
Source: WRAP

www.gov.uk/government/uploads/system/uploads/attachment_data/file/142019/Carbon_Metric_-_final_published.xls

Section 9: Fly tipping

Figure 9.1: Trends in number of fly tipping incidents, England, 2007/08 – 2013/14

Thousands



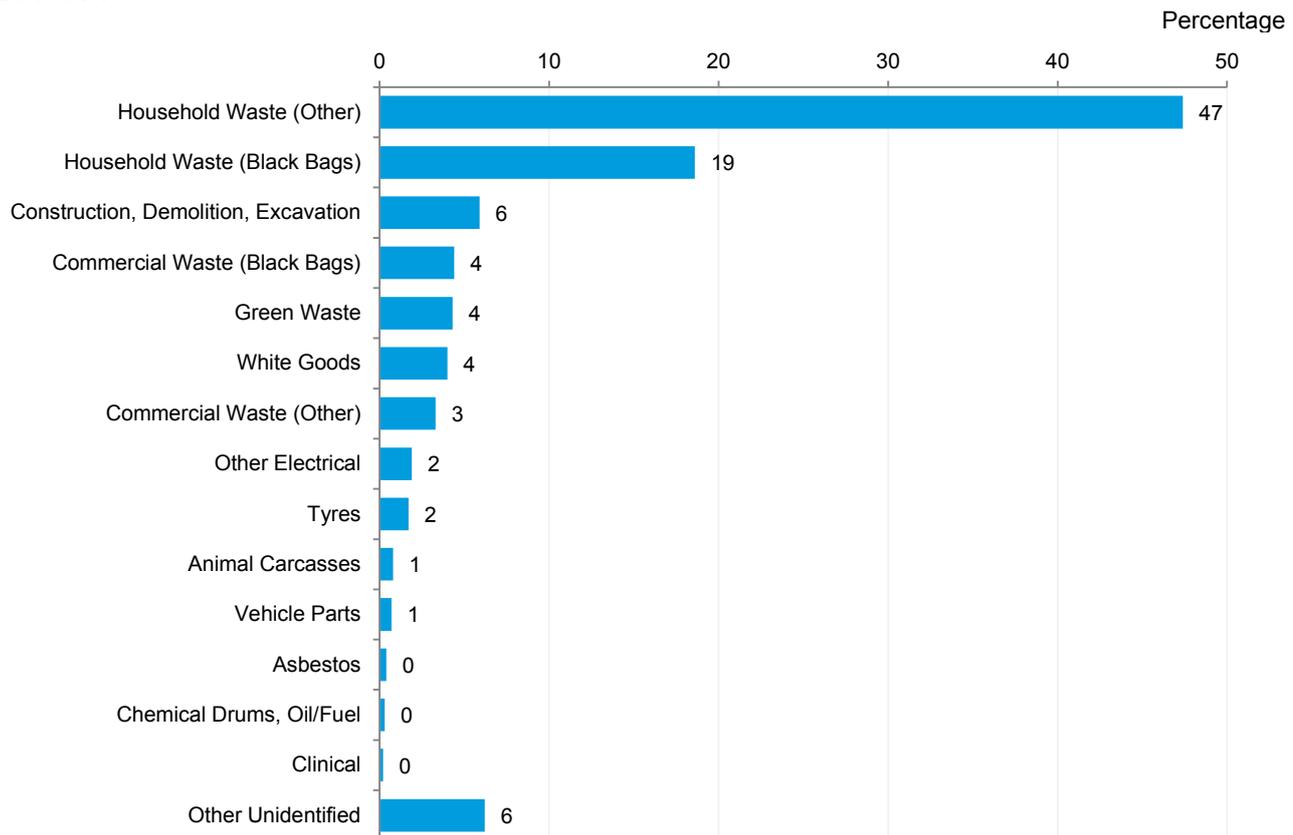
- Local Authorities dealt with 852 thousand incidents of fly-tipping in 2013/14 in England, ranging in size from single black bag to tipper lorry load.
- There was a 20 per cent increase in fly-tipping incidents in England in 2013/14 compared to 2012/13 with upward trends in most incident size categories. Single bag incidents were the only size category not to see an increase in incidents.

Notes: Some local authorities have introduced new technologies such as on-line reporting and electronic applications, along with increased training for staff – this may have accounted for some of the increase in reported incidents.

Source: Flycapture

www.gov.uk/government/statistics/fly-tipping-in-england - Figure 1

Figure 9.2: Fly-tipping incidents by type, as proportion of all incidents, England, 2013/14



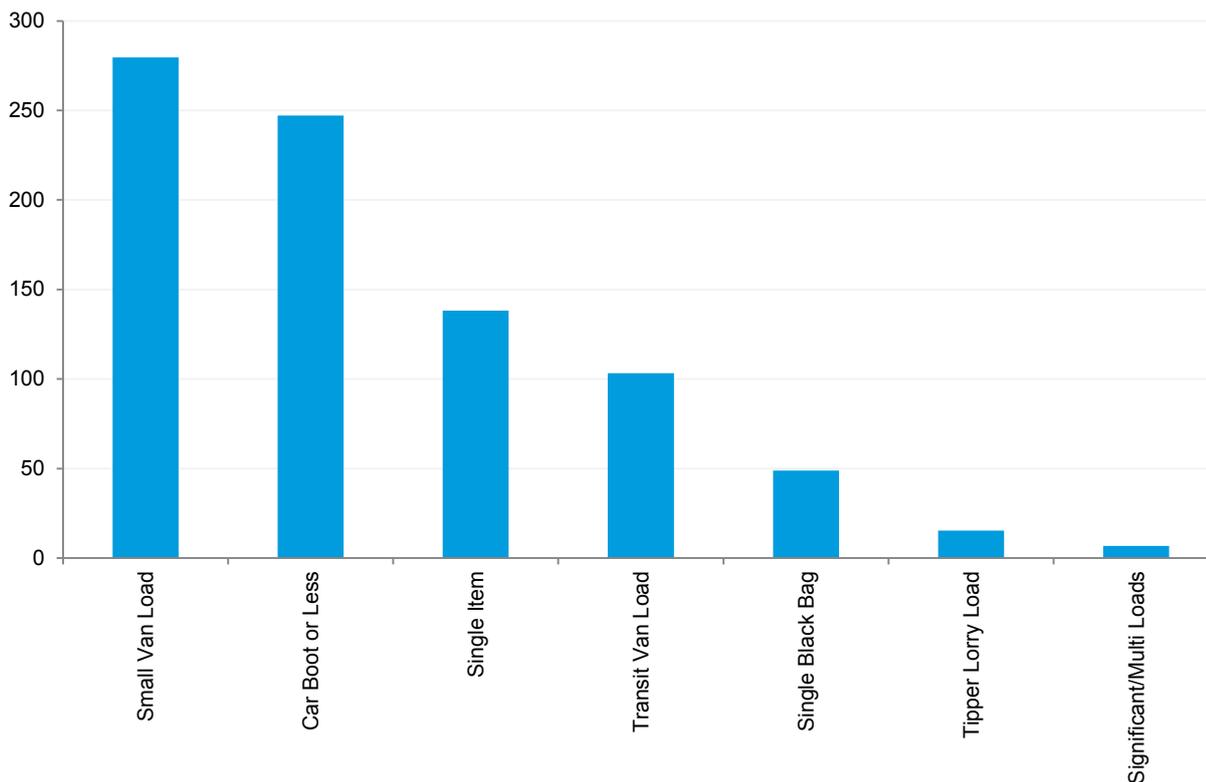
- 66 per cent of all fly-tips in England in 2013/14 were household waste. This was nearly 563 thousand incidents, one for every 39 households.
- Almost 6 per cent of fly tipping incidents (50 thousand) were of construction, demolition and excavation waste, up by almost 20 per cent from 42 thousand in 2012/13.
- Almost 8 per cent of incidents in England in 2013/14 were of commercial waste, this was a 62 per cent increase from 2012/13.

Source: Flycapture
www.gov.uk/government/statistics/fly-tipping-in-england - Figure 2



Figure 9.3: Fly-tipping incidents by size in England, 2013/14

Thousands



- 33 per cent of fly tipping incidents, (280 thousand), were small van load size.
- 16 per cent of incidents, (138 thousand), were recorded as single items, which would cover items such as furniture, mattresses etc.
- The estimated cost of clearance of fly-tipping to Local Authorities in England in 2013/14 was £45.2 million, nearly 24 per cent higher compared to 2012/13.

Source: Flycapture
www.gov.uk/government/statistics/fly-tipping-in-england - Figure 4



Section 10: EU and UK comparisons

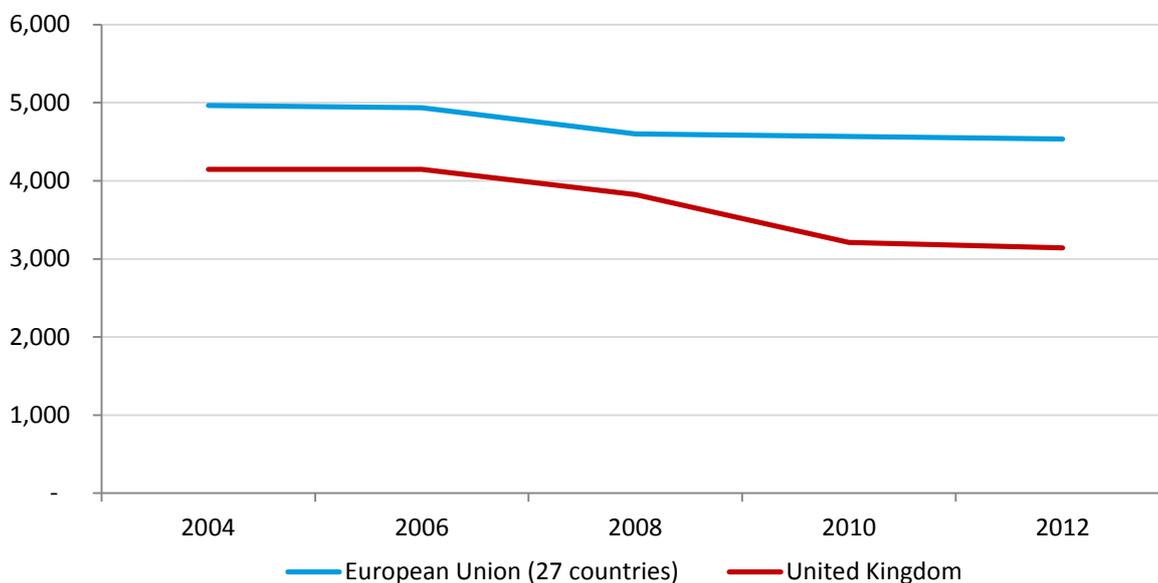
Generation of total waste per capita

Table 10.1: Generation of primary waste (Kg per capita), 2004 – 2012

Total primary waste	2004	2006	2008	2010	2012
EU-27	4,963	4,935	4,600	4,569	4,533
UK	4,146	4,148	3,822	3,210	3,140
UK as % of EU (Kg per capita)	84	84	83	70	69

Figure 10.1 Generation of primary waste (Kg per capita), 2004 – 2012

Kg per capita



- The generation of waste per capita has fallen since 2004 - from 4,146 kg per capita to 3,140 kg per capita in the UK and from 4,963 kg per capita to 4,533 kg per capita for EU-27.
- The decrease has been greater in the UK than in the EU-27 overall.
- The UK percentage of the EU-27 figure fell from 84 per cent to 69 per cent, between 2004 and 2012.

Notes: Please note that whilst figures for UK arisings are reasonably robust for all years, for years prior to 2010 there were some significant methodological differences compared to later years. Readers are advised therefore to exercise caution when drawing any observations or conclusions from looking at trends which include years prior to 2010.

Source: Eurostat

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdpc240&plugin=1>

Waste Arisings by sector

Table 10.2: Generation of waste¹ (Kg per capita), UK and EU-27, 2012

Total waste	Households	C&I	Construction	Other ¹
EU-27	427	1,012	1,638	1,456
UK	432	747	1,573	388
UK as % of EU (Kg per capita)	101	74	96	27

Figure 10.2: Waste arisings by sector¹, UK and EU-27, 2012



¹ Classifications are based on NACE Codes. Construction is defined as NACE Code F (which includes dredging). For a list of NACE codes included in C&I, see [Glossary](#) on page 82. 'Other' waste includes waste from the mining and quarrying, and agriculture, forestry and fishing sectors – defined as NACE codes A and B

- The amount of household waste per capita is similar between the UK and the EU-27 overall, with the UK percentage of the EU-27 figure being 101 per cent.
- The UK percentage of the EU-27 figure for Other waste is 27 per cent. This shows that other countries in the EU-27 have more Other waste per capita – this is both agricultural waste and mining and quarrying waste.

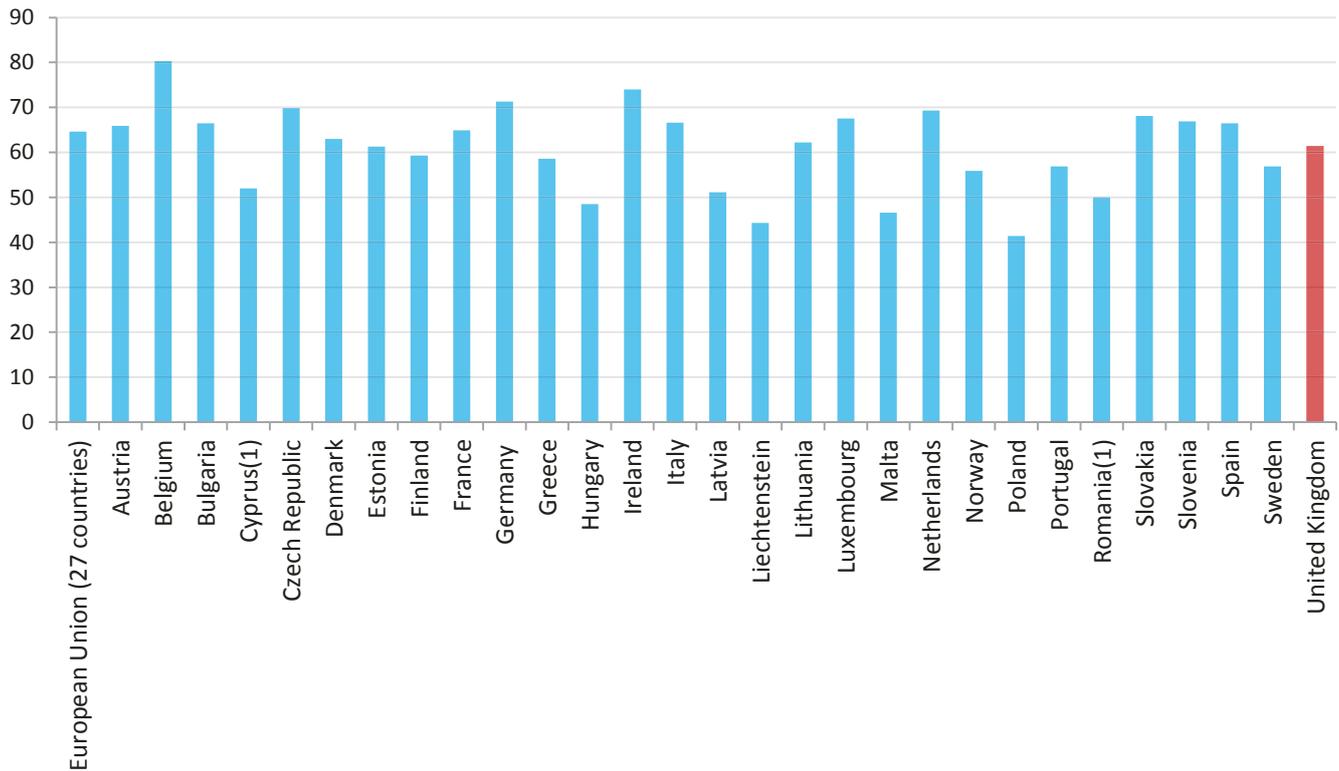
Notes: Please note that whilst figures for UK arisings are reasonably robust for all years, for years prior to 2010 there were some significant methodological differences compared to later years. Readers are advised therefore to exercise caution when drawing any observations or conclusions from looking at trends which include years prior to 2010.

Source: Eurostat

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=ten00107&plugin=1>

Recycling rate for packaging waste

Figure 10.3: Recycling rate for packaging waste, 2012

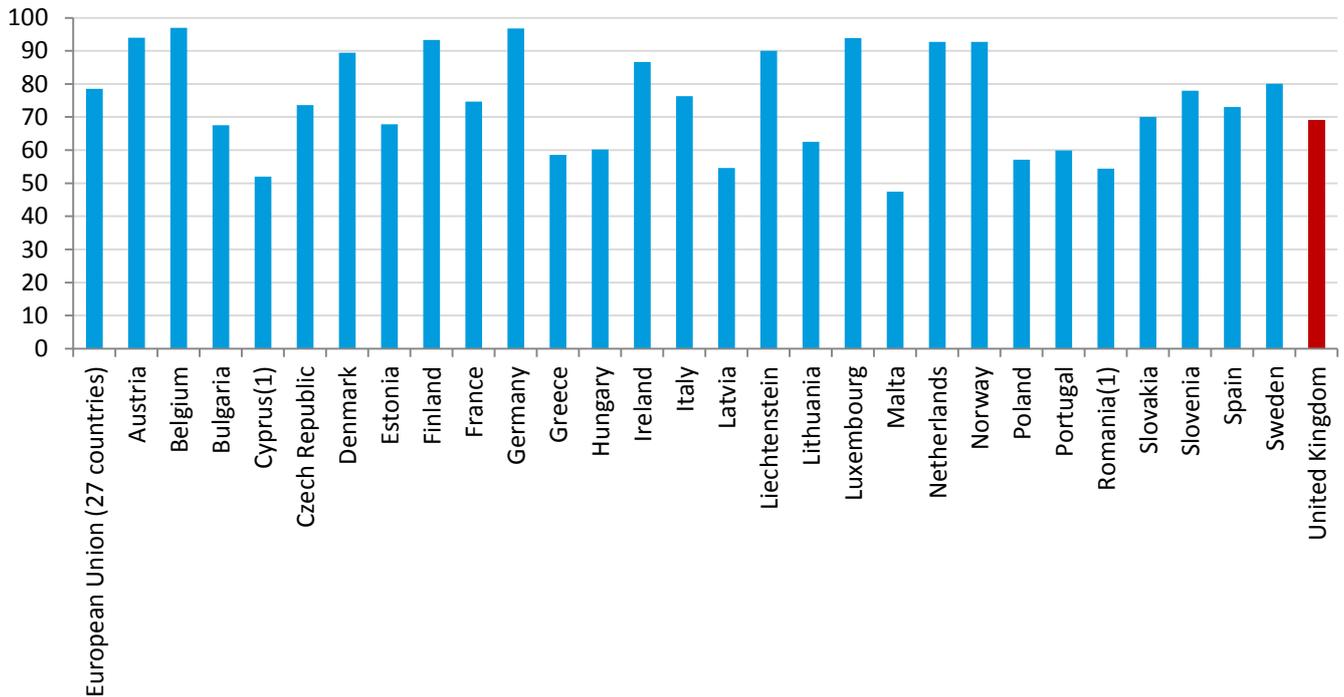


- The UK recycling rate for packaging waste in 2012 was 61.4 per cent, slightly below the EU-27 rate of 64.6 per cent.
- Belgium had the highest rate for recycling packaging waste at 80.3 per cent; with Poland have the lowest rate at 41.4 per cent.
- Figures should be treated with some caution, particularly when making comparisons across Member States, as we have not robustly verified the quality of the data from other Member States.

Source: [Eurostat](#)

Recovery rates for packaging waste

Figure 10.4: Recovery rates for packaging waste, 2012



(1) 2011 data

- The UK recovery rate for packaging waste in 2012 was 69.1 per cent, which was below the EU-27 rate of 78.5 per cent.
- Belgium had the highest rate for recovery of packaging waste at 97.0 per cent, with Malta having the lowest rate at 47.5 per cent.
- Almost all countries saw an increase in their packaging recovery rates between 2002 and 2012, except for Denmark and Liechtenstein which both have seen a slight decrease over that time period.
- Figures should be treated with some caution, particularly when making comparisons across Member States, as we have not robustly verified the quality of the data from other Member States.

Source: Eurostat

appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

Glossary

Resource terms:

DMC: **Domestic Material Consumption** is (Domestic extraction + Imports – Exports) and measures the amount of materials used in the economy, and is calculated by subtracting exports from DMI.

DMI: **Direct Material Input** is (Domestic extraction + Imports) and measures the total amount of materials that are available for use in the economy.

GDP: **Gross Domestic Product** is an integral part of the United Kingdom's (UK) National Accounts and provides a measure of the total economic activity in the country.

GVA: **Gross Value Added** is a key component of GDP -

CVM - **chained volume measures** is updated every year, meaning that, in practice, every series to be presented in real terms is estimated both in current prices and prices of the previous year (PYPs). The growth rates of the series in successive years on the same prices (for example 2006 estimated in current prices and 2007 in PYPs) are linked together in a chain of short series (known as chain-linking) to give a full real terms time series. CVMs are more responsive to major structural changes in the economy and, given the fact that the industry and product mixes of the economy are changing more rapidly now than in the past, they provide a more accurate picture of change in the economy than constant price series rebased every five years.

RMC: **Raw Material Consumption** is Domestic extraction and includes imports expressed or converted into their Raw Material Equivalents

RME: **Raw Material Equivalents** are the equivalents of domestic extraction from the rest of the world to produce the respective goods

Waste terms:

AD: **Anaerobic digestion**. This process works by bacteria, which thrive in the absence of oxygen, breaking down the bio-degradable fraction of the waste to produce a stable residue.

BMW: **Biodegradable Municipal Waste**. It is the fraction of Municipal Waste that will degrade within a landfill, giving rise to landfill gas emissions, primarily methane. It includes, amongst other materials, food waste, green waste, paper and cardboard

CH₄: **methane**. It is a colourless, odourless gas with a wide distribution in nature

C&I: Commercial and Industrial waste. This is waste from mainly manufacturing and service industries.

For this Digest – C&I waste is NACE codes:

C10 – C12: (*Manufacture of food products, beverages and tobacco products*),

C13 – C15: (*Manufacture of textiles, wearing apparel, leather and related products*)

C16: (*Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials*)

C17_C18: (*Manufacture of paper and paper products, printing and reproduction or recorded media*)

C19: (*Manufacture of coke and refined petroleum products*)

C20 – C22: (*Manufacture of chemical, pharmaceutical, rubber and plastic products*)

C23: (*Manufacture of other non-metallic mineral products*)

C24_C25: (*Manufacture of basic metals and fabricated metal products, except machinery and equipment*)

C26 - C30: (*Manufacture of computer, electronic and optical products, electrical equipment, motor vehicles and other transport equipment*)

C31 – C33: (*Manufacture of furniture, jewellery, musical instruments, toys, repair and installation or machinery and equipment*)

D: (*Electricity, gas, steam and air conditioning supply*)

E36_E37_E39: (*Water collection, treatment and supply, sewerage, remediation activities and other waste management services*)

G-U_X_G4677: (*Services (except wholesale of waste and scrap)*)

C&D: Construction and Demolition is a waste stream that is primarily received from construction sites. Some examples of C&D waste include, but are not limited to, concrete, rebar, wood, paneling, linoleum, and carpet.

For this Digest, Construction is NACE code F.

EfW: Energy from Waste. The process of creating energy in the form of electricity or heat from the incineration of waste materials

EU-27: Member States of the European Union as at 2012

EWC: European Waste Catalogue. is a hierarchical list of waste descriptions established by the European Commission. These are used by industry to record their waste activities.

Fly-tipping: - refers to dumping waste illegally instead of using an authorised method

GWh – Gigawatt-hours. It is a Unit of electrical energy equal to one billion (10^9) watt hours, which is a unit of energy equivalent to one watt (1 W) of power expended for one hour (1 h) of time

Incineration: is a waste treatment technology that involves the combustion of organic materials and substances. Incineration and other high temperature waste systems are described as "thermal treatment". Incineration of waste materials converts the waste into

incinerator bottom ash, flue gases, particulates, and heat, which can in turn be used to generate electric power.

IVC: In Vessel Composting. This can be used to treat food and garden waste mixtures. These systems ensure that composting takes place in an enclosed environment, with accurate temperature control and monitoring. There are many different systems, but they can be broadly categorised into six types: containers, silos, agitated bays, tunnels, rotating drums and enclosed halls.

KBT: Keep Britain Tidy. It is a British campaign run by the Keep Britain Tidy environmental charity.

LEQSE: Local Environmental Quality Survey of England. It is a report that tells just how clean our country is in a scientific, statistically robust way

MBT: Mechanical Biological Treatment. MBT describes a number of different processes dealing with the biological treatment of waste. It is the combination of both biological and physical processes, which can be arranged in a number of different ways

MRF: Materials Recovery Facility. Line of business where recyclable material is processed, separated, and sold. This is a facility where recyclable materials are sorted and processed for sale. This process includes separating recyclable materials (manually or by machine) according to type, and baling or otherwise preparing the separated material for sale. Operating costs and revenues for MRF's are accounted for as a separate line of business.

MSW: Municipal Solid Waste. This is "Regular" waste from non-industrial sources, such as residential homes, restaurants, retail centers, and office buildings. Typical MSW includes paper, discarded food items, and other general discards. Green waste is considered MSW and includes garden clippings, leaves, trees, etc.

NACE: the 'General Industrial Classification of Economic Activities'.
http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

OAW: Open Air Windrow. This is a composting method used for processing garden waste, such as grass cuttings, pruning and leaves in either an open air environment or within large covered areas where the material can break down in the presence of oxygen.

WEEE: Waste Electrical and Electronic Equipment Regulations. Recycling of WEEE is a specialist part of the waste and recycling industry. The Waste Electric and Electronic Equipment (WEEE) Regulations 2013 became law in the UK on the 1st of January 2014

WRAP: Waste and Resources Action Programme. This is a UK based non-profit recycling advocate

Food Waste terms

Avoidable waste: Food and drink that is thrown away untouched or opened/started but not finished (e.g. whole apples, yoghurts, half loaves of bread, unused slices of bacon etc.) or food and drink we cook or serve too much of

Possibly Avoidable waste: Food that some but not all people would eat (e.g. bread crusts) or that can be eaten when a food is prepared in one way but not in another (e.g. potato skins).

Unavoidable waste: This is elements of food that has not been edible under normal circumstances, such as bones, cores, peelings, egg shells, banana skins and tea-bags