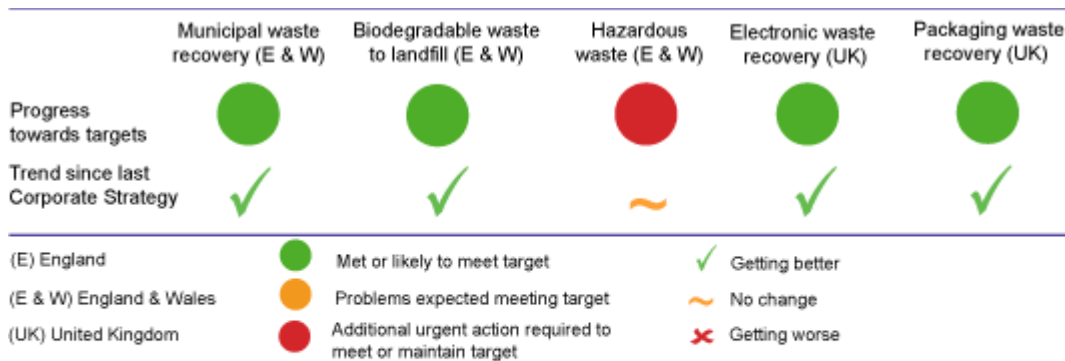


## Our corporate strategy 2010 - 2015

### Evidence: waste

See also: people and sustainable places, climate change, business

#### Where are we now?



*Progress towards waste targets and trends since our last Corporate Strategy. Indication of trends based on 2005 baseline*

#### Why do we need to act now?

The population is growing and consuming more resources. Too much is being wasted, which leads to unnecessary extraction of raw materials and presents further challenges for appropriate and safe waste management.

- More than 330 million tonnes of waste is produced in the UK each year.<sup>1</sup>
- Government targets for diverting waste from landfill means more recovery facilities are needed.
- Targets and standards are tightening, and costs of waste disposal going up. Landfill Tax for the majority of waste is proposed to increase from £40 per tonne to £48 in the Finance Bill 2009<sup>2</sup>. This may provide more incentive for illegal dumping and mismanagement of waste (such as illegal export) despite the robust action taken against illegal operators.
- There are global environmental and human health impacts associated with waste. For example, some electronic waste is dismantled in Africa and Asia where there is little or no personal protection equipment or safety measures. Components are burnt in the open to recover metals, resulting in human exposure to contaminated fly ash, and subsequent contamination of the local food, soil and surface water.<sup>3</sup>

#### The benefits of action

Reducing waste saves money, lessens the impact on the environment and the carbon footprint associated with waste (such as through treatment and disposal).

- Using and managing resources more efficiently could save the UK economy £6.4 billion every year – with most of these savings coming from energy efficiency and waste management.<sup>4</sup>
- In 2008 the total environmental costs<sup>5</sup> of waste sent to landfill and incinerators in the UK, rather than being recycled, were £211 million and £125 million respectively.<sup>6</sup>
- Collaborative work to set quality standards for waste recovery could result in 17 million tonnes of waste being diverted from landfill, 2.1 million tonnes of carbon saved and 14 million tonnes of virgin raw materials saved by 2020.<sup>7</sup> This would result in a cost saving to business of £696 million.

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incident hotline

0800 80 70 60

floodline

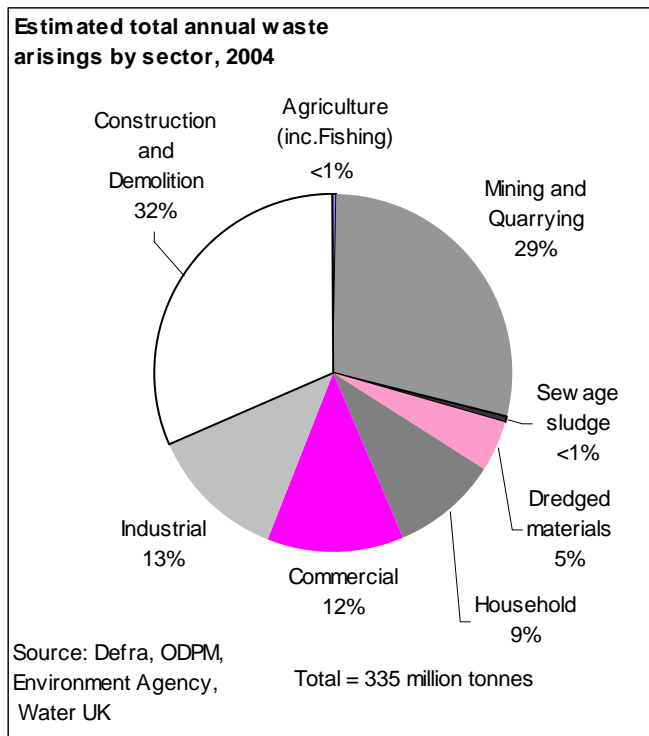
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## The source of the problem

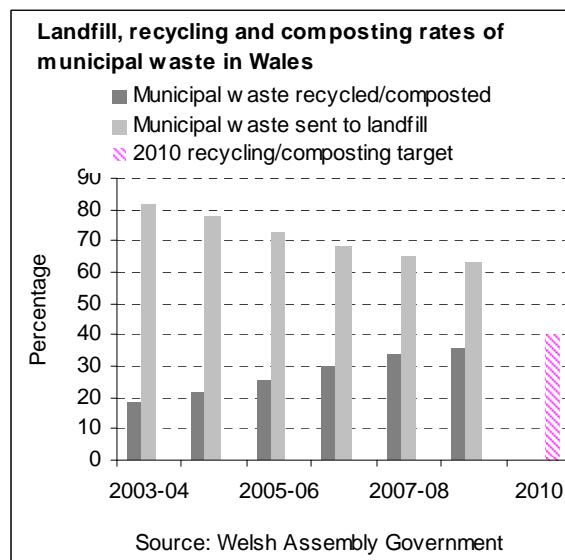
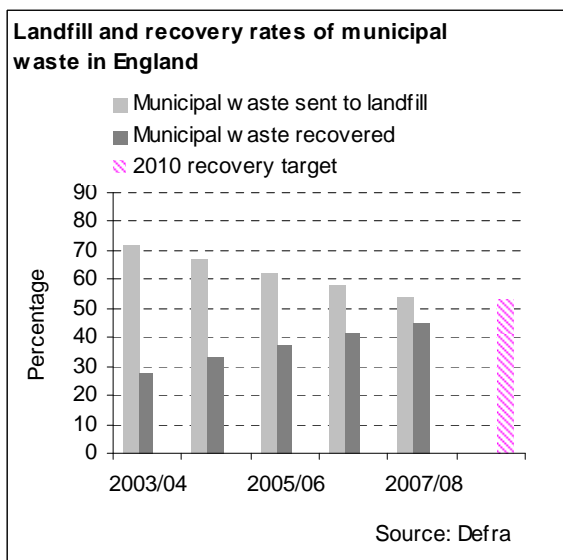
Waste comes from many sources. Significant quantities come from construction and demolition (32 per cent), mining and quarrying (29 per cent – but much of this is inert), commercial and industrial sectors (together 25 per cent), and from households (nine per cent). Less of this waste is going to landfill - down from 84 million tonnes in 2000/01 to 69 million tonnes in 2006 in England and Wales.<sup>8</sup>

## Households and Municipal Waste

Households are responsible for a significant proportion of municipal waste – about 88.7 per cent in England in 2007/08.<sup>9</sup> Municipal waste sent to landfill has accounted for a significant proportion of the reduced waste going to landfill, declining from 23.6 million tonnes in 2000-01 to 15.5 million tonnes in 2007/08<sup>10</sup> in England and Wales. This change is being driven by the Landfill Directive<sup>11</sup> – which set targets<sup>12</sup> for reducing the amount of biodegradable municipal waste sent to landfill – and national Government targets. Defra's target for England is that 53 per cent of municipal waste is recovered by 2010 (increasing to 67 per cent in 2015 and 75 per cent in 2020) - good progress is currently being made towards achieving this<sup>13</sup>. In Wales there is a target of 40 per cent for the recycling plus composting of municipal waste and good progress towards this is also being made.



More municipal waste is now re-used, recovered, recycled or used to produce energy in England, and Wales from 21.5 per cent in 2000/01 to 44.5 per cent in 2007/08.<sup>14</sup>



## Commercial and Industrial Waste

About 68 million tonnes of industrial and commercial waste was produced in England in 2002/3: 44 per cent was sent to landfill and 45 per cent recycled.<sup>15</sup> Wales produced 5.3 million tonnes of industrial and commercial waste in 2002/03, of which 28 per cent went to landfill and 62 per cent was recycled.<sup>16</sup>

The amount of commercial and industrial waste being sent to landfill fell by 23 per cent between 2000/01 and 2006 (based on the volume of non-municipal non-inert waste to landfill).<sup>17</sup> In Wales in 2007, 3.6 million tonnes of commercial and industrial waste was produced, of which 31.3 per cent was mixed waste. A total of 39 per cent was landfilled and 38 per cent recycled.<sup>18</sup>

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**Construction and Demolition Waste**

Approximately 100 million tonnes are produced in England<sup>19</sup> and Wales<sup>20</sup> every year. Much of this inert waste is already reprocessed into aggregate, but there is still the potential to reprocess more.

**Specific Wastes of Concern**

Specific types of wastes identified as having greatest potential impact on the environment<sup>21</sup> because of the amount and type of material produced or the way they are managed include biodegradable waste, construction and demolition waste (see above), problematic waste (mainly odour), hazardous waste, electrical and electronic equipment waste and mixed wastes.

**Biodegradable waste**

Biodegradable wastes include food waste, sewage sludge, manures and slurries. More than 100 million tonnes of organic wastes are produced each year in the UK, most of which is recycled by spreading on to land.<sup>22</sup> Biodegradable wastes sent to landfill generate methane gas – which has more than 20 times more Global Warming Potential (GWP) than CO<sub>2</sub>.<sup>23</sup> In 2007 landfills accounted for 41 per cent of UK methane releases, emitting one million tonnes into the atmosphere.<sup>24</sup> This constitutes about three per cent of the UK's GWP.<sup>25</sup>

The amount of biodegradable waste sent to landfill in England has decreased since 2005/06 from 13.2 million tonnes to 11.3 million tonnes in 2007/08, with a target of 11.9 million tonnes in 2010 set by the EC Directive on the Landfill of Waste (1999/31/EC). The Landfill Allowance and Trading Scheme (LATS) sets a limit on the amount of biodegradable municipal waste that each unitary and waste disposal authority in England can send to landfill.<sup>26</sup> In Wales, the Landfill Allowances Scheme is used to limit the amount of biodegradable municipal waste that is put in landfill.<sup>27</sup>

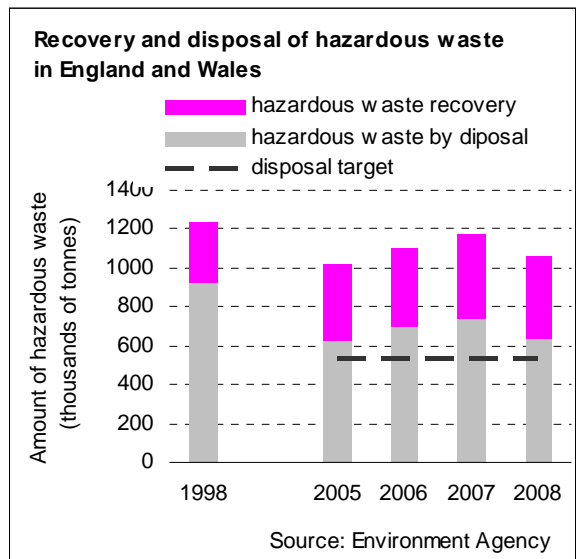
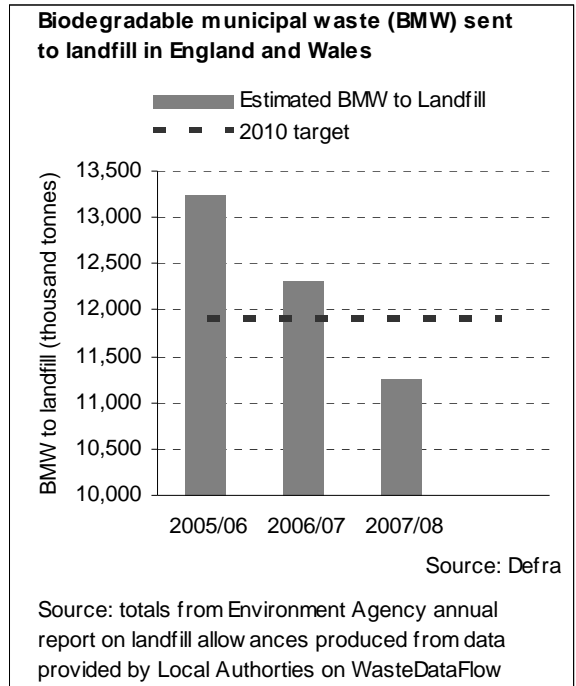
**Hazardous waste**

Hazardous waste sent for disposal and recovery in England and Wales in 2008 totalled about 6.6 million tonnes.<sup>28</sup> Significant sources of hazardous waste are organic chemical processes, construction and demolition (mainly from contaminated land remediation) and oil/oil-water mixtures.<sup>29</sup>

More than one million tonnes of hazardous waste were produced by industrial sites the Environment Agency regulates in 2008. Nearly half of this came from the chemicals sector.<sup>30</sup> The Environment Agency has a target of reducing hazardous waste disposal to 533,000 tonnes per year. Progress towards this target is fairly static to date, and has been difficult to assess.<sup>31</sup>

**Electrical and Electronic Equipment Waste**

Manufacturers and importers placed at least 1.74m tonnes of electrical and electronic products on the UK market in 2008.<sup>32</sup> These products will eventually become waste. Some will require specialist treatment in order to remove hazardous components. The Waste Electrical and Electronic Equipment (WEEE) Directive has set a collection target of 4kg per person to promote the re-use and recycling of this type of waste, and reduce the amount that ends up in landfill. In 2008 this target was exceeded and interim results for 2009 look even better.



### Mixed Waste

These are important because it is difficult to separate out the useful components, and properly control any hazardous components. About one third of the waste from commercial and industrial organisations is mixed.<sup>33</sup>

### Waste Crime

The management and control of illegal waste disposal is of further concern.

- In 2008 there were nearly 1.2 million fly-tipping incidents in England and Wales. This is a reduction of 55 per cent since 2006. The vast majority of incidents are tipping of household waste.<sup>34</sup>
- There were 804 illegal waste sites in England and Wales in 2008/09.<sup>35</sup> This is an improvement since 2006/07 when 906 illegal waste sites were recorded, but there is no clear longer-term trend.

### Successes

The Environment Agency has a responsibility to promote resource efficiency in major industrial processes (at about 2,900 industrial sites). Regulated companies have reduced the amount of waste they produce by 14 per cent since 2005 (see Business section for more information). For example, companies who package their products report to us under the producer responsibility regulations. Packaging waste recovery has improved, and the Packaging and Packaging Waste Directive (94/62/EC) target of 60 per cent recovery by 2008<sup>36</sup> has been met and exceeded. The 6.6 million tonnes of packaging diverted from landfill between 1997 and 2008 has also meant that the UK has prevented the emission of over 8.9 million tonnes of CO<sub>2</sub> equivalent.<sup>37</sup>

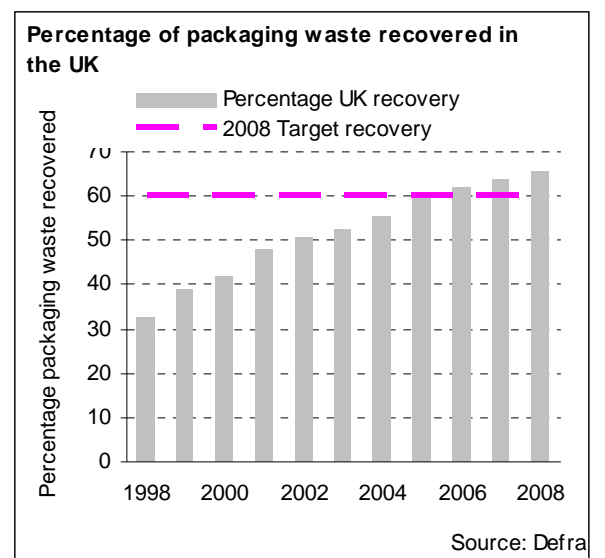
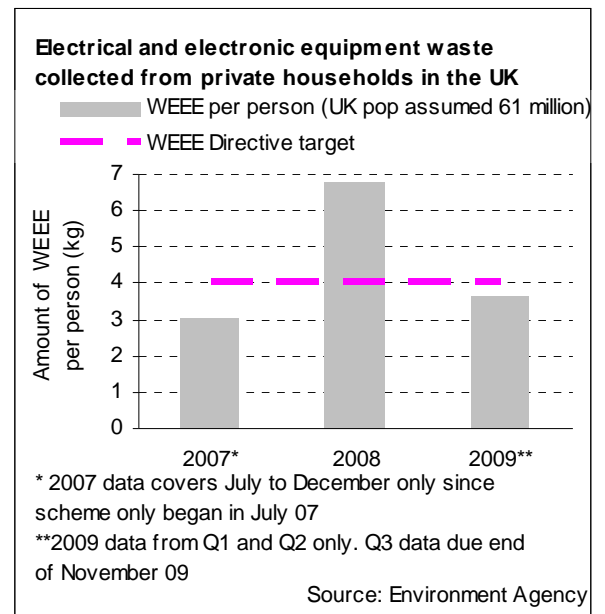
The Environment Agency also regulates operations at 7300 waste management sites, around 80,000 waste carriers and brokers and 340,000 low risk waste activities. This includes registration schemes for manufacturers of packaging, batteries and electrical equipment. Many of our waste management and resource efficiency aims and responsibilities are shared with partner organisations, including national and local government and WRAP/WRAP Cymru.

The Environment Agency is concentrating on reducing 'big, bad and nasty' waste crime (incidents that are large, hazardous and/or linked to organised illegal activity). This has gone down from 461 in 2005/06 to 244 in 2008/09.<sup>38</sup> We also dealt with 676 illegal waste dumping incidents in 2008/09 and brought 169 prosecutions.<sup>39</sup>

### Our response: the future

Our corporate strategy describes aims are that:

- businesses and other organisations know what the most sustainable options are for managing waste and using resources wisely.
- the right waste and resource management infrastructure is in place.
- businesses and other organisations are resource efficient, minimise pollution and manage their waste responsibly.



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- <sup>1</sup> Defra e-digest statistics recycling and waste, total annual waste arising statistics > The environment > Waste and recycling  
[www.defra.gov.uk/evidence/statistics/environment/waste/wrtotalwaste.htm](http://www.defra.gov.uk/evidence/statistics/environment/waste/wrtotalwaste.htm)
- <sup>2</sup> HM Revenue and Customs, Budget, [www.hmrc.gov.uk/budget2009/bn78.pdf](http://www.hmrc.gov.uk/budget2009/bn78.pdf)
- <sup>3</sup> EEA Signals 2009 Key Environmental Issues Facing Europe [www.eea.europa.eu/publications/signals-2009](http://www.eea.europa.eu/publications/signals-2009)
- <sup>4</sup> Defra, 2007. Quantification of the business benefits of resource efficiency. Available at  
[randd.defra.gov.uk/Document.aspx?Document=EV02036\\_6754\\_FRP.pdf](http://randd.defra.gov.uk/Document.aspx?Document=EV02036_6754_FRP.pdf)
- <sup>5</sup> Environment costs cover impacts associated with GHGs, air pollutants (such as health impacts), leachate to soil and water and disamenity effects of the facilities to deal with waste (e.g. visual effects, noise, smell and litter)
- <sup>6</sup> calculations based on waste statistics ([www.defra.gov.uk/evidence/statistics/environment/wastats/bulletin09qtr.htm](http://www.defra.gov.uk/evidence/statistics/environment/wastats/bulletin09qtr.htm)) and COWI (2000) A study on the Economic Valuation of Environmental Externalities from Landfill Disposal and Incineration of Waste, European Commission. DG Environment.
- <sup>7</sup> Environment Agency waste protocols project  
[www.environment-agency.gov.uk/business/topics/waste/32154.aspx](http://www.environment-agency.gov.uk/business/topics/waste/32154.aspx)
- <sup>8</sup> Landfill figures for England and Wales. Environment Agency – Landfill deposit trends 1988/89 - -2006. [www.environment-agency.gov.uk/research/library/data/34187.aspx](http://www.environment-agency.gov.uk/research/library/data/34187.aspx)
- <sup>9</sup> Defra > News > News releases 2008 > current news release  
[www.defra.gov.uk/news/2008/081106a.htm](http://www.defra.gov.uk/news/2008/081106a.htm)
- <sup>10</sup> Defra – Municipal Waste Management Statistics. Home > About Defra > Science, economics & statistics > Statistics > The environment > Municipal waste [www.defra.gov.uk/evidence/statistics/environment/wastats/bulletin08.htm](http://www.defra.gov.uk/evidence/statistics/environment/wastats/bulletin08.htm)
- <sup>11</sup> Report From The Commission To The Council And The European Parliament Brussels, 30.03.2005  
 COM(2005) 105 final  
[eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0105:FIN:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0105:FIN:EN:PDF)
- <sup>12</sup> Defra Waste Strategy 2007, Landfill Directive information  
[www.defra.gov.uk/environment/waste/strategy/legislation/landfill/documents/landfilldir.pdf](http://www.defra.gov.uk/environment/waste/strategy/legislation/landfill/documents/landfilldir.pdf)
- <sup>13</sup> Defra Strategy Annual Progress Report 2007/08  
[www.defra.gov.uk/environment/waste/strategy/strategy07/documents/waste-strategy-report-07-08.pdf](http://www.defra.gov.uk/environment/waste/strategy/strategy07/documents/waste-strategy-report-07-08.pdf)
- <sup>14</sup> Defra – Municipal Waste Management Statistics. Home > About Defra > Science, economics & statistics > Statistics > The environment > Municipal waste [www.defra.gov.uk/evidence/statistics/environment/wastats/bulletin08.htm](http://www.defra.gov.uk/evidence/statistics/environment/wastats/bulletin08.htm)  
 Statistics Wales - Municipal Waste Management Report for Wales, 2007-08 – Revised  
[wales.gov.uk/docs/statistics/2009/090522sdr1772008ren.pdf?lang=en](http://wales.gov.uk/docs/statistics/2009/090522sdr1772008ren.pdf?lang=en)
- <sup>15</sup> Defra - Industrial and Commercial Waste Home > About Defra > Science, economics & statistics > Statistics > The environment > Waste and recycling [www.defra.gov.uk/evidence/statistics/environment/waste/wrindustry.htm](http://www.defra.gov.uk/evidence/statistics/environment/waste/wrindustry.htm)
- <sup>16</sup> Environment Agency - Commercial & Industrial Waste in Wales 2002-3  
[www.environment-agency.gov.uk/research/library/publications/103522.aspx](http://www.environment-agency.gov.uk/research/library/publications/103522.aspx)
- <sup>17</sup> Defra - Waste Strategy Annual Progress Report 2007/08 <http://www.defra.gov.uk/environment/waste/strategy/strategy07/index.htm>
- <sup>18</sup> Environment Agency Survey of Industrial and Commercial Waste Arisings in Wales 2007  
[www.environment-agency.gov.uk/static/documents/Research/Survey\\_of\\_Industrial\\_and\\_Commercial\\_Waste\\_Arisings\\_in\\_Wales\\_2007.pdf](http://www.environment-agency.gov.uk/static/documents/Research/Survey_of_Industrial_and_Commercial_Waste_Arisings_in_Wales_2007.pdf)
- <sup>19</sup> Defra Waste Statistics  
[www.defra.gov.uk/evidence/statistics/environment/waste/kf/wrkf09.htm](http://www.defra.gov.uk/evidence/statistics/environment/waste/kf/wrkf09.htm)
- <sup>20</sup> Defra Waste Statistics  
[www.defra.gov.uk/evidence/statistics/environment/waste/kf/wrkf09.htm](http://www.defra.gov.uk/evidence/statistics/environment/waste/kf/wrkf09.htm)
- <sup>21</sup> Either because of the nature of the waste or how the waste is currently managed
- <sup>22</sup> Report by ADAS to the Environment Agency, "Review of Published Information Sources on Organic Resource Volumes" November 2007
- <sup>23</sup> 'Methane is over 20 times more effective in trapping heat in the atmosphere than carbon dioxide (CO<sub>2</sub>) over a 100-year period' - US EPA.  
[www.epa.gov/methane/](http://www.epa.gov/methane/)
- <sup>24</sup> Defra 2009. e-Digest statistics about: Climate Change Home > About Defra > Science, economics & statistics > Statistics > The environment > Climate change <http://www.defra.gov.uk/evidence/statistics/environment/globalatmos/alltables.htm>
- <sup>25</sup> Defra Waste Strategy 2007  
<http://www.defra.gov.uk/environment/waste/strategy/strategy07/documents/waste07-strategy.pdf>
- <sup>26</sup> Environment Agency Landfill Allowances and Trading Scheme  
[www.environment-agency.gov.uk/business/topics/waste/32130.aspx](http://www.environment-agency.gov.uk/business/topics/waste/32130.aspx)
- <sup>27</sup> The Welsh Assembly Government  
[wales.gov.uk/topics/environmentcountryside/epq/waste\\_recycling/Landfill\\_allowances\\_scheme?lang=en](http://wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/Landfill_allowances_scheme?lang=en)
- <sup>28</sup> Environment Agency website statistics on waste  
[www.environment-agency.gov.uk/research/library/data/97801.aspx](http://www.environment-agency.gov.uk/research/library/data/97801.aspx)
- <sup>29</sup> Environmental Agency data  
[www.environment-agency.gov.uk/research/library/data/58715.aspx](http://www.environment-agency.gov.uk/research/library/data/58715.aspx)
- <sup>30</sup> Environment Agency pollution inventory data, 2008
- <sup>31</sup> The 2005 data is unreliable (a new hazardous waste management system and database were introduced to coincide with the new Hazardous Waste Regulations), and because the increase between 2004 and 2006 was largely due to a single waste treatment plant on Teeside where the liquid waste was previously a consented discharge, but is now treated.
- <sup>32</sup> Reported under the WEEE Directive. For more information on the WEEE Directive  
[www.environment-agency.gov.uk/business/regulation/31975.aspx](http://www.environment-agency.gov.uk/business/regulation/31975.aspx)
- <sup>33</sup> Information provided in the 2002/03 waste survey Defra>Science, economics& statistics > Statistics >The Environment>Waste and recycling > Industrial and commercial waste <http://www.defra.gov.uk/evidence/statistics/environment/waste/wrindustry.htm>
- <sup>34</sup> Environment Agency waste data, Flycapture 2008.
- <sup>35</sup> Environment Agency data, National Incident Recording System
- <sup>36</sup> Europa > summaries of EU legislation > Environment > Waste management  
[europa.eu/legislation\\_summaries/environment/waste\\_management/121207\\_en.htm](http://europa.eu/legislation_summaries/environment/waste_management/121207_en.htm)
- <sup>37</sup> Defra - Making the most of packaging A strategy for a low-carbon economy. Home > The environment > Waste and recycling > Producer responsibility > Packaging Packaging Strategy  
 (see Annex D  
[www.defra.gov.uk/environment/waste/producer/packaging/targets.htm](http://www.defra.gov.uk/environment/waste/producer/packaging/targets.htm)

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<sup>38</sup> Environment Agency corporate scorecard

<sup>39</sup> Defra, Flytipping national database FlyCapture, 2008-09 data  
[www.defra.gov.uk/environment/quality/local/flytipping/flycapture-data.htm](http://www.defra.gov.uk/environment/quality/local/flytipping/flycapture-data.htm)

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