Waste Strategy for England 2007

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Front cover images:
Waste needs to be reduced, re-used and recycled at home, work, school and leisure.
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Waste Strategy for England 2007

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Application of this strategy

This waste strategy and its Annexes, together with Planning Policy Statement 10 *Planning for Sustainable Waste Management* (PPS10) is part of the implementation for England of the requirements within the Framework Directive on Waste[1], and associated Directives[2], to produce waste management plans. These are the national level documents of a tiered system of waste planning in England, which together satisfies the requirements of the various Directives. At regional level there are Regional Spatial Strategies (RSSs), and at local level, development plan documents[3].

The requirement for waste management plans in these directives is partly transposed by section 44A of the Environmental Protection Act 1990 (inserted by the Environment Act 1995). Section 44A requires the Secretary of State to produce, and modify from time to time, a national waste strategy in respect of England.

This strategy (and its Annexes) is also a strategy for dealing with waste diverted from landfill in England, as required by the Landfill Directive.[4]

There is a particular requirement in the Waste Framework Directive for the waste management plan to identify suitable disposal sites or installations. PPS10 sets out relevant national policies for waste management facilities, including location criteria to inform local planning policy and planning decisions. Local planning authorities in England are reminded of their obligation under the Waste Management Licensing Regulations 1994[5] to produce detailed policies in respect of suitable disposal sites or installations for waste management purposes when producing local development documents, and also their obligation to have regard to national policies and to this strategy. PPS10 provides that local planning authorities should, among other things, identify in development plan documents sites and areas suitable for new or enhanced waste management facilities for the waste management needs of their areas, and, in particular, allocate sites to support the pattern of waste management facilities set out in the RSS (in accordance with the broad locations identified in the RSS).

This White Paper replaces the previous waste strategy for England (*Waste Strategy 2000*).

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[1] This strategy describes the current policy on waste management in England. As such, it is a waste management plan under Council Directive 75/442/EEC as amended by Council Directive 91/156/EEC and adapted by Council Directive 96/350/EC (known as the Framework Directive on Waste).

[2] Council Directive 91/689/EEC (the Hazardous Waste Directive), and the European Parliament and Council Directive 94/62/EC (the Packaging Waste Directive).

[3] These include any local policies which have been 'saved' during the transitional period between the old system of unitary development plans, structure plans and local plans and the new system of local development documents.

[4] 1999/31/EC, known as the Landfill Directive.

[5] S.I. 1994/1056; see in particular paragraph 7 of Schedule 4 to the Regulations.

Foreword by Ben Bradshaw

Minister for Waste

There are important changes underway in the way we deal with waste. We can see this in several different ways.

First, we are making significant progress in diverting waste from landfill and in increasing our recycling rates. Second, public environmental consciousness is rising – in particular concern about the serious risk of dangerous climate change.

Third, it has become quite clear that we have to raise our sights on waste policy by making faster progress in landfill diversion and recycling so as to reach the levels achieved by many of our European neighbours and by putting more emphasis on the linkages between waste and other policies and in engaging a wider range of players.

That means taking account of waste in our broader carbon and resource policies, in our approach to sustainable consumption and production and to Government procurement policies. It means engaging more actively with people and organisations in production, retailing, education and many more sectors.

It also means putting more emphasis on waste prevention and re-use; and it means motivating individuals and businesses to appreciate the environmental and economic benefits from waste reduction and in obtaining value out of what might previously have been seen as useless waste material.

Finally, these ambitions will not be achieved without bringing into play a new range of policy instruments and tools. This includes better price mechanisms; smarter, more focused regulation; and voluntary agreements based around priority materials, products and sectors.

This strategy shows how we intend to make these themes central to our future direction on waste policy.

In compiling the strategy we have greatly benefited from the responses to the consultation which we launched a year ago. There was a broad welcome for the direction we set out then, especially in proposing a more holistic approach to waste.

This is a strategy for the whole community, not just for Government. We need to generate and maintain the desire to take responsible action on waste, in which we share a sense that what we do to reduce or better manage waste – as designers, as producers, as retailers, as purchasers, as consumers – will make a real difference to things we care about. Different people and different organisations in different parts of the country will play their part in different ways reflecting different circumstances and that is a good thing.

No strategy can stand still. Alongside our plans to deliver what we set out here, we will continue to develop and adapt our approach to take account of new thinking, new evidence and new approaches.

This evolution in our approach will require close collaboration with a wide range of people and organisations outside Government, as well as delivery bodies whose contribution is central to achieving our ambitions, such as the Environment Agency, the Waste and Resources Action Programme, local authorities and many more.

In this spirit of a shared enterprise, I am delighted to be publishing this waste strategy.

Ben Bradshaw

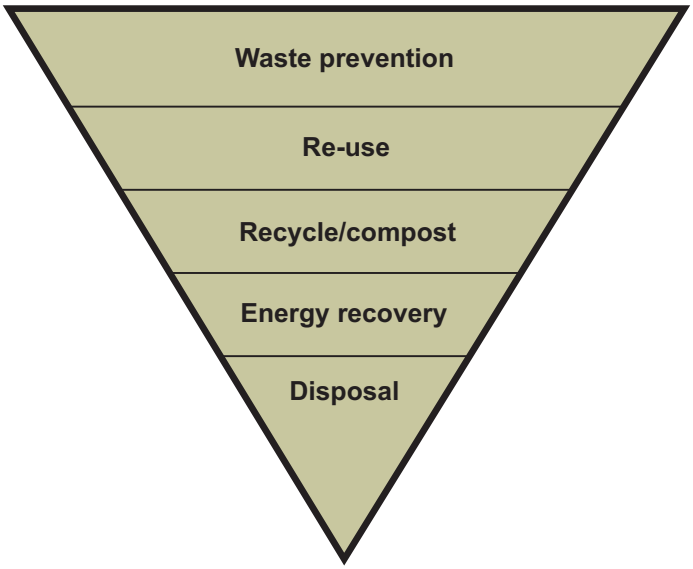
Aim

i. As a society, we are consuming natural resources at an unsustainable rate. If every country consumed natural resources at the rate the UK does, we would need three planets to live on. The most crucial threat is from dangerous climate change. Our goal is to make the transition towards what the WWF and BioRegional call 'One Planet Living'.

ii. Reducing waste is an important contributor to this goal. Each year, we generate about 100 million tonnes of waste from households, commerce and industry. Most of this ends up in landfill where the biodegradable part generates methane (a potent greenhouse gas) while valuable energy is used in extracting and processing new raw materials.

iii. Our aim must be to reduce waste by making products with fewer natural resources. We must break the link between economic growth and waste growth. Most products should be re-used or their materials recycled. Energy should be recovered from other wastes where possible. For a small amount of residual material, landfill will be necessary.

The waste hierarchy



iv. The dividends of applying the waste hierarchy will not just be environmental. We can save money by making products with fewer natural resources, and we can reduce the costs of waste treatment and disposal. Waste is a drag on the economy and business productivity. Improving the productivity with which we use natural resources can generate new opportunities and jobs.

Progress so far

v. Since the waste strategy in 2000, England has made significant progress. Recycling and composting of waste has nearly quadrupled since 1996-97, achieving 27% in 2005-06. The recycling of packaging waste has increased from 27% to 56% since 1998. Less waste is being landfilled, with a 9% fall between 2000-01 and 2004-05. Waste growth is also being reduced with municipal waste growing much less quickly than the economy at 0.5% per year.

vi. This progress has been driven by significant changes in policy. The landfill tax escalator and the introduction of the Landfill Allowance Trading Scheme (LATS) has created sharp incentives to divert waste from landfill. Additional funding for local authorities, including through the private finance initiative, has led to a major increase in kerbside recycling facilities and new waste treatment facilities. European directives are targeting sectors, including vehicles, electrical and electronic equipment and packaging. New delivery arrangements have helped to drive the strategy, including the Waste Implementation Programme (WIP), the Waste and Resources Action Programme (WRAP) and the Business Resource Efficiency and Waste (BREW) programme.

Vision – producer and consumer responsibility

vii. Despite major progress since 2000, England's performance on waste still lags behind many European countries. All parts of society will have to share responsibility:

- **producers** will have to make products using more recycled materials and less newly extracted raw materials. They will have to design products that are less wasteful and take responsibility for the environmental impact of their products throughout their life;
- **retailers** will have to reduce packaging, source and market products that are less wasteful, and help their consumers to be less wasteful;
- **consumers** – both business and individual households – will have the opportunity to reduce their own waste, purchase products and services that generate less waste and reduce environmental impacts, and separate their waste for recycling;
- **local authorities** will have to commission or provide convenient recycling services for their residents and commercial customers and advice and information on how to reduce waste. They will also have to work with their communities to plan and invest in new collection and reprocessing facilities; and
- **the waste management industry** will have to invest in facilities to recycle and recover waste, and provide convenient waste services to their customers to recycle and recover their waste.

Strategy

viii. The role of central government is to enable each part of society to take responsibility, and show leadership through reducing its own waste. This new strategy builds on Waste Strategy 2000 (WS2000) and the progress since then but aims for greater ambition by addressing the key challenges for the future through additional steps.

Objectives and targets

ix. The Government's key objectives are to:

- decouple waste growth (in all sectors) from economic growth and put more emphasis on waste **prevention and re-use**;
- meet and exceed the **Landfill Directive diversion targets** for biodegradable municipal waste in 2010, 2013 and 2020;
- increase diversion from landfill of **non-municipal waste** and secure better integration of treatment for municipal and non-municipal waste;
- secure the **investment in infrastructure** needed to divert waste from landfill and for the management of hazardous waste; and
- get the most environmental benefit from that investment, through increased **recycling of resources and recovery of energy** from residual waste using a mix of technologies.

x. The overall impact of this strategy is expected to be an annual net reduction in global greenhouse gas emissions from waste management of at least **9.3 million tonnes of carbon dioxide equivalent per year compared to 2006 (equivalent to annual use of around 3 million cars)**. The additional greenhouse gas emissions reductions result from an increase in diversion of waste from landfill of around 25 million tonnes of waste per annum. These benefits will be further boosted by significant extra greenhouse gas benefits from the waste prevention measures in the strategy.

xi. A greater focus on waste prevention will be recognised through **a new target to reduce the amount of household waste not re-used, recycled or composted** from over 22.2 million tonnes in 2000 by **29% to 15.8 million tonnes in 2010 with an aspiration to reduce it to 12.2 million tonnes in 2020 – a reduction of 45%**. This is equivalent to a fall of 50% per person (from 450 kg per person in 2000 to 225 kg in 2020).

xii. Higher national targets than in 2000 have been set for:

- **recycling and composting of household waste** – at least 40% by 2010, 45% by 2015 and 50% by 2020; and
- **recovery of municipal waste** – 53% by 2010, 67% by 2015 and 75% by 2020.

xiii. Because **lower levels of waste growth** are expected than when the consultation document was published, meeting these targets implies lower levels of residual waste than were previously assumed. The Government will review the targets for 2015 and 2020 in the light of progress to 2010 and future forecasts, to see if they can be even more ambitious.

xiv. The Government will shortly be setting a new national target for the reduction of commercial and industrial waste going to landfill. On the basis of the policies set out in *Waste Strategy for England 2007*, levels of **commercial and industrial waste landfilled are expected to fall by 20% by 2010 compared to 2004**. The Government is considering, in conjunction with the construction industry, a target to halve the amount of **construction, demolition and excavation** wastes going to landfill by 2012 as a result of waste reduction, re-use and recycling.

Key proposals for action

xv. The main elements of the new strategy are to:

- incentivise efforts to reduce, re-use, recycle waste and recover energy from waste;
- reform regulation to drive the reduction of waste and diversion from landfill while reducing costs to compliant businesses and the regulator;
- target action on materials, products and sectors with the greatest scope for improving environmental and economic outcomes;
- stimulate investment in collection, recycling and recovery infrastructure, and markets for recovered materials that will maximise the value of materials and energy recovered; and
- improve national, regional and local governance, with a clearer performance and institutional framework to deliver better coordinated action and services on the ground.

Incentives

xvi. The aim is to create incentives that reflect the waste hierarchy and create opportunities for the reduction, re-use, and recycling of waste, and recovery of energy from waste. The Government is therefore:

- increasing the **landfill tax escalator** so that the standard rate of tax will increase by £8 per year from 2008 until at least 2010/2011 to give greater financial incentives to businesses to reduce, re-use and recycle waste (from £24 now to £48 in 2010);
- consulting on removing the ban on local authorities introducing **household financial incentives for waste reduction and recycling**, through early legislative change. **Local government** would be free to introduce schemes where householders who recycle their waste receive payments funded by householders who do not recycle. All schemes would have to be revenue neutral. Schemes would not result in any overall increase in costs. The behaviour change created by the schemes would reduce the amount of waste to be disposed of, generating cost savings. Removing the ban would bring England in line with most other European countries and could reduce the amount of annual residual waste landfilled by up to 15% – equivalent to 1.5 million tonnes or 130kg per household; and
- introducing **enhanced capital allowances** for investment involving the use of secondary recovered fuel (SRF) for combined heat and power facilities.

Effective regulation

xvii. Regulation plays a crucial role in ensuring sound environmental and public health protection. It can also provide the right context for encouraging resource efficiency by business within a competitive environment. But it can cost business time and money.

xviii. The Government is therefore simplifying the regulatory system, making it more proportionate and risk based, through **waste protocols** that clarify when waste ceases to be waste (and so not subject to regulation); reforms of the permitting and exemption systems and the controls on handling, transfer and transport of waste, (with cost savings to business and regulator of, e.g. on permitting, at least £90 million); and better and earlier communication with all stakeholders.

xix. Several other EU Member States have found that imposing legal restrictions on the types of waste that can be landfilled has encouraged higher rates of recycling and recovery. **We intend, subject to further analysis, to consult on whether the introduction of further restrictions on the landfilling of biodegradable wastes or recyclable materials** would make an effective contribution to meeting the objectives set out in this strategy, to reduce greenhouse gas emissions and increase resource efficiency. This consultation will be linked to the work on priority waste materials set out below.

xx. Regulation only achieves its aims to the extent to which it is complied with, so effective **action on flytipping and on illegal dumping abroad** is essential. The Government is addressing this through prevention, more effective risk-based enforcement, strengthened export controls, data improvements and encouraging the courts to take illegal waste activities seriously.

Targeting action on materials, products and sectors

xxi. Waste is a mix of very different products and materials. So we need to target action on where we can achieve the greatest improvement in environmental and economic outcomes. We have identified **key waste materials** where diversion from landfill could realise significant further environmental benefits. The Government is taking action on paper, food, glass, aluminium, wood, plastic and textiles. Examples include:

Paper

- establishing with the paper industry an agreement with challenging targets to reduce paper waste and increase paper recycling incorporating and developing existing agreements for newspapers, magazines and direct mail but extended to office papers, free newspapers, catalogues and directories;

Food and green wastes

- support for anaerobic digestion through the new technologies programme, Renewable Obligations system, Private Finance Initiative (PFI) and a digestate standard that will establish the use of this technology in this country as in some other European countries; and

Plastics and aluminium

- proposals (subject to further analysis) for higher packaging recycling requirements beyond the 2008 European targets to increase recycling (each tonne of aluminium recycled saves 11 tonnes of CO2).

xxii. Product policy can help to reduce waste impacts, including at the design stage, and business support services are increasing resource efficiency through waste reduction and material re-use. The Government is:

- establishing a **new products and materials unit** to identify and catalyse actions across the supply chain, to improve the environmental performance of products throughout their life cycle, publishing a progress report on delivery in Spring 2008;

- to develop, in due course, **eco-design requirements** which will consider waste impacts as part of the wider life cycle assessment of energy using products; and
- encouraging **re-use and re-manufacture** of products and material resources and stimulating resource efficiency through business advice services (with around £4 saved by business for each £1 of government-funded advice and support).

xxiii. **Producer responsibility** arrangements (both statutory and voluntary) place responsibility on businesses for the environmental impact of products they place on the market, while wider sectoral agreements can cover a range of product and material impacts. In addition to proposals for statutory higher packaging recycling targets, the Government is seeking further voluntary action, but is prepared to regulate if this does not deliver. It is introducing measures to:

- **reduce excess packaging**, for example by setting optimal packaging standards for a product class;
- support development of a joint protocol to ensure that local government and industry both identify the best systems for cost effective collection of packaging waste;
- **develop an opt-out for unaddressed mail** with the Direct Marketing Association alongside delivery of their action on addressed mail, to reduce the amount of unwanted direct mail (of the 16 billion items delivered annually); and **explore the scope for an opt-in mechanism**;
- **extend WRAP's Courtauld Commitment** to non-food retailers to increase the total commitments by retailers to reductions in packaging, food and other post-consumer waste; and
- make, subject to consultation, **Site Waste Management Plans** a mandatory requirement for construction projects over a certain value, and extend to other parts of the supply chain the recent agreement with the manufacturers on recycling of plasterboard, as part of reducing waste and increasing re-use and recycling by the construction sector.

Investment in infrastructure

xxiv. A key to more efficient recovery of materials and energy is the **greater segregation and sorting of waste** at (or close to) its source by households and businesses. This requires planning for and investment in collection, sorting, reprocessing and treatment facilities by local authorities, businesses and the third sector. The Government is:

- increasing the (environmental and financial) value obtained from recyclate material collected by local authorities through a **strengthened advice service,** including on waste collection, the use of different kinds of material recycling facilities (MRFs), and contractual arrangements for collection services;
- ensuring that **Regional Spatial Strategies** and local development plans conform to national planning guidance on waste so that the waste infrastructure projects needed to deliver this strategy receive planning approval, while promoting best practice in the way that local authorities consult stakeholders on their waste strategies;

- improving **procurement** and investment by local authorities through comprehensive support and strengthened central and regional coordination by the Waste Infrastructure Delivery Programme (WIDP), a new WIP-led unit to ensure cost effective and timely delivery of the major infrastructure required;
- using PFI, and, where appropriate, Enhanced Capital Allowances, and/or Renewable Obligation Certificates (ROCs) to encourage a variety of **energy recovery technologies (including anaerobic digestion)** so that unavoidable residual waste is treated in the way which provides the greatest benefits to energy policy. Recovering energy from waste (EfW) which cannot sensibly be recycled is an essential component of a well-balanced energy policy. **Energy from waste is expected to account for 25% of municipal waste by 2020 compared to 10% today which is less than the 34% by 2015** anticipated in 2000; and
- developing the energy market for **wood waste** (the bulk of which is landfilled) and which, if a third of this were used, could generate 2600 GWh electricity and save 1.15 million tonnes of carbon dioxide equivalent emissions.

xxv. To get the most benefit from recycling, markets for high quality uses of materials and resources (displacing virgin sources) need to work more efficiently and the Government will continue to support WRAP's market development work (focusing on priority materials). This will include development of a centre of expertise on export markets to help businesses manage the market risks, maintain the value of recycled material and comply with the controls on export of waste.

Local and regional governance

xxvi. Changing our waste management practices has already made waste management a more complex task. As waste is increasingly treated as a resource, a much wider range of actions by a larger range of players is required but these actions need to be coordinated. Local government and regional bodies have a vital role in providing advice and services to business and householders and developing partnership working. They need the right structures, tools and support to do their job. The Government is:

- strengthening the ability of **local authorities in two-tier areas to work together** and encouraging partnership working between local authorities through: new powers in the current Local Government and Public Involvement in Health Bill; use of Local Area Agreements; and the new local government performance framework – resulting in better, more cost-effective local services;
- establishing a **new local performance package for local authorities** to support delivery of the Government's waste outcomes;
- encouraging **local authorities** to take on a wider role (in partnerships) to **help local (particularly smaller) businesses** reduce and recycle their waste with cost savings through more integrated management of different waste streams; and
- encouraging the **Regional Development Agencies** and other regional bodies to coordinate business waste and resource management in partnership with local authorities and third sector organisations.

Culture change

xxvii. Changing how we deal with our waste requires action by all of us as individuals – consumers, householders and at work and leisure. Many people are already participating actively in recycling. The Government will build on this to stimulate further action by both individuals and businesses so that changed behaviour is embedded across all aspects of our lives by:

- extending the **campaigns** for recycling to awareness and action on reducing waste;
- incentivising excellence in sustainable waste management through a **zero waste places** initiative to develop innovative and exemplary practice;
- helping third sector organisations to win a larger share of local authority contract work, as well as making greater use of **third sector expertise**, particularly to prevent waste, raise awareness, segregate waste at source, and increase re-use and recycling of waste through capacity-building support;
- reducing single use **shopping bags** through a retailer commitment to a programme of action to reduce the environmental impact of carrier bags by 25% by the end of 2008;
- providing more **recycling bins in public places** through cooperation with the owners and managers of relevant land and premises used by the public to make it easier to recycle away from home, and the development of guidance and a voluntary code of practice for such owners and managers; and
- placing greater emphasis on promoting the **reduction of waste and increase of recycling in schools** by working with DfES and other partners to help schools overcome barriers, issuing new guidance and the use of award schemes (such as Eco-Schools).

xxviii. The Government is determined to lead the way with action in the public sector. This should give confidence for other key players to play their part in achieving a sustainable environment where waste is treated as a resource and dangerous climate change impacts are minimised. For its part, the Government:

- has **set itself demanding targets for reducing and recycling its own waste**; and will use public **procurement** operations to stimulate the market for recycled materials and waste reduction.

Delivery

xxix. To drive implementation of the strategy the Government is establishing a Defra-led **Waste Strategy Board** to provide leadership within and across government. The Board will be responsible for taking forward the delivery of this strategy and developing new policy actions as necessary to deliver the ambitious outcomes we seek in the light of progress. The strategy and its policies will need to adapt to external developments (including the European legislative framework within which this strategy sits).

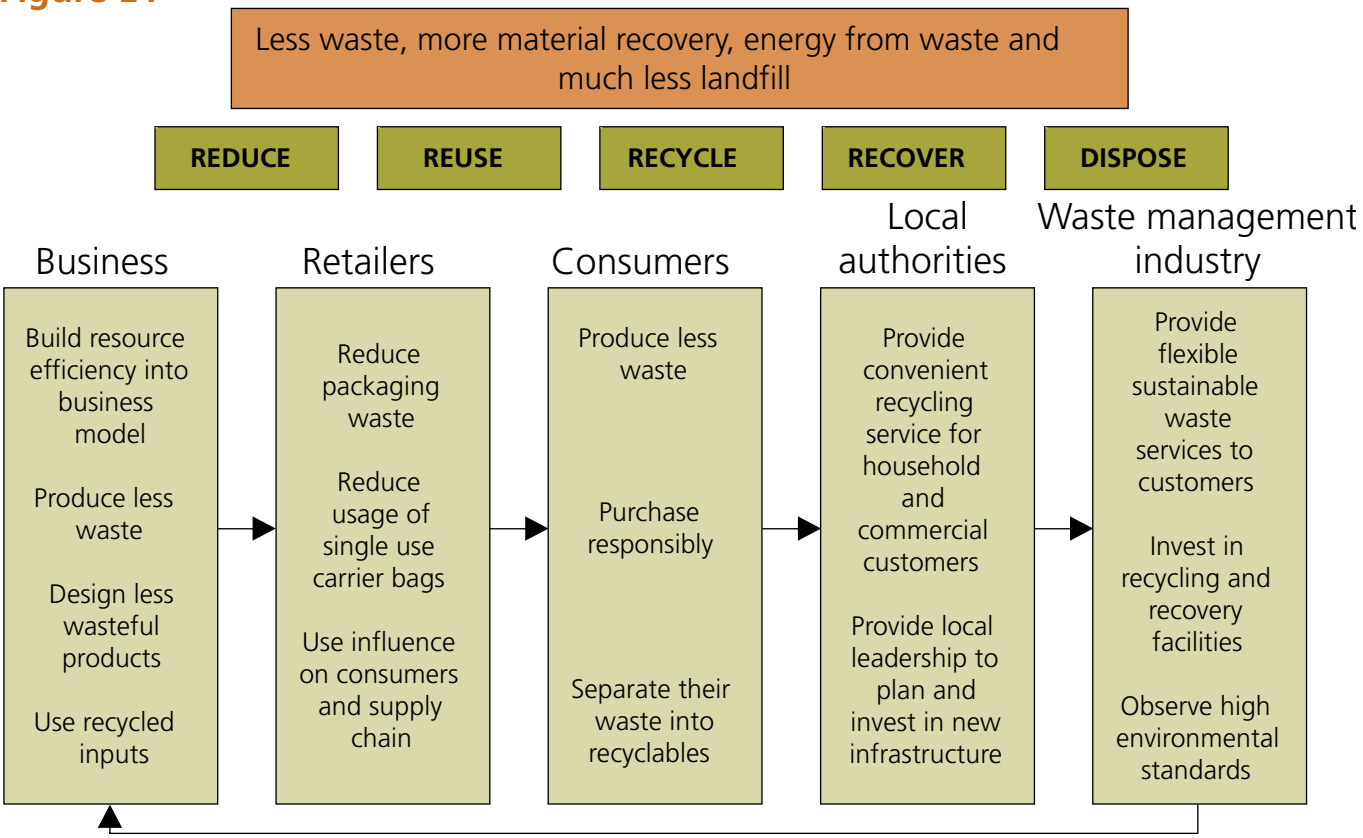
xxx. A new **Waste Stakeholder Group** will provide external advice, challenge and assistance with delivery. Periodic reports on progress will be published.

xxxi. The strategy includes a high-level **implementation plan**, showing key new actions, timeframes for these and responsibilities for delivery. Monitoring and review of the strategy will use our improved evidence base as our research and development and data strategies bear fruit.

xxxii. The strategy has greatly benefited from the responses to our consultation in 2006, which broadly welcomed the direction we proposed at that time of a greater emphasis on viewing waste as a global resource.

xxxiii. Figure E1 summarises the strategy's objectives, action for different parts of society, the policy approach, and indicators and targets.

Figure E1



Targets and indicators

Annual greenhouse gas emissions:
2020: reduction of 10 million tonnes of CO_2 equivalents

Household waste recycling:
2010: 40%
2015: 45%
2020: 50%

Household residual waste
2010: 29% reduction
2015: 35% reduction
2020: 45% reduction
from 2000 levels

Municipal waste recovery:
2010: 53%
2015: 67%
2020: 75%

Commercial and industrial waste landfilled:
2010: expected 20% reduction
from 2004 levels

Policies

Inform consumers retailers and producers about how to reduce, re-use and recycle waste

Set up **voluntary agreements** with producers and retailers

Use government **procurement** to accelerate development of products which use less natural resources

Invest in local government waste collection and disposal

Incentivise producers, consumers, and disposers to reduce, reuse, and recycle waste and divert from landfill through tax or trading

If incentives are insufficient **regulate both** upstream (materials) and downstream (landfill)

The challenge

1. We are living beyond our environmental means. If everyone consumed as many natural resources as we do in England, then WWF[1] suggests we would need three planets to support us. So our goal is 'One Planet Living'.[2] Using the planet's resources within the limits of its eco systems is vital to the survival, health and prosperity of future generations.

2. The most crucial threat from exceeding environmental limits is from dangerous climate change. The recent Stern Review shows that the cost of tackling this threat now will be far less than the damaging costs of climate change later if we fail to take prompt action.[3]

3. What we do about waste is a significant part of how we treat our environment. Reducing our use of natural resources, and recycling materials and recovering energy from those we do use, is a vital part of moving us towards one planet living.

4. If waste is not managed safely then it can become a serious threat to public health, and cause damage to the environment as well as being a local nuisance.

Box 1.1: Environmental rationale for action

Better management of waste[4] can contribute to:

- Reducing **greenhouse gases** – notably methane from landfill sites but also carbon dioxide emission (through re-use and recycling)
- Improving **resource efficiency** – saving energy and reducing material use through waste prevention, re-use, recycling and renewable energy recovery
- Protecting **public health** through safe management of potentially hazardous substances
- Protecting **ecosystems** (soils, groundwater, emissions to air)
- Safeguarding social **amenity** – by ensuring household waste is collected, reducing fly-tipping by households and businesses, and limiting local nuisances from waste facilities

Climate change

5. Disposal of biodegradable[5] waste to landfill results in emissions of methane, a powerful greenhouse gas which adds to global warming (currently about 3% of UK emissions). On the other hand, recycling waste and recovery of energy from it can preserve virgin materials and reduce the use of fossil fuels (so reducing greenhouse gas emissions).

[1] WWF-UK, SEI and CURE, *Counting Consumption: CO_2 emissions, material flows and ecological footprint of the UK by region and devolved country*, 2006, available at www.wwflearning.org.uk/ecological-budget

[2] 'One Planet Living' is a concept from WWF and BioRegional.

[3] *The Economics of Climate Change: The Stern Review*, Nicholas Stern for HM Treasury, 2007.

[4] This strategy deals with solid material wastes created at all stages of the life cycle of products and services.

[5] "Biodegradable" means any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.

Box 1.2: Greenhouse gas impacts of waste management – key facts

Methane emissions from (biodegradable waste in) landfill account for 40% of all UK methane emissions and **3% of all UK greenhouse gas emissions**. (Methane is 23 times as damaging a greenhouse gas as carbon dioxide).

Current UK recycling of paper, glass, plastics, aluminium and steel is estimated to **save more than 18 million tonnes of carbon dioxide a year** through avoided primary material production (**equivalent to annual use of 5 million cars** or 14% of UK transport sector emissions).

Source: Defra

6. Figure 1.1 shows the global greenhouse gas impacts of the annual amount of waste (from three key sectors) that we currently produce and what we do with it now.

7. By further reducing landfill and increasing the amount of waste that is recycled, composted or has energy recovered, there is considerable scope for reducing greenhouse gas emissions from the waste we produce.

Figure 1.1: Greenhouse gas emissions from the main waste sectors

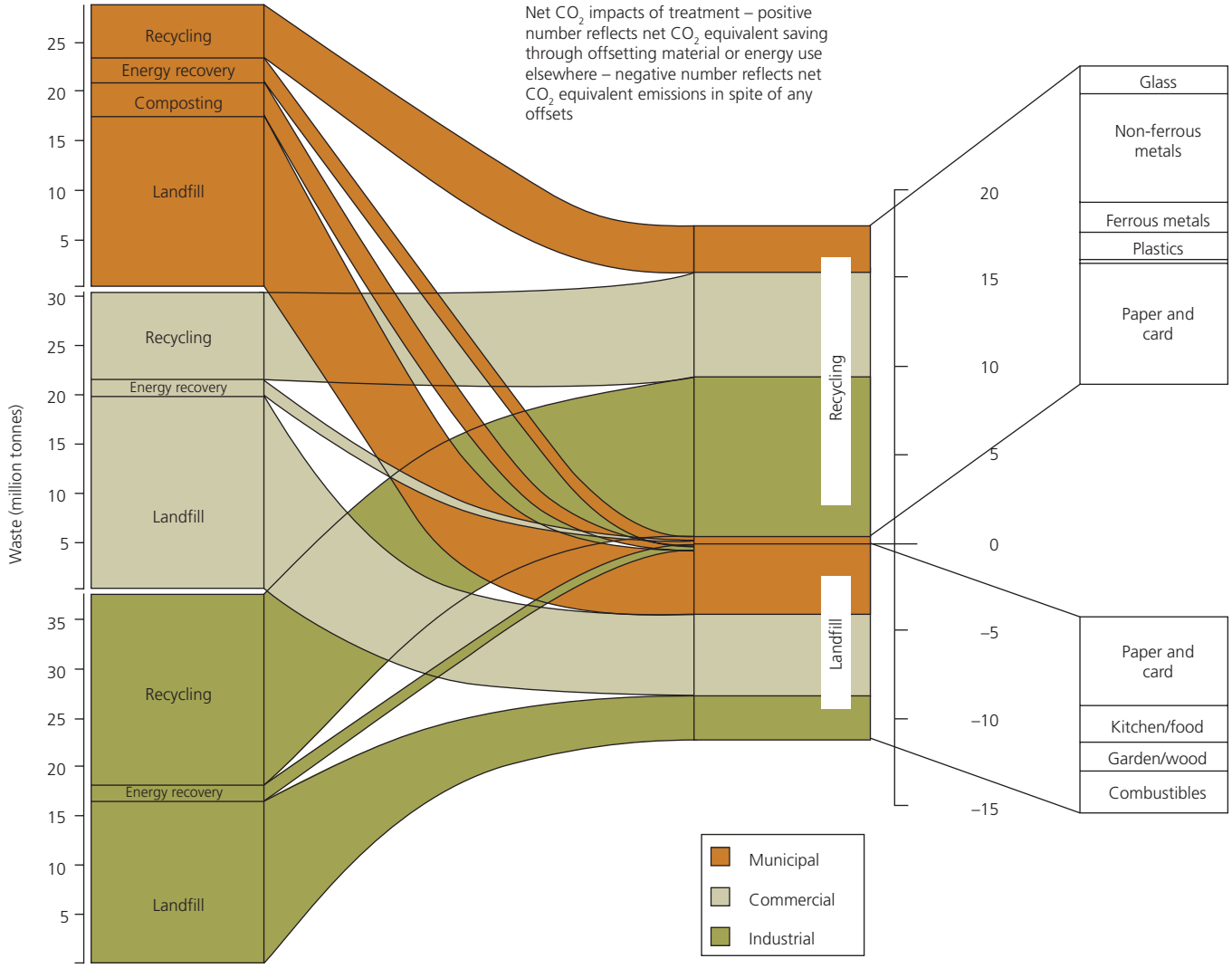


Figure 1.1: Greenhouse gas emissions from the main sectors (continued)

Annual amounts of waste from key waste sectors (municipal, commercial and industrial) and resulting greenhouse gas emissions (depending on waste management route) from today's waste with breakdown of current recycling benefits by material. Includes total of projected landfill emissions over 100 years.

Figure 1.1 shows (on the left) the 100 million tonnes of waste produced annually, broken into the three main sectors (municipal, commercial and industrial) and how much is landfilled, incinerated or recycled.

On the right side are shown the net greenhouse gas impacts (in carbon dioxide equivalents) by material. The bottom of the diagram shows that landfilling will have significant negative impacts. Although as much methane as possible is captured for energy use, the remainder is released over the next hundred years or so (and the total is shown here). On the other hand, recycling of materials saves the energy and emissions that would otherwise be required to extract raw materials. The positive impact is shown at the top right.

Incineration with energy recovery or composting of biodegradable materials avoids the negative effects of landfilling (methane emissions) and saves limited amounts of energy or materials. So they have a small positive effect overall.

Source: Defra

Resource efficiency

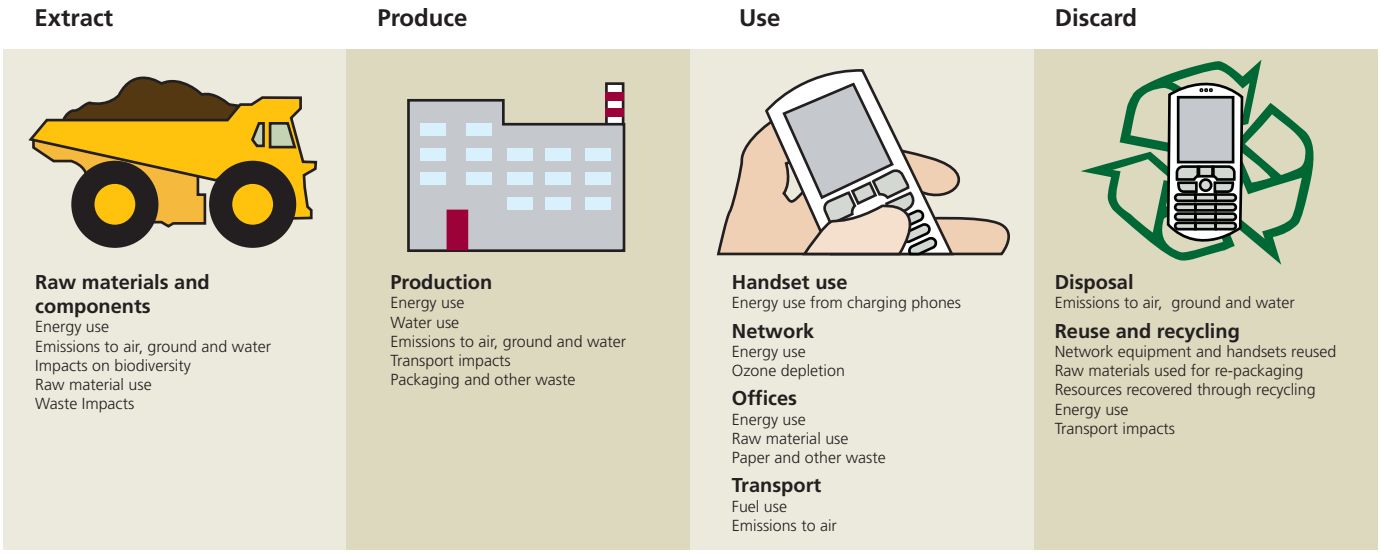
8. Generating and disposing of waste results in a loss of valuable natural resources, here and overseas. It also puts pressure on the environment's ability to cope – as a result of the environmental impacts associated with disposal, but also the additional impacts associated with the extraction and processing of new materials, and the manufacturing and distribution of new goods.

9. The economic cost similarly extends well beyond the cost of paying for waste treatment or disposal – businesses pay for loss of resources too. This inefficient use of resources is a drag on England's economy and business. Additionally, we are failing to realise the economic benefits that can flow from developing new environmental technologies or processes.

Sustainable consumption and production

10. Using our resources more efficiently (and hence reducing waste arisings) will reduce environmental impacts. Almost all environmental impacts are linked to the goods and services that the economy provides, and these impacts can occur across the whole **life cycle of a product** (as illustrated below for a mobile phone).

Fig. 1.2: Environmental impacts over the life cycle of mobile phones



Source: Adaptation of figure in ENDS Europe Report, 9 January 2007.

11. We need to develop products which use fewer material resources, less energy and water, and which give rise to lower emission levels and less waste. The Government's sustainable consumption and production (SCP) programme develops measures to promote better products with reduced environmental impacts, while at the same time increasing business competitiveness.

12. This strategy recognises that successfully tackling the causes of waste generation requires a focus on the production and consumption of products and materials so that interventions can be targeted at the most significant environmental impacts across the life cycle. It forms an integral part of the Government's wider approach to tackling the environmental and economic impacts of wastefulness in our use of material resources, energy and water.

Global environmental impact

13. Resource flows are global, reflecting the nature of the world economy. Consumer demand for goods here can increase production overseas, with a return flow of waste recyclables from us easing the overall burden on global resources. Waste policy needs to recognise both the value of the export of recyclable materials for use elsewhere to preserve virgin materials and the need for improved resource efficiency and environmental and safety controls in managing waste everywhere in the world.

Progress to date

14. Since publication of the Waste Strategy 2000 (WS2000) England has made significant progress in increasing recycling and diverting waste from landfill. While performance has moved significantly in the right direction (see Box 1.3 below) it still lags some way behind that of many other European countries (see Chart 1.1 below).

Box 1.3: Improved performance – key indicators

Waste has grown significantly less than GDP since 2000. Of the main waste streams, both municipal and business waste are growing at a rate slower than GDP; municipal waste increased at about 3.5% per year up to the millennium but average growth over the last five years has been less than 0.5% per year

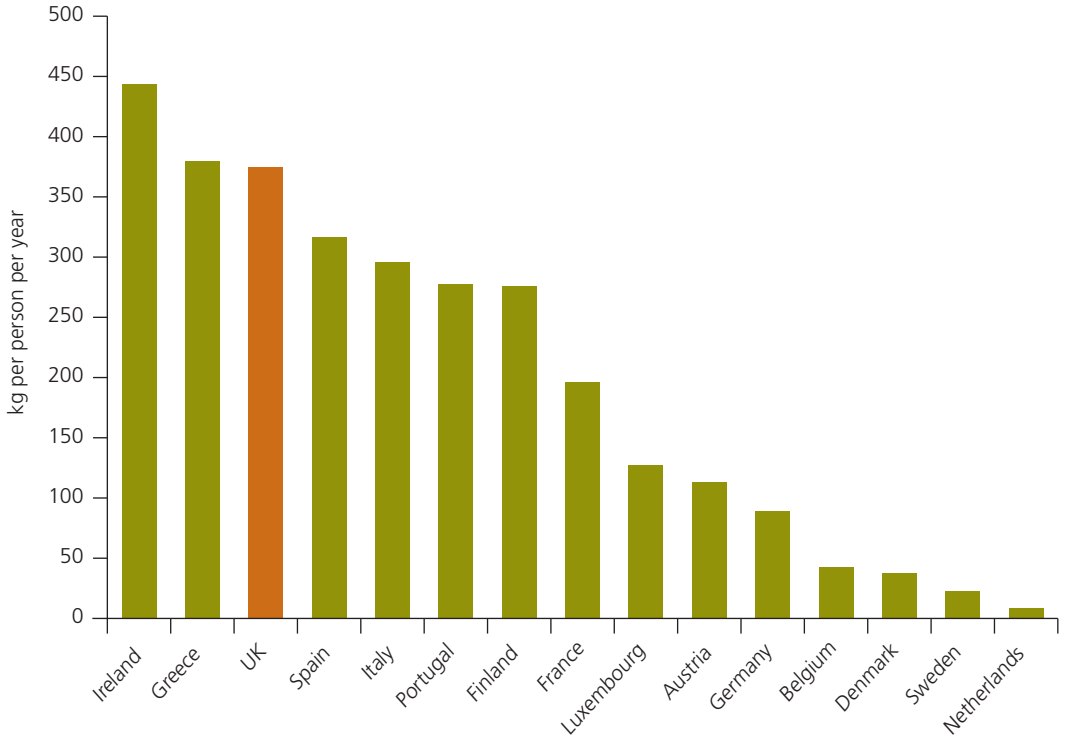
Recycling and composting of household waste has nearly quadrupled since 1996/97; local authorities have exceeded the 2005 national household waste recycling and composting target of 25% set in WS2000 achieving 27%

Packaging waste recycling has doubled from 27% in 1998 to 56% in 2006

Less of most kinds of waste is being landfilled – down from 80 million tonnes annually in 2000/01 to 72.5 million tonnes in 2004/05 at licensed landfill sites: with falls from 82% to 62% for municipal waste between 1998/99 and 2005/06 and from 50% to 44% for industrial and commercial waste between 1998/99 and 2002/03

Public awareness of recycling has grown with over half the population considering themselves committed recyclers

Chart 1.1: Municipal waste sent to landfill, EU 15 (2005)



Source: Eurostat

15. This improved performance has been achieved through a wide range of new policies and programmes (many foreshadowed in WS2000). The new strategy builds on these policy initiatives.

Box 1.4: Major policies and programmes introduced since 2000

Policy instruments to change behaviour: the landfill tax escalator, the landfill allowance trading scheme (LATS), the aggregates levy, regulations to implement a number of European directives on waste in specific sectors, including landfill, vehicles and packaging, and a new planning policy statement (PPS10) covering waste

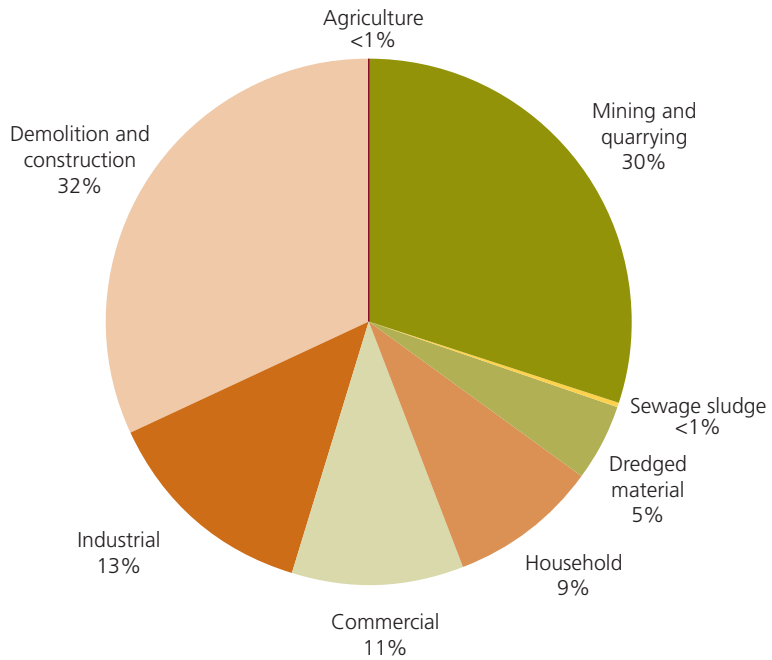
New delivery arrangements to strengthen capacity and improve resource efficiency: Defra's Waste Implementation Programme (WIP) and the Waste & Resources Action Programme (WRAP) with additional funding for local authorities (including the Private Finance Initiative) and the Business Resource Efficiency and Waste (BREW) programme

Strengthened arrangements have been made for **enforcement of waste regulations** by the Environment Agency and local authorities as part of a **strategy to tackle illegal waste activity** including the Clean Neighbourhoods and Environment Act 2005

Significant improvements are being made to **our knowledge base** including new research and data strategies

16. Total waste arisings in England are around 272 million tonnes per annum. Chart 1.2 shows annual waste arisings in England broken down by sector.

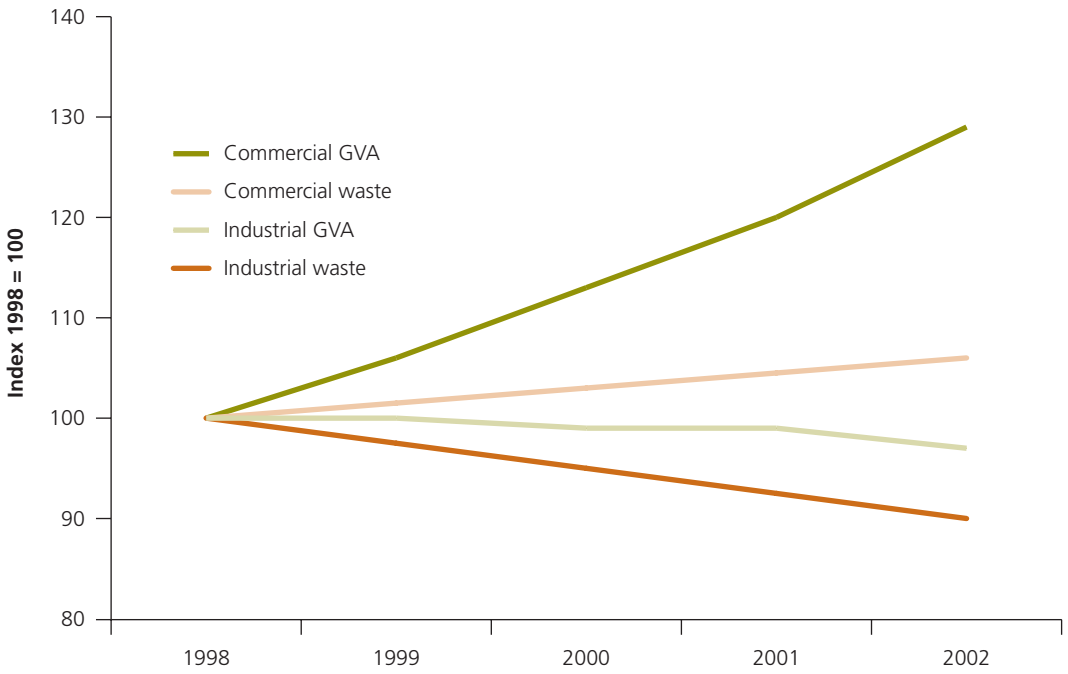
Chart 1.2: Annual waste arisings, England – by sector



Source: Agriculture – Environment Agency Agricultural Model (2004); Mining and Quarrying – British Geological Society/Defra (2004); Construction and Demolition – Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste, Report for Communities and Local Government by Capita Symonds (2007); Commercial and Industrial – Environment Agency Commercial and Industrial waste survey (2004 estimates based on 2002/03 data); Household – Defra WasteDataFlow (2004/05); Sewage Sludge – Water UK (2005); and Dredging Spoils – CEFAS (2004)

17. And, as a country, we are still producing more waste each year although it is not growing as fast as economic growth. All countries are finding reducing waste challenging, though we are starting to see progress (as Charts 1.3 to 1.5 show).

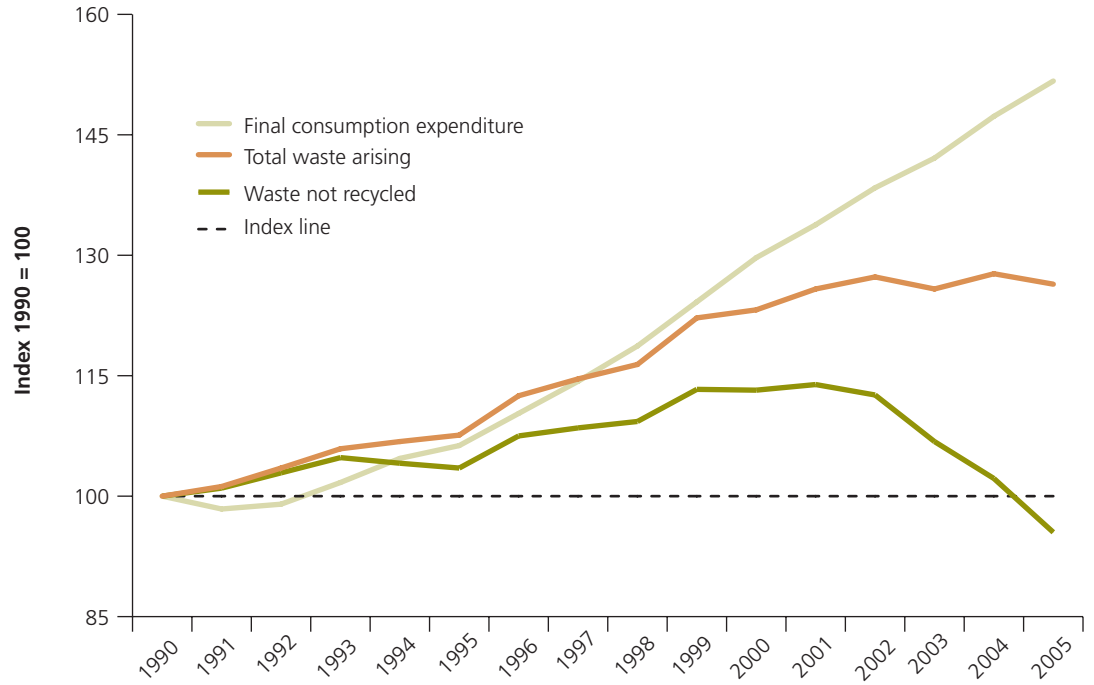
Chart 1.3: Commercial and industrial waste and gross value added[6], England



Source: Environment Agency Commercial and Industrial Waste surveys, 1998/99 and 2002/03

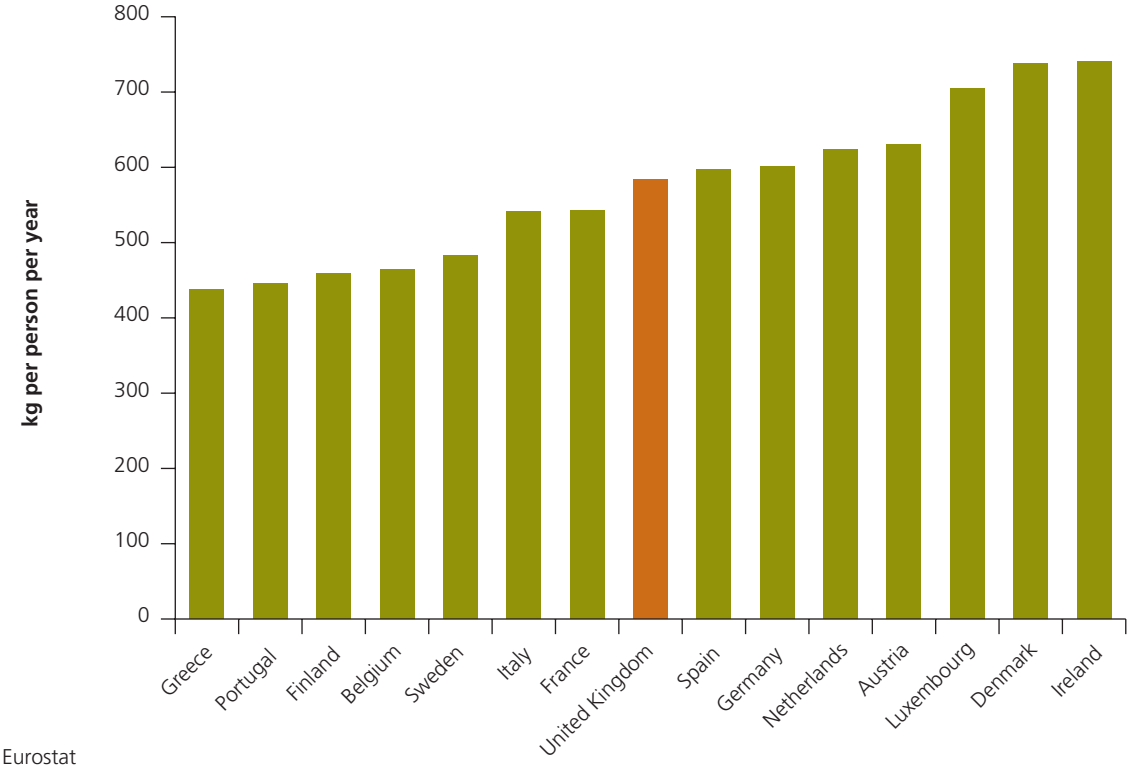
[6] Gross Value Added (GVA) measures the contribution to the economy of each individual producer, industry or sector. The GVA generated by any unit engaged in production activity can be calculated as the residual of the units' total output less intermediate consumption (that is, goods and services used up in the process of producing the output), or as the sum of the factor incomes generated by the production process.

Chart 1.4: Household final consumption expenditure and waste arising, UK (1990–2005)



Source: DEFRA Municipal Waste Management Survey 1995/96 – 2005/06/CIPFA estimates 1990-1995

Chart 1.5: Municipal waste collected, EU 15 (2005)



Source: Eurostat

18. Forecasts of future waste arisings in both the household and business sectors are set out in Appendix 1 to Annex A. These include a variety of scenarios using a range of assumptions to reflect possible demographic, economic and lifestyle changes that will influence waste arisings – quite apart from the influence of specific policies.

The new strategy

19. This new strategy for England builds on Waste Strategy 2000 (WS2000) and the progress since then but aims for greater ambition by addressing the key challenges for the future through additional steps. The main elements of the new strategy are to:

- provide stronger incentives for businesses, local authorities and individuals to reduce waste;
- encourage much greater consideration of waste as a resource through increased emphasis on re-use, recycling and recovery of energy from waste;
- make regulation more effective so that it reduces costs to compliant businesses and the regulator while preventing illegal waste activity;
- target action on materials, products and sectors with greatest scope for improving environmental and economic outcomes;
- stimulate investment in collection, recycling and recovery infrastructure, and markets for recovered materials that will maximise the value of materials and energy recovered;
- ensure that, if our waste is recycled overseas, it makes an environmentally sound contribution to reducing demand for global resources;
- improve national, regional and local governance, with a clearer performance and institutional framework to deliver better coordinated action and services on the ground; and
- increase the engagement of business and the public by communicating and supporting the changed behaviour needed by all us – with Government taking a lead.

Objectives

20. The Government's overall objective for waste policy is set out in *Securing the Future*,[7] the Government's sustainable development strategy.

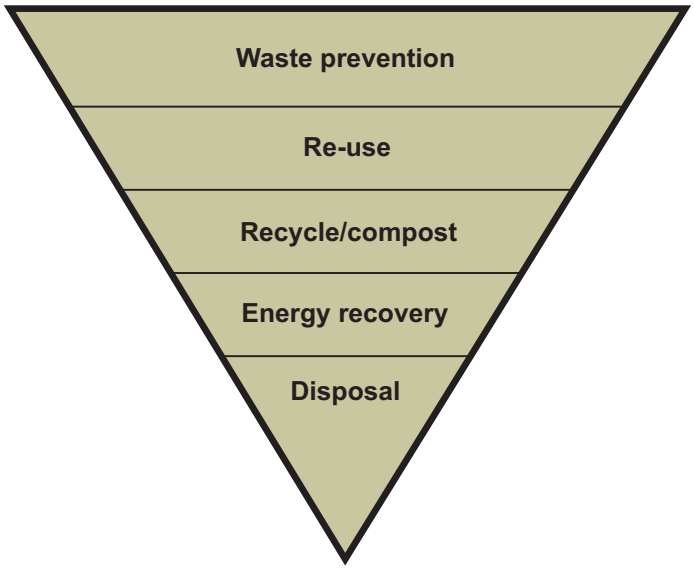
Box 1.5: Overall objective for waste policy in securing the future

Protection of human health and the environment by producing less waste and by using it as a resource wherever possible. Through more sustainable waste management – reduction, re-use, recycling, composting and using waste as a source of energy – the Government aims to break the link between economic growth and the environmental impact of waste.

[7] *Securing the future – UK Government Sustainable Development Strategy*, Defra, 2005. Available from http://www.sustainable-development.gov.uk/publications/uk-strategy/index.htm

21. This approach – to make better use of resources by policies prioritising waste management measures – is encapsulated in the waste hierarchy shown below.

Figure 1.3: The waste hierarchy



- The most effective environmental solution is often to reduce the generation of waste – prevention
- products and materials can sometimes be used again, for the same or different purpose – re-use
- resources can often be recovered from waste – recycle or compost
- value can also be recovered by generating energy from waste – energy recovery
- only if none of the above offer an appropriate solution should waste be disposed of

22. Recent studies have confirmed that the waste hierarchy remains a good general guide to the relative environmental benefits of different waste management options but that there will be exceptions to this for particular materials and in particular circumstances.[8] The use of the waste hierarchy should be informed by life-cycle thinking and the broader SCP agenda described above (and in Figure 1.4 below).

23. The key objectives in this strategy are to:

- decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;

[8] (1) Defra's Environmental Report published alongside the Consultation Document in February 2006, available at http://www.defra.gov.uk/environment/waste; (2) *Carbon Balances and Energy Impacts of the Management of UK Wastes*, report by ERM (with Golder Associates) for Defra, Final Report, March 2007, available on http://www.defra.gov.uk/science/project_data/DocumentLibrary/WR0602/WR0602_4750_FRP.pdf; (3) *Environmental Benefits of Recycling: An international review of life cycle comparisons for key materials in the UK recycling sector*, WRAP, May 2006 www.wrap.org.uk/applications/publications

- meet and exceed the landfill directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020;
- increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste;
- secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste;
- get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.

The purpose of the strategy

24. The purpose of the strategy is to map out, at a high level, the direction of travel over both the medium and longer term for all waste (not just municipal waste). The strategy and its policies will need to adapt as there are bound to be many external developments (including the European Waste Framework Directive, currently under negotiation) to which the Government will need to respond.

25. The strategy includes new policy proposals but further development of some of these policies and detailed action to implement them will continue to be progressed. The strategy includes a high-level implementation plan of the key actions flowing from this strategy including, among other things, the further policy development work to be taken forward over the next few months and new processes for overseeing implementation.

European policy

26. Waste policy in the UK and England sits within a wider policy and legislative framework agreed with our partners in the European Union (EU) and internationally. This collaborative approach will help to deliver the global environmental benefits associated with waste that we seek, while the policy instruments support the EU internal market objectives and recognise the global nature of international trade.[9]

27. The European Commission's Thematic Strategy on Waste Prevention and Recycling, published in December 2005, outlines similar objectives to this strategy. The Commission has proposed some changes to the Waste Framework Directive (which are discussed in Chapter 3). The strategy and specific parts of it will be revisited when the legislative changes are finally agreed to see if any revisions to particular policies are needed as a result.

Consultation

28. In this new strategy the Government has greatly benefited from the responses to our consultation in 2006 and the accompanying Partial Regulatory Impact Assessment and Environmental Report which broadly welcomed the direction set out there of a greater focus on viewing waste as a resource. The final Impact Statement, published as Annex A to this strategy, and the Environmental Statement, published as Annex K, set out how we have responded to the views expressed.

[9] Further details on the European framework are given in Annex J.

29. As this is a Government strategy, there is particular emphasis, in the actions proposed, on action by central government. But this strategy will require action by everyone across a wider front than before. The Government is setting out where it wants to go and what it will do to move there. This should give other key players the confidence to play their part in creating a sustainable environment where waste is treated as a resource and damaging climate change impacts are minimised.

Evidence and evaluation

30. In preparing this strategy, we have adopted an evidence-based approach to policy. We have also used 'horizon-scanning' to test our developing strategy and waste policies against possible changes in the pressures on the UK environment over the next 25 years, building on future scenarios developed with the Environment Agency.[10] We have also developed a 'model of causation'[11] as a qualitative description of cause and effect within the waste management landscape and coupled this with the work on horizon-scanning to provide a tool to examine the potential pressures, opportunities and uncertainties of key policies for municipal and commercial and industrial wastes. This has enabled examination of:

- how policies interact with each other/gaps;
- how the policies will bring about desired effects;
- side-effects/unintended consequences; and
- priorities for additional research/evidence gathering.

31. The availability of evidence has in some cases been limited but the Government is improving this through its Waste and Resources Research & Development (R&D) Strategy and Programme and the Waste Data strategy and programme. The R&D Strategy is coordinated with a wider sustainable consumption and production evidence base programme within Defra's overall Evidence and Innovation Strategy. The first three-year R&D Strategy ran from 2004/05–2006/07:[12] some 80 projects have been commissioned in areas highlighted as priorities, such as waste prevention. Output to date has provided evidence to underpin policy. A second three-year R&D strategy is currently being prepared together with further work planned on indicators and delivery mechanisms to ensure coherent implementation of this Waste Strategy, discussed in Chapter 8.

[10] *Environment Agency Scenarios 2030*, Henley Centre HeadlightVision for the Environment Agency: Environment Agency Science Report SC050002/SR1 (July 2006) available from enquiries@environment-agency.gov.uk

[11] Also known as a systems map. A qualitative analytical tool which maps causes and effects, allowing the analysis of what drives behaviours and the outcomes sought.

[12] Waste and Resources R&D Strategy (2004/05-2006/07) available at: http://www.defra.gov.uk/environment/waste/wip/research/pdf/rdstrategy.pdf; the Defra/ WAG Waste Data Strategy for Waste Streams Across the UK available at: http://www.defra.gov.uk/environment/waste/wip/data/pdf/wastedata-strategy.pdf

Proposals for action

32. The following chapters provide an overview of the problem, set out the action we propose to take and the outcomes this will deliver. **Chapters 2 and 3** focus on how we will use the **pricing and regulatory framework** respectively to get the rules of the game right. **Chapter 4** sets out how we plan to **target action on priority materials, products and sectors** working with business on a voluntary basis where this delivers results.

33. The changes we are seeking will require **significant investment** and in **Chapter 5** we set out how we will help to **promote investment and use public funding** to stimulate change. Delivering the changes also requires **coordinated action** and **Chapter 6** describes how we will be strengthening the **governance arrangements**, at the local and regional level.

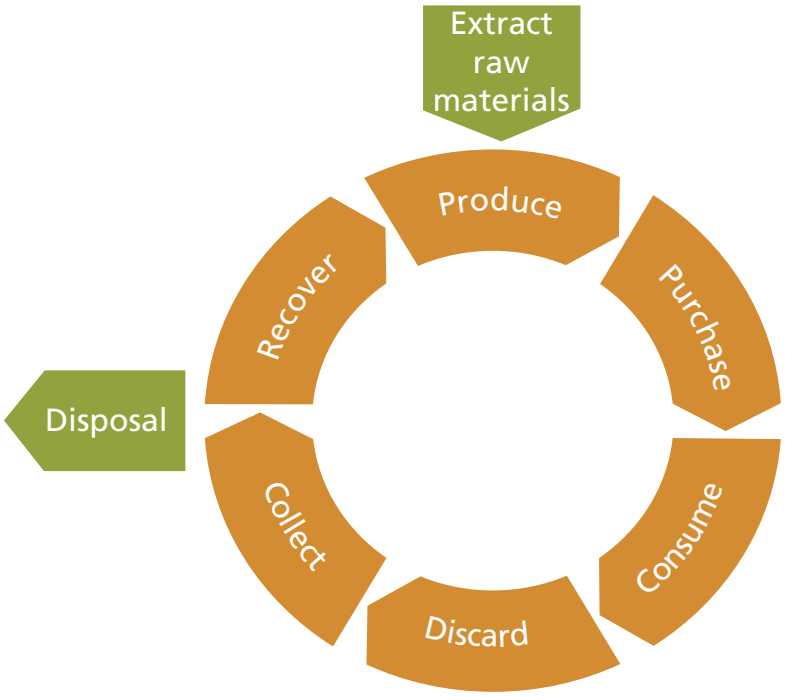
34. The changes can only be achieved with **action by all of us** as individuals – **consumers, householders and at work and leisure**. This engagement is vital in its own right and in helping to secure action by businesses. In **Chapter 7** we outline our initiatives to stimulate the **engagement and behaviour change required of individuals and organisations**, including through use of government **procurement**.

35. Finally, in **Chapter 8** the indicators and targets to monitor our progress are set out. These will form the basis of our evaluation and review of the strategy as it is implemented.

36. Figure 1.4 below illustrates the main stages of the life cycle. Policies to reduce the environmental impacts of products, materials and sectors should be targeted at the most significant points in the life cycle.

37. Policies designed to influence behaviour at the various stages of the life cycle can also impact on the top of the waste hierarchy helping to increase waste prevention. See Chapter 8 for a summary of how the measures outlined in this strategy can help to drive waste prevention.

Figure 1.4: Life cycle



- **Extract** – policy influences the choice of materials taken from the earth, how they are extracted, and the way in which they are used
- **Produce** – policy influences designers, manufacturers and retailers to make and sell products that generate less waste over their life cycle and to meet waste prevention and recycling targets within their organisations
- **Purchase** – policy influences consumers and procurement professionals to choose more sustainable products and services
- **Consume** – policy influences consumption patterns to prevent waste
- **Discard** – policy influences the decision to 'repair', 'donate for re-use' or 'sort for recycling' rather than 'bin for landfill'
- **Collect** – policy influences the most effective collection mechanism
- **Recover** – policy influences the technical capability and capacity to recycle that waste which is sorted for recycling, and ensure that this proportion of waste grows year by year. Policy also stimulates energy recovery and the markets for re-use, remanufacturing and recycled goods
- **Dispose** – policy influences the reduction in the amount of waste that will go to landfill and other disposal options

Challenges and barriers

There have not been sufficient economic incentives for businesses and individuals to reduce waste and divert it out of landfill which has meant a failure to realise potential climate change benefits.

Where we want to be

Substantially stronger price signals so that decisions by businesses and individuals reflect the true environmental costs of their actions.

Key new policies and actions

- **Increasing the landfill tax escalator** so that the standard rate of tax will increase by **£8 per year from 2008** until at least 2010/11 to give greater financial incentives to businesses to reduce reuse and recycle waste
- Introducing **enhanced capital allowances** for investment involving the use of **secondary recovered fuel** (SRF) for combined heat and power facilities
- Removing the ban on local authorities introducing **household financial incentives for waste prevention and recycling**, through early legislative change so local authorities would have the option to introduce revenue-neutral schemes (potentially reducing annual residual waste landfilled by up to 15% – equivalent to 1.5 million tonnes or 130 kg per household)

Introduction

1. In his review of the Economics of Climate Change, Sir Nicholas Stern advocates the benefits of investment now to reduce greenhouse gas emissions in the near future in order to avoid the risks of severe consequences and costs in the slightly more distant future. To secure wise investment, manage the cost and provide opportunities for growth and development along the way, Stern calls for policies that promote sound market signals and overcome market failures.

2. This prescription is as relevant to waste policy as to other policies which are aimed at reducing greenhouse gas emissions. The cost of landfill does not include the full environmental cost of methane emissions, while the cost of making products from virgin materials does not usually reflect all the (environmental) externalities, in particular the emissions from the (fossil derived) energy. So re-used or recycled materials may not be sufficiently attractive to buyers and market interventions are necessary.[13]

3. Some price changes can be effected by higher regulatory standards. But direct government intervention in pricing policies can help to achieve environmental goals by ensuring that prices reflect environmental impacts and discourage behaviour that damages the environment. This has been stressed in the Treasury's 'Tax and the Environment: Using Economic Instruments, November 2002'.[14]

[13] *The Economics of Climate Change: The Stern Review*, Nicholas Stern for HM Treasury, 2007.
[14] Available at http://www.hm-treasury.gov.uk/media/D54/07/adtaxenviron02-332kb.pdf

Waste Strategy for England 2007

Taxes

4. The Government is using a number of tax measures to support its waste policies. The most important of these is the **landfill tax** which increases the price of waste sent to landfill, encouraging diversion of waste from landfill to more sustainable ways of managing waste. The standard rate of landfill tax applying to active wastes (those that give off emissions), currently £24 per tonne, has been increased by £3 per tonne in each of the past three years as part of the Government's aim, announced in 2002, of reaching a rate of £35 per tonne. The landfill tax has been very successful: overall quantities of waste recorded at landfill sites registered for the tax fell from around 96 million tonnes in 1997-98 to around 72 million tonnes in 2005-06, a reduction of around 25%.

5. The Chancellor announced in the Budget 2007 that the standard rate of **landfill tax will be increased by £8 a tonne, each year, from 1st April 2008 until at least 2010/2011** in order to encourage greater diversion of waste from landfill and the use of more sustainable waste management options.

The Landfill Tax and Efficient Resource Use

In his 2007 Budget the Chancellor announced that the landfill tax would increase more quickly and to a higher level than previously planned. Increases of £8 per tonne per year for active waste were announced from 2008-09 to at least 2010-11.

Increasing the tax to a higher level makes investments in alternative non-landfill treatments such as recycling and anaerobic digestion more economically viable.

Waste producers will have a greater incentive to avoid the burden of increased tax on landfilling through diverting waste from landfill and by using separated waste collection services involving waste auditing and separation of waste at source. These will become relatively cheaper, leaving only residual mixed wastes requiring disposal.

For example, assuming waste management companies pass on all the tax increase to waste producers, then for a company **landfilling** all its waste, the cost per tonne of disposal would increase by **£24** per tonne by 2010/11 compared with current tax levels. By contrast if the company sent most of its waste to be **recycled**, with only 25% residual waste landfilled, it would only face an increase in waste treatment costs of **£6** per tonne (all other factors remaining equal). For many companies this relative change in costs could **tip the balance** between recycling and landfill disposal, making recycling now the most cost effective option.

Source separation of waste has both environmental benefits, by allowing improved resource and energy recovery, and potential financial savings. Waste auditing and segregation allow businesses to see more clearly where their waste is produced and how it could be reduced. Reducing waste not only avoids any costs of waste treatment but can also reduce costs through lower overall material consumption.

6. The Government has also put in place the **aggregates levy** which will encourage use of recycled materials to replace virgin aggregates.

7. The Chancellor Announced in Budget 2007 that the Government intends to review the classes of equipment that can qualify for Enhanced Capital Allowances (ECAs) for good quality heat and power (CHP) to ensure that the scheme includes all the necessary equipment for CHP facilities to use secondary recovered fuel.

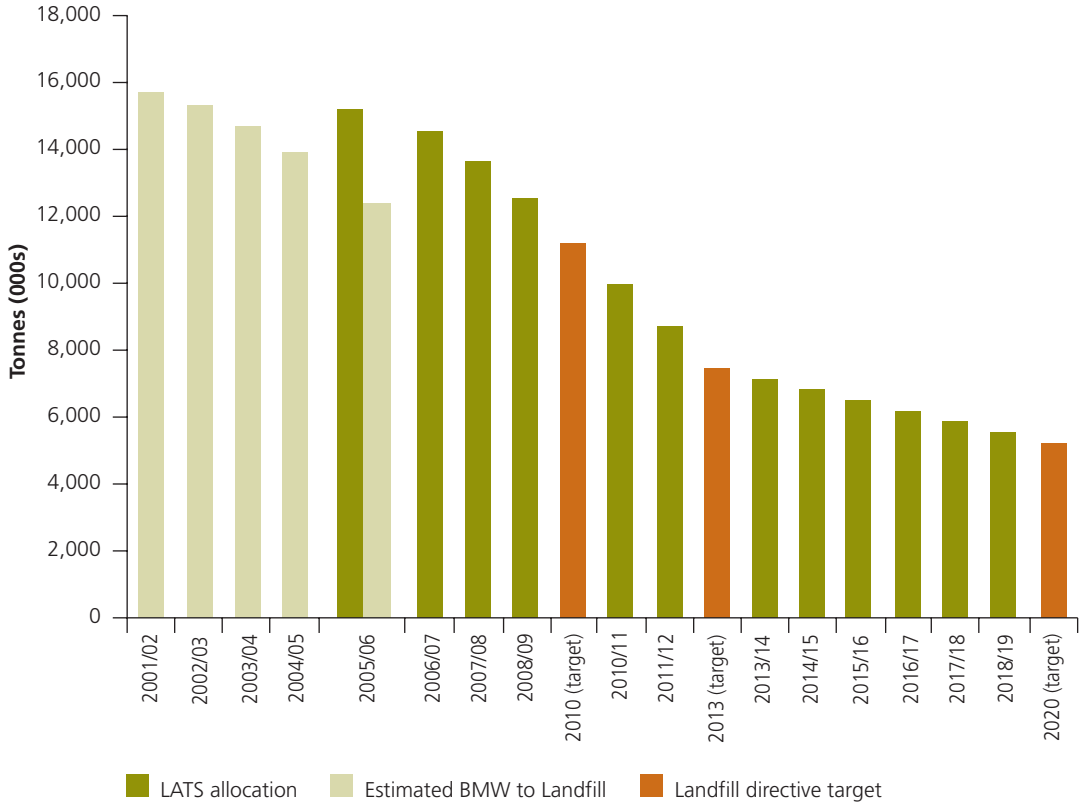
Trading schemes

8. Trading schemes can help to deliver greater environmental outcomes at lower cost. **Packaging Waste Recovery Notes (PRNs)** are already delivering increased packaging recovery in a cost-effective way for business.

9. The **Landfill Allowances Trading Scheme (LATS)**, the world's first trading scheme for municipal waste, which came into force from April 2005, is designed to help waste disposal authorities implement the most cost-effective way to make their contribution to the achievement of England's share of UK obligations under the European Landfill Directive.

10. The first year of the scheme was successful. All 121 waste disposal authorities were within the prescribed limits and none are liable to penalties for exceeding limits in 2005/06. Ten waste disposal authorities met their obligations by buying additional allowances from other authorities or by borrowing their own allowances from future scheme years.

Chart 2.1: Landfilling biodegradable municipal waste (BMW) – Landfill Allowances Trading Scheme allocations, England (2001/02–2020)



Source: 2001/02 is the baseline estimation.
2002/03 to 2004/05 are Defra estimates based on local authority returns to the Municipal Waste Management Survey.
2005/06 is the out-turn figure calculated by the Environment Agency.

11. Waste disposal authorities landfilled 18.5% less biodegradable municipal waste in 2005/06 than their total allocation. This continues the downward trend in the quantity of biodegradable municipal waste sent to landfill in England.[15]

12. All waste disposal and collection authorities reported validated waste data for the first year of operation of LATS using WasteDataFlow,[16] which is essential to the successful monitoring of LATS. The obligation to report waste data for LATS rests with waste disposal authorities. There are many examples of good joint working between waste disposal and waste collection authorities in waste data reporting. From 2006/07, WasteDataFlow is also the reporting tool for Best Value Performance Indicators (BVPI) on waste.

13. A small minority of waste collection authorities are persistently reporting waste data late and so hindering waste disposal authorities' abilities to meet their reporting obligations. In these cases, the Government will encourage better joint working between the waste authorities. **If there remains a problem with waste data reporting by some waste collection authorities, the Government will consider introducing new legislation to oblige waste collection authorities to report waste data for LATS.**

14. **Defra will be reviewing during 2007 the operation of the scheme to ensure that it is working efficiently**. The review will cover administration of the scheme, processes such as the electronic register, clarity of guidance and some monitoring and reporting tasks. It is not intended to review or alter fundamental aspects of the scheme, for example allocations of allowances, as it is important that the rules of a trading system such as LATS remain stable to provide confidence to local authorities in long-term planning.

15. However, as part of this, the review will explore the development of a reporting and monitoring procedure to allow local authorities to fully account for diversion of biowastes from landfill by supported home composting schemes. This depends on the monitoring authorities being confident that local authorities can report robust and verifiable estimates. A working group, convened by WRAP and including local authority representation, is currently exploring options for monitoring the impact of supported home composting schemes on diversion of municipal waste from landfill. The recommendations from this group will inform the operational review.

16. The contribution which **energy from waste** with CHP and advanced conversion technologies can make to energy policy is recognised in the financial support provided for the biomass fraction of waste through **the Renewables Obligation system** discussed in Chapter 5.

Financial incentives for recycling

17. Evidence from overseas suggests that incentivising householders financially to reduce the amount of non-recycled waste they throw away can be a powerful tool in reducing overall waste quantities, boosting recycling and reducing costs.

[15] *Report on the Landfill Allowances and Trading Scheme (LATS) 2005/06*, Version 2 November 2006, the Environment Agency, available at http://www.environment-agency.gov.uk/commondata/acrobat/ep427_lats_report06_1517081.pdf

[16] WasteDataFlow is the online web-based system for municipal waste data reporting by UK local authorities to government. http://www.wastedataflow.org/

Box 2.1: Overseas evidence

In Treviso, Italy, overall waste quantities have fallen by 12% since the introduction of financial incentive schemes, while in Maastricht, Netherlands, recycling has increased from 45–50% to 60% since the scheme's introduction. Financial incentives are common elsewhere in Europe. In Flanders, for example, 98% of municipalities charge residents according to the amount of waste they throw away. As a result, average waste bills have fallen in most areas. Flanders households recycle 70% of their waste, compared to 27% in England.

18. At present, authorities are prohibited from charging residents according to the amount they throw away (with some exceptions, e.g. for bulky waste and green waste). Sir Michael Lyons' recent report[17] recommended giving local authorities the powers to introduce charging schemes as an incentive to reduce and recycle waste, developed in close consultation with local residents and other stakeholders. The Local Government Association and some local authorities have also called for these powers.

19. The Government wishes to make available the fullest possible range of tools that could encourage producers and consumers to change their behaviour regarding waste and recycling. The Government believes that giving authorities the power to determine locally how to respond to the waste management challenges they face is an important part of increasing local flexibility as part of the Government's devolutionary agenda.

20. The Government has considered the case for allowing authorities to introduce local variable waste charging. The Government has concluded that it does not wish to introduce a local variable waste charge, as seen elsewhere in Europe. Instead the Government wishes to allow revenue-neutral financial incentive schemes that encourage recycling and waste prevention

School children in Ovenden, West Yorkshire produced artwork inspired by the *Reduce the waste and improve your place* pilot scheme. Residents were able to earn £25 for local projects, schemes and charities for every tonne of waste sent for recycling. This resulted in 26% more recyclable materials being collected over the 6-month period.
Credit: Calderdale Council.

[17] Lyons Inquiry into Local Government. *Place-shaping: a shared ambition for the future of local government* is available at: www.lyonsinquiry.org.uk

without increasing the amounts residents as a whole pay to their council. The **Government is consulting on removing the ban on local authorities using financial incentives for waste prevention and recycling**. One such tool would be a 'recycling incentive' scheme. This would be revenue-neutral. High recycling, low waste households would get money back. There would be no overall increases in charges from such a scheme.

21. Authorities would be free to design their own schemes, provided they meet Government requirements set out in legislation, including the need to provide kerbside recycling facilities for at least five waste streams (excluding garden waste).

22. Subject to the outcome of the consultation, the Government proposes to **legislate to remove the ban on local authorities introducing such schemes** at an early legislative opportunity.

23. Financial incentives are one of a range of options available to local authorities to increase levels of recycling, reduce levels of waste disposal and therefore cut costs. Other tools currently used by authorities include reward schemes such as prize draws; alternate weekly collections; "no side waste" policies, whereby authorities only collect waste that fits within the receptacle provided; and compulsory recycling. Government does not advocate any particular tool but wishes to give authorities maximum flexibility to decide the best way to encourage sustainable waste behaviour in their local area.

Challenges and barriers

Regulation has often not been sufficiently risk-based or targeted. In some cases it has been over-prescriptive. There is a need to tackle fly-tipping and illegal waste activity. Hazardous waste and its impacts needs to be reduced further. The scope for regulation to restrict the landfilling of certain kinds of waste where this is a cost-effective means of achieving environmental benefits has not been sufficiently and strategically considered.

Where we want to be

Waste regulation that plays a proportionate and cost-effective role in encouraging resource efficiency by business, and in ensuring sound environmental and public health protection. Illegal waste activities that are effectively tackled and reduced. Waste treatment and its enforcement to be carried out by skilled staff in a safe environment.

Key new policies and actions

- **Simplifying** the **regulatory system** and making it more **proportionate and risk based** through:
  - **waste protocols that clarify when waste ceases to be waste** (and so not subject to regulation)
  - reforms of the **permitting and exemption** systems and the controls on **handling, transfer and transport** of waste, (with cost savings to business and regulator of, e.g. on permitting reforms, at least £90 million)
  - better communication with stakeholders
- Implementing actions which will **reduce fly-tipping and illegal dumping** abroad through prevention, more effective risk-based enforcement, strengthened export controls and data improvements
- Taking **forward voluntary agreements** with the relevant **producers** in order to increase separate collection, recycling and recovery of potentially **hazardous household wastes**
- Consulting on strengthening requirements for written records to support implementation of **pre-treatment requirements for landfilled waste from October 2007**
- **Environment Agency guidance** and case studies to support the Government's three-point test for **pre-treatment of non-hazardous landfilled** waste
- Consulting, subject to further analysis, on the introduction of **further restrictions on the landfilling of biodegradable wastes and recyclable** materials
- Developing a joint industry, regulator and skills council **training plan to improve levels of competency** within the waste sector and a **strategy to address any skill shortages or gaps**

Introduction

1. Regulation is a key part of our policy framework. Its purpose is to ensure sound environmental and public health protection while providing the right context to encourage resource efficiency by business within a competitive environment. This chapter sets out:

- the main actions we will take to deliver proportionate risk-based regulation on waste;
- our strategy for tackling illegal waste activity;
- how we will deal with hazardous waste;
- the future regulation of landfill;
- action in some other waste sectors; and
- how we will ensure that those working in the industry have the requisite skills and training and a safe and healthy working environment.

Better waste regulation

2. Action on better waste regulation is a key component of Defra's overall better regulation agenda. Defra has developed a rolling programme to identify regulations that can be simplified, repealed, reformed or consolidated and to respond to the recommendations in Lord Davidson's review of the Implementation of EC Legislation.[18]

The definition of waste

3. Most waste regulation in the UK is derived from, and all has to comply with, EC legislation on waste. The Waste Framework Directive (WFD) currently defines waste as 'any substance or object … which the holder discards or intends or is required to discard'. Defra and the Environment Agency work with the current definition of waste, as interpreted by the European Court of Justice in case law.

4. The definition of waste is important, because the classification of substances or objects as waste is the basis for regulation required to protect public health and the environment when they are recovered or disposed of. But this regulation imposes a cost. It is therefore vital that waste regulation is proportionate to the health and environmental risks it seeks to manage, and that regulation encourages, rather than discourages, waste prevention and the recovery of resources from waste.

5. The European Commission's current proposal to revise the WFD will not change the definition of waste. The Commission consulted widely on this before presenting its proposals and concluded that: 'The feedback from this consultation revealed that there is a significant consensus in favour of not radically amending the definition of waste'. The UK Government agrees with this assessment.

[18] *The Defra Simplification Plan: Maximising Outcomes, Minimising Burdens*, Defra, November 2006, available at http://www.defra.gov.uk/corporate/regulat/pdf/simplification-plan.pdf
Implementation of EU legislation, The Davidson Review Final Report, was published in November 2006 and is available at http://www.cabinetoffice.gov.uk/regulation/documents/davidson_review/davidson_review.pdf

6. Nonetheless clearer guidance and explanation of the definition of waste can help business and others affected to more readily understand the definition and its implications. **Defra and the Environment Agency (EA) will shortly publish, for stakeholder consultation, draft updated guidance on the interpretation of the definition of waste**. The guidance will make use of examples to aid understanding. Once adopted, the guidance will be updated as necessary.

Key developments at EU level

7. The European Commission's proposal to revise the Waste Framework Directive contains some genuine simplification measures and revisions which the Government believes would improve existing legislation and provide greater clarity for business and industry, in particular:

- the repeal of the Waste Oils Directive;
- the repeal and integration of the Hazardous Waste Directive into the revised WFD; and
- the development of EU-wide environmental and quality criteria to determine that specified waste streams have been fully recovered and have ceased to be waste.

8. However, the Commission's proposal also contains provisions which, in the Government's view, run counter to better regulation. The UK is taking a proactive role in seeking a finally agreed Directive that will maximise the potential gains for better regulation.

9. Separately, the European Commission issued new guidance on the distinction between non-waste 'by-products' and waste residues in February 2007. Defra and the EA will build on this guidance in issuing their guidance on the definition of waste referred to above.

Initiatives at national level

10. At domestic level we are taking forward a number of initiatives with the aim of achieving better waste regulation.[19]

11. **The Environmental Permitting Programme** aims to modernise waste management licensing processes and will contribute to the Environment Agency's strategy to modernise its approach to environmental regulation. Its first phase, due to come into effect in April 2008, will integrate the waste licensing and pollution prevention and control permitting systems, leading to a more streamlined approach which is estimated to save industry and regulators some £90 million over ten years.

12. In parallel, Defra and the department for Communities and Local Government (CLG) have consulted on options to clarify the current **interface between planning and pollution control** including in the field of waste. Defra and CLG will incorporate the final outcomes of this review into the environmental permitting and planning systems, as appropriate, subject to a full quantitative regulatory impact assessment.

13. In December 2006 **Defra, with the Environment Agency and Welsh Assembly Government, launched a review of the current exemptions from waste management licensing**. The purpose of the review is to complement the Environmental Permitting Programme by ensuring that those operations currently exempt from the requirement for a waste licence are regulated in a proportionate risk-based way.

[19] See Annex J for information on the current legal and regulatory framework.

14. The **Environment Agency and the Waste & Resources Action Programme (WRAP) are working with industry sectors to establish domestic waste protocols** to determine the point at which certain categories of waste can be deemed to have been fully recovered and cease to be waste. This will help to provide greater clarity and certainty for industry and regulators alike, and could in future provide a UK contribution to the European Commission's proposed EU-wide end-of-waste criteria process described above.

Compost from kitchen and garden waste that meets the WRAP/EA quality protocol.
Credit: WRAP

15. **Defra and the Environment Agency have also put in hand a review of the regulation of inert waste** covering a range of issues including the appropriate use of inert waste exemptions, inconsistencies with the landfill tax regime, and the quality of guidance in this area. Stakeholders will be formally consulted by the end of 2007 on options for reform.

16. In November 2006 Defra launched a consultation on a review of **controls on the handling, transfer and transport of waste**. The review aims to simplify and modernise the secondary legislation that applies to illegal waste activity, making it easier for business to understand and comply with regulations, as well as making it easier for the enforcing authorities to use. The first stage of the review consisted of a policy consultation that outlined current problems highlighted by the 'Flytipping Causes, Incentives and Solutions' research report from the UCL Jill Dando Institute and the Flycapture database. It will consider a range of potential solutions to three fundamental controls:

- the waste duty of care;
- the registration and control of waste carriers; and
- the registration and control of waste brokers.

17. Following consideration of responses to this consultation, Defra will publish for further consultation a set of draft amending regulations that will combine the legislative changes needed to improve controls on waste carriers, brokers and the duty of care.

Stakeholder engagement

18. **Defra has published a strategy for engaging stakeholders in the better waste regulation agenda** – beyond the traditional written consultation document procedure. The aim is to involve stakeholders at an early stage in the development of waste regulation policy and to maintain an interactive dialogue with them throughout.

Box 3.1: Stakeholder engagement on regulation – Defra principles for stakeholder involvement

- Ensure that stakeholders understand what we are trying to achieve
- Maintain effective, consistent dialogue so that all stakeholders get the same message
- Provide information about each measure which is up-to-date, relevant, accurate and provided in a way suitable for those receiving it in order to keep stakeholders involved
- Ensure that we have appropriate ways of encouraging, listening to and taking account of views particularly from SMEs
- Provide opportunities to seek stakeholders' views in order to ensure that their issues and requirements are better understood and the proposals take account of their needs where possible
- Be clear from the beginning on what each measure will deliver and how the changes may affect stakeholders
- Incorporate stakeholder feedback into the proposals where possible, and communicate what influence their feedback has had on the outcome
- Maximise opportunities to raise the profile of proposals within stakeholder organisations and awareness of the outcomes

Illegal waste activity

19. Regulation is effective only to the extent to which it is complied with, so prevention of illegal waste activity is fundamental. The Government's strategy for tackling illegal waste activity is to:

- ensure better prevention and detection of, and enforcement action against, illegal waste activity, including fly-tipping. More effort on these aspects will mean that less needs to be spent on clear-up operations and cost savings will result;
- make existing legislation more usable and effective and encourage the courts to take illegal waste activity seriously;
- extend the range of powers available so that the Environment Agency and local authorities can be more flexible when dealing with all forms of illegal waste activity;
- improve the data and knowledge base so that resources can be targeted to where they can be most effective at reducing illegal waste activities; and
- ensure that the Environment Agency and local authorities can do their job as effectively as possible and that waste producers and others handling wastes take responsibility for having the waste legally managed.

20. The **Government will work with the Environment Agency, local authorities and other key groups like the police and business representatives to develop and implement an action plan** to tackle illegal waste activity (see Annex F). With local authorities, the Agency will tackle illegal waste practices, develop better data gathering on the scale and nature of illegal waste activity and fly-tipping and implement the new powers contained in the Clean Neighbourhoods and Environment Act 2005.

21. Flycapture is the national database of fly-tipping incidences. It has been an important addition to the evidence base for illegal waste activity and is now providing a valuable management information tool for local authorities, central government and the Environment Agency. The Government is investigating what enhancements or improvements can be made to the database and their funding implications. The aim is to create an even more authoritative data set that will help to profile specific problems, target action and monitor the effectiveness of any action that is taken.

Risk-based compliance and enforcement

22. The Environment Agency has the lead role in policing compliance with the regulations in England and Wales. It allocates its resources according to the overall level of risk posed by the activities concerned. For a number of the current regulatory regimes, the principal tool used to do this is Operator Pollution Risk Appraisal (OPRA). This works by taking into account both inherent risks (e.g. nature of waste, type of activity, sensitivity of the local environment) and performance and compliance history of the operator. This enables the Agency to target resources on poor performers and higher risk activities. **The Agency plans to introduce OPRA-based approaches across all regimes by 2008**.

23. As well as directly regulating the waste management industry through traditional site-based approaches, the Environment Agency is also increasingly involved with waste producers. For example, the Agency is charged with monitoring industry compliance with 'producer responsibility' regimes on packaging, end-of-life vehicles, waste electronics and, shortly, batteries.

Controls on imports and exports of waste

24. The Government is also seeking to improve compliance with the controls that apply to the export of waste for recycling. Better liaison between waste producers and exporters with countries receiving the waste is part of the solution, along with a clearer understanding by those involved of what is allowed. **The consultation on amendments to the duty of care includes proposals to strengthen the links between the domestic and international framework of controls**.

25. These proposals complement the revised Waste Shipments Regulation[20] which applies from 12 July 2007 and which includes provisions to improve information available to help competent authorities target enforcement action. The Government is **revising the UK Transfrontier Shipment of Waste Regulations (TFS Regulations) to include new powers in relation to exports of waste**. The Government will encourage the Environment Agency to give a high priority to inspections, dissemination of advice and enforcement of the transfrontier shipment of waste controls, including the regulation of those activities that sort and treat waste prior to export. We also expect waste producers, particularly local authorities, to ensure that they know where their waste is going and that its onward movement is fully compliant with the controls.

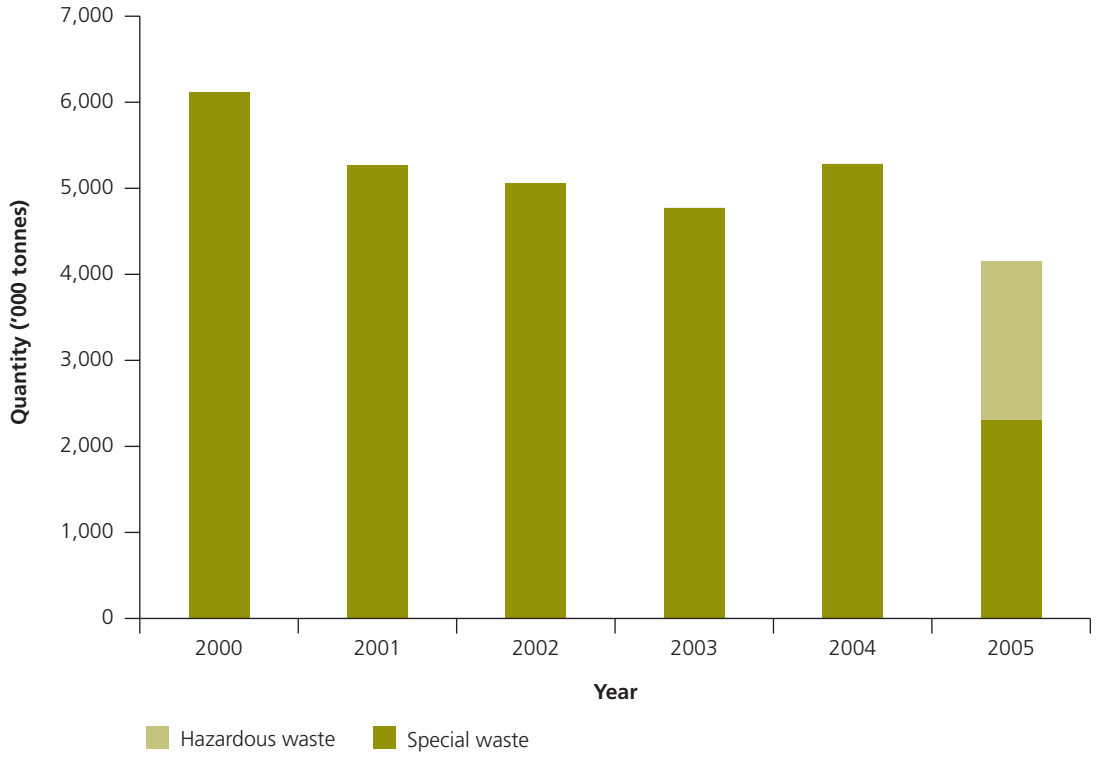
26. The waste industry also has a role to play in improving compliance, and the Government welcomes initiatives such as the compliance scheme and associated code of practice on the export of recyclable materials, recently developed by the Environmental Services Association.

[20] Regulation (EC) 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste.

Hazardous waste

27. Control of hazardous waste is particularly important. Regulatory changes over the past three years have strengthened the controls on the safe treatment and disposal of hazardous wastes. They have also driven a reduction in hazardous waste arisings and helped to divert hazardous waste from landfill.

Chart 3.1: Total quantity of hazardous waste, England and Wales (2000–2005)



Source: Environment Agency, Hazardous Waste Statistics

28. The Government will continue to pursue policies which lead to reductions in hazardous waste arisings. The Environment Agency sponsored **HazRed scheme is encouraging small and medium-sized enterprises in six key sectors to minimise and manage hazardous waste**. In addition to the efforts to reduce the amount of hazardous waste, Government is seeking to find ways to recover material and energy resources from hazardous waste as well as ensuring its safe treatment and disposal. Changes brought about by the Landfill Directive have led to a need for additional treatment facilities and infrastructure for hazardous waste. These needs are explored in detail in the annex on hazardous waste (see Annex C9).

Waste oils

29. In its review of waste directives, the European Commission has proposed the repeal of the Waste Oil Directive, along with its requirement for Member States to give priority to the regeneration of waste oil. In view of this development and the current state of the waste oil market, the Government does not, at present, propose to bring forward the development of a producer responsibility scheme for waste oil but will review this in the light of the outcome of revisions to EU waste legislation or other developments.

30. In the meantime, the Environment Agency's Oil Care Campaign, supported by Government, continues to promote and improve the way in which waste oil is managed by providing information on good practice, and the Environment Agency and other relevant regulators will continue to enforce the requirements of the Waste Incineration Directive.

Household battery collection service in Cheshire.
Credit: Getty Editorial

Household hazardous waste

31. More can be done to improve the segregation and management of hazardous household waste within existing requirements. Waste collection authorities are required to provide for the collection of all household waste, including hazardous household waste, and waste disposal authorities are required to provide household waste recycling centres for the deposit of all household waste including hazardous household waste. **Many local authorities provide a separate collection service for hazardous household waste streams, and Government encourages all authorities to follow suit and publicise such services**.

32. The Hazardous Waste Regulations 2005 do not require householders to separate out hazardous waste from their household waste. But where separate collection schemes for recyclables are developed, it is sensible to include separate collection of hazardous wastes. To do otherwise could lead to a greater concentration of hazardous waste in the residual waste fraction, which is often incinerated or landfilled. Where householders put out hazardous waste separate from their other household waste for separate collection or deliver such hazardous waste to household waste recycling centres, the legislation requires that this waste should be kept separate and not mixed with non-hazardous waste. **The National Household Hazardous Waste Forum has issued guidance[21] on the management of household hazardous waste which the Government endorses, and encourages local authorities to adopt**.

33. Two key hazardous wastes in household waste are decorative paints and garden chemicals. **The Government intends to take forward work on decorative paints and garden chemicals with a view to discussing with the relevant sectors the scope for voluntary agreements to increase separate collection, recycling and recovery of these wastes**.

The future of landfill

34. Reliance on landfill is already reducing and this should become the home of last resort for waste. The Government will continue to pursue the reduction of the use of landfill while recognising that landfill may continue to have a place for disposal of some wastes, such as some hazardous wastes and as a means of restoring exhausted minerals workings.

[21] See: *The Haz Guide*, an interactive resource, at http://www.nhhwf.org.uk/

35. A number of other EU Member States have found that imposing legal restrictions on the types of waste that can be landfilled has encouraged higher rates of recycling and recovery (see Table 3.1). These have sometimes been introduced, for example in Germany, with significant lead-times between proposals and their implementation. **We intend, subject to further analysis, to consult on whether the introduction of further restrictions on the landfilling of biodegradable wastes and recyclable materials** would make an effective contribution to meeting the objectives set out in this strategy, of reducing greenhouse gas emissions and increasing resource efficiency. This **consultation will be linked to the further work on priority waste materials** set out in this strategy, which aims to maximise waste prevention, recycling and recovery of those materials.

Table 3.1: EU Member States with supplementary approaches to landfill

State	Action
Austria	**2004** Additional restrictions on landfill
Denmark	**1997** Ban on combustible wastes suitable for incineration
France	**2002** Ban on landfilling non-residual wastes
Germany	**1993** Ban on non-treated wastes to landfill **2001** Ban on combustible waste to landfill
Netherlands	**1995** Ban on all wastes that can be reused or recovered
Sweden	**1996** Ban on non-treated municipal solid wastes to landfill **2002** Ban on combustible wastes to landfill **2005** Ban on organic wastes to landfill

36. The potential environmental impact of landfill is already reducing through the implementation of the Landfill Directive.

Box 3.2: Changes to landfill already effected

- Categorisation of all landfills as either hazardous, non-hazardous or inert
- Reduction in numbers of active landfills from around 1,200 in 2001 to around 450 in 2007
- End to the practice of co-disposal from July 2004 (where hazardous and non-hazardous wastes are disposed of in the same landfill)
- Ban on the landfilling of hazardous liquid waste or waste which is explosive, corrosive, oxidising, flammable or infectious (July 2002)
- Pre-treatment of hazardous waste going to landfill (July 2004)
- Setting of waste acceptance criteria imposing leaching limit values on hazardous waste landfills (July 2005)
- Ban on the landfilling of used whole and shredded tyres (July 2006)

37. The Government and the Environment Agency are completing implementation of the remaining requirements.

Box 3.3: Further changes to landfill

- Ban on the landfilling of liquid waste from October 2007
- Requirement for the pre-treatment of non-hazardous waste from October 2007
- Completion of the re-permitting of existing landfills under the Pollution Prevention and Control regime during 2007 and the closure of other landfills by 2009

Pre-treatment of non-hazardous wastes destined to landfill

38. The Government's view is that the requirement for pre-treatment could result in a significant reduction in the amount of waste being landfilled where it is used alongside other measures. Treatment can include genuine source segregation of wastes that maximises the recovery or recycling of principal recyclable wastes. **The Environment Agency has published guidance supported by case studies provided by industry to expand on the Government's guidance on the three-point test for pre-treatment**.[22]

Box 3.4: The three-point test for pre-treatment

- Physical thermal, chemical or biological process including sorting
- changes the characteristics of the waste
- it must do so in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery

39. The Landfill Directive imposed requirements that waste destined for landfill has undergone basic characterisation as well as pre-treatment. The onus for this has so far rested with the landfill operator. The Government's view is that the **onus on characterisation and pre-treatment should increasingly rest with the waste producer**.

40. As part of the review of controls on the handling, transfer and transport of waste mentioned above, the **Government is consulting on a proposal to extend the requirement for a written description of waste already needed under the waste duty of care to require the details of basic characterisation and any pre-treatment carried out to be recorded on the waste transfer note**.

Closed sites

41. Implementation of the Landfill Directive and the requirement for operators of existing landfills to re-apply for pollution prevention and control permits has led to a huge reduction in the number of landfill sites. The process of re-application ends in 2007, after which it is estimated that 1,500 landfills may be closing – three or four times as many as the continuing operational landfills sites – from over 1,200 sites to approximately 450.

[22] Treatment of non-hazardous wastes for landfill, the Environment Agency, 2007. Available on http://www.environment-agency.gov.uk/business/444217/444663/landfill

42. **The Government is committed to ensuring the complete closure of all landfills that will not meet the Landfill Directive requirements**. This process is underway now and closure plans agreed with operators should ensure that this process is completed by 2009. In addition, the Government and the Environment Agency are reviewing regulation of those landfills that closed before the Landfill Directive came into force and are regulated under waste management licences. There are around 1,500 of these sites. The **Government is also committed to ensuring that the environmental impact of closed sites is minimised in the long term**. This can be achieved through assessment of the residual risks they pose and prioritisation of sites needing further action such as increased monitoring or additional pollution control measures during the closure period, particularly to protect groundwater and reduce the emission of landfill gas.

Regulation of some other waste sectors

43. The Government has brought into force regulations which bring agricultural waste under the same system of legal controls that applies to waste from all other sectors of industry (collectively classified as 'Industrial Waste'). The **Government will also be putting in place a statutory producer responsibility scheme for non-packaging farm plastics in 2008**, which is likely to place obligations on producers to increase collection and recycling of waste farm plastics to target levels.

44. The **Government will be transposing the EC Directive on the management of waste from the extractive industries**[23] **into national law by 1 May 2008**. Mine waste facilities would be subject to the new provisions by 2012. Further details of actions on these and other sectors are given in Annex C5.

Skilled staff and a safe working environment

45. A skilled and competent workforce is vitally important if local authorities and the waste industry are to meet the existing and emerging challenges presented by new and existing legislation, developments and technologies.

46. Training and skills development for the industry is led by the Sector Skills Councils (SSCs). The appropriate SSC for the waste management sector is Energy & Utility Skills (EU Skills), which represents the needs of employers in the electricity, gas, waste management and water industries. EU Skills is developing a strategy of action within the waste management sector, which includes the preparation of National Occupational Standards.

47. Recent research among employers by EU Skills has identified a number of skill, qualification and training gaps where action is needed to ensure that skills levels are appropriate to the industry's needs, to meet the aspiration of the Leitch review of skills.[24]

48. The Waste Management Sector Plan, agreed in 2006 by the Environment Agency and the Environmental Services Association (ESA), representing a major part of the waste management industry, contains specific objectives to help ensure that:

- there is an appropriate level of training and competence within both the waste management industry and the regulators;
- sufficient specialists will be available in areas such as hydrogeology and new technologies;

[23] Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries.
[24] *Prosperity for all in the global economy-world class skills*, December 2006, for HM Treasury.

- enough graduates are entering the industry;
- the competence of individuals within the sector is consistently maintained – over and above just qualifying them.

49. Availability of appropriate training is a crucial element in improving competence. Under the Plan, two targets have been set:

- the Environment Agency and the Environmental Services Association to **develop a joint training plan to improve levels of competency within the waste sector; and**
- by December 2007, to assess whether there are any shortfalls or gaps in the competence/skills base in the Environment Agency and the waste management industry and to agree a **strategy to address any shortages or gaps**.

50. The Environmental Permitting Programme provides an opportunity to replace the current detailed requirements for operator competence laid down in the Waste Management Licensing Regulations 1994 with a high-level test supported by guidance, which is subject to consultation.

Health and safety

51. A competent workforce will help to ensure a safe and healthy industry to work in. The Health and Safety Executive is responsible for the regulation of health and safety in England, as well as Wales and Scotland. Defra works closely with the Health and Safety Executive, including through the Waste Industry Safety and Health Forum. This forum is chaired by the Health and Safety Executive, meets on a quarterly basis and works to improve the occupational health and safety standards of the industry.

52. Defra is contributing funding to research with the Health and Safety Executive entitled 'Collecting, transfer, treatment and processing of household waste and recyclables: Assessment of the occupational health and safety risks of systems to provide the Health and Safety Executive, local authorities, waste management companies and others with guidance that will assist in the selection of the most appropriate system while meeting environmental targets.' This is likely to be published in Summer 2007.

53. The Environment Agency also has an interest in the safe operation of waste sites in order to protect human health and the environment. The Sector Plan referred to above contains commitments:

- to review how the Agency and the Health and Safety Executive are working together on the regulation of the waste management sector;
- to support the Environmental Service Association's strategy to deliver the following targets:
  - by 2007, to reduce the incidence rate of RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) reportable incidents by 10% per year and to eliminate fatalities; and
  - by 2010, to reduce the incidence rate of cases of work-related ill health by 20%.

54. In April 2006, the Environmental Services Association published its Health and Safety Strategy for a safe and healthy work environment for all involved in waste management activities. The strategy refers to the targets set in its Accident Reduction Charter launched in 2004 and supports the work of all stakeholders (including ESA) who seek to increase the competence levels within the industry.

Challenges and barriers

Despite some recent reduction in the rate of its growth, waste is continuing to increase. Design of many products and their packaging for sale and transport does not place enough emphasis on reducing waste or on limiting landfill from disposal. Many businesses are failing to realise the economic benefits of resource efficiency. Implementation of a number of specific European directives and voluntary agreements secured in some sectors have encouraged recycling, but producer responsibility by business has not sufficiently targeted waste reduction nor reached all the key waste streams.

Where we want to be

Significant further reductions in waste growth and use of landfill. Improved design of products and use of materials to increase resource efficiency and reduce waste. Clear strategies and targets to reduce waste and reduce landfill in each of the key waste materials, through producer responsibility agreements with the relevant sectors that can be effectively monitored. Agreed solutions formulated by reference to the environmental costs and benefits relevant to the specific waste materials and sectors concerned.

Key new policies and actions

- Focusing action on **key waste materials** with greatest scope for improving environmental and economic outcomes (paper, food and garden, aluminium, glass, plastics, wood and textiles). These include:
  - establishing with the **paper industry** an agreement with challenging targets to **reduce paper waste and increase paper recycling** incorporating and developing existing agreements for newspapers, magazines and direct mail but extended to office paper, free newspapers, catalogues and directories
  - proposals (subject to further analysis) for **higher packaging recycling targets** beyond the 2008 European targets to increase recycling
- Establishing a **new products and materials unit within Defra** to identify and catalyse actions across the supply chain, to improve the environmental performance of products across their life cycle; with a **progress report on delivery** in Spring 2008
- Implementing measures under the **Eco-design of Energy Using Products** (EuP) Framework Directive will consider the **waste impacts** (along with other environmental impacts) of energy-using products resulting from their manufacture (processes and **materials used**), usage (energy/water consumption and emissions) and **disposal (waste generation)**
- Encouraging **re-use and re-manufacture** of products and material resources with support from the Business Resource Efficiency and Waste (BREW) programme
- Reducing excess packaging, for example by **setting optimal packaging standards for a product class**
- **Developing an opt-out for unaddressed mail** with the Direct Marketing Association alongside delivery of their action on addressed mail, to **reduce the amount of unwanted direct mail** (of the 16 billion items delivered annually) and **explore the scope for an opt-in scheme**

Key new policies and actions *(continued)*

- Extending the Courtauld Commitment to **non-food retailers** to increase the total commitments by retailers to **reductions in packaging, food and other post-consumer waste**
- Consulting on making **Site Waste Management Plans mandatory for construction projects over a certain value**, and extending to other parts of the supply chain the recent agreement with the manufacturers on recycling of **plasterboard**, as part of reducing waste and increasing recycling by the **construction sector**
- Putting in place a **statutory producer responsibility system for managing waste batteries** by September 2008, in line with the EU Batteries Directive

Introduction

1. The previous chapters set out policies to establish the right pricing and regulatory framework. However, waste is a mix of very different products and materials and it occurs at different stages in the life cycle of a product or the operation of a business. So the need is to focus action on reducing the most significant environmental impacts and do this in a way that realises economic benefits.

2. This chapter first explains how the Government has identified key materials, products and sectors and then sets out how the Government plans to increase resource efficiency through:

- initiatives targeted at waste materials;
- product policy;
- advice and support for business;
- producer responsibility; and
- sectoral initiatives and agreements.

3. The Government has used the available evidence on the whole life cycle impacts of products, and on the life cycle analysis of waste materials in different end-of-life options to prioritise its work. Developing life cycle evidence can be complex and time consuming. The available evidence is limited and Defra is addressing this through its research and other work to improve the sustainable consumption and production evidence base.[25]

4. Figure 4.1 below shows key waste materials, products and sectors that this strategy is targeting.

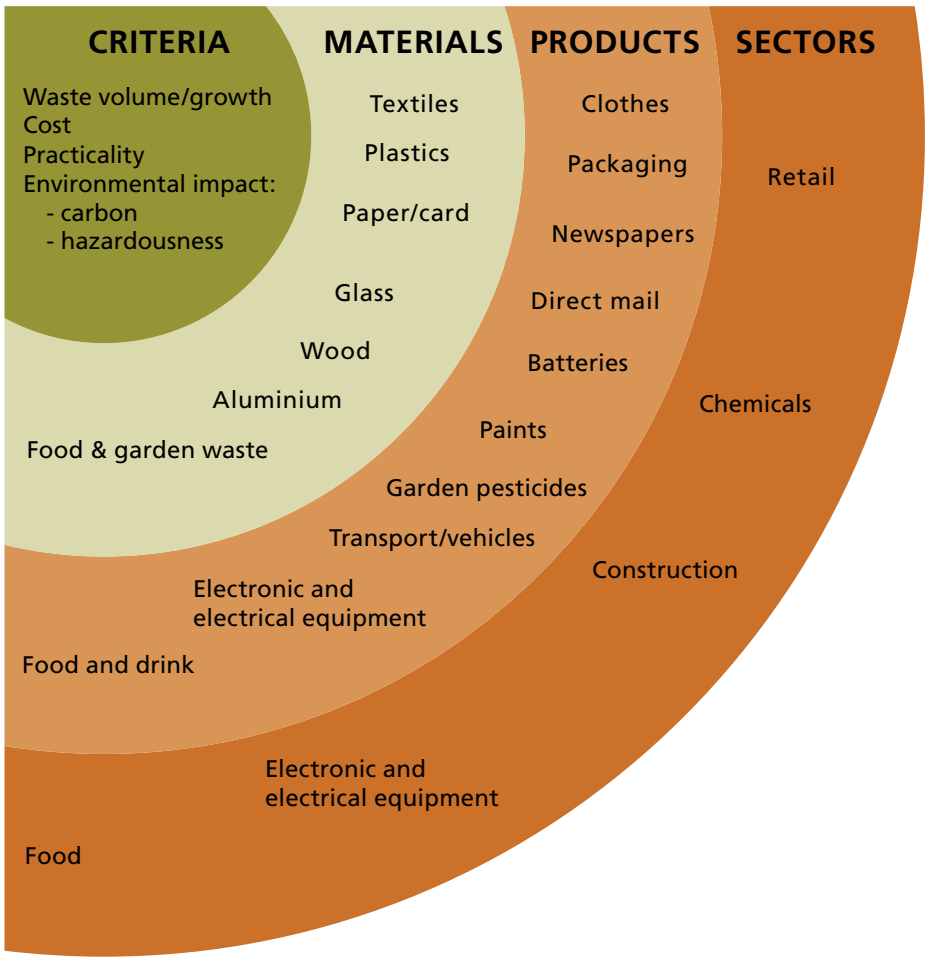
5. The **priority waste materials** have been identified on the basis of evidence on potential reductions of greenhouse gas emissions resulting from diversion from landfill and increased recycling and recovery. This does not include the full life cycle assessment.

6. The third segment shows **priority product groups** identified on the basis of waste impacts, including whether they contain **priority waste materials** or **hazardous materials**.

7. Finally, the outer segment shows the **broader business sectors** where many of the priority products and materials are found.

[25] See www.defra.gov.uk/environment/business/scp/research/index.htm

Figure 4.1: Key materials, products and sectors



Materials

8. The environmental impacts of wastes and how they are managed differ by materials. A very important impact is greenhouse gas emissions. Recent studies have considered the relative potential benefits for climate change of the recovery of different materials using a life-cycle approach.[26,27] There are a range of uncertainties which need to be taken into account in considering the results of such work. However, taking account of these, the findings suggest **significant potential savings in greenhouse gas emissions (in the UK and elsewhere) from greater diversion of certain materials from landfill, through recycling and energy recovery, over and above current efforts**.

9. The potential benefits are higher where recovered materials are of higher quality, material integrity can be maintained and virgin material production is avoided. For energy recovery, there are significant benefits in recovering heat as well as electricity (i.e. combined heat and power (CHP)).

[26] *Carbon Balances and Energy Impacts of the Management of UK Wastes*, report by ERM (with Golder Associates) for Defra, Final Report, March 2007, available on http://www.defra.gov.uk/science/project_data/DocumentLibrary/WR0602/WR0602_4750_FRP.pdf

[27] *Environmental Benefits of Recycling: An international review of life cycle comparisons for key materials in the UK recycling sector*, WRAP, May 2006 is available at: http://www.wrap.org.uk/applications/publications

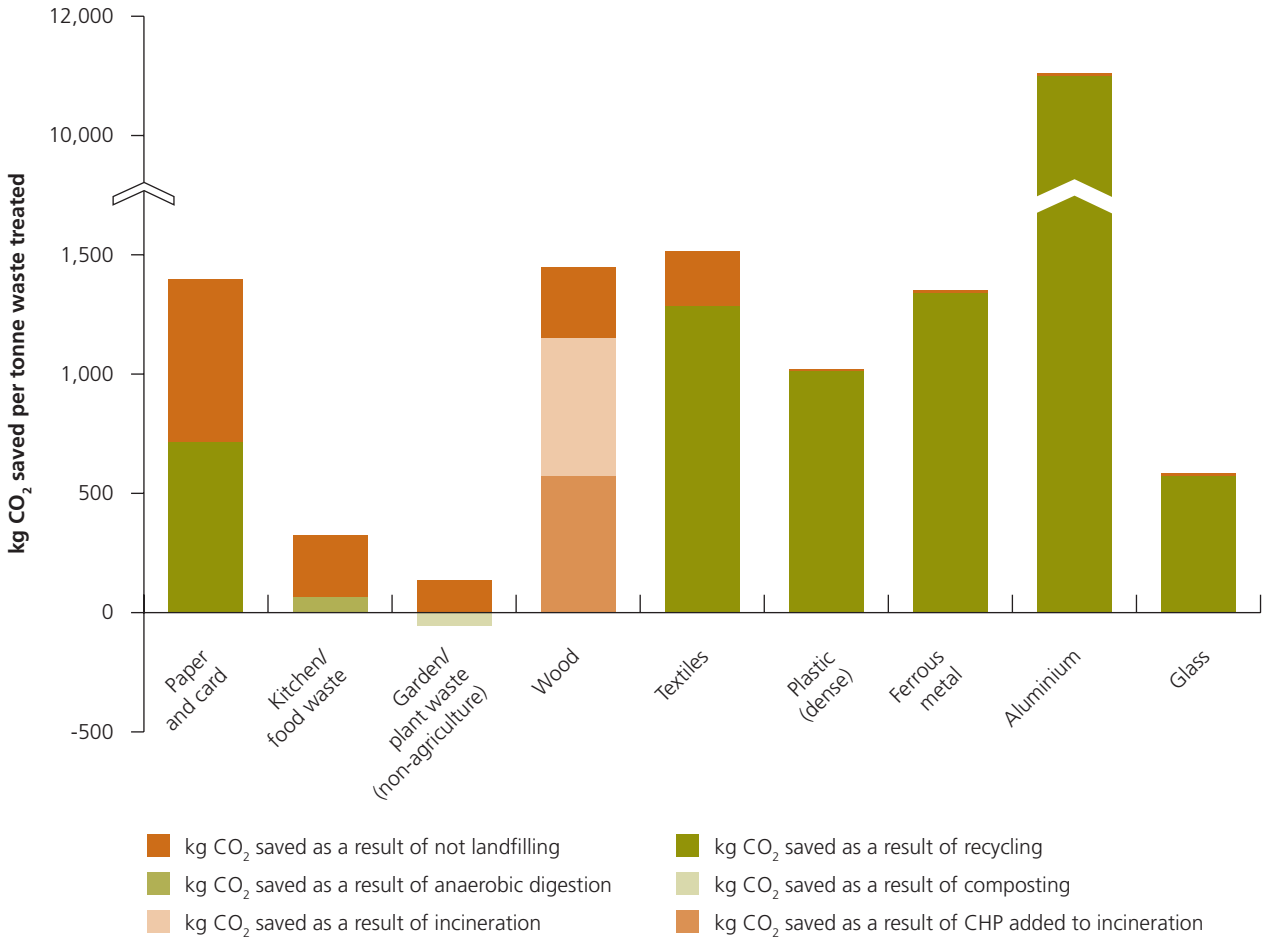
10. The Government is using such studies to inform current and future targeting of its policies, including those directed at product policy and standards, producer responsibility, sectoral agreements (statutory and voluntary) and public procurement (see Chapter 7).

11. This work on waste materials is being developed in tandem with development by Government of its products work (see below under the heading 'Products').

Key materials and initiatives

12. Charts 4.1 and 4.2 below show the potential greenhouse gas savings from diverting a tonne of each of the key waste streams identified. And the potential amounts of further waste that could be recovered.

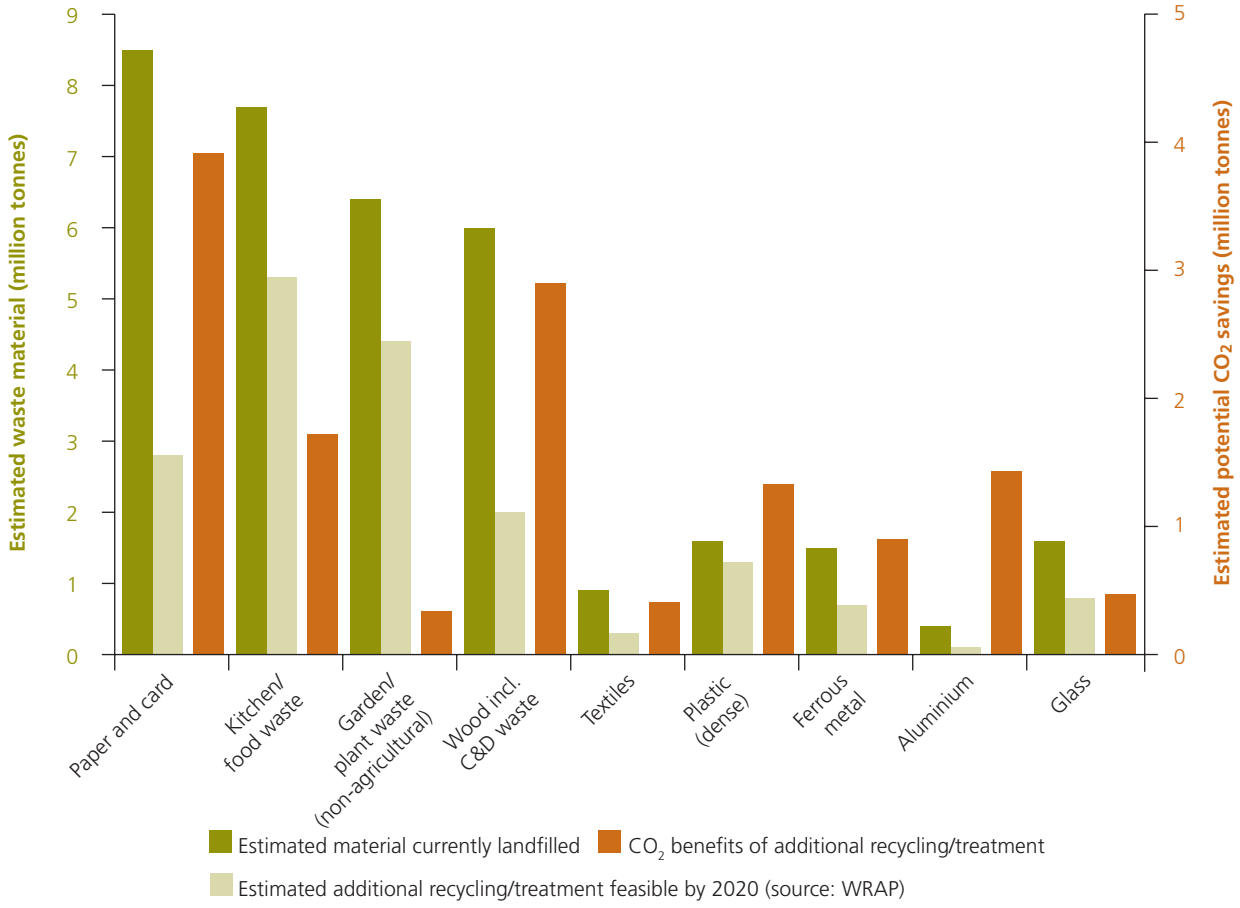
Chart 4.1: Estimated carbon benefits of diverting different waste materials from landfill



Carbon benefits of diverting waste material away from landfill assuming: paper and card, textiles, plastics, metals and glass are recycled; wood is incinerated with energy recovery; food waste is anaerobically digested, and garden/plant waste is composted.

Source: Defra

Chart 4.2: Estimated carbon benefit of feasible additional treatment by 2020



Waste currently landfilled, additional feasible treatment by 2020 and relative carbon benefits of additional treatment in 2020 assuming: paper and card, textiles, plastics, metals and glass are recycled; wood is incinerated with energy recovery; food waste is anaerobically digested and garden/plant waste is composted.

Source: Defra

13. Summarised below are the immediate actions being taken on the key waste materials. Beyond this, further work will be undertaken, in consultation with stakeholder groups,[28] to explore how greater recovery of these materials might be achieved in cost-effective ways over the longer term.

14. **Paper and card**. Both recycling and energy recovery show significant greenhouse gas and energy benefits over landfill. However, the relative benefits of recycling versus energy recovery are sensitive to (i) the quality of the paper or card available (with higher quality tending to favour recycling), and (ii) the efficiency of energy recovery (with higher efficiency and, especially, the availability of CHP, tending to favour energy recovery).

Actions include:

- looking to **establish with the paper industry an agreement to reduce paper waste and increase paper recycling** including incorporating and developing existing agreements for newspapers, magazines and direct mail (see below).
- increasing cross-government procurement of paper with recycled content.

[28] See Chapter 8.

15. **Food and garden wastes**. All degradable wastes have a significant greenhouse gas potential when landfilled. For rapidly degrading wastes, such as food/kitchen wastes, anaerobic digestion offers climate change and energy benefits over landfilling/landspreading, while composting has the potential to sequester carbon in soils and to improve soil fertility, which may confer additional climate change benefits.

Actions include:

- **supporting development of anaerobic digestion** (Chapter 5, para. 25);
- through WRAP, **extending the Courtauld Commitment to food brands and holding round-table discussions with retailers** on how household food waste reductions are to be delivered (see paras. 67 and 68 below); and
- through the Food Industry Sustainability Strategy, **implementing a target for reducing the food industry's own wastes** (see para. 71 below).

16. **Aluminium**. The recycling of all metals yields significant greenhouse gas benefits because large amounts of energy are needed to extract and process them. Each tonne of aluminium recycled saves 11 tonnes of CO_2. Metals already achieve a high rate of recycling and the greatest further potential lies with non-ferrous metals, and particularly aluminium. High recycling of aluminium already occurs in some industries and for some products, but there are areas where more can be achieved. Small increases in recycling tonnages would yield extensive greenhouse gas benefits.

Actions include:

- developing proposals (subject to further analysis) for higher packaging recycling targets beyond the 2008 European targets.

17. **Glass**. Recycling of glass can yield significant greenhouse gas benefits dependent on the processing route, with closed loop recycling (e.g. container glass recycled as containers) offering significantly greater benefits than lower grade uses (such as in aggregate substitutes), which may yield only marginal benefits.

Actions include:

- **light-weighting glass** in containers through 'best in class' standard for products, e.g. wine bottles;
- developing and trialling **collection services for glass from small businesses** (e.g. licensed premises); and
- developing a specification for **minimum recycled content** for glass products.

18. **Plastics**. Burning plastics has a general net, adverse greenhouse gas impact due to the release of fossil carbon. Recycling shows significant potential for carbon and energy savings through displacing virgin materials, although the scale of this varies widely with the processing route.

Actions include:

- developing proposals (subject to further analysis) for higher packaging recycling targets beyond the 2008 European targets; and
- supporting WRAP in its work which is already underway to **increase recycling of plastics and the recycled content** of certain plastic containers.[29]

[29] See WRAP's business plan for 2006–08 at http://www.wrap.org.uk/wrap_corporate/about_wrap/wrap_business.html for further details.

19. **Wood.** Wood has relatively low embodied energy (energy consumed in extraction) but high calorific value. Though for some kinds of wood waste re-use or recycling are better options, use as a fuel generally conveys a greater greenhouse gas benefit than recovering the material as a resource (and avoiding primary production).

Actions include:

- taking forward a programme of work to **develop energy markets for waste wood** by addressing informational and practical barriers to expansion (see Chapter 5, para. 31);
- **non-statutory guidance to accompany construction Site Waste Management Plans** (see para. 77 below) will highlight key waste materials, such as wood, that are predominantly consigned to landfill and identify beneficial alternatives to landfilling and encourage separate collection of materials at construction and demolition sites.

20. **Textiles**. Re-use and recycling of all textiles provides environmental benefits, partly due to the high resource requirements of primary material production. As regards clothes, current levels of re-use and recycling of clothes are low despite the excellent work of charity shops and the availability of textile banks and the economics of re-use and recycling are deteriorating.

Actions include:

- developing, in the light of recent reports, the product roadmap (see para. 27 below) being created on clothing and discussions with stakeholders, **policies to achieve higher levels of textile re-use and recycling and more value-added markets for recycled textiles**.

A range of materials can be re-used or recycled. Clockwise from top left: metals, glass, wood, food, paper, plastic and textiles.
Credit: WRAP, NISP, Photofusion

Products

21. The waste created (and the impacts of materials in it) can all be traced to the products[30] that households and businesses buy, use and dispose of.

22. There is a growing interest across Europe and internationally, as well as across the public sector, manufacturers and retailers in how to tackle the environmental impacts created by products. Yet, aside from the work of Defra's Market Transformation Programme (MTP), a vast array of product life cycles are not currently understood, their environmental impacts going unmeasured and unaddressed. This means that sectors and supply chains often do not have the evidence to understand how and why they should change their products in order to reduce their environmental impact. The Government is **now establishing a new products and materials unit within Defra, to drive forward work to improve the environmental performance of products and services across their whole life cycle**.

23. This will be a centre of expertise, making links to a wide range of stakeholders in developing the evidence of product life cycles, the range of impacts and successful interventions. It will catalyse action for new policies, standards and agreements, build up relationships with retailers, primary producers and manufacturers, and coordinate efforts to drive up the functional and environmental performance of priority products.

Priority products

24. Defra is bringing together the evidence about environmental impacts across the life-cycle and will identify actions and target solutions where they will be most effective. **Defra will publish a progress report on delivery in Spring 2008.**

25. Work is underway to develop the evidence base and methodologies which will enable more effective identification of those products which have the greatest environmental impact over their entire life-cycle and the most successful interventions.[31] There are several international, EU and UK sources providing evidence, of which one study[32] shows that four product groupings consistently account for 70–80% of environmental impact: food and drink; passenger transport; housing (including buildings and the appliances in them), and clothing.

26. **The progress report will cover actions being taken on products within these areas. Ten product 'roadmaps' are already under development** and will demonstrate how a life-cycle approach can yield significant opportunities for improvements in products.

Product design

27. Product design is an important means of achieving waste prevention in manufacture, use, re-use and disposal. Producers and retailers can reduce waste impacts through designing and marketing products that use less material and avoid the use of harmful substances, last longer and are easy to disassemble and recycle.

[30] By product we mean all products and services.

[31] Defra's Sustainable Consumption and Production (SCP) Evidence Base is leading work to build evidence in this area. See footnote 25.

[32] *The Environmental Impact of Products (EIPRO) Analysis of the life cycle environmental impacts related to the final consumption of the EU–25*, European Commission, 2006.

28. Defra's Market Transformation Programme funded by BREW is carrying out more work to support the reduction of waste impacts through action taken at the design stage of the supply chain.

29. The Government has recently consulted on new regulations which will implement the European Directive[33] establishing a framework for the setting of eco-design requirements for energy-using products.

30. The **eco-design requirements** to be developed in due course will **consider waste impacts as part of the wider life-cycle assessment of energy-using products** resulting from their manufacture (processes and materials used), usage (energy/water consumption and emissions) and disposal (waste generation).

Support for business resource efficiency

31. Cleaner, more efficient production processes can strengthen business competitiveness while reducing waste. Equally, non-manufacturing businesses have scope to reduce waste. Advice and support on reducing waste and recovering value from waste that is produced is provided by organisations such as WRAP, the Environment Agency, Envirowise, National Industrial Symbiosis Programme (NISP), Business Links, local authorities and trade associations.[34]

32. The DTI Technology Programme is funding around £320 million of research and development into new technologies, to help support the innovation needs of businesses.

Box 4.1: Action to support resource efficiency

- Envirowise provides extensive advice, guidance and support on resource efficiency. For example, over 4,000 companies have taken part in resource efficiency clubs with savings to cost ratios of ten to one, or £26,000 per company
- Many Regional Development Agencies funded by BREW are supporting regional projects, e.g. developing Centres of Excellence
- The Environment Agency is developing the Resource Efficiency Appraisal and Development (READ) tool, an online self-assessment tool, to help businesses appraise their management of resources and improve their performance

33. The Government will continue to provide advice and support – through the BREW programme in 2007/08.[35]

[33] Directive 2005/32/EC on the Eco-design Requirements for Energy-using Products.

[34] The Government's Business Support Simplification Programme is currently assessing how Government support to businesses, including but not limited to waste management issues, can best be configured to meet business needs.

[35] Future funding from 2008/09, including the BREW programme, is dependent on the outcome of the Comprehensive Spending Review 2007 to be announced later in 2007.

Product and materials re-use

34. As well as reducing waste, there is scope to draw more value from production materials already in use, including both whole products and component parts from both the business and household sectors.

35. **The Government will continue to support a range of initiatives to help develop re-use and re-manufacture**, where market opportunities appear not to be fully exploited, through the BREW programme and support to the third sector. Much of the work being done by NISP, Envirowise and the Market Transformation Programme (MTP) in particular is aimed at increasing re-use. Specific projects include:

Redundant computers ready for refurbishment and re-use in the marketplace.

Box 4.2: Action to support re-use and re-manufacture

- The **National Industrial Symbiosis Programme (NISP)**, funded by the BREW programme, **matches one operator's waste with another's raw material** needs. In the first two years of its operation, in the region of 1.7 million tonnes of materials have been diverted from landfill with £70 million of cost savings
- With Defra Research and Development funding, **Loughborough University** is investigating the feasibility of **developing refillable packaging systems**, including concept testing in the personal care market
- Updated guidance encourages local authorities to **pay credits for re-use** to third parties where there are environmental, social and economic benefits
- Defra funded the **Furniture Reuse Network** to set up an **accreditation scheme** for their members to access national re-use contracts

Producer responsibility

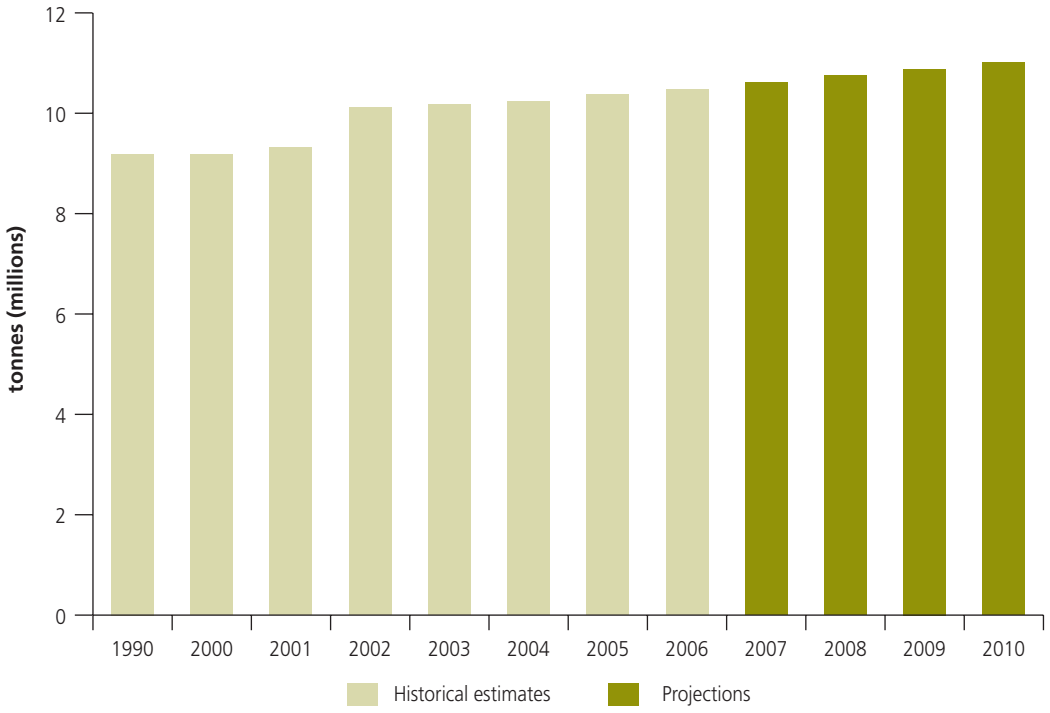
36. Businesses should take responsibility for the environmental impact of products that they place on the market – including when they become waste.

37. Some priority products have been the subject of recent producer responsibility legislation and voluntary agreements, including packaging, electronic and electrical equipment, vehicles, newspapers, magazines and direct mail. Further work is underway on batteries and farm plastics.

Packaging

38. Packaging waste arisings now total over 10 million tonnes per annum and are predicted by the industry to continue to rise (see Chart 4.3).

Chart 4.3 Packaging waste arisings – UK estimates up to 2006 and projections



Source: Defra estimates, based on data supplied by industry organisations

39. The implementation of the Packaging Directive through the producer responsibility regulations[36] encourages producers to reduce packaging in order to reduce the cost of their obligations to recycle and recover their packaging waste. Through innovation some reduction in the weight of individual items of packaging has been achieved since 1998 with the result that most bottles, jars, cans and plastic containers are now lighter than they were before 2000. WRAP's Waste Minimisation Innovation Fund supports retailer-led research projects and pilot programmes to reduce household food and packaging waste through light weighting, innovative designs to reduce packaging and trialling more reusable packaging for bulky products.

40. However, there is still a problem of excess packaging around many products. To deal with this **the Government will, in consultation with the industry, look to amend the producer responsibility regulations to achieve packaging minimisation** while keeping in mind businesses' commercial objectives. This would look to set **optimal packaging standards for a product class** building on WRAP's, development of best in class standards so that, for example, producers would be expected to use the lightest weight packaging where such an option exists. WRAP has estimated that if just 10% more of imported wines were bulk imported and bottled here in 'best in class' recycled wine bottles, 138,000 tonnes of carbon dioxide equivalent a year could be saved.

[36] As amended, these are the Producer Responsibility Obligations (Packaging Waste) Regulations 2007.

41. Since the introduction of the packaging Regulations, and their recovery and recycling targets, there has been a significant increase in the level of packaging waste recovery, some 20 percentage points since 1999. In 2006, the recycling rate for packaging waste stood at 56%.

42. The European Union has set minimum recovery and recycling (including material-specific recycling) targets up to 2008. The Commission currently considers that the levels of the targets decided in the Packaging Directive should remain as they are beyond 2008. The Commission will review this dependent on progress towards these targets.

43. Directive targets of 60% recovery and 55% recycling of packaging waste in 2008 are expected to be achieved but there is still a significant amount of packaging waste that is not being recycled – nearly 5 million tonnes. **The Government will therefore propose (subject to analysis) higher recycling targets for the period beyond 2008** with a view to diverting more packaging waste from landfill and reducing the greenhouse gas emissions associated with some packaging materials (e.g. aluminium and plastics) in particular.

44. The packaging Regulations set annual *business* targets for recovery and recycling of packaging waste designed to allow the UK to meet the recovery and recycling targets in the Packaging Directive; these include material-specific recycling targets.

45. Some of this packaging waste is discarded by householders and collected by local authorities. Local authorities have targets for landfill diversion of biodegradable waste and for recycling, which are not material-specific.

46. To ensure that a sufficient amount of each packaging material from the household waste stream is recycled, the Advisory Committee on Packaging and a group of local authority Chief Executives, supported by Defra, are developing a joint protocol. This will help local government and industry identify the best systems for cost-effective collection of packaging waste and improve performance against both sets of targets.

Other EU producer responsibility directives

47. The **End of Life Vehicles** (ELV) Directive requires producers to meet the obligations and recovery and recycling/re-use targets which are set out in Annex C11. Between 1.6 million and 2 million ELVs arise each year in the UK. The recovery rate for 2005 was estimated to be around 81%. The Directive requires 85% recovery (80% recycling/re-use) by 1 January 2006 and 95% recovery (85% recycling/re-use) by 1 January 2015.

48. **The Waste Electrical and Electronic Equipment (WEEE) Directive** places requirements on distributors (i.e. retailers) to assist in collecting WEEE from private households, and on producers to treat and recover/recycle WEEE to target levels, which range from 50–80% recovery and recycling depending on the product category. The targets do not apply to WEEE that is re-used as a whole. The first recycling targets were to be met by the end of 2006. The UK regulations came into force in January 2007, while the full producer and distributor obligations take effect in July 2007. The regulations require that producers register with the Environment Agency through an approved compliance scheme. One of the conditions of compliance scheme approval is that schemes demonstrate how they will prioritise the re-use of whole appliances.

49. The **Batteries Directive**[37] will prohibit final disposal of automotive and industrial batteries into landfill or by incineration while increasing proportions of portable household batteries that must be

[37] Directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC.

collected and recycled. The **Government is working towards putting in place a statutory producer responsibility system for managing waste batteries, the EU deadline for which is 26 September 2008**. See Annex C13 for further information.

Voluntary producer responsibility agreements

Newspapers, magazines and direct mail and the paper sector

50. Paper has been identified as a material where reduced waste and greater recycling can yield significant environmental benefits. The Government has already concluded voluntary producer responsibility agreements to promote, in particular, increased recycling of newspapers, magazines and direct mail with the Newspaper Publishers Association (NPA), the Periodical Publishers Association (PPA) and the Direct Marketing Association (DMA) respectively. These three waste streams are estimated to amount to about 3.6 million tonnes (which would equate to about 14% of total household waste). All three aim to increase recycling with targets for either recycled content or amount of waste recycled (see Table 4.1).

Table 4.1: Recycling – voluntary producer responsibility streams

	Current Achievement	Targets							
		2006	2007	2008	2009	2010	2011	2013	2015
Newsprint	80.6[1]	70							
Direct mail	13[2]				55			70	
Magazines	41[3]		50			60		70	

For newspapers, the numbers relate to recycled content. For direct mail and magazines, they relate to the level of recycling. [1]2006; [2]2003; [3]2004.

Source: Defra

51. Direct marketing material is estimated to account for approximately 550,000 tonnes of the household waste stream. Of this, 181,500 tonnes is estimated to be addressed direct mail with the remaining 368,500 tonnes being unaddressed direct marketing material.

52. Since the DMA agreement was signed in 2003 there has been a drop of around 5% in the amount of addressed direct mail, partly through the promotion of the Mailing Preference Service (MPS). However, volumes of unaddressed mail (including inserts in magazines and newspapers) appear to be increasing at a rate of 1–2% per year. Registration with the MPS does not prevent delivery of unaddressed mail and the **DMA has agreed to develop an opt-out service for unaddressed mail along the lines of the MPS to improve the targeting of this marketing material**. This will be developed on a voluntary basis in the context of the existing agreement. Government will also be exploring with the DMA whether an opt-in system would be an appropriate mechanism to further reduce unnecessary direct mail.

Box 4.3: Other action by the Direct Marketing Association

- Further develop the MPS system to improve the targeting element and provide greater flexibility for both the consumer and the producer; and further increase awareness of the service among householders
- Work with WRAP to develop a 'recycle logo' to be printed on all direct mail
- Work with WRAP, the paper mills and adhesive manufacturers to minimise the use of materials that may contaminate the recycling process
- Work with local authorities to develop appropriate messages about recycling direct mail and other promotional material

53. Progress has been made in meeting the other targets set in the three agreements and with taking forward specific actions set out in them.[38]

54. The Government reviews progress on each of these agreements each year and is considering what future action should be taken with the three associations. Discussions will begin soon with the NPA, in particular, on the way forward on newspaper recycling.

55. As it explores the scope for recycling and recovery of waste paper, the **Government will be looking to other sectors of the paper industry to establish similar agreements or incorporate them into the development of the existing agreements**. These would cover office paper, free newspapers, catalogues and directories and possibly other products as well.

Sectoral approaches

56. The 'producer responsibility' approach can be extended to agreements (statutory or voluntary) with broad business sectors which may cover:

- reducing waste arisings from the businesses themselves;
- increasing recycling and recovery of the business waste;
- reducing and recycling post-consumer waste which comes from the sector; and
- recycled content of new products.

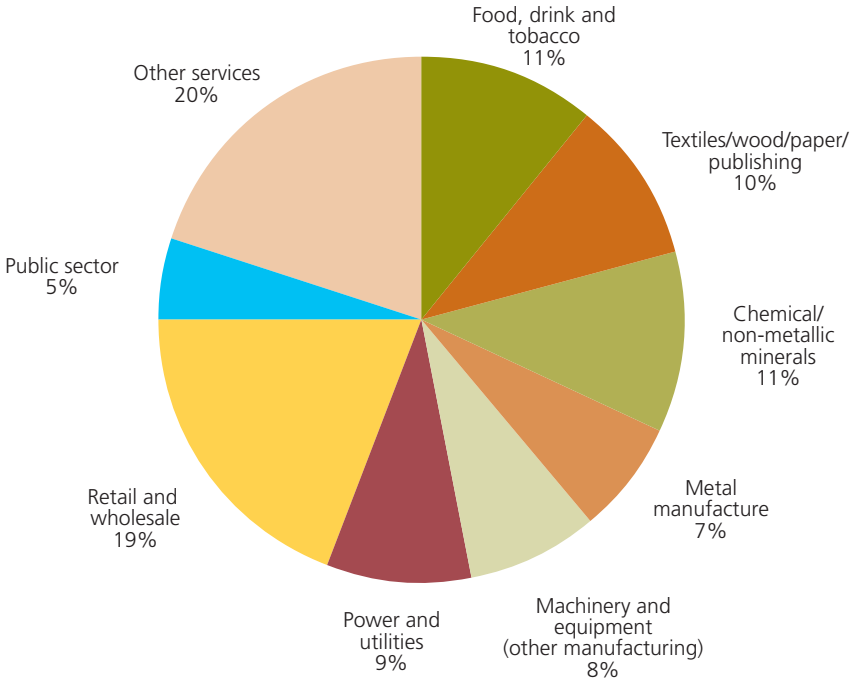
57. Depending on where the key environmental impacts or potential gains are, discussions can be held with the companies themselves or their trade associations and the future direction for a sector can be clearly mapped out in a way which helps the sector to improve its performance and provides certainty. This will include consideration of the priority waste materials identified earlier.

[38] See Annex C16 for more detail.

Box 4.4: Principles for co-ordinated sectoral initiatives

- Cover all stages of the production and consumption chain which are considered to be key in relation to waste and its environmental impacts
- Interlock with other initiatives and requirements with minimal overlap
- Set out clear responsibilities for each government department, agency or government-funded body (e.g. WRAP) in taking these forward
- Provide a solid evidence base for policies to tackle waste
- Optimise life-cycle benefits, so that initiatives to tackle waste impacts do not have adverse effects on other environmental impacts (e.g. energy and resource use)

Chart 4.4: Commercial and industrial waste by sector – total 67.9 million tonnes



Source: Environment Agency Commercial and Industrial Waste Survey 2002/03

Action in specific sectors

58. The Environment Agency is already developing a series of sector plans in conjunction with selected industry sectors. They promote sector improvement targets for environmental performance. They encompass waste reduction as well as re-use, recycling and recovery.

Box 4.5: Published sector plans

- Nuclear
- Chemicals
- Cement
- Waste management
- Dairy farming

59. The sector plans include many industries regulated under the Integrated Pollution Prevention and Control regime which places a statutory duty on industry to reduce (and recycle) waste. The Agency has set a target of 15% for reduction of waste disposal in the period 2006–2011 and will use Pollution Prevention and Control regulation to require companies to reduce the amount of material used, the waste produced and to recycle more where this represents Best Available Techniques.

60. **The Agency's new Corporate Strategy**[39] **includes a commitment to report resource efficiency 'league tables'**. It intends to publish these through an annual Resource Efficiency Inventory covering all PPC processes regulated by the Agency, comparing performance sector by sector, company by company and site by site.

61. The Government has identified sectors as priorities for further future action. These are: the **food and retail sectors** (large and growing sectors, original source of nearly half of all household waste and with considerable scope for diverting more waste from landfill) and the **construction and demolition sector** (the largest single source of waste arisings, with scope to improve resource efficiency, and accounting for about one-third of England's hazardous waste in 2004).

Retail sector

Box 4.6: Retail sector – waste facts

Nearly half of the household waste which ultimately ends up in landfill originates as a purchase from retail supermarkets and convenience stores and about 20% of all rubbish put out by households is retail packaging.[40]

The retail and wholesale[41] sector is the largest producer of commercial waste, producing 12.7 million tonnes in 2002/03,[42] of which the retail sector alone accounted for 6.2 million tonnes:

- the amount of waste produced by the retail sector alone increased by 16% from 1998/99
- the amount of waste landfilled by the retail and wholesale sector combined is estimated to be around 5.1 million tonnes in 2002/03, a small decrease from 1998/99

[39] *Creating a better place*, the Environment Agency's Corporate Strategy 2006–11, available at http://publications.environment-agency.gov.uk/pdf/GEHO0406BKFW-e-p.pdf

[40] Based on data produced by WRAP based on local authority compositional analysis (dustbin sorts) for packaging content and on 2004/05 Defra statistics for England.

[41] The wholesale sector includes certain goods and services sold to commercial and industrial customers, as well as certain goods and services ultimately purchased by domestic consumers.

[42] Source: EA survey 2002/03. It is recognised that this is a diverse sector.

62. The amount of retail and wholesale waste being re-used and recycled has increased, from 36% in 1998/99 to 52% in 2002/03, but there is scope to increase this further. Also, retailers have a considerable influence on the household waste stream, including the amount of food waste which ends up in the household bin, about 5.6 million tonnes in England.[43]

63. Some retailers are already taking action to reduce waste and increase recycling of their own waste and to enable more household recycling by investing in expanded front-of-store recycling facilities. And some have plans to move away from landfilling altogether.

64. The Government is working with the retail sector on waste issues primarily through the Courtauld Commitment, but also through the Food Industry Sustainability Strategy (see below).

Box 4.7: Courtauld Commitment

- Design out packaging waste growth by 2008
- Deliver absolute reductions in packaging waste by 2010
- Identify ways to reduce food waste

This translates into the following WRAP business plan targets for 2008:

- to secure an 80,000 tonne per year reduction in packaging waste and an accumulated 340,000 tonne reduction by 2010
- to deliver a 100,000 tonne reduction in household food waste

65. In support of the Courtauld Commitment, **WRAP is working with the retailers and manufacturers to increase further their use of recycled content in packaging**. Some are already including up to 30% recycled content in plastic packaging following research from WRAP showing this to be economically and commercially viable.

66. In November 2006, the grocery retailers met the Minister of State for the Environment to discuss progress against the objectives since the Commitment was signed in July 2005. The Minister recognised the commitment shown by retailers and the progress that had been made in reducing the amount of food and packaging waste that ends up in household bins, but he emphasised the scope for further action that is more visible to consumers.

67. At this meeting **retailers committed to round-table discussions with WRAP and other relevant stakeholders to take forward priority issues**. WRAP is also considering how best to provide **guidance to retailers on which packaging materials**, specifically which types of plastics, **should be used and when**, by means of a materials '**decision support tool**'.

[43] WRAP estimate derived from its recent research on the nature, scale and causes of household food waste – see the summary available on http://www.wrap.org.uk/biowaste. Applying a population extrapolation to the UK-wide estimate of 6.7 mt produces an England estimate of 5.6 mt which is in line with ongoing WRAP analysis of household food waste composition.

Box 4.8: Courtauld Commitment – round-table discussions held on:

- Food waste – how household waste reductions are to be delivered and the food waste treatment options available to the industry
- Packaging labelling – how to use this to inform customers better about whether or not materials can be recycled or composted
- Biodegradable packaging – the risks and opportunities associated with them and how to ensure that, if introduced, they are correctly identified

68. Several food and drink brands and manufacturers have now also signed up to the Commitment. WRAP is working to encourage other brands to sign up and to **extend the agreement to non-food retailers.**

69. The **Government is increasing its broader engagement with retailers, to encourage them to play their part in reducing their environmental impacts**.

70. The Environment Agency is developing a sector partnership plan with the retail sector. This will cover consumer and transit packaging and identify company milestones for reduction of waste and increasing resource efficiency in stores and operations.

Food and drink sector

Box 4.9: Food sector – waste facts

The food, drink and tobacco manufacturing industry is the largest producer of waste in the manufacturing sector, generating about 7.2 million tonnes per year:[44]

- 4.1 million tonnes of this is food or food processing by-products. This constitutes two-thirds of total commercial and industrial food waste
- the majority of food waste returns to the supply chain for further processing
- but about 1.9 million tonnes of the sector's waste is landfilled directly

71. Food waste was identified as a key waste stream with scope for improved environmental performance. Some actions to reduce and recycle food waste are already being taken. Under the Courtauld Commitment, WRAP has a target to reduce household food waste by 100,000 tonnes in 2008. The Food Industry Sustainability Strategy contains a target of reducing the food manufacturing industry's own wastes by 15–20% by 2010. Implementation is now being discussed.

72. The Government wishes to **encourage more consideration of the use of anaerobic digestion** both by businesses, including in the food and drink sector, and local authorities – see further Chapter 5, para. 25 below.

[44] Source: Environment Agency survey 2002/03 data. This excludes retail of motor vehicles, parts and fuel. The sector showed no change in total waste arisings between 1998/99 and 2002/03.

Construction, demolition and excavation (CD&E) waste

Box 4.10: Construction – waste facts

The construction sector:

- Is the largest single source of waste arisings in England
- The largest component of this is 90 million tonnes of inert wastes suitable for reprocessing into aggregates[45]
- The sector accounts for 32% of hazardous waste[46] – 1.7 million tonnes, the largest contributor

73. There is good potential to increase resource efficiency in construction and reduce waste[47]. Evidence suggests that contractors tend to underestimate the true cost of waste, neglecting the lost value of materials in skips. Improving resource efficiency will be a theme of the **Sustainable Construction Strategy** which the Government intends to publish later in 2007.

74. The re-use and recycling of CD&E waste suitable for reprocessing into aggregates (particularly demolition and earthworks) has increased (see Annex C3). Rates of landfilling for site construction waste still appear to be high and there is scope for improved performance: at least one major contractor has set itself a target of sending zero non-hazardous waste to landfill. To stimulate diversion from landfill, the **Government is proposing a possible new target of halving the amount of CD&E waste going to landfill by 2012 as a result of waste reduction, re-use and recycling. The Government will be discussing this further with construction stakeholders, including the industry, and presenting any construction waste targets in the Sustainable Construction Strategy**.

75. There is scope to do more for certain products and materials. The major plasterboard manufacturers and their trade association have developed, with WRAP and the MTP, **a voluntary agreement to reduce plasterboard waste to landfill and increase collection and recycling. WRAP and the Building Research Establishment are working with the remaining elements of the supply chain to agree a sector-level commitment. Through the MTP, the Government is developing policy roadmaps for other priority construction products such as window systems**.

76. Through WRAP and other programmes, the Government is continuing to help develop markets for recycled construction materials, including promotion of recycled content (e.g. through Quality Protocols and procurement guidance). The Government is also funding demonstration trials of construction waste recycling through WRAP, targeted specifically at SMEs.

[45] Survey or Arisings and Use of Attitudes to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste, Report for CLG by Capita Symonds (2007).

[46] In England and Wales – Environment Agency data for 2004 available at: http://www.environment-agency.gov.uk/commondata

[47] In 2004, the Government's Sustainable Buildings Task Group noted making more efficient use of materials as one of the three key areas for action.

77. **Defra is consulting on regulations for Site Waste Management Plans (SWMPs)**, which will make it mandatory for those responsible for projects above a certain threshold to prepare plans before work begins on site. SWMPs aim to reduce illegal waste activity, including fly-tipping, and will also encourage reduction in the amount of waste produced and improved resource efficiency. Subject to consultation, they will require projects to forecast and monitor the amount of waste produced, re-used and recycled, and to promote the opportunities of reducing waste at source. The regulations will also be accompanied by non-statutory guidance that will highlight key waste materials, such as wood, which are predominantly consigned to landfill and identify beneficial alternatives such as reuse, recycling or combustion as well as encouraging separate collection of materials at construction and demolition sites.

78. Defra is now **working with the Building Research Establishment (BRE) to develop a strategic implementation plan for construction waste** which will help deliver the objectives of this strategy. BRE is discussing with the Government, the industry and others the Construction Resources & Waste Roadmap to take this forward.

On-site separation of construction waste.
Credit: WRAP

Challenges and barriers

Use of landfill remains high by European standards, and recycling levels and recovery of waste as energy, low. While there has been significant improvement in recent years, investment in waste collection and treatment to achieve these objectives in England has been historically low and slow to get off the ground. A number of important new waste treatment technologies (such as anaerobic digestion) have not been established in this country.

Where we want to be

New investment in waste treatment facilities to take place, without unnecessary delay, that maximises the cost-effective reduction on greenhouse gas emissions, and other environmental impacts, from the waste that is produced. Collection and treatment infrastructure that provides convenient, flexible and integrated services with greater segregation and sorting of waste at, or close to, its source by households and businesses. Markets to operate efficiently to encourage the use of high quality recycled materials under sound environmental controls.

Key new policies and actions

- Increasing the (environmental and financial) **value obtained from recyclate** material collected by local authorities through a strengthened **advice service**, including on collection systems, the use of different kinds of **material recycling facilities (MRFs)** and contractual arrangements for collection services
- Ensuring that **Regional Spatial Strategies and local development plans** conform to national planning guidance on waste so that the waste infrastructure projects needed to deliver this strategy receive **planning approval**, while promoting best practice in the way local authorities consult stakeholders on their waste strategies
- Improving **procurement and investment by** local authorities through comprehensive support and strengthened central and regional coordination by the Waste Infrastructure Delivery Programme (**WIDP**) (a new WIP-led unit) to obtain cost-effective and timely delivery of the major infrastructure required
- Using the Private Finance Initiative, Enhanced Capital Allowances and, where appropriate, the proposed banding system for Renewable Obligation Certificates to encourage a variety of technologies of **energy recovery (including anaerobic digestion)** so that unavoidable residual waste is treated in the way which provides the greatest benefits to energy policy. Energy from waste is expected to account for **25% of municipal waste by 2020 compared to 10% today but less than the 34% by 2015** which was anticipated in 2000
- Putting in place an operational **protocol for anaerobic digestate** developed by the Environment Agency by Spring 2008
- Developing collection arrangements and the energy market for **wood waste** which cannot be re-used or recycled
- Supporting **domestic market development** for **high quality uses** of materials and resources and creating a **centre of expertise on export markets** for recycled materials to help business manage the market risk, maintain the value of recycled material and comply with export controls

Introduction

1. We need waste to be minimised to the greatest extent practicable, and such waste as does arise to be managed as far up the waste hierarchy as is reasonably achievable. Resources should be recovered in ways that maximise the cost-effective reduction in greenhouse gas emissions over the life-cycle. This chapter covers:

- the Government's vision of the waste collection and treatment infrastructure needed;
- support available for local authorities in making investment decisions and following them through;
- actions to reduce planning risk for waste facilities;
- policy on energy from waste, including anaerobic digestion; and
- support for business, contract design and markets for recycled materials.

2. Better collection and treatment of waste from households and other sources has the potential to increase England's stock of valuable resources and also to contribute to energy policy. And achieving both of these aims helps reduce greenhouse gas emissions. The Government's vision is of a waste collection and treatment infrastructure where:

- increasing amounts of waste are separated by householders and other producers themselves for joint kerbside collection. This maximises its value whether as material (e.g. aluminium cans) or energy feedstock (e.g. food waste);
- greater value is derived from unwanted products that can be reused;
- valuable materials find ready markets as recyclate;
- other wastes have electricity and heat recovered where appropriate;
- better joining up between municipal and private sectors enables provision of local as well as regional facilities, with plant treating both merchant and municipal wastes wherever practicable; and
- properly managed landfill (with capture and use of methane gas emitted) is available to take those wastes from which no useful value can be extracted economically from further treatment.

3. Delivery of this vision will be facilitated locally by early and open consultation between stakeholders as part of development of waste strategies; access to expert, impartial advice including from a new Waste Infrastructure Delivery Programme; and financial mechanisms which provide the appropriate incentives to all participants in the waste market. It will also require clear-sighted decision-making from all those involved, including regional and local planners.

4. The landfill tax escalator will strengthen the incentives to private businesses and municipal waste collectors to manage their wastes further up the hierarchy and enable synergies with changes in municipal waste management which are mandated by the Landfill Directive to be achieved.

Collection and food waste

5. Properly planned and co-ordinated collection of wastes holds the key to unlocking their latent value, whether as material or energy feedstock. Local authorities' and other stakeholders' decisions on choices about the collection systems they use will be crucial to:

- which materials they can recycle;
- the quality of the material they can send for reprocessing;
- the revenue they obtain from such material;
- whether they can use composting and/or anaerobic digestion processes; and
- the value of Mechanical and Biological Treatment plant (MBT) and thermal treatment technologies in dealing with residual waste.

6. Increasing amounts of waste of all the main kinds need to be separated at the point of collection in order to increase its value (see para 2 above). There has already been a considerable expansion of kerbside recycling collection schemes. But for any given locality decisions on the best ways to collect waste are a matter for local authorities, with the Government's role being to set clear outcomes and provide a strong evidence base, but give local authorities as wide a range of tools as practicable to do the job effectively.

Householder separating waste for collection.
Credit: Photofusion

7. There has been some public concern about the impacts of alternate weekly collection systems, in which recycling and residual waste are typically collected on alternate weeks. In practice nearly all the concern about such systems has revolved around collection of food waste, mainly centred on arguments that collecting food waste fortnightly risks damaging both health and amenity (e.g. through aggravating smells in summer).

8. The Government does not believe it is right to prescribe from the centre how collection is done in different parts of the country. That is a matter for local authorities. The evidence does not suggest alternate weekly collection is the only way to boost recycling but equally experiences from authorities in both the UK and abroad suggests that such schemes can work well, and can contribute to significantly higher recycling rates, provided they are well designed and implemented. Recent research by Defra[48] has found no evidence of increased health risks with such schemes. In introducing and sustaining such schemes good consultation and

Waste being collected for recycling.
Credit: WRAP

[48] *Dealing with Food Waste in the UK*, report by Eunomia for WRAP, March 2007

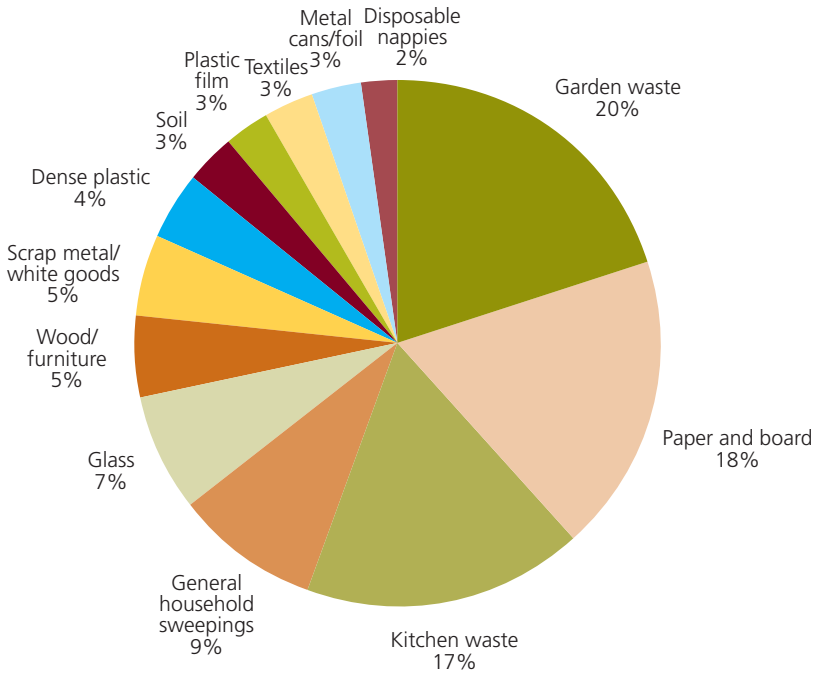
communication with residents by local authorities are nevertheless essential. This can include clear advice to residents to wrap waste and keep bin lids closed.

9. There are strong arguments for encouraging more separate collection of food waste, especially since it can help achieve environmental gains more cost-effectively, including through the use of anaerobic digestion to provide energy (see Annex D for more detail on this). Separate collection of food waste has so far been introduced by a small number of authorities, all on a weekly basis and WRAP research suggests this can lead to higher tonnage and participation rates. The Government welcomes the fact than many local authorities are promoting home composting of organic waste.

10. To provide further guidance to local authorities, **WRAP is supporting a number of trials of food waste collection arrangements (up to 20) in local areas** in the period to spring 2008, in order to establish good practice options and to identify barriers to further roll-out. These trials will:

- investigate good practice models for food waste collection and processing for a range of typical local authority circumstances;
- establish cost benchmarks for each model;
- identify barriers to wider roll out of food waste collection; and
- identify any continuing role for WRAP or other intermediaries in a successful roll out.

Chart 5.1: Household waste composition, England (2000/01)



Source: Dr Julian Parfitt, WRAP

11. Well managed, suitably located civic amenity sites are an important part of arrangements for improving the separate collection of wastes for re-use, recycling and safe treatment. Decisions on collection arrangements also need to take account of local circumstances, scope for joint working with neighbouring authorities, and third sector organisations, relative costs and prevention of fly-tipping and other illegal waste activity. As re-use and recycling schemes become more mature, best practice will spread leading to: collection arrangements which are better understood, by public and businesses alike; greater quantity of good quality clean recyclates (with knock-on benefits for reprocessing markets); and better value for money.

12. The Government funds information and support to local authorities through WRAP on bulky waste collections, alternative kerbside collection systems for recycling, good practice in introducing and managing them and on managing civic amenity sites. **The Government is committed to further strengthening this service, including on collection systems, the use of different kinds of material recycling facilities, Private Finance Initiative (PFI) and contractual arrangements that optimise the (environmental and financial) value obtained from recyclate material.**

The Waste Infrastructure Delivery Programme (WIDP)

13. The Government set up WIDP as a new programme within Defra. It aims to establish and monitor the shortfall in *residual* waste treatment capacity needed in order for England to meet its share of the UK's Landfill Directive targets, and it will provide local authorities, as the main protagonists responsible for planning and procuring that capacity, with high quality, comprehensive support, including financial help through Private Finance Initiative (PFI) credits (where appropriate), grants and consultancy advice. An assessment of the infrastructure needs is set out in Appendix 1 to Annex A. The establishment of WIDP is, in part, a response to reports from the Office of Government Commerce, the Office of Fair Trading and the National Audit Office and the recommendations they made.

14. WIDP aims to ensure that:

- **the necessary infrastructure is planned for**. WIDP will monitor the extent to which this is being done in Regional Spatial Strategies and Development Plans, and support those involved in the preparation of such plans. Adequate engagement with the planning system will also be a condition of access to PFI credit;
- full opportunity is taken to achieve **synergies between municipal and other waste treatment**. WIDP's goal is to ensure that the diversion of municipal waste from landfill is achieved, but it will seek to do so through joint merchant/municipal facilities where appropriate. Maximising the scope for this begins with the planning process, and involves appropriate involvement of stakeholders in the preparation of local waste strategies;
- where local authorities procure infrastructure directly, they have access to **high quality**, dedicated **support** from a team of experienced transactors able to advise local authorities throughout the complex process of procuring major infrastructure; for example on technology choice, funding mechanisms, procurement processes and contract negotiations;
- the **flow of large transactions** is handled in an orderly fashion, so that procurement takes place in as competitive an environment as possible;
- **the scale of procurement** of residual waste infrastructure takes account of changes in expected waste arisings and recycling levels while ensuring that meeting England's share of Landfill Directive targets can be safely assured.

- steps are taken to **encourage new entrants to the waste treatment market** – for example by simplifying documentation to reduce transaction costs and clarify an appropriate basis for risk-sharing;
- markets are developed for **secondary recovered fuel**, of which England is expected to produce some 2 million tonnes a year from existing and planned mechanical biological treatment plant from 2009 onwards. Developing such markets has the potential for big benefits for the UK's most energy-intensive industries, protecting jobs and with benefits to social cohesion; and
- **excellent communications** with local stakeholders are maintained at all stages of the waste planning and implementation process, including well before formal planning applications are made.

Planning for waste infrastructure

15. The planning system for waste was reformed in 2005 with the publication of a new Planning Policy Statement on Planning for Sustainable Waste Management (PPS10). This makes full use of the new provision for planning introduced by the Planning and Compulsory Purchase Act 2004. It is too early for the benefits of this reform to have been fully felt, and implementation remains a high priority for Defra and CLG. It remains vital that Regional Spatial Strategies (RSSs) and local development documents look forward for a sufficient period, fully acknowledging the reduced dependence on landfill which will be necessary in future and making adequate provision for all types of infrastructure, with specific, suitable sites identified in the plans. Government, working through the Government Offices for the Regions, will work closely with the Regional Assemblies and regional partners to help secure **regional spatial strategies and local development documents with waste content that accords with the expectation in PPS10. Engagement with the planning process will be a factor in deciding on the allocation of additional financial assistance and support to be provided to local authorities through WIDP**.

16. Building on the recent planning reforms, the Government's White Paper, 'Planning for a Sustainable Future', published May 2007, set out proposals for a new planning regime for major infrastructure projects, including some waste facilities. These build on recommendations made by Sir Rod Eddington in his Transport Review, and endorsed by Kate Barker in her Review of the Planning System, both published in December 2006.[49]

Recovering energy from waste

17. Recovering energy from waste which cannot sensibly be reused or recycled is an essential component of a well-balanced energy policy, and most of our European competitors already pursue this vigorously. Denmark, for instance, derives 3.6% of its electricity supply from municipal waste.

18. Recent sharp increases in energy prices, and continuing instability in a number of supplier countries, underline the importance of maximising energy recovery from the portion of waste which cannot be recycled. This means using the most efficient technology for the job, and recovering heat as well as electricity where practicable. The Government's Energy White Paper, published May 2007, places energy from waste in a wider energy policy context.

[49] Kate Barker's 'Review of the Planning System' is available at: http://www.communities.gov.uk/index.asp?id=1163202. Rod Eddington's Transport Review is available at: http://www.dft.gov.uk/about/strategy/eddingtonstudy/

19. The Renewables Obligation Certificates system provides support for electricity produced from the biomass content of waste treated in gasification, pyrolysis, anaerobic digestion and good quality combined heat and power plants. Energy from waste plant are also exempt from the Climate Change Levy, recognising the renewable fraction of waste.

20. **The Government's Energy White Paper set out proposals to band the Renewables Obligation.** This presents the opportunity to provide a more targeted level of support to the different renewables and continue to bring forward a diverse mix of renewable schemes including those energy from waste schemes that are currently eligible. A consultation on the RO published alongside the Energy White Paper set out the proposed levels of support under a banded RO, **including greater support for anaerobic digestion, gasification and pyrolysis.** In addition, the Government has announced plans to remove barriers to the burning of secondary recovered fuel (SRF) alongside ROC eligible biomass at co-firing stations and proposals to facilitate the accreditation of eligible schemes by the regulator (Ofgem) through deeming the energy content of mixed wastes. These changes will encourage greater recovery of renewable energy from waste through anaerobic digestion and other energy from waste technologies.

Greenfinch anaerobic digestion plant in Ludlow – renewable power from food and garden waste.

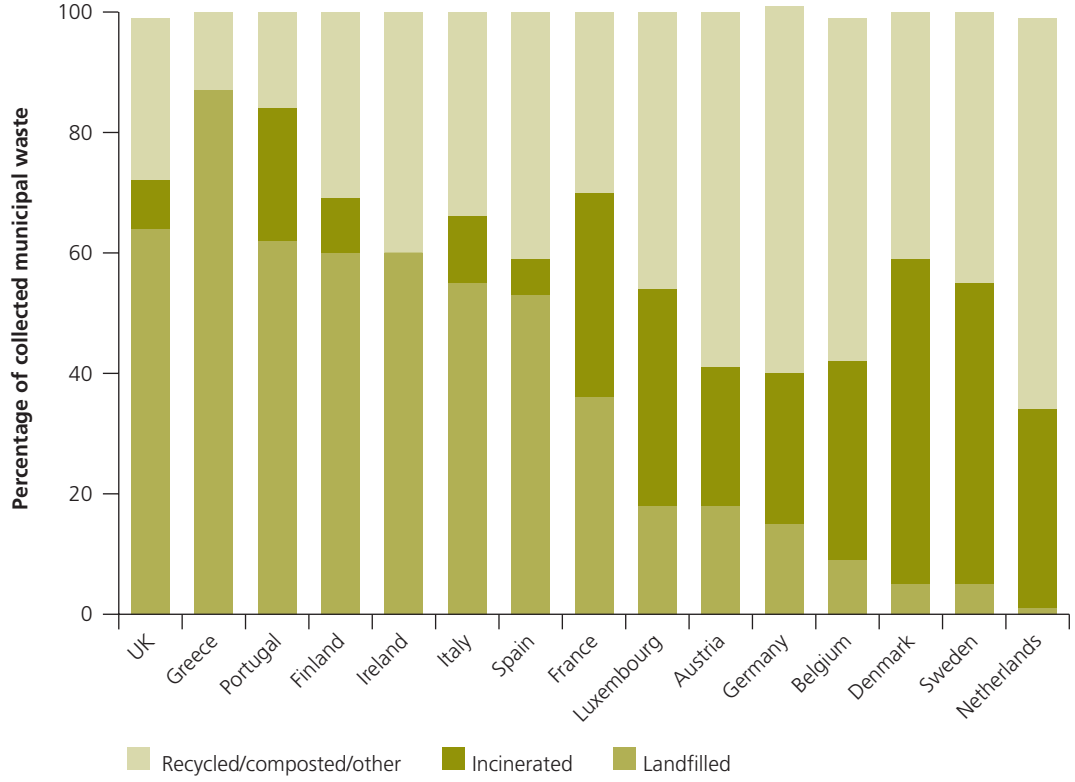
21. The recovery of energy from waste has been held back by public fears over alleged health effects, and fears that the development of suitable infrastructure would lock in wastes which could otherwise be minimised or recycled.

22. Concern over health effects is most frequently cited in connection with incinerators. Research carried out to date shows no credible evidence of adverse health outcomes for those living near incinerators. The relevant health effects – primarily cancers – have long incubation times, but the available research demonstrates an absence of symptoms relating to exposures twenty or more years ago, when emissions from incineration were much greater than they are now. Very demanding EU standards for dioxin emissions now apply. The Health Protection Agency has published a short position statement on the health impacts for municipal waste incineration which reaches similar conclusions.

Box 5.1: Energy from waste technologies

Anaerobic digestion
Direct combustion (incineration)
Secondary recovered fuel (an output from mechanical and biological treatment processes)
Pyrolysis
Gasification
Plasma arc heating

Chart 5.2: Management of municipal waste for EU 15 (2005)



Source: Eurostat

23. Evidence from neighbouring countries, where very high rates of recycling and energy from waste are able to coexist, demonstrates that a **vigorous energy from waste policy is compatible with high recycling rates** (see Chart 5.2). In the Government's view, the key to ensuring that both are achieved **is, firstly, excellent quality consultation between stakeholders**, at an early stage when local waste strategies are being developed; and, secondly, planning and **building facilities with an appropriate amount of flexibility** built in. This means flexible – e.g. modular – buildings, and also flexible contracts, which do not lock in fixed amounts of waste for treatment which might become obsolete.

Technology choice

24. The various energy from waste technologies, their different feedstocks, carbon emissions performance, and outputs are described in the 'summary guidance on energy from waste technology' (Annex E) which is intended to act as a guide to local authorities and others who are considering procurement. **The Government wishes to encourage local authorities and businesses** to consider using anaerobic digestion. Such use would complement current work on measures to promote anaerobic digestion in farming, where it has benefits for manure and slurry management. And in suitable circumstances, spare capacity may be available in on-farm anaerobic digestion plant to manage biowaste from the locality, as is common practice in Denmark. Our recent research[50] has suggested that anaerobic digestion has significant environmental benefits over other options for food waste (and may be particularly cost effective for food waste[51] if separately collected). Although

[50] *Carbon Balances and Energy Impacts of the Management of UK Wastes*, report by ERM (with Golder Associates) for Defra, Final Report, March 2007 (The ERM Carbon Balances Report); available at http://www2.defra.gov.uk/research/project_data/More.asp?I=WR0602&M=KWS&V=Carbon+balance&SUBMIT1=Search&SCOPE=0

[51] See www.wrap.org.uk/biowaste for further information.

anaerobic digestion is currently a commonly used technology in some other European countries this is not the case in England.

25. The electricity derived from the energy recovered in anaerobic digestion is eligible for Renewable Obligations Certificates. The WIP New Technologies Programme is also funding demonstration project(s). Plants have been situated successfully in light industrial estates within towns, and there is scope for using food wastes derived from both household and business sources. Defra has established an Anaerobic Digestion Policy Network to take forward work on anaerobic digestion and maximise the synergies between the different markets for it.

26. The digestate, produced by anaerobic digestion has a range of potential uses on land, including as a fertiliser or soil improver. Defra has asked WRAP and the Environment Agency to develop a standard and protocol for the digestate to help build market confidence in its recovery on land. Defra is working to establish the full potential, while **WRAP is charged with developing this market** along with its work to establish markets for waste-derived compost. **The Environment Agency intends to have an operational protocol for anaerobic digestate by Spring 2008**.

This plant provides heat and power to local businesses from wood chips and non-recyclable packaging materials.
Credit: Slough Heat and Power Ltd.

27. Subject to what is said in paragraph 25 above, the Government does not generally think it appropriate to express a preference for one technology over another, since local circumstances differ so much. Those making investment decisions should consider the 'summary guidance on energy from waste technology', and other similar information such as that which WIDP can supply – and make their own decisions. It is not helpful to rule out a particular technology – such as incineration – in advance, since this unnecessarily restricts options and threatens to raise costs.

28. Any given technology is (where applicable) more beneficial if both heat and electricity can be recovered. Particular attention should therefore be given to the siting of plant to maximise opportunities for Combined Heat and Power.

29. Greenhouse gas emissions should be an important criterion for stakeholders developing energy from waste plant. Some indications of typical emissions patterns are given in Annex E, but these will, of course, vary from location to location according to local transport links, etc. The Environment Agency has published a new software tool – WRATE (Waste and Resource Assessment Tool for the Environment)[52] – which enables specific, local assessments to be made by waste collection and disposal authorities. Once again, WIDP transactors can help authorities to establish the greenhouse gas potential of particular infrastructure options which they may be considering.

[52] See www.environment-agency.gov.uk/wtd/1396237 for further information.

Waste wood

30. In its response to the report of Sir Ben Gill's Taskforce on Biomass Energy, the Government acknowledged the case for extracting more energy from waste wood and said that WIP would take forward a programme of work including suitable safeguards to ensure that wood was not burned which could otherwise have been recycled.

31. The merits of recovering energy from waste wood were highlighted in recent research[53]. Of the estimated 7.5 million tonnes of waste wood arisings in the UK, the vast majority (6 million tonnes – 80%) is landfilled, 1.2 million tonnes (16%) re-used and recycled, with energy being recovered from just 0.3 million tonnes (4%). The key to realising the carbon benefits for wood waste that cannot be readily re-used or recycled lies in the availability of markets for waste wood (in the form of suitable combustion facilities for clean and/or contaminated wood that satisfy Waste Incineration Directive standards) and development of supply chains. **Defra's Waste Implementation Programme is taking forward a programme of work to develop energy markets for waste wood by addressing informational and practical barriers to expansion**.

Funding local authority infrastructure development

32. Costs for local authorities of municipal waste collection and disposal are rising steadily due to increases in waste arisings, the need to fund the infrastructure to divert waste from landfill and increases in the landfill tax (see Table 5.1). Local authority expenditure on waste is centrally supported through the revenue support grant, PFI credits and direct grants from Defra. The Government takes account of the cost of paying landfill tax when considering local government funding levels. It recycled the additional tax revenue back to local authorities in the 2004 Spending Review.

Table 5.1: Waste spending by local authorities in recent years: £bn

	2001/02	2002/03	2003/04	2004/05	2005/06
Net current expenditure on waste collection and disposal	£1.650	£1.800	£2.000	£2.190	£2.440
Source: CLG – Revenue Outturn 2005-06: Cultural, Environmental and Planning services (RO5)[54]					

33. A number of Defra-funded programmes (delivered by the Waste Implementation Programme and WRAP are designed to help local authorities reduce their costs through:

- reducing the waste they collect;
- more efficient collection, treatment and disposal operations; and
- better and more informed strategies, partnership working and procurement.

[53] *Carbon Balances and Energy Impacts of the Management of UK Wastes*, report by ERM (with Golder Associates) for Defra, Final Report, March 2007 (The ERM Carbon Balances Report); available at http://www2.defra.gov.uk/research/project_data/More.asp?I=WR0602&M=KWS&V=Carbon+balance&SUBMIT1=Search&SCOPE=0

[54] http://www.local.communities.gov.uk/finance/stats/ro0506fin.pdf Table A8

34. The Government is considering future funding needs for local authorities as part of the Comprehensive Spending Review. Appendix 1 to Annex A gives estimates of the future costs of waste management for a range of scenarios.

Improving contract design

35. Suitable contract design is important if local authorities and others are to benefit from keen pricing and economies of scale. Whilst contracts for some individual facilities may need to be large, to take advantage of economies of scale associated with those processes, the Government now discourages integrated contracts which bundle together collection, treatment and sometimes other services unnecessarily. Such contracts have in the past served to exclude smaller providers, including many third sector providers, from the market. Contracts, including those for PFI, should be sized to combine benefits of economies of scale and attracting the interest of a wide range of suppliers, as appropriate. The move to disaggregated contracts has the potential to open the market for less capital-intensive services such as collection services and running material recovery facilities (MRFs), composting plant and household waste recycling centres (HWRCs).

36. Building on the UK Government Sustainable Procurement Action Plan, published in March 2007, the Government is also exploring the potential of 'social clauses' whereby community benefits can be specified alongside the more traditional asset or service being procured. The challenge for purchasers in using these clauses is how to join their procurement function with the broader strategic objectives of their organisation and sometimes with external partners who accrue the direct benefits of a social clause. For the third sector, it is important for them to quantify the added value they offer so that it can be measured in ways consistent with value for money.

37. Third sector organisations frequently offer such community benefits alongside specific waste services such as recycling or reuse, and the **Office of the Third Sector is commissioning work to increase evidence and spread experience of those who have used social clauses, and identify further opportunities for those who wish to take them**.

Supporting business to change

38. The Business Resource Efficiency and Waste (BREW) programme has returned the majority of the additional landfill tax receipts to business by support for resource efficiency and waste management programmes. It is scheduled to spend £284 million between 2005 and 2008 for this purpose. Activities funded include advice to businesses, research and development, influencing market development (including product design), supporting re-use and recycling infrastructure and piloting recycling collection services for small businesses.

39. An early assessment of selected BREW activities suggests that the BREW programme has made a good start in returning landfill tax receipts to business and helping to improve their resource efficiency (with around £4 saved by business for each £1 of BREW-funded advice and support). **Defra is working to further improve the outcomes from the programme by extending the existing monitoring and evaluation methodology, and setting a clearer strategy for the programme's activities**.

40. The Comprehensive Spending Review is considering the future, scale and nature of the BREW programme beyond 2007–2008, the outcome of which will be announced later in 2007.

Markets for recycled materials

41. The development of markets for recycled materials helps ensure that recycling is economically and environmentally viable. The Waste & Resources Action Programme (WRAP), created by the Government, has increased the prospects of the recycling industry by:

- developing new and profitable applications for recycled material. This includes the development of quality standards to improve market confidence in recycled product quality;
- levering in investment to the recycling sector;
- providing robust market analysis to demonstrate the potential for new recycled products in existing markets; and
- persuading end-users to 'buy recycled'.

42. The Government will be continuing to support this market development work (focusing on priority materials) and **asking WRAP to create a centre of expertise on export markets for recycled materials.** This will allow business and policy decisions to be made on the basis of much better information, and risks to UK recycling levels to be better managed and the promotion of compliance with the controls that apply to the export of waste.

A Chinese factory reprocesses plastics from England to make new products.
Credit: Valpak

Challenges and barriers

With greater emphasis on landfill diversion, waste management, especially for local authorities, has become a much more complex and sophisticated task. In particular this requires much more integration between collection and disposal arrangements, between procurement plans of neighbouring authorities, between regional and local plans, and between municipal and non-municipal waste.

Where we want to be

Local and regional authorities to have clear and well-integrated strategic priorities and plans which are based on achieving national waste priorities, while respecting local circumstances. The arrangements for assessing local authorities' performance to be harmonised with this approach.

Key new policies and actions

- Strengthening the ability of **local authorities in two-tier areas** to work together and encouraging **partnership working between local authorities** through:
  - **new powers** for authorities to voluntarily form **Joint Waste Authorities** in the current Local Government and Public Involvement in Health Bill
  - use of **Local Area Agreements** and the **new local government performance framework** to encourage partnership working
  - provision of **guidance on inter-authority working**
- Establishing a **new local performance package** for local authorities to support delivery of the Government's waste outcomes
- Encouraging **local authorities to take on a wider role** (in partnerships) to help local (particularly smaller) businesses reduce and recycle their waste with cost savings through more integrated management of different waste streams
- Encouraging the **Regional Development Agencies** and other regional bodies to **coordinate business waste and resource management** in partnership with local authorities and third sector organisations

Introduction

1. Moving away from landfill and changing our waste management practices has already made waste management a more complex task. As waste is increasingly treated as a resource, many more changes in behaviour are needed by a wide variety of organisations and by society at large. The changes need to be coordinated to obtain the greatest impact.

2. This chapter sets out the further development of the local and regional arrangements needed to secure leadership and drive more integrated delivery of this new strategy with stakeholder support.

Local arrangements

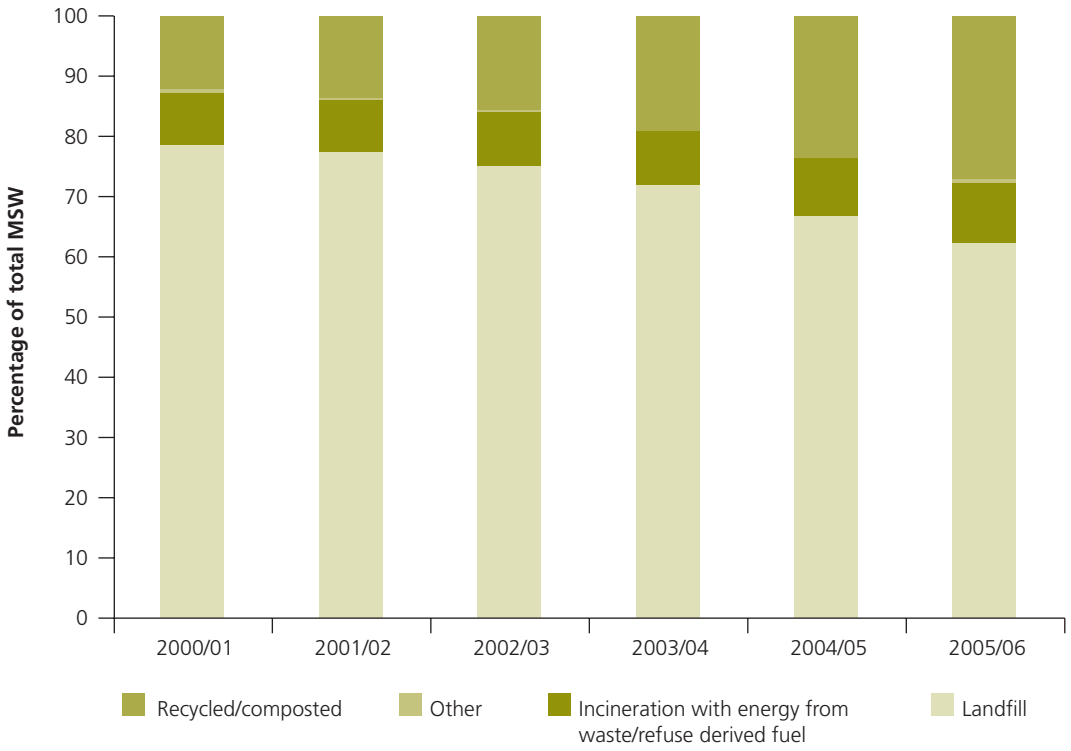
3. In October 2006, the Government published the Local Government White Paper, "Strong and Prosperous Communities".[55] This White Paper set out a new vision for delivering better public services through a rebalancing of the relationship between central government, local government and local people. Local public service providers will be given more freedom to bring about the changes they want to see. The **Government is developing new arrangements for local authority waste performance standards** within this new vision. In parallel with the White Paper, the Government also issued an invitation to authorities to put forward proposals for restructuring.

4. Sir Michael Lyons' Inquiry into the role and function of local government was recently completed and the recommendations put forward will be an important consideration in the development of policy as regards local authorities and waste. In particular, the final report from his inquiry[56] noted that Government should recognise more fully the fact that effective waste management is a shared responsibility between central and local government. He recommended that Government should consider ways to provide greater local flexibility to manage waste locally.

A new local authority performance framework

5. Chart 6.1 provides a breakdown of how municipal solid waste (MSW) was treated between 2000/01 and 2001/05.

Chart 6.1: Management of municipal waste, England (2000/01 – 2005/06)



Source: Defra Municipal Waste Management Survey

[55] 'Strong and Prosperous Communities' is available at www.communities.gov.uk.

[56] *Lyons Inquiry into Local Government Place-shaping: a shared ambition for the future of local government* is available at: www.lyonsinquiry.org.uk

6. In April 2007 the Government set performance standards on recycling and composting for all local authorities for the year 2007/08, setting a minimum performance standard of 20% across the country.[57] These are the final set of Best Value Performance Indicators (BVPIs) for waste.

7. In the new local government framework, there will be a strengthened role for the Local Area Agreements (LAAs). Local authorities are already under a duty to prepare a Sustainable Community Strategy which sets the strategic vision for an area. The Government will now require county and unitary local authorities, in consultation with local partners, to prepare a delivery plan for the strategy – the LAA.

8. The LAA will include a single set of targets for improvement, tailored to local needs and agreed between central government and local partners, such as third sector organisations. In this way, central government will focus on the things that really matter to people everywhere, guaranteeing national minimum standards, but leaving room for local innovation and local priorities.

9. The Government will introduce a duty for local authorities and other local partners to work together to agree the priorities in the LAA. Government Offices (GOs) in the regions will be responsible for coordinating central government's relationship with each area and will lead on the negotiation of improvement targets in LAAs. Delivery of local priorities will be the responsibility of partners in key local partnerships. And, once agreed with Government, local partners will be required to have regard to these priorities for improvement. GOs will review progress and coordinate action to address underperformance as necessary.

10. The White Paper sets out a radical simplification of the performance framework for those outcomes secured by local authorities working on their own or in partnership.

11. The main feature of the new framework will be a set of national outcomes and 200 mandatory indicators, set by central government and to be announced in conjunction with the Comprehensive Spending Review 2007. Every local area – led by the local authority – will have to report against all 200 indicators and agree up to 35 of these as 'local improvement targets'. Each area will also have 18 Department for Education and Skills statutory improvement targets.

12. This new indicator set will replace the many local performance indicators currently set by central government, including those for waste.

13. In addition there will be a new regime for dealing with monitoring, support, assessment and intervention. Building on the success of the Comprehensive Performance Assessment, the new assessment regime – Comprehensive Area Assessment – will be more proportionate and risk-based and enable better targeting of support or intervention when things go wrong.

Future local outcomes for waste

14. In the *Review of England's Waste Strategy* consultation document views were sought on whether the Government should set future statutory waste performance standards for local authorities and, if so, what changes should be made to the nature of the targets (their interactions with landfill diversion requirements and consistency with government policy) and the methodology for setting targets (whether to adopt the existing, differentiated approach based on previous performance or set a universal minimum target with or without the option to negotiate locally).

[57] See www.opsi.gov.uk/si/si2007/20070585.htm for further information.

15. An overwhelming majority of respondents agreed that statutory performance standards were important and should be continued into the future.[58] Support was based on experience that targets:

- ensured that resources were allocated to recycling and a perception that targets had raised recycling rates in recent years;
- were essential to ensure investment could be committed at the waste collection authority level to reach and maintain high recycling levels; and
- have encouraged changes in collection methods which have led to implementation of high quality waste and recycling collection schemes.

16. The **Government is developing proposals for local authority waste performance indicators** to be included in the new performance framework. The indicators will monitor local authorities' contributions to an overall waste outcome that leads towards sustainable management of waste in England. The **proposed indicators focus on the amounts of municipal and household waste produced, recycled and landfilled.** It is envisaged that one focus for local improvement targets will be local authorities' **performance on the average amount of household waste per person that is not re-used, recycled or composted.** This would measure an authority's achievements in both reducing waste and in increasing re-use, recycling and composting of the waste that is produced. Consideration is being given to setting a "floor" target – a minimum level that all authorities should meet. Individual performance targets could then be agreed, where appropriate, dependent on current performance and local aspirations in respect of both household and municipal waste and, if necessary, within the LAA. Consideration is also being given to how to include tonnages diverted from landfill via re-use and home composting in the new set of performance indicators.[59] The **final agreed performance package will be published later in 2007.**

17. Through the existing BVPI on local authorities' performance in delivering improvements to local environmental quality it has been possible to assess how effective local authorities are in tackling fly-tipping. This assessment is based on data submitted by local authorities to Flycapture, the national fly-tipping database.[60] Action to reduce fly-tipping is now included in many LAAs and some local authorities receive funding through local public sector agreements. The Government is keen for this to continue, as local authorities have a crucial role to play in helping to deliver the Government's strategy to tackle illegal waste activity and improve the local environment. The Government's development of proposals for local authority waste indicators will include consideration of performance related to illegal waste activity.

18. In the longer term, the **Government is considering developing a greenhouse gas emissions performance indicator for local authority performance on waste**. This would reflect total greenhouse gas emissions from a local authority's waste management activity and fit within the new performance framework. Consideration will be given to the development of a methodology for a local authority waste performance greenhouse gas emissions indicator.

[58] This included 95% of waste disposal authorities, 87% of waste collection authorities and 83% of unitary authorities which replied to this consultation question.

[59] Current municipal data (and associated indicators) include tonnages reported as re-use by local authorities. This covers re-used tonnages within the scope of the municipal solid waste definition (ie waste under the possession and control of local authorities). Other re-use (through eg charity shops and that done internal to the home) would not, and could not, readily be captured here.

[60] For the latest published flycapture data visit http://www.defra.gov.uk/environment/localenv/flytipping/flycapture.htm.

Local authority partnerships

19. Many of the interventions needed to deliver sustainable waste management rely on action at a broader geographic scale than a single local authority. Research for Defra suggests most local authorities could benefit from economies of scale through cooperating with other authorities including between counties and unitaries, as well as between districts, when procuring new waste treatment facilities.[61]

20. The Government will work closely with local authorities to develop the concept of Multi Area Agreements (MAAs), in particular in considering how they could work within the LAA framework. MAAs could provide greater flexibility in shaping interventions within the sub-region and strengthening cross-boundary working between local authorities and their partners.

Joint working

21. The Local Government White Paper highlights the need for local authorities to work together, particularly in two-tier areas, in order to deliver improved accountability and leadership, increased efficiency and improved outcomes. In some county areas there is a widely held view that moving to unitary structures would be the best way of overcoming the risks and challenges of two-tier arrangements.

22. The Local Government White Paper invited local authorities in shire areas to make proposals for unitary local government that:

- enhance strategic leadership, neighbourhood empowerment, value for money and equity;
- command a broad cross-section of support; and
- are affordable, representing value for money and meeting any costs of change from councils' existing resources.

23. On 27 March it was announced that 16 proposals would be taken forward to stakeholder consultation. Final decisions will be made by July 2007.

Joint waste authorities

24. In recent years, a number of authorities have moved to develop formalised partnership arrangements in order to improve their delivery of waste services. A group of excellent-rated authorities called on Government to make legislative changes to remove barriers to joint working. A number of local authorities in the consultation called for powers to establish joint waste bodies and to direct funding for waste services to these bodies.

25. **The Government is legislating to allow the creation of joint waste authorities through the Local Government and Public Involvement in Health Bill** currently going through Parliament. A joint waste authority would only be set up in response to a proposal from local authorities, and would only go ahead with the agreement of all authorities involved. A joint waste authority would comprise local authorities who wish to work together to discharge their waste functions. The authority would be a new legal entity with a statutory basis. It would take on functions of waste disposal, waste collection and/or street cleansing, depending on the wishes of the constituent authorities. This would

[61] The Economies of Scale report can be accessed at www.defra.gov.uk/environment/waste/localauth/pdf/economies-scale.pdf

allow authorities to enter into a legal commitment to work together with a statutory basis and would give certainty to potential lenders and contractors. A joint waste authority might be created by authorities in two-tier areas in order to integrate waste collection and disposal across a county, or by groups of smaller waste disposal authorities in order to procure new waste facilities cost effectively.

26. Waste collection services should be responsive to local needs, and local accountability is therefore important. Joint waste authorities would be governed by elected members of their constituent authorities. The exact membership and voting rules for an individual joint waste authority would be determined on a case-by-case basis by the relevant authorities. Proposals would be subject to local consultation, to give local residents and other interested parties an opportunity to comment. However, it would generally be expected that where a joint waste authority covers waste collection, key decision on issues such as the introduction of alternate weekly collection schemes and financial incentives should be made by unanimity.

Guidance on joint working

27. Defra, through the **Waste Infrastructure Delivery Programme (WIDP), will produce a comprehensive package of guidance on inter-authority agreements.** The guidance will be aimed at local authorities that wish to enter into joint working arrangements. The guidance will set out the principles of a range of joint working options and provide examples of authorities that are currently in joint working arrangements. It will have a particular focus on procurement.

Local authorities and business waste

28. Small and medium-sized enterprises (SMEs) often face particular difficulties in recycling their waste (including lack of awareness, limited support and advice, and lack of affordable services). Such organisations would particularly benefit from support to help them respond cost effectively to the landfill tax escalator and other drivers to move away from landfill and make the most of the opportunities for increased resource efficiency.

29. Research suggests that the majority (51%) of mixed (unsorted) commercial waste that is collected comes from SMEs.[62] A particular issue for those smaller businesses whose waste is currently collected unsorted and sent to landfill, is likely to be the 'pre-treatment' requirement for non-hazardous landfill (which comes into force in October 2007).[63]

30. Supporting local businesses with better management of their waste is part of local community leadership and economic development. It can also help prevent fly-tipping and help maintain the local street scene. Working with business may also provide opportunities for cost savings through more integrated management of different waste streams with economies of scale from joint facilities and services.

31. A joint Local Government Association/National Industrial Symbiosis Programme/Oxfordshire County Council project, funded by the Business Resource Efficiency and Waste (BREW) programme, is piloting work on what local authorities can do to contribute effectively to business waste management and resource efficiency and how they can do this.[64]

[62] Based on analysis of the Environment Agency Commercial and Industrial Waste Survey 2002/2003.
[63] See Chapter 3.
[64] More information can be found at www.oxfordshire.gov.uk/brew.

32. The Centre has funded a network of "Trailblazer" local authorities which highlights the potential for authorities to engage with their business community. Initial progress suggests enthusiasm from many authorities and scope for a range of activities from direct service provision (such as trade waste recycling collection and bring sites) to more strategic work (such as facilitating the development of business waste strategies). The work of the Centre includes the development of a network to spread good practice through case studies and the development of guidance for authorities.

33. The **Government is encouraging local authorities to use their role as local community leaders in partnership with businesses, other local, sub-regional and regional public sector organisations and third sector organisations to achieve a more integrated approach to resources and waste in their area**. This might be done by developing strategies (perhaps using joint waste management strategies to look beyond municipal waste) which consider the range of activities set out in Box 6.1 below.

Box 6.1: Local authorities – business waste and resources

- Lead the way in stimulating markets for recycled products through their **procurement** decisions
- Encourage economic regeneration through work with local businesses and Regional Development Agencies to take advantage of the **opportunities for reprocessing of waste** into resources
- Manage their **own business to reduce waste and increase re-use, recycling** and recovery and promote awareness by businesses of their duty to ensure that their waste is managed by legitimate waste management contractors
- Facilitate engagement with **business on advice** on how to increase resource efficiency and realise the economic opportunities of re-use, recycling and energy recovery
- Facilitate the procurement of **recycling collection services** for businesses and the provision of adequate trade waste sites
- Engage their communities in **local debate about the options for change** and what individuals and community organisations can do
- Encourage the provision of **recycling collection** facilities in homes, **shopping centres, workplaces and schools** – using planning and other powers where appropriate

34. The Government does not propose placing any specific new duties on local authorities at this stage but **will encourage the development of this wider role**:

- **by funding pilot initiatives** by local authorities;
- through the Waste Infrastructure Delivery Programme (WIDP), encouraging local authorities to consider non-municipal waste when planning and procuring facilities for municipal waste and **ensuring that PFI and other funding mechanisms do not prevent local authorities and their waste management contractors from developing facilities to cater for both municipal and non-municipal waste**; and
- by supporting the preparation of **guidance and dissemination of good practice** on this wider role.

35. Local Strategic Partnerships and LAAs are likely to provide a suitable structure and mechanism to agree local outcomes and targets for work in relation to business waste and resources.

36. There is much, in addition to providing recycling and collection services, that local authorities can do to help businesses. While some local authorities have noted the constraints which the Landfill Allowances Trading Scheme (LATS) can impose on their direct collection and disposal of business waste, the LATS should not prevent local authorities helping to facilitate commercial waste management contractors or social enterprises offering recycling collection services for business waste. The LATS provides an incentive for local authorities to collect and treat biodegradable waste and so should not preclude them from developing their own recycling collection services for business especially if this includes a balanced mix of biodegradable and non-biodegradable recycling/composting services and a limited residual waste collection for landfill.

37. The **operational review of the LATS in 2007 will review whether the monitoring of the Scheme appropriately supports this balanced approach to collecting and treating commercial waste**.

38. Through the BREW programme, WRAP is funding a number of pilots of recycling collection services for SME waste for different materials and types of businesses (including services operated by local authorities, as well as the third sector and the waste management industry). Initial conclusions from the first year of the project indicate that there is considerable potential for recycling by SMEs and communications and marketing are important in generating interest among SMEs, but that with the right service, collection arrangements and charging structures the provision of a recycling service is financially viable for service providers.

39. Based on experience during the first year the project has developed good practice models which are being tested as part of a series of demonstration trials. The project is also developing guidance on best practice for service providers. The **Government will consider whether further action should be taken to support the development of such services when the results of the pilots are available**.

Regional arrangements

40. Regional government bodies are important in helping to deliver national policy within the region and in ensuring that advantage is taken of opportunities for regional (and sub-regional) synergies and economies of scale. This includes:

- spatial planning including through the role of Regional Assemblies (see Chapter 5);
- economic development supporting increased use of waste as a resource; and
- development of services and facilities for the collection and management of waste (both business and household).

41. Government Offices in the regions have a key role to play in ensuring that Regional Spatial Strategies (RSSs) and Development Plan Documents (DPDs) meet Planning Policy Statement 10 requirements – in particular that RSSs contain an appropriate apportionment of waste to be managed and an indication of the likely pattern of facilities and that DPDs contain sufficient identified sites for waste facilities. The Government intends to promote GOs as a link between national government and local players on waste.

Regional Development Agencies

42. Given their strong core remit of economic development and sustainability, and their management of Business Links within the regions, Regional Development Agencies (RDAs) have a key role in improving resource efficiency in businesses and encouraging them to consider more environmental technologies. RDAs also have a valuable contribution to make in informing the strategic regional perspective on integrated resource management in the regions, in particular through ensuring that business waste and resource efficiency needs and objectives are reflected in Regional Economic Strategies (RESs), which RDAs produce for and on behalf of their regions.

43. RDAs are already engaged in this agenda and have received funding from the BREW programme for regional coordination of BREW-funded projects, and strategic regional projects. In the future the Government wants to **ensure that this role is carried out in a strategic way in each region and promote more strongly the Regional Development Agencies' role in resource efficiency and waste management.**

44. Box 6.2 below highlights the key recommended activities for RDAs (to be undertaken where appropriate in partnership with local authorities and other regional, sub-regional and local organisations).[65]

[65] Future funding for RDA activity on waste and resource efficiency will depend on the outcome of the Comprehensive Spending Review (see Chapter 5).

Box 6.2: Regional Development Agencies – business waste and resources

- Develop and improve understanding of the **waste and resource efficiency needs of businesses at the regional** level, and ensure that these are reflected in Regional Economic Strategies and Regional Spatial Strategies
- Develop the **economic opportunities associated with improved resource management** and proactively engage with businesses in the region to promote the benefits of minimising waste and greater resource efficiency
- Working alongside the Regional Technical Advisory Bodies (RTABs), help to **identify the waste management infrastructure needs associated with business waste**, and encourage and facilitate development of regional and sub-regional recovery and processing facilities, exploring the potential for cross-regional opportunities where appropriate
- Ensure **Business Link advisors** have appropriate knowledge and expertise to direct businesses to relevant services on waste and resource efficiency

London

45. The Government announced the outcome of its review of the powers and responsibilities of the Mayor of London and the Greater London Authority (GLA) on 13 July 2006. It includes a package of measures to strengthen London's ability to manage waste sustainably without change to current structures. Some of these measures are already being taken forward and others will be implemented through the GLA Bill, which is currently going through Parliament.

46. The package of measures provides the Mayor with a stronger strategic role in waste, while existing authorities will continue to deliver waste services. The new requirement on waste authorities to deliver services in general conformity with the Mayor's waste strategy, along with the Mayor's existing power of direction will help to ensure that the strategic vision which the Mayor sets out for London is delivered on the ground. Under the proposed arrangements London boroughs and joint waste disposal authorities (JWDAs) will retain their existing responsibilities for meeting LATS obligations. It is particularly important that the new arrangements in London strengthen the boroughs' and JWDAs' ability to meet their allowances in a cost-effective way, and so give England the best chance of meeting the EC Landfill Directive target.

Challenges and barriers

There has been little focus on waste prevention and the traditional methods of dealing with our waste did not require a wide range of organisations and individuals to be actively involved in waste. For the future much more active participation will be needed from businesses, including retailers, from public sector producers of waste, from the third sector, and from members of the public.

Where we want to be

A widespread and shared understanding of waste objectives and of the action that each group can take to achieve them. Everyone's behaviour contributes to delivering these objectives.

Key new policies and actions

- Helping to **change the behaviour of business and the public** through information, advice and awareness raising, including extending the campaign for recycling to awareness and action on reducing waste and demonstrating the benefits of greater resource efficiency
- Incentivising excellence in sustainable waste management through a **zero waste places** initiative to develop innovative and exemplary practice
- Measures to increase the share of local authority contract work won by the third sector and to make greater use of **third sector expertise**, particularly to prevent waste, raise awareness, segregate waste at source, and increase re-use and recycling of bulky waste through capacity-building support
- Reducing single use **shopping bags** through a retailer commitment to a programme of action to reduce the environmental impact of carrier bags by 25% by the end of 2008
- Providing more **recycling bins in public places** through cooperation with owners and managers of relevant land and premises used by the public to make it easier to recycle away from home; development of guidance and a voluntary code of practice for such owners and managers
- Placing greater emphasis on promoting the **reduction of waste and increasing recycling in schools** by working with DfES and other partners to help schools overcome barriers, issuing **new guidance** and the use of award schemes (such as Eco-Schools)
- Setting a **strong Government lead** – with **demanding targets for reducing and recycling its own waste** and **procurement standards** to stimulate the market for recycled materials and waste reduction
- Extending and updating the list of Government procurement **'Quick Wins'** (encouraging minimum environmental standards for certain products), including waste prevention criteria as well as recycled content

Introduction

1. Changing how we deal with our waste requires action by all of us. Our vision is for **society as a whole to appreciate the importance of responsible waste management** as a key part of wider action to keep within environmental limits through sustainable consumption and production, treating waste as a resource and minimising damaging climate change impacts. If we achieve that it would mean:

- **people** are keen to reduce the environmental impacts of their waste, through what they buy and how they deal with waste in their homes; and they are ready to accept , in place of landfill, new facilities in their local community for treating their waste;
- **businesses** build resource efficiency and sustainable waste management into their business model, affecting not only the waste they produce themselves but the design of the products and services they offer their customers, and what they purchase;
- England has a modern, efficient and environmentally responsible **waste management industry**, working closely with businesses, local authorities and regulators to produce the best balance of environmental, economic and social outcomes;
- **environmental groups** champion high environmental standards and best practice in communities and with the public, and challenge public authorities' performance;
- **third sector** organisations are able to offer a wide range of waste management services at competitive prices, and compete on an even basis with the private sector;
- **local government** works effectively with communities and local partners to manage household waste more sustainably, notably by encouraging re-use and recycling and making the necessary infrastructure investments progressively to switch biodegradable wastes away from landfill, where they generate damaging greenhouse gases;
- **regional planning bodies and planning authorities** make timely and appropriate provision for the facilities required for the sustainable management of household and other waste arising in their areas;
- **environmental regulators** at the European, national and local levels ensure protection of public health and the environment and promote resource efficiency consistent with the principles of better regulation; and
- **central government** sets the strategic context, using a suitable balance of economic and regulatory instruments, providing evidence, information and advice, negotiating as necessary with European and international partners, and bringing together interested parties in the pursuit of sustainable waste management in England.

2. Many people already sort their waste, compost at home, and use recycling facilities and schemes. Many also participate in recycling at work and away from home. Individuals, households and businesses can help prevent material becoming waste in the first place, for example through re-use (such as use of charity shops) and careful purchasing.

Information and awareness

3. The Government has been encouraging changes in the behaviour of consumers and householders, including through information and awareness campaigns such as the national "Recycle Now" campaign. This has helped increase the numbers of those who consider themselves to be committed recyclers from 45% before the campaign to 57% afterwards.

4. The **Government will** build on this, focusing not just on recycling but also on prevention and resource use in general.

5. The future programme will:

- continue the national campaign to boost the number of committed recyclers;
- target harder to reach areas and light recyclers;
- support individual local authority campaigns which focus on increasing public participation in recycling initiatives;
- extend existing approaches into waste prevention; and
- provide funding for community groups through WRAP's Behavioural Change Local Fund, for communications that increase participation in household recycling.

6. The Government has also **launched a greener living guide on the Direct.gov** website which provides consumers with information on aspects of a greener lifestyle, including reducing and recycling waste. This website will be further developed and updated.

Local leadership

7. Local authorities have an important role to play in assisting their residents to reduce waste, as well as encouraging sorting of waste for re-use and recycling, home composting and other forms of home treatment of waste. A number are making use of the National Resource and Waste Forum toolkit, which provides advice to local authorities on reducing waste collected, and helping householders to reduce waste needing collection. Defra also funded 50 local authority pilot projects aimed at boosting recycling and minimising waste. These pilots showed that reward incentives could be a useful tool for authorities to enhance the performance of their waste collection service, and it was found that schemes involving schools and community groups tended to be most successful.[66]

8. **WRAP has updated the toolkit as a web-based tool. The Government is encouraging local authorities to use this in developing their local strategies.**

9. The Government wishes to see local authorities working in partnership with businesses to go further in pursuing the aims of this strategy. The Government wants to identify places which will strive to go beyond existing best practice in waste and resource management and demonstrate what can be achieved by concerted action across the full range of stakeholders (including local offices, factories and shops).

[66] See www.defra.gov.uk/environment/waste/localauth/encourage.htm

10. The Government will **launch a zero waste places initiative in autumn** of this year with the aim of **inviting a number of places (including cities, towns and rural communities) to become exemplars of good environmental practice on all waste**. Participating places would be asked to fulfil a pathfinder role in identifying the barriers and illustrating solutions to enable others to adopt the most effective approach.

Third sector

11. The third sector, ranging from voluntary and community organisations, charities, co-operatives and social enterprises, has the ability to deliver multiple benefits – social, economic and environmental – for the communities it serves and the Government recognises the sector as an important partner in achieving its strategic objectives. Government will raise awareness of the third sector among potential customers and address barriers to its greater involvement in delivering public services, including on waste. As announced in the interim report on the review into the future role of the third sector,[67] the **Treasury and Office of the Third Sector will work with others to consider the best way to build the framework and evidence base on the value which the third sector contributes to improving public services**.

Third sector strengths in waste management

12. Third sector organisations have particular strengths in a number of key areas of waste management and resource efficiency, including:

- waste prevention – e.g. in encouraging behaviour change among individuals;
- re-use – e.g. through provision of household appliances and furniture to those in need, charity shops (where the UK has an exceptionally strong network by EU standards) and electronic services like Freecycle; and
- separate kerbside collection of specific materials collection which they pioneered so achieving high participation rates in recycling and composting schemes.

13. These strengths, together with their ability to offer social benefits alongside supporting environmental objectives, make third sector organisations increasingly attractive potential delivery partners for local authorities in particular. Many of the members of the Furniture Reuse Network, for example, are motivated at least as much by the need to find affordable household goods and employment or training opportunities for needy groups as by the objective of reducing waste. Chapter 5 describes work designed to enable local authorities and others to procure these multiple benefits from third sector organisations at competitive prices, and within a more supportive commissioning and contracting environment in which contract sizes are, where practicable, kept small enough to encourage competition from third sector providers.

[67] *The future role of the third sector in social and economic regeneration: interim report* is available at: www.hm-treasury.gov.uk/media/53E/94/pbr06_3rd_sector_428.pdf

Building the capacity of the third sector in waste

14. The most successful third sector waste organisations have moved well beyond the traditional niche of community engagement to win large mainstream contracts with local authorities and businesses. The pioneering work of ECT Group in delivering recycling collections in Somerset and other areas shows what the largest social enterprises are capable of achieving.[68] The Government wants third sector organisations to win an even bigger share of the waste management market and **Defra has asked WRAP to draw up, develop and implement a programme of work to increase the third sector's capacity** to operate in the waste and recycling sector. Work is already underway to build capacity, including through:

ECT, a leading social enterprise and the UK's largest community recycling provider operates doorstep recycling services.
Credit: ECT

- the **extension of Futurebuilders** to waste and all other areas of service delivery from March 2008;
- a scheme being developed by the Furniture Reuse Network to **accredit re-use organisations** to a recognised standard to allow them access to nationally negotiated re-use contracts for furniture and electrical appliances; and
- **research into the success factors behind social enterprises** already active in waste, as well as into impacts, capacities and opportunities for the sector in waste management, which will inform future decisions on the need for any additional support.

15. Also, the zero waste places initiative (referred to above) will invite, among other things, exemplary partnership working between local authorities and the third sector on waste and provide an opportunity for demonstration of best practice in this area.

16. Waste prevention at the local level will become increasingly important as authorities seek to meet the proposed new residual waste targets. Research is underway which seeks to establish good practice in involving the third sector in this work; The **Government will consider what action is needed to promote good practice in waste prevention by the third sector in the light of this research**.

[68] See Chapter 5 for more information on third sector access to local authority contracts.

Retailers and carrier bags

17. A number of retailers have already implemented initiatives to encourage consumers to reduce the number of plastic bags they use; and re-use and recycle those they do take home. Although plastic bags are a small part of the domestic waste stream, they are very visible and an issue on which individuals can take action themselves.

18. **Government, WRAP, the plastics industry and UK retailers of all sizes and in all sectors are now building on the earlier work and working on an ambitious move to achieve a 25% reduction in the environmental impact of free carrier bags (both plastic and paper) by the end of 2008.** This reduction equates to 3.25 billion fewer bags being used and will save 58,500 tonnes of carbon dioxide equivalent a year, equivalent to taking 18,000 cars off the road annually.

19. Retailers will be reducing the environmental impact of bags by:

- encouraging customers to reduce significantly the number of carrier bags they use;
- reducing the impact of each carrier bag (eg by using less material or incorporating recycled content); and
- enabling the recycling of more carrier bags where appropriate.

20. A review of progress towards the target will be completed before the end of 2008 to see what would be required to make further reductions by 2010. The Government will build on existing national recycling and re-use campaigns to raise public awareness on bags and work with retailers on joint planning for a campaign to be launched later in 2007.

21. In the longer term, the Government envisages that the single-use carrier bag, issued free at point of sale, will become a thing of the past. It expects retailers to build on the momentum of the existing agreement to make this vision a reality. The Government will work with retailers to develop ways of phasing out the use of free disposable bags. This could involve retailers only selling long-life reusable bags, or retailers charging for disposable bags, and using the proceeds to sell long-life reusable bags at a discount. Phasing out the use of disposable bags – each adult receives on average nearly 300 each year – is an important way in which each of us can take action.

Recycling bins in public places

22. The Government wishes to extend the recycling 'culture' from the home to places where people work and which they visit. Organisations are increasingly providing facilities to recycle a range of materials – both those used as part of their work (e.g. office paper) and by individuals, such as cans, bottles, newspapers and batteries.

23. To extend these developments further, Government has been informally consulting with a range of **owners and managers** of relevant land and premises used by the public to encourage them to promote recycling in the street and in public places by, for example, **providing recycling bins** alongside or as part of any existing bins provision (in appropriate locations), or by harvesting recyclable materials collected in public litter bins. To support this, the Government will develop with key stakeholders **guidance and a voluntary code of practice** to be published by the end of 2007, with the intention of stimulating a new wave of public recycling from 2008.

Waste as part of wider behaviour change to help climate change

24. Dealing with waste is one element of the more environmentally friendly behaviours we need to adopt to avoid dangerous climate change. Building on the work of the Sustainable Consumption Roundtable, which reported in May 2006, Defra has been looking at defining priority behaviour goals within the main consumption clusters – energy, water and waste in the home, personal transport, and products, including food – and has been testing its thoughts with a variety of stakeholders. With regards to waste, increasing recycling and segregation and wasting less food are particular priority behaviours that have been developed with stakeholders.

25. To help take this work forward, a set of information tools is being developed to help increase carbon dioxide literacy including:

- a carbon dioxide Calculator, using standardised statistics and factors, to enable users to assess their carbon dioxide footprint;
- a proposal for a code of best practice for carbon offsetting and associated quality mark; and
- a new short film helping individuals understand the connection between their own actions, carbon dioxide emissions and climate change.

26. The carbon dioxide Calculator will cover end-user, direct emissions from fuel for personal transport, fuel for domestic heating, and electricity for domestic heating and appliances. Over time, the aim will be **to develop and improve the tool, and consideration will be given to whether the impacts from wider embedded emissions, including from waste, might be incorporated into the tool**.

27. Defra will continue to engage with stakeholders as it brings forward its strategy towards the main aim of embedded behaviour change in the main consumption clusters – a long-term goal.

Education and action in schools

28. Schools and young people have a vital role in securing the future of our planet. **Purchasing and waste** is one of the 'doorways' in the Government's national framework for Sustainable Schools that sets out a pathway for all schools to become models of sustainable best practice – in terms of: teaching and learning, the impact of the school, pupils and staff on the environment and the links of the school with the local community and wider world.[69] The 2006/07 academic year is a Year of Action on sustainable development for schools. During the year, a suite of materials will be produced to help embed sustainable practice in schools, including around waste reduction, re-use and recycling.

29. The next generation will be living with the effects of climate change and it is important to influence their behaviour now. As mentioned above, a study for Defra comparing local authority schemes to improve recycling and reduce waste found that the most successful schemes were those involving schools and community groups. The Government acknowledges the work which WRAP and Waste Watch have already done in supporting schools in this area. Government will work with these bodies, other non-government organisations and local authorities to improve the capability of schools to deal with their waste more sustainably. **WRAP will support and encourage a more focused and comprehensive schools response** through their Recycle Now in schools programme, which includes:

[69] Visit www.teachernet.gov.uk/sustainableschools for further information.

- a training programme aimed at providing local authority waste and recycling offices with the knowledge and skills to implement effective recycling schemes in schools;
- a schools recycling trial aimed at gathering data on the business case for schools recycling and improving recycling services for schools;
- developing resources for schools, including a web-based tool to help schools to put recycling into practice; and
- a primary schools programme which communicates reduce, re-use and recycle messages and gives pupils examples of how to put these behaviours into practice at home and school.

30. Government will take a more strategic role in working with other organisations over the support and advice they can provide to schools on this issue. Schools have the opportunity to become role models for their pupils and communities by putting waste reduction and recycling into practice. Areas for action include procurement (e.g. recycled products, low packaging), food and food-related waste, and recycling and composting waste.

31. **Defra will work with the Department for Education and Skills (DfES) and other partners to help schools overcome barriers to recycling their own waste.** This will include:

- clarifying the **definition of schools' waste** (including local authorities recycling obligations) and encouraging local authorities to provide reliable, high-quality recycling facilities to schools to help them showcase action on waste in their communities;
- providing advice to schools on actions that they can take to improve waste collection and recycling arrangements in line with the DfES national framework for **Sustainable Schools;**
- providing stronger guidance to schools on how to reduce waste and re-use and recycle more, and make smarter **purchasing** decisions; and

WRAP's recycler robot challenges children to think about their waste and recycling.
Credit: WRAP

- working with the DfES and local authorities to establish a **National Sustainable Schools Forum** to develop and share good practice in enabling schools to address sustainable development in areas like waste, traffic, energy, water, food and procurement.

32. As part of the current review of the National Curriculum for Key Stage 3 (pupils aged 11–14) the draft statutory Programmes of Study for Geography, Science, Design & Technology and Citizenship have a sharper focus on sustainable development. The Programmes of Study were put out for public consultation on 5 February 2007[70]. The final presentation of the revised curriculum will show how different subjects offer opportunities for learning about important cross-cutting themes such as sustainability.

[70] The consultation closed on 30 April. For further information see www.qca.org.uk/secondarycurriculumreview

33. The primary curriculum provides opportunities for young people to study and become actively involved in sustainable development, for example in geography pupils should be taught to recognise how people can improve the environment or damage it and how, and why, people may seek to manage environments sustainably, as well as how to identify opportunities for their own involvement.

34. Defra will explore and champion with the DfES the role of the DfES Capital Programme, including **Building Schools for the Future (BSF)**, in schools in delivering national waste prevention goals through attention to:

- reducing waste arisings in new build, refurbishment and maintenance projects;
- increasing the content of recycled materials in school building projects; and
- designing school buildings and grounds in ways that enable and encourage waste prevention behaviours.

35. Businesses could have a key role to play in schools through their Corporate Social Responsibility role. Government will discuss with businesses how they can be more involved with schools on waste issues.

36. Defra supports Environmental Campaigns (ENCAMS) **Eco-Schools Programme** which involves young people in finding solutions to environmental and sustainable development challenges. There are currently 5,449 schools registered and 602 green flag (highest level) awards in England. Benefits of the scheme include improving the school environment, reducing litter and waste, improving links with the local community and businesses and increasing environmental awareness. Waste minimisation is one of nine key themes that are covered within the programme.

37. **Defra will work with ENCAMS to encourage more schools to register with Eco-Schools and move towards green flag status**. Defra will also work with the DfES and other organisations supporting schools to identify opportunities for Eco-Schools and other schemes to contribute to the wider aim of Sustainable Schools.

Government's own waste

38. The Government wants the public sector to be a leading exponent of sustainable development. In June 2006, the Prime Minister and the Secretary of State for Environment, Food and Rural Affairs announced a range of **new government sustainable operations targets for the central government estate including for waste** (set out below).

Box 7.1: New waste targets for government departments

- Departments to reduce their total waste arisings by 5% by 2010 relative to 2004/05 levels
- Departments to reduce their total waste arisings by 25% by 2020 relative to 2004/05 levels
- Departments to increase their recycling figures to 40% of their total waste arisings by 2010
- Departments to increase their recycling figures to 75% of their total waste arisings by 2020

39. **The Government is committed to taking action to meet its targets on reducing waste arisings and increasing recycling**. Progress towards the targets is monitored annually by the Sustainable Development Commission and will be published on their website.

Government procurement

40. In June 2006, the independent business-led Sustainable Procurement Task Force published its report[71] on how the Government and the wider public sector could use its 'immense purchasing power' to make progress towards sustainable development goals and, in so doing, help prevent climate change and protect the environment. The report identified waste as one of the top 10 public sector priority spend areas (predominantly in the local authority sector).

41. The Government's recent response[72] to that report outlines the action it will take to improve public sector procurement performance across the wide range of impacts. The Government will consider how procurement helps to address waste prevention and waste impacts on its central government estate in the first instance with commitments to consider the wider public sector. The Government's response underlines its view that sustainable procurement across the whole of government is a key delivery mechanism for achieving these targets. Voluntary agreements with key government suppliers will aim for low carbon supply chains. This strategy has earlier set out the Government's policies for local authority waste management (see Chapters 5 and 6).

42. The Government is committed to extending and updating the list of procurement 'Quick Wins' (which require departments to apply minimum environmental standards across a wide range of commonly purchased products) and to consulting on the establishment of a 'centre for sustainable procurement excellence'. The **Government is keen that 'Quick Wins' include waste prevention criteria as well as recycled content**. Further standards will be developed and used in support of the products and materials work (see Chapter 4).

43. The Task Force identified construction as the top priority for action for public sector clients. This strategy places a new emphasis on construction waste and resource efficiency. The Government has already pledged that its office estate will be carbon neutral by 2012. **Government is considering how reducing waste, segregating material for re-use and recycling, and using more recovered material can contribute to this goal**.

[71] *Procuring the future – The Sustainable Procurement Task Force National Action Plan* is available at www.sustainable-development.gov.uk/publications/procurement-action-plan/index.htm

[72] *Sustainable Procurement Action Plan* is available at www.sustainable-development.gov.uk/publications/pdf/SustainableProcurementActionPlan.pdf

Summary

This document sets out a range of new policies, programmes and measures to deliver the reshaped strategy. These build on a range of existing policies. Some of the new initiatives require further work to develop fully.

Delivery of the strategy will be driven forward by strengthened national governance assisted by new arrangements for stakeholder involvement. Success will be tracked by a range of key national indicators and progress reported against the key outcomes and targets. The strategy will be kept under review, using the developing evidence base to evaluate and revise the policies set out within the strategy as circumstances change.

Key new targets and actions

- Establishing a **Waste Strategy Board** to provide leadership within and across Government with **responsibility for taking forward the delivery of this strategy and developing new policy actions** as necessary; and a **Waste Stakeholder Group** to provide external advice, challenge and assistance with delivery
- Publishing periodic reports on progress with delivery of the strategy
- Reducing greenhouse gas emissions from waste management by at least 9.3 million tonnes carbon dioxide equivalent per year by 2020 compared to 2006/07
- Setting a **new target to reduce the amount of household waste not re-used, recycled or composted** from over 22.2 million tonnes in 2000 and 18.6 million tonnes in 2005 to 15.8 million tonnes in 2010 with an aspiration to reduce it to 14.3 million tonnes in 2015 and 12.2 million tonnes in 2020 – a reduction of 45% between 2000 and 2020
- Setting **higher national targets for re-use, recycling and composting of household waste** – at least 40% by 2010, 45% by 2015 and 50% by 2020
- Setting national targets for the **recovery of municipal waste** – 53% by 2010, 67% by 2015 and 75% by 2020
- Expecting the reduction of **commercial and industrial waste going to landfill** by at least 20% by 2010 compared to 2004
- Considering in conjunction with the construction industry, a target to halve the amount of **construction, demolition and excavation wastes going to landfill by 2012** as a result of waste reduction, re-use and recycling
- Further developing the **evidence base** to underpin the evaluation and development of future policies and **review of the strategy**

Introduction

1. This document sets out a range of new policies, programmes and measures to deliver the reshaped strategy. These build on a range of existing policies. Some of the new initiatives require further work to develop fully. This chapter sets out:

- new national governance arrangements for driving delivery of the strategy;
- how the strategy will be implemented and progress monitored;
- the new outcomes and targets the Government is setting to measure success; and
- how progress will be evaluated and reported, and how the strategy will be kept under review.

National governance arrangements

2. The Government is determined to provide effective leadership in delivering this waste strategy. As part of this commitment the **Government is establishing the Waste Strategy Board** with a remit to:

- **drive delivery** across government of this strategy;
- **monitor and evaluate** the implementation of the strategy;
- provide **advice, support and direction** to government and **delivery organisations** in achieving the sustainable management of waste; and
- in the light of progress, develop **new policy actions** as necessary to deliver the ambitious outcomes sought.

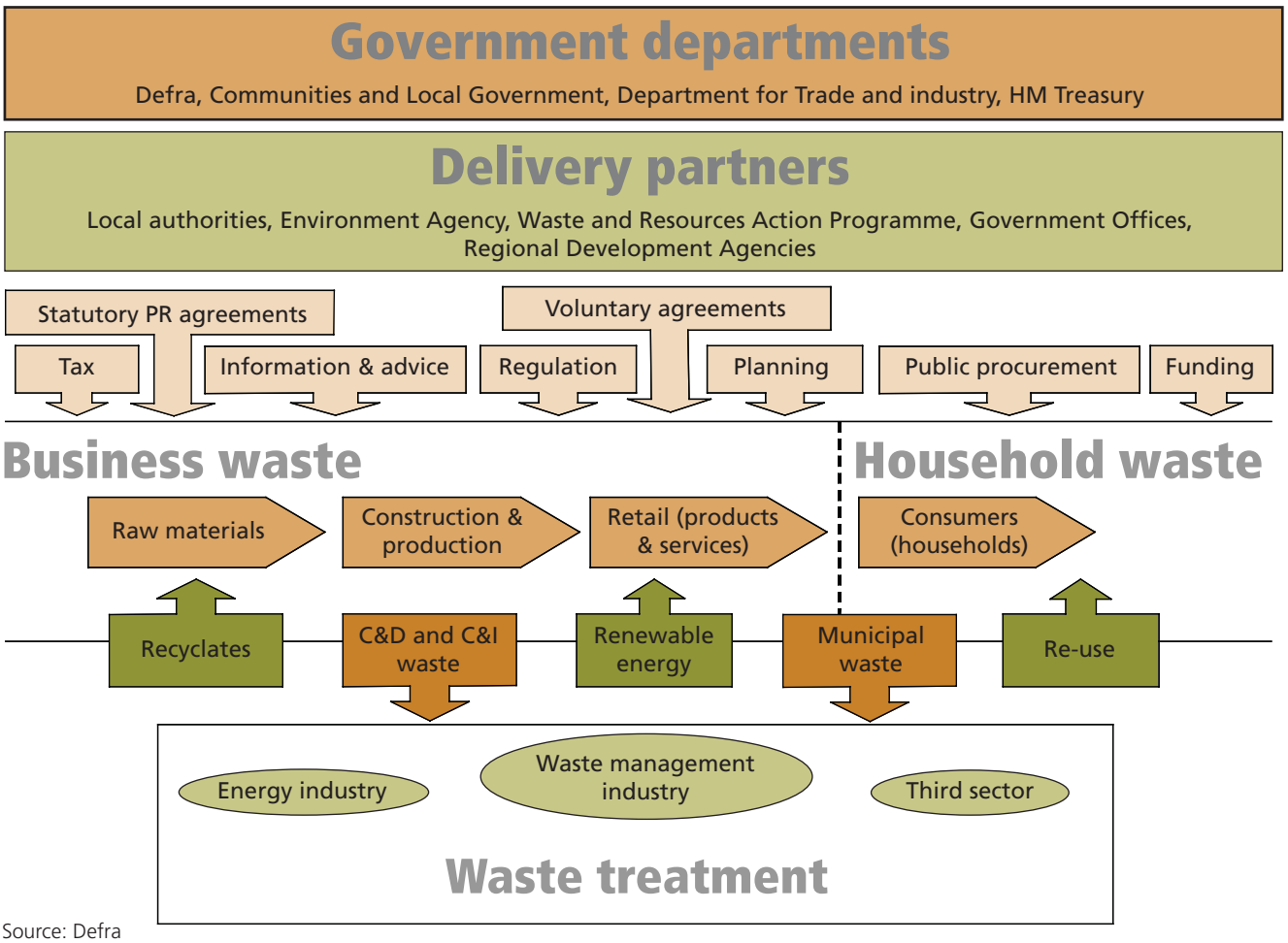
3. The Board will be chaired by the lead Defra Director for Sustainable Consumption and Production & Waste and will include other senior Defra officials (representing waste and sustainable consumption and production agendas), representation from other government departments with a key interest and/or role in waste (Department of Trade and Industry, Communities and Local Government, Treasury and Cabinet Office), and representation from the Environment Agency. The Board will have two non-executive members with relevant experience to provide independent challenge and advice. The Board will be accountable to the lead Defra Minister for Waste.

4. The Government wishes to see ownership of the strategy and its implementation by all groups with the Government open to challenge and accountability on its performance. A **Waste Stakeholder Group will be established** to provide advice and input to delivery of the strategy, and future development of policy and strategy. The Board will have strong links to the Group, the membership of which will be drawn from waste stakeholders across the piece (including business, waste management industry, local government, third sector, environmental non-government organisations and consumers and households). **Project sub-groups of both the board and stakeholder group** will be developed as appropriate to ensure delivery of specific aspects as required.

Delivery arrangements

5. The delivery of waste policy is complex. Waste can contain any material and be in any product. Every individual and organisation produces waste and does so in a wide variety of situations and circumstances. The delivery landscape is inevitably complex too. The diagram below illustrates the basic structure, which is described more fully in Annex B.

Fig 8.1: Delivery landscape for waste



Source: Defra

6. In addition to the governance changes at local and regional level (see Chapter 6) the existing national delivery arrangements will be refined as the implementation of the strategy is taken forward. Key principles will be to avoid overlap of roles of different delivery bodies and ensure complementary and coordinated action where different delivery organisations are involved.

Implementation plan

7. Set out at the end of this chapter is a **high-level implementation plan** for delivery of this strategy. The plan summarises:

- the key **actions** flowing from this strategy;
- the **timeframes** for these actions; and
- **responsibilities** for delivery.

8. More detailed accounts of the policy interventions, delivery mechanisms and roles and responsibilities of delivery stakeholders for each waste stream can be found in Annex C.

Tracking progress

9. The overall **progress of the strategy** will be tracked using a range of national level indicators (see Table 8.1). The Government already reports on some of these; data are already available to enable reporting on others; others still are under development – see Annex K.

Table 8.1: National level performance indicators

Indicator	Desired direction of travel	Frequency and availability
Carbon dioxide equivalent emissions from waste management and recycling (tonnes)	↓	Under development
Household waste per head after re-use, recycling and composting (kg) **Target**[73]	↓	Available – updated annually
Household re-use, recycling and composting (%) **Target**[74]	↑	Available – updated annually
Waste arisings – (by key sectors – municipal, commercial and industrial, construction and demolition) (tonnes)	↓	Municipal available; regular C&I and C&D data under development
Municipal waste recovery (%) **Target**	↑	Available – updated annually
Waste re-used, recycled or composted – (by key sectors – municipal, commercial and industrial, construction and demolition) (%)	↑	Municipal available; regular C&I and C&D data under development
Energy recovered from waste (tonnes of oil equivalent)[75]	↑	Available – updated annually
Waste landfilled – (total and by key sectors – municipal, commercial and industrial, construction and demolition) (tonnes)[76]	↓	Total and municipal amounts available; regular C&I and C&D data under development
Total non-municipal/non-inert waste landfilled (tonnes) **Target**	↓	Under development
Biodegradable municipal waste landfilled (tonnes) **Target**	↓	Available – annual reporting
Hazardous waste arisings (tonnes)	↓	Available – annual reporting
Hazardous waste recycled/recovered (%)	↑	Available – annual reporting
Serious waste-related pollution incidents – broken down by type, land, air, water	↓	Available – annual reporting
Levels of flytipping and other illegal waste activity	↓	Available – annual reporting
Public awareness of recycling (% committed recyclers)	↑	Available – periodic by survey

[73] As included as part of the sustainable development indicators set.

[74] Current municipal data (and associated indicators) include tonnages reported as re-use by local authorities. This covers re-used tonnages within the scope of the municipal solid waste definition (ie waste under the possession and control of local authorities). Other re-use (through eg charity shops and that done internal to the home) would not, and could not, readily be captured here.

[75] Non-fossil fuel derived, reported in accordance with EU requirements for renewable energy reporting.

[76] See footnote 74 above.

10. A key outcome sought is the reduction of net greenhouse gas emissions from waste management operations. This includes two elements, direct impacts and offset benefits for waste recycling and recovery. Some of the latter are generated in the UK and some overseas. **The aim is to reduce these emissions by at least 9.3 million tonnes of carbon dioxide equivalent by 2020 compared to 2006/07** (see Table 8.2).

Table 8.2: Preliminary estimates of carbon and tonnage savings from key policies in this strategy

Policies in place	Net carbon savings from current waste treatment (CO_2 equivalent saved, 2006/07 – million tonnes)*	Incremental changes to 2019/20			
		Waste diverted from landfill to other treatments (million tonnes)	CO_2 equivalent saved (million tonnes)*	Waste prevention: material saved (million tonnes)	CO_2 equivalent saved (million tonnes)**
Municipal waste	**0.5**				
LATS and other policies/targets:					
– diversion to recycling		6.0 – 9	4.8 – 7.2		
– estimated additional diversion of biodegradable wastes required via other treatments		4.4 – 6.8	0.8 – 3.4		
Sub-total (incl. current CO_2 savings maintained)			**6.1 – 11.1**		
Commercial and industrial waste	**6.7**				
Landfill tax escalator to £48		3.5 – 4.5	1.5 – 2.6	0.25 – 1.0	0.5 – 2.0
Pre-treatment requirements:				1.0 – 2.5	2.0 – 5.1
– increased recycling		4.0 – 6.5	1.7 – 4.0		
– increased energy recovery		1.8 – 2.0	0 – 0.4		
Packaging directive		0 – 1.5	0 – 1.6		
Sub-total (incl. current CO_2 savings maintained)			**10.4**		
Total		24.8 – 28.0	**16.5 – 21.5**	1.3 – 3.5	2.8 – 7.1

Additional policies – central estimates	Net carbon savings from current waste treatment (CO_2 equivalent saved, 2006/07 – million tonnes)*	Incremental changes to 2019/20			
		Waste diverted from landfill to other treatments (million tonnes)	CO_2 equivalent saved (million tonnes)*	Waste prevention: material saved (million tonnes)	CO_2 equivalent saved (million tonnes)**
Municipal waste					
Household financial incentives:***					
– prevention				0.8 – 2.0	1.8 – 4.8
– increased recycling		0.7 – 1.0	0.2 – 1.2		
Total					

* Benefits of methane reduction from landfilling are allocated to the year in which the waste is landfilled
** Marginal carbon savings on waste prevention are associated with reduced primary material production
*** Projections for household financial incentives based on sensitivity analysis by Eunomia to be published on the Defra website.
Source: Defra.

Table 8.2: Preliminary estimates of carbon and tonnage savings from key policies in this strategy (continued)

The carbon indicator relates to the total impact of waste treatment in the given year. For example, if 2 tonnes of waste were landfilled, releasing 1 tonne of carbon dioxide equivalent (over 100 years), and 2 tonnes of waste were recycled, reducing carbon dioxide equivalent emissions by 1.5 tonnes (through offset primary production), the net impact of waste treatment in that year would be to reduce global greenhouse gas emissions by 0.5 tonnes. On this basis, the impact of waste treatment in England for 2006/07 was to reduce greenhouse gas emissions by 7.2 million tonnes carbon dioxide equivalent. Based on modelling of expected policies and waste growth, this benefit is forecast to rise to a saving of at least 16.5 million tonnes carbon dioxide equivalent in 2019/20. These are the benefits of treating waste only. In addition to this there are benefits of waste prevention, shown in the table, the preliminary analysis of which suggests further significant carbon savings. The monitoring of the carbon impact of waste will be revised and developed as further evidence becomes available. The estimates of the carbon dioxide equivalent savings from waste prevention in particular will need refinement.

Source Defra

12. Table 8.2 sets out the potential overall impact of Government waste policies by 2019/2020 in terms of tonnes of waste diverted from landfill and tonnes of carbon dioxide equivalent saved (broken down by key policies).[77]

13. Building on progress to date (notably on household recycling set out in Chart 8.1 and Table 8.3 below), the Government is also setting targets for the following key outcomes that this strategy and its policies are expected to deliver.

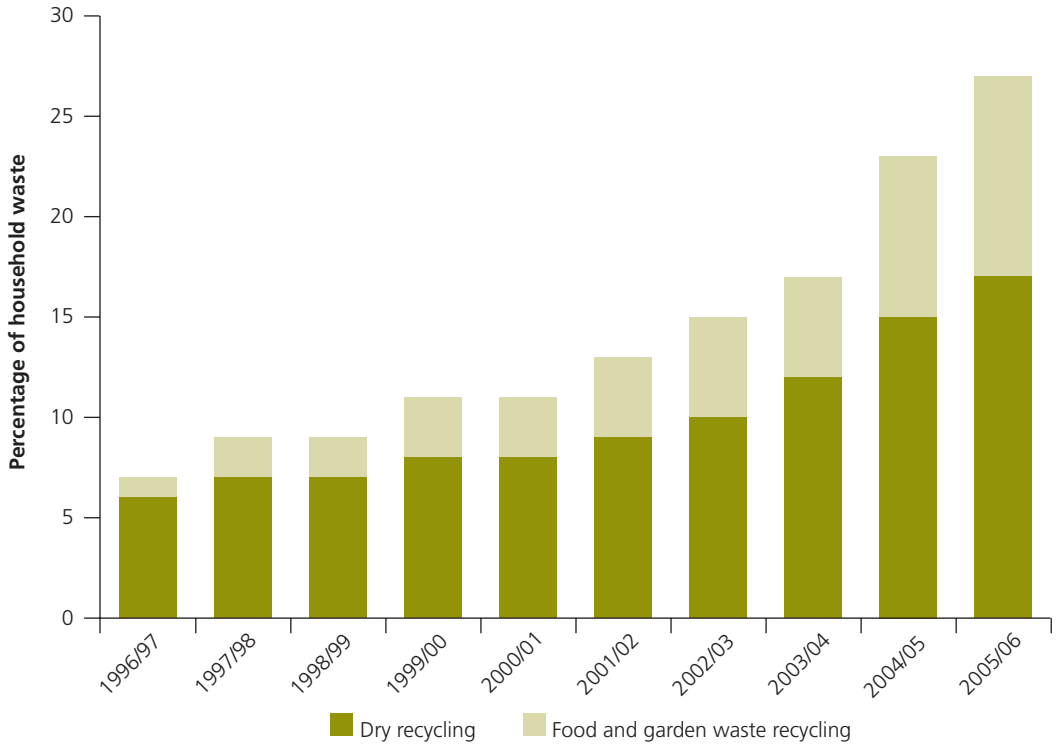
14. These targets reflect the fact that there has been much lower and slowing household waste growth since 2000 and current assumptions are for **lower levels of waste growth** than when the consultation document was published. The waste prevention policies (through actions by producers, local authorities and households) will help to reduce waste growth and stabilise or reduce the total waste produced.

15. A greater focus on waste prevention will be recognised through **a new target to reduce the amount of household waste not re-used, recycled or composted** from over 22.2 million tonnes in 2000 and 18.6 million tonnes in 2005 to 15.8 million tonnes in 2010 with an aspiration to reduce it to 14.3 million tonnes in 2015 and 12.2 million tonnes in 2020. This would be a reduction of 45% between 2000 and 2020. This is equivalent to a fall of from 450 kg per person in 2000 and 370kg per person in 2005 to 310kg in 2010, 270 kg in 2015 and 225 kg in 2020. (a 50% reduction from 2000).

16. Achievement of these targets will be underpinned by the achievement of **much higher national targets for recycling** that the Government is now setting compared to those set in 2000. The Government will review the targets for 2015 and 2020 in the light of progress to 2010, and future forecasts, to see if they can be even more ambitious.

[77] Note that attempts to fully isolate the impact of each measure are complicated given that several measures often address the same problem and an individual measure may address more than one problem.

Chart 8.1: Household recycling, England (1996/97 – 2005/06)



Source: Defra Municipal Waste Management Survey

Table 8.3: Recycling and recovery targets for household and municipal waste, England (2005 baseline and targets for 2010, 2015 and 2020)

	2005	2010	2015	2020
Household waste after re-use, recycling and composting (million tonnes-mt) (percentage reduction from 22.2 mt in 2000) *equivalent per person figures (percentage reduction from 450kg per head in 2000)*	18.6 mt (16%) *370 kg (18%)*	15.8 mt (29%) *310 kg (32%)*	14.3 mt (35%) *270 kg (40%)*	12.2 mt (45%) *225 kg (50%)*
Household re-use, recycling and composting	27%	40%	45%	50%
Municipal waste recovery[78]	38%	53%	67%	75%

Source: Defra

17. The Government will shortly be setting a new national target for the reduction of commercial and industrial waste going to landfill. On the basis of the policies set out in this strategy, we expect to see levels of **commercial and industrial waste landfilled falling by 20% by 2010 compared to 2004**. This target reflects the announcement in Budget 2007 of landfill tax increases up to 2010.

[78] Recovery includes recycling, composting and energy recovery.

18. The Government is considering, with construction industry representatives, setting a target for the construction industry **to halve the amount of construction, demolition and excavation wastes going to landfill by 2012** as a result of waste reduction, re-use and recycling.

European targets

19. A number of targets agreed at EU level which are binding on the UK will also be met. Particularly challenging ones for the UK are the biodegradable municipal waste landfill reduction targets for the years 2010, 2013 and 2020 in the Landfill Directive. Table 8.4 below shows the targets that we are subject to, up to the year 2020.

Table 8.4: Landfill Directive targets for biodegradable municipal waste, England (2010, 2013, 2020)

Target year	Target in Directive	Amount of limit
2010	75% of that produced in 1995	11.2 million tonnes
2013	50% of that produced in 1995	7.4 million tonnes
2020	35% of that produced in 1995	5.2 million tonnes

20. The other European targets focus on the recycling within particular waste streams – shown in Table 8.5.

Table 8.5: Re-use, recycling and recovery – EU producer responsibility streams (%)

	Current achievements	Targets			
Waste stream		**2006**	**2008**	**2011**	**2015**
Packaging – recycling	56[1]		55		
Vehicles – recovery (recycling)	81[2]	85 (80)			95 (85)
Electrical and electronic equipment	N/A	50–80			
Large industrial and automotive batteries	90[3]			100	
Portable batteries*	2[4]			50–75**	

[1] as at 2006; [2] recovery as at 2005; [3] DTI estimates as at 2000; [4] as at 2007;
* For household portable batteries
** To be achieved by circa 2011. Rate depends on battery type and relates to 25% collection target (2011) and 45% (2015)
Source: Defra/DTI

21. As discussed in Chapter 1, policies designed to influence behaviour at the various stages of the life cycle can also impact on the top of the waste hierarchy, helping to increase waste prevention. A summary of how the main measures outlined in this strategy can help to drive waste prevention is given in Table 8.6.

Table 8.6: Measures contributing to waste prevention

Measure	How it can contribute
Landfill Allowance Trading Scheme (LATS)	Provides an incentive for councils to encourage waste prevention in their area in order to reduce amount of waste needing to be diverted from landfill and reduce costs of treatment
Allowing councils to incentivise recycling including through household financial incentives	For waste that cannot easily be re-used or recycled this provides an incentive for the householder to reduce waste
Performance indicators for councils	Indicators which focus on waste prevention provide an incentive for councils to address this issue, including in local area agreements
Landfill tax escalator	For waste that cannot easily be re-used, recycled or recovered this provides an incentive for businesses to reduce waste
Restrictions on landfill	For waste where any restrictions could have most effect on cost, this provides an incentive for waste prevention
Material- or sector-based voluntary agreements	Can include specific agreements on waste reduction (as with Courtauld Commitment on packaging and food waste); agreements on recycling provide indirect incentive on waste prevention for waste that is relatively expensive to recycle
Implementation of EU producer responsibility directives	For waste that is relatively expensive to recycle, recycling requirements will encourage waste prevention
Government waste management and product procurement targets	By including targets for waste prevention; recycling targets provide indirect stimulus to waste prevention for waste that is relatively expensive to recycle; recycled content requirements stimulate recycling market
New packaging targets after 2008	These could include specific targets on waste prevention; higher targets for recycling would indirectly encourage prevention
Guidance and awareness measures, including through more visible recycling facilities in public places, activities with schools and use of voluntary sector	These will encourage waste prevention, including through stressing resulting economic gains and through behaviour change

Reporting, evaluation and review

22. Progress on delivering the strategy will be assessed using the national-level indicators above and monitoring delivery of the implementation plan. This will be shared with the Waste Stakeholder Group. The Waste Strategy Board will oversee the production of **periodic reports on implementation of the strategy** and the management and realisation of the benefits expected.

23. Both the model of causation and horizon scanning (see Chapter 1) will remain important tools for ensuring coherence in future policy development and for monitoring strategy implementation. The Board will also consider what further evaluation work is needed, drawing on the development of the evidence base. This is being supported by the Waste and Resources Research and Development (R&D) Strategy (constructed around key themes, under which priority areas have been selected) and the Waste Data Strategy.

24. A second **three-year R&D Strategy** is currently being prepared and is planned **to be published in summer 2007**. Further details are given at Annex H. This will take account of the new priorities set out in this waste strategy and will be followed by annual action plans. Defra is also developing Wastenet, a web-based, public information portal which will provide **access to waste-related research** from Defra and other research sources. This is planned to be launched in 2007.

25. A **Waste Data Strategy** has been put in place which aims to deliver joined-up, accurate, complete, consistent and timely data across all waste streams. It uses routine regulatory returns from all waste management facilities, as reported to the Environment Agency, and the WasteDataFlow system for municipal data reporting as the principal data sources. A central warehouse ("Hub") of data has been set up from which standard reports will be produced on, for example, waste infrastructure, waste types and tonnages and waste landfilled.[79]

26. This strategy sets out the direction in which the Government wishes to go, over both the medium and longer term. The **Government will keep this strategy under review**. In the light of progress in achieving its aims, new European developments and obligations, and any other significant events, it will consider the need for any revisions to the strategy.

[79] Further information, along with reports from the Hub on waste facilities, can be found at http://www.defra.gov.uk/environment/waste/wip/data/index-htm

Table 8.7: High-level implementation plan[80]

Issue	Actions	Timeframes	Responsibility
Chapter 2 – Getting the rules of the game right: prices			
Landfill tax	1. Increase the standard rate of landfill tax by £8 per year from 2008 to at least 2010	April 2008 April 2009 April 2010	Government
Enhanced Capital Allowances (ECAs)	2. Introduce ECAs for investment involving use of secondary recovered fuel	2007	Government
Landfill Allowances Trading Scheme (LATS)	3. Operational review of LATS	By end 2007	Government
Household incentives for recycling	4. Consult on giving voluntary powers to local authorities to introduce household financial incentives for waste prevention and recycling	May 2007	Government
	5. Subject to consultation outcome, legislate for voluntary power to local authorities to introduce such schemes	By 2008	Government
Chapter 3 – Getting the rules of the game right: effective regulation			
Definition of waste	6. Develop updated guidance on definition of waste including consultation on draft updated guidance	Consultation Summer 2007	Government/EA
Waste licensing, pollution prevention and control permitting and planning	7. Integrate waste licensing and pollution prevention and control permitting systems	April 2008	Government /EA
	8. Review current exemptions from waste management licensing	By April 2009	Government /EA/Welsh Assembly Government

[80] Table 8.7 shows the key new actions associated with this strategy, timeframes for their delivery and responsibilities for delivery.

Issue	Actions	Timeframes	Responsibility
Chapter 3 – Getting the rules of the game right: effective regulation (continued)			
Waste protocols	9. Establish domestic waste protocols to determine when certain categories of waste cease to be waste	2007 onwards	EA/WRAP/industry sectors
Inert waste	10. Review regulation of inert waste including consultation with stakeholders on options for reform	End 2007 for consultation	Government/EA
Waste handling, transfer and transport controls	11. Review controls on handling, transfer and transport of waste including consultation	October 2008	Government
Illegal waste activity and enforcement	12. Develop and implement an action plan to tackle illegal waste activity	2007 onwards	Government/EA/ LAs
	13. Develop better data gathering on illegal waste activity including fly-tipping; implement new Clean Neighbourhoods and Environment Act (CNEA) 2005 powers	2007 onwards; remaining CNEA powers commenced by end 2008	EA/LAs
	14. Implement Operator Pollution Risk Appraisal (OPRA) across all regimes	By 2008	EA
Exports of waste	15. Improve compliance with export of waste for recycling controls, including revised provisions in Transfrontier Shipments of Waste Regulations	2007 onwards	Government/EA
Waste oil	16. Consider development of producer responsibility scheme for waste oil in light of outcome of revisions to EU waste legislation	January 2008	Government
Household hazardous waste	17. Consider scope for voluntary agreements on decorative paints and garden chemicals with relevant sectors	By 2008	Government

Issue	Actions	Timeframes	Responsibility
Chapter 3 – Getting the rules of the game right: effective regulation (continued)			
Future of landfill and pre-treatment requirements	18. Ban landfilling of liquid waste	From October 2007	Government/EA landfill operators
	19. Implement pre-treatment requirement for non-hazardous waste	From October 2007	EA
	20. Complete re-permitting of existing landfills under Pollution Prevention and Control regime	October 2007	Government/EA/ landfill operators
	21. Ensure closure of landfills that will not meet Landfill Directive requirements	By 2009	
	22. Consider the introduction of further restrictions on the landfilling of biodegradable wastes and recyclable materials	By 2008	Government
Agricultural waste	23. Establish statutory producer responsibility scheme for non-packaging farm plastics	2008	Government
Extractive industries	24. Transpose EU Directive on management of waste from extractive industries into national law	By 1 May 2008	Government
Skilled staff and a safe working environment	25. Develop joint training plan to improve levels of competency within waste sector	By Autumn 2007	EA/ESA/Energy and Utility Skills
	26. Agree strategy to address shortfalls/gaps in competence/skills base in EA and waste management industry	By December 2007	EA/waste management industry

Issue	Actions	Timeframes	Responsibility
Chapter 4 – Increasing resource efficiency: targeting materials, products and sectors			
Key waste materials: Paper	27. Consider with the paper industry how to extend existing voluntary agreements on newspapers, magazines and direct mail to other sectors and products	By April 2008	Government/ paper industry
Food	28. Extend Courtauld Commitment to food brands; take forward round-table discussions with retailers on how to deliver household food waste reductions	2007 onwards	Government/ WRAP
Aluminium/plastic	29. Develop proposals for higher packaging recycling targets beyond the 2008 European targets to increase recycling of aluminium and plastic	December 2007	Government
Plastic	30. Support WRAP work on increasing plastics recycling and recycled content of certain plastic containers	By April 2008	Government
Glass	31. Programme to increase recovery of glass packaging and wine bottling in UK	2007 onwards	WRAP
Wood	32. Develop energy markets for waste wood	By April 2008	WIDP
Textiles	33. Define further research and stakeholder engagement needed to develop policies for increasing textiles recycling	By April 2008	Government
Prioritising products	34. Develop evidence base and methodologies to identify products with the most significant environmental impacts over their entire life cycle	2007 onwards	Government
Product design	35. Further work on reducing waste impacts through action taken at the design stage	2007 onwards	Government
	36. Develop proposals for implementing measures under the Eco-design of Energy Using Products (EuP) Framework Directive	Mid-2007 to 2010	Government
Products and materials	37. Establish products and materials unit to take forward and expand work on products	Spring 2007	Government
	38. Publish a Progress Report	Spring 2008	Government

Issue	Actions	Timeframes	Responsibility
Chapter 4 – Increasing resource efficiency: targeting materials, products and sectors (continued)			
Engaging business on resource efficiency	39. Develop Resource Efficiency Appraisal and Development (READ) tool to help businesses appraise their resources management and improve performance	April 2008 (first phase)	EA
Packaging	40. Amend producer responsibility regulations to achieve packaging minimisation including setting optimal packaging standards for a product class	By 2009	Government/ WRAP
Batteries	41. Establish a statutory producer responsibility system for managing waste batteries; transpose EU Batteries and Accumulators Directive	By September 2008	Government
Direct mail	42. Develop an opt-out service for unaddressed direct mail, and explore the scope for an opt-in scheme for unaddressed mail	By end 2007	Government/ Direct Mailing Association
Sectoral action	43. Further develop industry sector plans encompassing waste reduction, re-use, recycling and recovery targets	2008 onwards	EA/industry
	44. Report resource efficiency league tables covering all PPC processes comparing performance by sector and site	April 2009	EA
Retail sector	45. Launch materials "decision support tool" to guide retailers on which packaging materials to use and when	May 2007	WRAP
	46. Recruit non-food retailers to Courtauld Commitment	2007 onwards	WRAP
Construction and demolition sector	47. Develop sector-level agreement to reduce plasterboard waste to landfill and increase collection and recycling	By end of 2007	WRAP/MTP/plaster board industry
	48. Develop policy roadmaps for other priority construction products such as window systems	Ongoing	Government/ Industry
	49. Make Site Waste Management Plans mandatory for larger construction sites, subject to consultation	April 2008	Government
	50. Implement the Construction Waste & Resources Roadmap	Summer 2007 onwards	Government/BRE/ industry

Issue	Actions	Timeframes	Responsibility
Chapter 5 – Stimulating investment in waste collection and treatment			
Advice to local authorities	51. Strengthen advice services to LAs on food waste collection; use of different kinds of material recycling facilities (MRFs); and contractual arrangements that optimise value obtained from recyclable material	2007 onwards	Government/ WRAP
Waste Infrastructure Delivery Programme (WIDP)	52. Strengthen central and regional coordination and advice on procurement to help local authorities make the investment needed to develop necessary waste infrastructure	Ongoing	Government/ WIDP
Recovering energy from waste	53. Bring forward new legislation to help overcome the current barriers of eligible energy from waste plants achieving accreditation to the Renewables Obligation and allow for ROCs to be claimed for eligible biomass burnt alongside non-eligible solid recovered fuels	Consultation May 2007	Government
Anaerobic digestion (AD)	54. Develop a standard and protocol for the digestate produced by AD, including consultation on a draft digestate standard	Operational protocol and standard by spring 2008	EA/WRAP
	55. Develop the market for AD digestate	Ongoing	WRAP
Funding local infrastructure development	56. Consider future funding needs for local authorities as part of the Comprehensive Spending Review 2007	Announcement autumn 2007	Government
Supporting business change	57. Consider the future, scale and nature of BREW programme beyond 2007–08 through Comprehensive Spending Review 2007	By autumn 2007	Government
Markets for recycled materials	58. Create centre of expertise on waste export markets for manufacturing industries	2007–08	WRAP

Issue	Actions	Timeframes	Responsibility
Chapter 6 – Getting local and regional government right			
Local waste performance indicators	59. Develop and agree local waste performance indicators within the new local government performance framework	Autumn 2007	Government
	60. Consider development of greenhouse gas emissions performance indicator for local authority performance on waste	2008	Government
Local authority partnership working	61. Legislate to allow the creation of joint waste authorities through the Local Government and Public Involvement in Health Bill	2007	Government
	62. Produce a comprehensive package of guidance on inter-authority agreements	2007	Government/ WIDP
Local authority role in business waste management and resource efficiency	63. Funding pilot initiatives by local authorities	Ongoing	Government
	64. Ensure PFI/other funding mechanisms do not prevent local authorities and their waste management contractors from developing facilities to cater for both municipal and non-municipal waste	Ongoing	Government
	65. Support the preparation of guidance and dissemination of good practice	Ongoing	Government
	66. Consider further action needed to support the development of waste services to SMEs once results of pilot projects available	2008	Government/ WRAP
London's waste management	67. Implement remaining measures to strengthen London's waste management ability without change to current structures	By April 2008	Government

Issue	Actions	Timeframes	Responsibility
Chapter 7 – A shared responsibility			
Information and awareness	68. Continue to increase awareness of consumer impacts on the environment of resource consumption and waste management through: – continued national campaign to boost the number of committed recyclers – supporting individual local authority campaigns for increasing public participation in recycling initiatives – extending existing approaches into waste minimisation – providing funding for third sector projects that increase participation in household recycling	Ongoing	Government/ WRAP
	69. Develop and update waste content of the Direct.gov website	Ongoing	Government
Local leadership	70. Launch zero waste places initiative to incentivise excellence in sustainable waste management	Autumn 2007	Government
Third sector	71. Extend futurebuilders to waste and all other areas of service delivery	From March 2008	Government

Issue	Actions	Timeframes	Responsibility
Chapter 7 – A shared responsibility (continued)			
Retailers and plastic bags	72. Achieve a 25% reduction in the environmental impact of free carrier bags (both plastic and paper)	End 2008	Government, WRAP, the plastics industry and UK retailers
Recycling bins in public places	73. Develop guidance and a voluntary code of practice on the provision of recycling bins in the wider public realm	End 2007	Government
Wider behaviour change	74. Consider reflecting impacts from wider embedded emissions, including from waste, in carbon dioxide calculator	2008	Government
Education and action in schools	75. Provide suite of resources for schools to include information and advice on dealing with waste more sustainably into curriculum	Continued work in 2007 and onwards	WRAP
	76. Help schools overcome barriers to recycling their own waste including: – clarifying the definition of schools waste and encouraging local authorities to provide reliable, high quality recycling facilities to schools – providing advice to schools on actions they can take to improve waste collection and recycling arrangements – establishing a National Sustainable Schools forum	2007 onwards	Government
	77. Encourage more schools to register with Eco-Schools and move towards green flag status and identity opportunities for Eco-Schools and other schemes to contribute to the wider aim of Sustainable Schools	2007 onwards	Government
	78. Explore and champion role of DfES Capital Programme, including Building Schools for the Future (BSF), in delivering national waste prevention goals	Ongoing	Government

Issue	Actions	Timeframes	Responsibility
Chapter 7 – A shared responsibility (continued)			
Government's own waste	79. Departments to reduce their total waste arisings by 5% by 2010 and by 25% by 2020 (relative to 2004 levels)	2010, 2020	Government
	80. Departments to increase recycling figures to 40% of total waste arisings by 2010 and 75% of total waste arising by 2020	2010, 2020	Government
Government procurement	81. Extend and update list of Government procurement "Quick Wins" including waste prevention criteria and recycled content	Consultation end 2007; updates to list every 2 years	Government
Government construction	82. Consider how reducing waste, segregating material for re-use and recycling, and using more recovered material can contribute to achieving a carbon neutral government office estate by 2012	Ongoing	Government
Chapter 8 – Implementation and measuring success			
National governance	83. Establish Waste Strategy Board	Summer 2007	Government
Stakeholder engagement	84. Establish Waste Stakeholder Group	Summer 2007	Government
	85. Establish project sub-groups of either or both the Waste Strategy Board and Waste Stakeholder Group	Ongoing	Government
Targets	86. Consider with construction industry a target of halving amount of construction, demolition and excavation wastes going to landfill by 2012	End 2007	Government/ construction industry
	87. Set targets for reducing commercial and industrial waste landfilled	Summer 2007	Government

Issue	Actions	Timeframes	Responsibility
Chapter 8 – Implementation and measuring success (continued)			
Reporting, evaluation and review	88. Track delivery of strategy using national level indicators and monitoring the delivery of the implementation plan	Ongoing	Waste Strategy Board
	89. Oversee production of periodic reports on strategy implementation	Ongoing	Waste Strategy Board
	90. Publish second three-year Research and Development Strategy	Summer 2007	Government
	91. Develop and launch Wastenet (web-based information portal) for waste-related research	By end 2007	Government
	92. Further develop evidence base to underpin policy development and evaluation	Ongoing	Government
	93. Develop regular and robust waste data to underpin national targets, indicators and analysis of impacts of the strategy	Ongoing	Government
	94. Keep the Strategy under review	Ongoing	Government

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