GREATER LONDON AUTHORITY

London Assembly

Rewarding Recycling

An Assembly investigation into barriers to greater recycling in London

June 2001

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Greater London Authority
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foreword

The issue of what happens to the contents of our rubbish bin is very complex. This crucial subject has been debated for many decades. There are many thorny issues to face, some of which we have tackled head on and others we have chosen to leave for the time being. One thing is for sure, we no longer have the option of mass burn or mass bury.

We have found enthusiastic communities who are valiantly taking on the challenge and we have great pleasure in sharing their work with you.

Waste is a valuable resource, providing many good jobs that can be of benefit to us all. We are excited and enthusiastic to engage with businesses, communities, local government and Londoners. Treating waste as a resource is a challenge that we are proud to meet – for ourselves and future generations.

The Investigative Committee notes its thanks to all who gave evidence and to its consultants, the Safe Neighbourhoods Unit.

Samantha Heath

Samantha Heath

executive summary

This report, prepared by the London Assembly, looks in depth at the issues that stand in the way of better recycling achievements for Greater London. It examines what is stopping London boroughs from meeting the government's recycling targets, considers the contribution recycling and composting can make to the achievement of EU Landfill Directive targets, and discusses what can be done about the projected growth in waste. The Assembly trusts that it will be used to inform the Mayor's Waste Strategy.

Recent contributions to developing a waste strategy for London have been based on a figure of three per cent projected growth in waste per annum. This paper contests this figure, which means it also contests the basis for all existing strategies.

We noted an undue focus by the waste treatment bodies on incineration and landfill, the last resorts in the treatment of waste. Londoners need to know that their waste collection and disposal authorities are giving proper priority to reduce, re-use and recycle options.

Our principal findings are:

- The markets for recyclables need urgent investment, an issue that should be taken up by the Mayor in his strategic imperatives for the benefit of Londoners. The LDA and the business sector can play an important role here.
- London should be better at recycling. The experience of the best municipalities in UK and Europe is that 60 per cent of household waste can be diverted from disposal into kerbside collections and centralised composting schemes.
- Finance and funding has an important role to play. London needs to receive its fair share from:
  - £140m funding from DETR
  - NOF funds for kerbside schemes
  - the changes we propose to fiscal policy, including landfill tax credits and the PRN system, and to waste collection charges.

London needs a specific business plan to transform the Mayor's Waste Strategy into achieving the improvements everyone wants. The GLA should take the lead, working in partnership with the boroughs, the waste institutions and community organisations.

Our report contains many acronyms and abbreviations. They are explained in the glossary at the back.

recommended actions

For action by the GLA

We propose a joint Waste Reduction Commission to lead and promote a co-ordinated and responsible attitude to waste across Greater London.

The GLA should lead the Commission, working with the ALG and London Waste Action. The Commission should also include the London boroughs, the London Community Recycling Network and London Waste Action. We suggest that the Commission report to the Assembly via its Environment Committee, and that it should be commissioned to set up and achieve specific targets against a business plan.

We propose these aims for the new Commission:

- to provide leadership on waste minimisation
- to set visionary recycling targets, given that 60 per cent is achievable
- to set up a framework – by early 2002 – to provide robust data on waste
- to identify and support best practice in recycling
- to act as a driver for the market in recyclates, by encouraging others to buy products of recycling
- to promote procurement and packaging initiatives that make use of recyclates and help to minimise waste
- improve publicity and public involvement with recycling.

The Commission should form strategic partnerships to help further its aims, for example, with the Community Recycling Network and Waste Watch, to promote local waste action groups across London, and with the ALG, the boroughs and FBs to develop procurement strategies which will take account of developments in products from recyclables.

The Commission should pay particular attention to effective communications with communities, having regard to multi-lingual requirements.

Funding is to be made available, nationally, by the DETR. London's share of this will not go far once it has been spread over all the boroughs. We suggest that allocating some of it to finance the work of the Commission will produce better value for money outcomes.

In our recommendations in this report we raise detailed suggested actions for the Commission.

Once set up, the new Commission needs urgently to:

- Set up a business plan to support boroughs to achieve the 60 per cent target.
- Work within existing funding arrangements to seek out new forms of funding with LDA, Europe, WRAP, New Deal.
- Target money according to need by focussing on areas of under performance and by applying best practice to equalise performance.
- Ensure that new money is devoted to new schemes to reduce waste and increase recycling.

Specific examples of activities:

- Working with the ALG, the boroughs and waste institutions[1] to raise the rates and quality of household commercial, construction and demolition waste recycling.
- Extending the systems infrastructure for support source separation, collection, sorting and reprocessing in London.
- Establishing a network of closed vessel composting sites throughout London.
- Setting the standard for good quality compost and identifying possible outlets.
- Working with LDA and training providers to develop expertise in waste recycling in businesses.
- Maximising the opportunity for the re-use and recycling of waste arising from expanded Producer Responsibility regulations.
- Establishing suitable pilots across London to deal with complicated wastes such as bulky white goods.

For action by government

The Committee notes its support for a House of Commons Select Committee report published in March 2001, particularly its views that:

- Fiscal policy should be aligned with the hierarchy (reduce – re-use – re-cycle – incinerate – landfill) which means that incineration and landfill should attract proportionately more tax.
- Landfill tax credits should be transformed into a transparent system that supports the maintenance of stable recycling and effects a smooth and more equitable payback to the boroughs to support waste recycling.
- The PRN system should also be subject to a similarly substantial review.
- Charging for waste disposal should be based on tonnage. This will be more equitable.

For action by the Mayor

Set up the new Waste Reduction Commission for London described above, and support the Assembly in its role of scrutinising how well the new Commission meets its business plan.

In setting his Waste Strategy:

- London urgently needs more schemes to collect compostable materials, especially kitchen wastes. The Mayor's waste strategy should set specific targets for composting.
- The Mayor's strategy should include a consideration of the markets and materials. The Mayor should work with relevant institutions, the ALG, the functional bodies and the specifiers to produce a green procurement code, data, information, and a procurement policy.
- The Mayor should set sufficiently visionary recycling targets, recognising that 60 per cent is achievable, and engage in a high level publicity strategy to promote recycling across London.
- The Mayor should note our concern on a 3 per cent growth figure and ensure that the waste strategy does not support a predict-and-provide policy for waste management. London needs a single policy on energy from waste, not many. For instance, it is difficult to see why incineration is justified in one community and not another.

The Mayor can act as a role model, working with the functional bodies, by setting targets for the purchasing of recyclates and for the minimisation of waste, and ensuring these targets are met.

For action by the Boroughs (working with the new Commission)

Boroughs should work actively with the new Commission proposed above to produce a business plan to support the waste strategy.

The boroughs should act collectively to:

- Exploit any tightening of the Packaging Directive targets. The PRN system needs to be revised to create real producer responsibility and to incorporate genuine incentives for research and development.
- Work with Greater London Enterprise and other boroughs to set up an environmental investment fund to support recycling industries.
- Act as a role model by setting targets for the purchasing of recyclates and make sure they are met.
- Set waste minimisation targets and monitor them, for each Borough's own operations.
- Achieve a single policy on the use and installation of Energy from Waste plants.
- Examine appropriate funding for Trading Standards to carry out excessive packaging prosecutions.

- Each Borough should encourage its sub-contractors to follow the Borough's procurement and recycling targets.

Boroughs should be active as drivers in the new Commission proposed in this report, to promote best practice across London.

For action by the LDA

The London Development Agency should work with WRAP and London Remade to boost the development of reprocessing industries in London, aiming to increase employment opportunities and to increase the use of secondary materials and the supply of products made from them.

The LDA should use opportunities to increase employment in jobs that involve recycling and ensure that appropriate training is delivered to support the people taking on these new jobs.

Support waste minimisation by means of training for SMEs and other businesses in London.

Support investment in recycling industries with GLE and other inwards investors.

References

1: In the recommendations in this report 'waste institutions' should be understood to include the LWA, LWM, and CIEH.

structure of this report

To set the scene, *section 1* introduces *reduce, re-use, recycle, incinerate* and *landfill*, the options for waste management, the waste hierarchy commonly accepted in Europe and supported by the Assembly.

Section 2, based on desk research, examines problems with waste data and waste definitions. Tables based on DETR Municipal Waste Data are used to discuss the robustness of current predictions about growth in waste as a basis for waste management planning.

Sections 3 to *9* and the related appendices are based substantially on the findings of visits to London boroughs and on hearings with representatives of boroughs and other expert witnesses undertaken by the GLA Waste Recycling Investigative Committee ('the Committee') and arranged and serviced by its consultants. These sections consider barriers to greater household and municipal waste recycling by the London boroughs and how these hurdles can be overcome.

Section 10 is a list of our detailed recommendations, which also appear throughout the report.

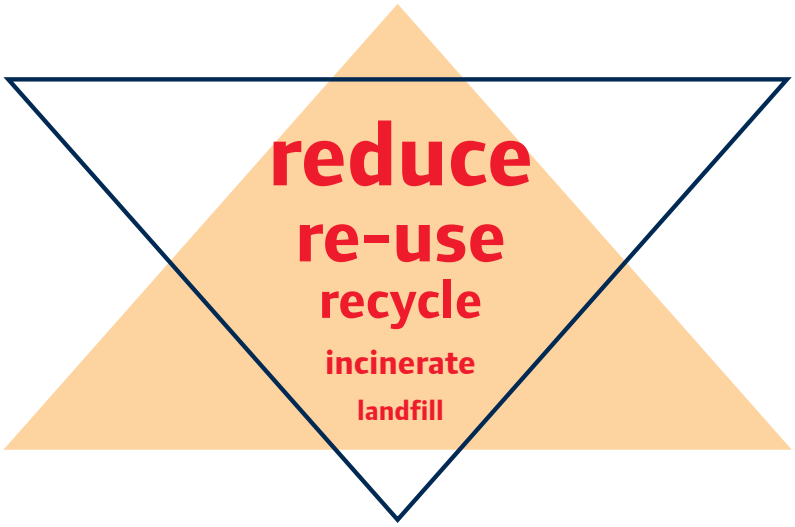
Appendix 1 summarises how the boroughs are organised for the purposes of waste collection, and *appendix 2* describes and illustrates the recycling initiatives in Bexley, Hounslow, Kensington & Chelsea, Lambeth, Southwark and Richmond upon Thames visited by the Investigative Committee.

Appendix 3 is a review of recycling and composting performance in Europe and North America. *Appendices 4 and 5* give the terms of reference of the scrutiny and the acknowledgements of the Committee to the many individuals and organisations who helped in the production of this report. *Appendix 6* is a guide to the many abbreviations necessarily used in this report.

1 the hierarchy of waste treatment methods

The diagram below illustrates how the Committee thinks the waste hierarchy should be represented and promoted.

The waste hierarchy



The waste hierarchy – *reduce, re-use, recycle, incinerate* and *landfill* – is a simple way of understanding a prioritised strategy for dealing with waste. The Committee supports this definition of the hierarchy, as adopted in most countries in Europe. The environmental gains of reducing waste by not generating it in the first place or by producing less of it (high in the hierarchy) exceed those of recycling (lower in the hierarchy) and are even greater compared to incineration (at the lower end of the hierarchy).

But it is very difficult to change cultures towards reducing waste. Proposals to reduce waste rarely achieve the profile of recycling or of other waste treatment projects. We encourage people to recycle bottles and cans, paper and textiles, and they derive satisfaction from being able to contribute to the good of the environment. Minimising waste is more challenging, and when it has to be achieved on a national scale it is harder still.

The Committee heard evidence of sound waste minimisation schemes where responsible consumerism is being practised. The Real Nappy Scheme, the OFFERS furniture scheme, Waste Watch, computer re-use schemes and community waste action groups all deliver positive moves towards minimisation and re-use.

We hope that the new Waste Reduction Commission, which is one of our recommendations, will be established and will work to promote the waste hierarchy, starting at the top.

2 the problem of household waste in London

London is producing increasing amounts of household waste, as its population increases, and too little of this waste is being recycled. Government targets, EU legislation and the limited availability of landfill sites mean the London boroughs need to change and improve their ability to process waste effectively. Currently available data on waste production and growth may not be sufficiently reliable to help the boroughs cope with these challenges.

In this chapter we consider the likely effects, over the next few years, of new legislation and guidelines, and whether we have good enough statistics on waste to help boroughs comply. We then go on to discuss:

- household waste and municipal waste
- rates of growth in waste
- the question of non-household municipal waste
- the issue of household waste composition.

These matters are all critical to determining and assessing the role of recycling and composting in addressing London's household waste problems.

2.1 The challenges of legislation and growth

In 1998/99, London councils collected 4.1 million tonnes of municipal waste, 3.3 million tonnes of which came from households.[2] Three quarters of it (74 per cent) was transferred to landfill sites - most of them outside London - and buried. 18 per cent was incinerated at London's two Energy from Waste plants. Only 7 per cent was collected for recycling into new products, with a further 1 per cent contributed by metals extracted from incinerator ash.[3]

There are pressing reasons for London boroughs to improve their rates of household waste recycling and composting:

- The government has set statutory targets for recycling and composting household waste which will require London boroughs to recycle and compost between 10 per cent and 33 per cent of their household waste by 2003/4 and between 18 per cent and 36 per cent by 2005/6 (see figure 1 below).
- Landfill space available for London's waste is filling up and there are few prospects of finding new sites for it, as shown in table 1 below.
- The 1999 EU Landfill Directive is designed to curb methane production because of its adverse impact on climate change. This will require a dramatic reduction in the landfilling of biodegradable municipal waste (paper, food wastes and green waste). By 2010, no more than 75 per cent of the 1995 levels of BMW can be landfilled, falling to 35 per cent by 2020. The DETR intends to implement a system of tradeable landfill permits to ensure that these targets are met.

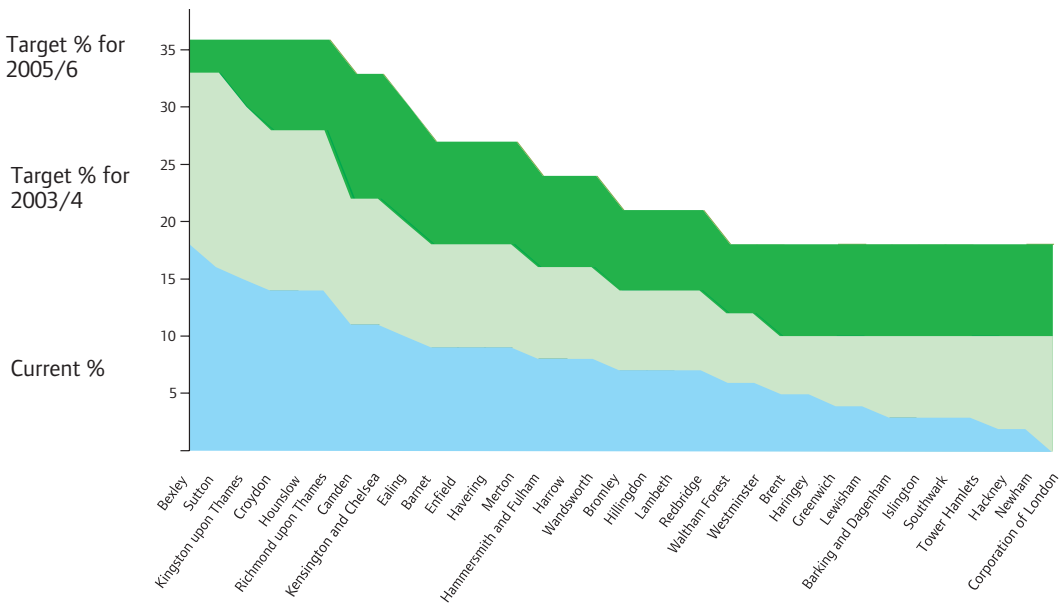
- Forthcoming revisions to the EU packaging waste directive and the adoption of proposed directives on hazardous household waste and on the biological treatment of biodegradable waste require are likely to require further measures to increase recycling and composting.

London's relatively poor performance to date indicates that these existing and potential demands represent a considerable challenge even if nothing else were changing. But there is a further potential complication. London's waste is growing every year. Some people believe it could as much as double in the next twenty years.

The Government's *Waste Strategy 2000*, the Environment Agency's *Strategic Waste Management Assessment 2000: London* and London Waste Action's 2000 paper *Towards a sustainable waste management strategy for London*, as well as many London boroughs in evidence to the Committee, have estimated that London's municipal waste is growing at 3 per cent and more per annum and that this growth could be sustained for the next twenty years. This means that in trying to meet the Government's recycling and composting requirements, boroughs face a moving target.

The Landfill Directive presents similar twin pressures, with major implications for the total treatment capacity (recycling, composting and otherwise) required.

Figure 1: London boroughs' waste recycling rates and targets



Source: DETR, Guidance on Municipal Waste Management Strategies, Annex A: Statutory Performance Standards for household waste recycling and composting, 2001

Table 1: Regional landfill capacity

	Waste produced 1998/99 tonnes (m)	*Landfill waste deposited tonnes (m)*	*Remaining landfill capacity tonnes (m)*	*Remaining landfill capacity years*
London	**10.9**	**2.5**	**20.7**	**10.6**
Essex	2.5	**4.6**	31.5	3.9
Hertfordshire	1.5	0.8	5.5	10.3
Bedfordshire	0.9	**3.3**	26.0	7.0
Cambridgeshire	1.2	**1.6**	17.7	7.0
Suffolk	1.1	0.9	12.2	9.3
Oxfordshire	1.2	1.0	16.5	6.6
Buckinghamshire	1.1	**2.1**	25.5	7.2
Berkshire	1.3	1.2	7.1	4.3
Surrey	1.5	**2.7**	23.1	6.6
Kent	2.9	2.0	22.4	6.4

Source: Environment Agency 2000

The table shows London has a limited amount of landfill available and neighbouring counties have even less. It also shows that some of the Home Counties are currently disposing of more landfilled waste than they produce. London has ten years of capacity only because the greater part of its share of waste is being landfilled in neighbouring counties.
If London were suddenly obliged to handle all its own waste it would have only two years of void space remaining.

2.2 Future requirements in recycling and composting capacity

Calculations based on DETR figures from Municipal Waste Management Strategies 2001, give the following very demanding projections for implied capacity requirements using three different assumptions for the rate of growth of waste, as shown in the table below.

Table 2: Capacity projections

	Zero growth		1 % growth		2 % growth	
	2003/4	2005/6	2003/4	2005/6	2003/4	2005/6
% increase	110	215	121	238	132	262

The message is a simple one: even at zero growth in waste, recycling and composting capacity must double in less than three years and then it must double again by 2005/6. If there is significant waste growth, as many predict, meeting the targets becomes even more challenging.

Achieving these targets will demand concerted effort by boroughs and waste authorities. However, as can be seen from Figure 1, some boroughs are already recycling and composting more waste than others will be required to handle in four years time. There are authorities in the UK, but particularly in Europe, which have already installed the capacity – trucks, depots, composting facilities, materials reclamation facilities ('MRFs') – capable of recycling and composting the significant fractions of the household and municipal waste streams demanded by the Government. These bodies demonstrate that it can be done.

There is a potential bonus in meeting these recycling targets. Assuming an appropriate and fairly typical balance of recycling and composting, and depending on how the recycling is achieved, meeting the targets will mean diverting about one third of the biodegradable municipal waste stream (paper, food waste, green waste) to be recycled.[4] At these levels, and assuming growth in non-household municipal waste does not run out of control, many municipalities will be meeting Landfill Directive diversion targets through household recycling and composting alone well in advance of the first 2010 landfill target.

The limited landfill space remaining suggests that rapid progress towards higher rates will be required of London, to avoid it having to resort to alternative treatment facilities, such as thermal treatment and mechanical biological treatment.

2.3 Data available on waste

Do we know how much household waste is generated in London? Can we measure the performance of recycling initiatives with confidence? The answers to these questions appear, at present, to be 'no' and 'not yet'.

In the past, data on waste in Greater London has been poor. Protocols for collecting and analysing data on waste have been established, but the technologies and the disciplines required to make the data reliable have often been lacking. Comparisons across data sets, whether year on year or between different municipalities or different countries, must therefore be approached with caution. Policy changes, such as the introduction of landfill tax, have distorted the comparabilities of data collected.

The situation in the UK is improving. Municipal Waste Surveys to standards laid down by the DETR have been conducted annually since 1995/1996. The questions asked by these DETR surveys help encourage local authorities to improve the quality of the data they are collecting. But data is publicly available only up to 1998/1999, and individual returns are not made readily accessible.

The DETR survey does not include financial data. Nor does it require local authorities to provide estimates of the composition of the waste they are collecting.

This is not the only data return authorities are now required to make. In March 2001 authorities were notified by DETR of the household waste performance data they will be obliged to return annually as part of the Best Value performance planning. This will measure their progress in meeting the statutory household waste recycling targets.

Other public bodies and associations, including the Audit Commission and CIPFA, survey other aspects of the performance and financing of municipal waste management. With so many demands and requests for data and with accurate measurement of increasing importance, a convincing case can be made for local authorities to submit one standardised return that covers all the requirements of DETR, Best Value, and others, and which would include compositional analysis to be carried out periodically using standardised approaches.

Returns could be made in electronic form to save time. A system of electronic data entry, as used for example in the Netherlands, could improve data quality by reducing data entry errors.

Finance and performance data should be freely available to properly inform other authorities and the public alike on the costs of waste management. The Committee heard but did not accept counter arguments based on a need for confidentiality. Sharing of cost and other information across boroughs helps to spread best practice and can encourage competition in the waste management industry.

2.4 Household waste and municipal waste

It is important to distinguish between household waste and municipal waste because:

- *municipal waste* includes *household waste*
- the EU Landfill Directive on limiting the landfilling of Biodegradable Waste relates to *municipal waste*
- the Government's statutory target for local authority recycling and composting relates to *household waste*.

The proportion of non-household waste in municipal waste can vary significantly from borough to borough and from year to year

The Government's Waste Strategy 2000 contains the definitions of household waste and municipal waste shown below.

Definitions from Waste Strategy 2000

Household waste – this includes waste from household collection rounds, waste from services such as street sweepings, bulky waste collection, litter collection, hazardous household waste collection and separate garden waste collection, waste from civic amenity sites (sites provided by local authorities for the disposal of excess household and garden waste free of charge) and waste separately collected for recycling or composting through bring or drop-off schemes, kerbside schemes and at civic amenity sites.

Municipal waste – this includes household waste, and any other wastes collected by a waste collection authority, or its agents, such as municipal parks and gardens waste, beach cleansing waste, commercial or industrial wastes and waste resulting from the clearance of fly-tipped materials.

DETR accepts that small amounts of commercial or industrial wastes collected as part of a regular household waste collection round will be included in household waste.

2.5 Rates of growth in household waste

'Household Waste is growing by around 3 per cent each year.'
Waste Strategy 2000, page 7

'The forecast (of waste generation) assumes that the current growth rate (3 per cent per annum) for municipal solid waste will be maintained up to the year 2020.'
Strategic waste management assessment 2000: London, Environment Agency, p 47

'The growth assumption made for the purposes of this document is that municipal solid waste in London will increase at 3.34 per cent per annum.'
Managing London's Wastes, Enviros/RIS for London Waste Action Stakeholder Workshop: Towards a sustainable waste management strategy for London, May 2000, p 18

These are the commonly accepted definitive views on the growth of waste, whether household or municipal, in London. They give a 3 per cent growth in household or municipal waste. But we question whether this figure can be regarded as reliable and whether it should be used as a basis for long term planning.

The collection and collation of reliable waste data is a recent achievement in England and Wales. Only five years of data is available for household and municipal waste, and this has been a period with widely recognised distortions in the relevant trends as a consequence of the new landfill tax. We do not believe the reported trends can be reliable, and we consider it risky to use them to project forward over a twenty year period as a basis for the planning of waste management facilities.

We examined recent data for London as a whole and found that it could be used to challenge the assumption of 3 per cent waste growth. See table 3.

Table 3: Waste arisings data for London

	1996/7	*1997/8*	*1998/9*	*% change 1997/8 1996/7*	*% change 1998/9 1997/8*	*% change 1998/9 1996/7*
		tonnes '000				
Regular household collection	2,310	2,270	2,290	-1.7%	0.9%	-0.9%
Other household sources	140	200	270	42.9%	35.0%	92.9%
Civic amenity sites	450	470	470	4.4%	0.0%	4.4%
Household recycling	190	220	270	15.8%	22.7%	42.1%
Total household waste	3,090	3,160	3,290	2.3%	4.1%	6.5%
Non household sources (excl. recycling)	720	820	820	13.9%	0.0 %	13.9 %
Non household recycling	10	10	10	0.0%	0.0%	0.0%
Total municipal waste	3,820	4,000	4,130	4.7%	3.3%	8.1%

Source: DETR MSW Surveys

The first row in the table shows that, in the first three returns to the DETR municipal survey, waste from Regular Household Collections fell slightly. But the category Household Waste includes more than waste from Regular Household Collection. Much of the increase in Total Household Waste (row 5) is due to an almost doubling of quantities from Other Household Sources (row 2), which includes litter, street cleaning, bulky household collections and garden waste.

Household waste also includes Household Recycling which saw a 42 per cent increase over the three years shown above (row 4).

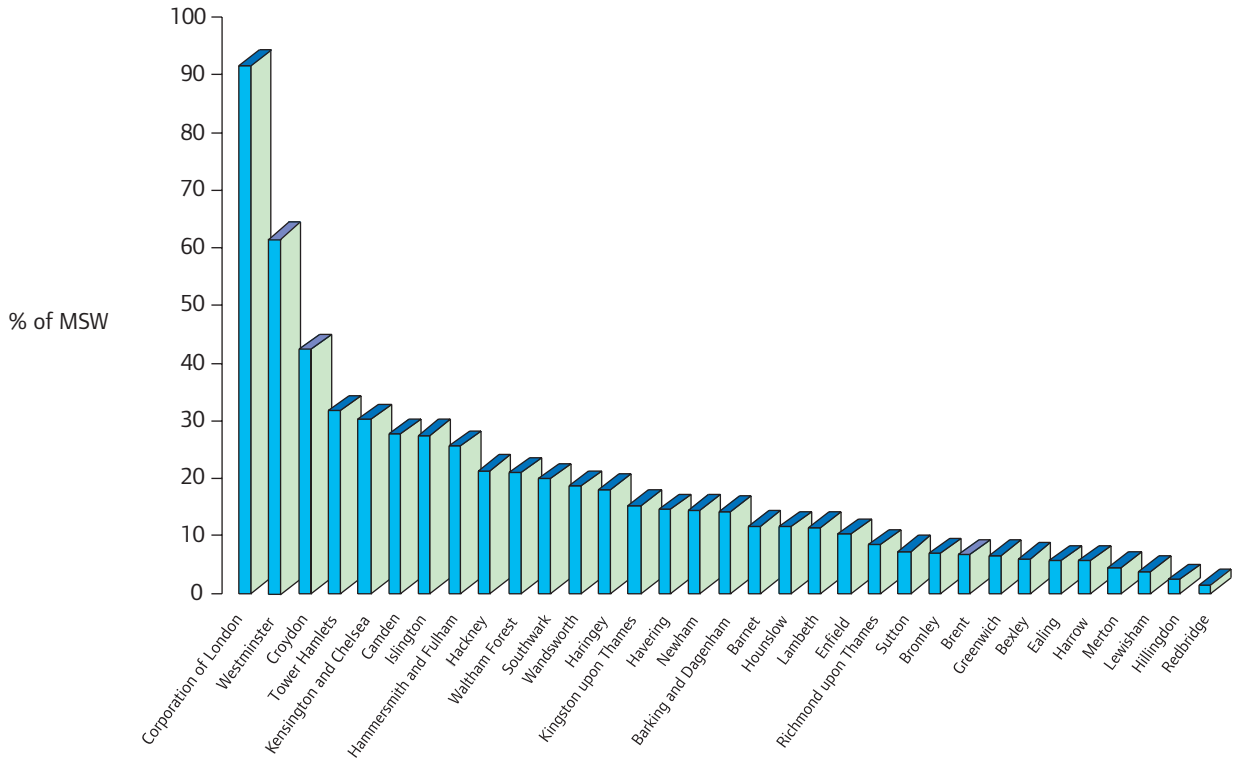
In table 3, adding together the figures for Regular Household Collection (row 1) and Household Recycling (row 4) gives a total for domestic recycling of 2,500 in 1996/97, 2,490 in 1997/98 and 2,560 in 1998/99, very small changes year on year, a rate of increase similar to the underlying rate of household formation[5].

2.6 Non-household municipal waste

Table 3 above also shows significant increases in waste from non-household sources (row 6), the difference between household and municipal waste. This may reflect the level of local authority industrial and commercial (or trade waste) collections as well as the level of fly-tipping and other ways of avoiding waste disposal charges. Waste may be slipping or being directed across administrative boundaries, into the category municipal waste.

Figure 2 below illustrates the non-household fractions of municipal solid waste for London boroughs and waste authorities in 1998/9. The City is exceptional, having few domestic dwellings. Westminster and Croydon are major retailing centres, with other Inner London boroughs also clustered around the higher levels in this graph. But there are exceptions, difficult to explain without further investigation. The same pattern can be seen throughout the three years from 1996/7 to 1998/9.

Figure 2: Non-household waste as a per cent of MSW – 1998/9



Source: DETR MSW Surveys

It should be noted that these figures do not include the fraction of non-household waste that is collected on municipal collection rounds. This means that these are under-estimates of the percentage of municipal waste that is not from households.

For some London boroughs, stabilising or reducing the level of non-household waste they collect would lead to a dramatic revision of waste growth predictions.

2.7 The composition of household waste

Reliable data on what is actually in the waste stream has also been problematical. Until recently many policy assumptions seem to have been based on findings from the early 90's that putrescible waste constituted as little as 21 per cent of the household or municipal waste stream[6].

More recent research commissioned by the former London Planning Advisory Committee (LPAC) and separately by London Waste Action shows the putrescible fraction to be 32 per cent to 38 per cent.

Table 4: Percentage composition of household waste in London

Material	*LPAC*	*LWA*	*Bexley*	*K&C*
Compostable Organics	**38**	**32**	**32**	**27**
News/card	24	27	27	42
Glass	8	8	6	11
Textiles and shoes	3	2	8	2
Cans	3			
Metals		6	5	2
Refuse	19			
Fines		5	10	
Plastics		7	11	7
Other recyclables	5			
Miscellaneous		13	1	9
	100%	100%	100%	100%

Sources: LPAC, Ecologika (1998) Re-Inventing Waste: Towards a London Waste Strategy, Report for LPAC and the Environment Agency; LWA, MEL (1999) Towards a Waste Reduction Plan for London, Report for London Waste Action; Bexley, A Recycling Strategy into the 21st Century: Waste Minimisation Plan 2001-2004; High Rise, Safe Neighbourhoods Unit (1998) Milton Gardens Recycling Scheme: Evaluation Report for Waste Not Recycling

A figure in the 30's would align London more closely with other European centres as Table 5 illustrates.

Table 5: Size of organic fraction in European municipal solid waste

Country	*Organic part in MSW (Barth)*	*Organic part in MSW (Amlinger)*
Greece	49 (1987 – 1993)	49
Belgium	48 Flanders (1996), 45 Wallonia (1991)	Flanders: 48 (1996) Wallonia: 45 (1991)
Netherlands	46 (1995)	38
Luxembourg	44 (1994)	44
Spain	44 (1996)	44
Sweden	40 (1996)	25
Denmark	37 (1994)	37 (1994)
Finland	35 (1998)	35 (1993)
Portugal	35 (1996)	44
Italy	32 - 35 (1999)	33
Germany	32 (1992)	32
France	29 (1993)	29
Ireland	29 (1995)	29
Austria	29 (1991)	29H'hld (1995) 30 17 MSW (1998)
UK	**21 (early 90's)**	**21**
EU average	**32**	

Source: Jozef Barth (2000) Composting, Quality Assurance and Compost Utilisation - Sustainable Solutions in the European Countries, unpublished mimeo. Florian Amlinger (2000)

2.8 The risk arising from unreliable forecasting of waste growth

This discussion illustrates the need to look more closely at the statistics on waste to inform key decisions on waste management planning. Household waste and municipal waste are not the same thing and the differences between the two can be significant.

Growth rates vary across components of municipal waste. The landfill tax has probably led to elements of commercial and industrial waste entering municipal waste, while local council trade waste collection services may be competitively priced and attract clients served previously outside the municipal waste service. This makes comparison of year on year statistics inappropriate.

From the data available, there may be evidence of decline in some components of municipal waste. Since the landfill tax was established there has been an increase in fly tipping and use of Civic Amenity sites for trade waste. This has contributed to a widespread acceptance that growth in municipal waste is inevitable.

Should the growth rate of 3 per cent continue to be used, we would first wish to see substantial evidence to support it, which would include specific factors contributing to the growth such as fashions in gardening and changes in household formation, along with considering the impact of waste minimisation programmes.

We consider that the Environment Agency has contributed to the belief of a 3 per cent growth rate and has maintained that only 60 per cent of households will participate leading up to 42 per cent of the waste arising being diverted into composting and recycling. These factors taken alongside a 3 per cent growth rate would mean a doubling of waste by 2020.

But the Committee took evidence that rates in excess of the 60 per cent are achievable and the 42 per cent quoted by the Environment Agency is already being achieved. This, together with the evidence summarised in table 3 showing a low increase in recycling from domestic sources, led the Committee to believe the Environment Agency should reconsider its position regarding whether a 3 per cent rate of increase applies to household waste. Many boroughs may be setting their sights too low. In our view this approach by the EA has been a substantial discouragement to the boroughs, deterring them from undertaking more ambitious recycling initiatives.

In our view the commonly accepted predictions of waste growth are insufficiently robust as a basis for predicting waste management provision. We doubt whether such predictions should be used with confidence as the basis for possibly irrevocable waste management investment decisions. In any event, we advocate a move away from predict-and-provide to strategic policy-led decision making.

With growth rates of less than 3 per cent, or stability, or even reductions in the BMW stream, meeting Landfill Directive targets through source separation alone becomes more likely.

In our view the targets could be achieved through a combination of administrative and positive minimisation measures, for example, policing at Civic Amenity sites, increasing re-use of non-household municipal wastes, and promoting home composting.

It is difficult to plot a practicable way forward for recycling and composting in London when available statistics on the quantity and composition of household and municipal waste are open to challenge. Fear that waste is growing unchecked could act as a barrier to recycling.

The inadequacy of waste data was acknowledged by many participants in the Committee's hearings. One agency is actively involved in developing a standard database on local authority recycling performance with a view to correcting some of the inadequacies of waste data. Others argued for the need to almost start again, in collecting reliable and transparent data to help assess the real levels of growth.

Despite their concern about the potential unreliability of the underlying data, the ALG and several London boroughs acknowledged the need for boroughs to take a prudent approach to planning waste management facilities. In times of continuing uncertainty over capital and revenue funding for intensive recycling schemes, the boroughs must still be able to meet their fiduciary duties. Local authorities must put adequate facilities in place and so, it was argued, the prudent response is to plan now on the basis of 3 per cent growth. We understand this response on the part of the boroughs but we question its wisdom, particularly when it is aggregated over the next 20 years and the results used as a basis for investment decisions. We fear that it forms an undue barrier to more recycling.

Without adequate data, fair and comparative assessment of recycling performance will be difficult. For some local authorities, the challenge of coping with apparently high waste growth may inhibit attempts to develop recycling and minimisation strategies.

2.10 Towards 60 per cent diversion of waste to recycling

A summary of positive actions advised to the Committee or noted during its visits to the six boroughs listed in Appendix 1.

Dry recyclables collections

- kerbside collection of dry recyclables for street level properties by compartmentalised truck (Hounslow, Ealing) OR
- in narrow streets, battery operated pavement vehicles with sorting into builders bags for end-of-street collection by hydraulic-arm equipped flat bed truck (HIAB) (Haringey, Islington) OR
- in boroughs with better-off inner areas of non council apartment blocks co-mingled dry recyclable collection on split compartment truck (Kensington & Chelsea) OR
- in outer suburbs fortnightly alternate recycling/ residual waste collections (Sutton).

Green waste collections

- green and kitchen waste collection from street level properties (Hounslow, Bexley).

Collections from high rise flats

- near entrance or door-to-door collection scheme in high rise flats (Hounslow, Lambeth, Newham, Southwark, Kensington & Chelsea)
- green estate waste community composting schemes (Southwark).

Collection vehicles

- low tech compartmentalised kerbside collection vehicles for street properties
- plus compartmentalised bin lifter for high rise estates (Hounslow, Ealing, Lambeth) OR
- collection of mixed dry recyclables on split bin vehicle which also collects refuse (Kensington & Chelsea) simple sorting/storage depot with weigh-bridge (Lambeth, Ealing)
- use of off-duty refuse collection trucks for weekend green waste collection with compactor off
- simple solutions can be effective.

Targeted materials

- start with early wins – paper, glass, cans, textiles, then green waste collection, then consider plastic bottles and containers
- undertake regular waste analysis combining results of recycling collections with residual waste over the same area to assess impact of scheme and identify improvements.

Promotion and publicity about recycling, re-use and reduction

- use distinctive kerbside boxes (Ealing, Lambeth, Hounslow, Islington, Haringey, Waltham Forest) or re-used recyclable plastic shopping bags for collections (Kensington & Chelsea)
- problem leaflets and stickers for non or poor participants (Lambeth, Hounslow)
- substantial year on year investment in publicity: regular leaflets, with minority language versions, newsletters, how-to-workshops, (Hounslow, Richmond-upon-Thames) participation and consumer surveys (Lambeth, Kensington & Chelsea), recycling directories (Hounslow)
- community and schools based waste action groups (Bexley, Hounslow)
- Real Nappy Schemes, Buy-Recycled advice linked to local retailers, subsidised home composters, waste minimisation promotions (Bexley, Hounslow, Richmond upon Thames).

Finance and costs

- careful contract specification to realise savings in reorganised refuse collection rounds and income from sale of recyclables (Hounslow)
- use supplementary credit schemes for capital equipment (London Waste Action Capital Challenge)
- exploit opportunities to add appropriate recycling infrastructure through SRB, New Deal for Communities etc (Southwark, Islington)
- make use of community sector funding access to NOF and Landfill Tax Credit Scheme
- inform citizens about investment in recycling and waste minimisation
- engage private investment to deliver long term stability provided there are sensible economies of scale.

Find partners

- use the expertise of Waste Watch, Women's Environmental Network, Community Waste Action, Community Recycling Network etc. (Bexley, Hounslow, Lambeth, Southwark, Ealing, Brent, Islington, Richmond upon Thames etc)
- explore joint ventures with neighbouring authorities such as Real Nappy promotions (Richmond upon Thames, Hounslow, Brent, Ealing)
- collection and disposal authorities need to work together.

Recommendations on waste data

1: The GLA should take a leading role in:

- establishing levels of non-household waste deposits at civic amenity sites and in household waste collections
- examining the factors influencing decision making on collecting non-household wastes in the municipal stream
- proposing measures to constrain non-household waste at civic amenity sites and elsewhere in the municipal waste stream;
- producing reliable data which facilitates year on year comparison
- questioning the 3 per cent growth figure commonly used.

2: The GLA should work with the ALG, the boroughs and waste institutions to institute regular, standardised household and municipal waste analyses. These analyses would:

- allow regular assessments of the effectiveness of existing recycling schemes
- indicate the presence of other potentially recyclable materials
- establish trends in the evolution of composition over time.

3: The GLA should bring together the boroughs, DETR, Audit Commission, CIPFA and other parties to create a single standardised waste management and recycling return for Best Value and all other purposes.

4: **We believe these and other recommendations in this report can best be achieved by the formation of a Waste Reduction Commission, to work as a partnership, and formed for the express purpose of promoting best practice in recycling in London.**

References

2: Household waste plus trade waste collected on household rounds.
3: Derived from data supplied by DETR and based on their annual Municipal Waste Survey.
4: This is based on an assumption of a 50:50 split between recycling and composting with 60 per cent of the dry recyclables assumed to be paper and textiles.
5: DETR projections on household formation in Managing London's Wastes, 2000.
6: DoE waste management paper no. 28, 1991

3 recycling waste in London

In this chapter we examine what can be achieved through recycling schemes, including compostable waste, and we question whether some of the perceived difficulties are as insurmountable as they are sometimes held out to be.

3.1 Achievements in recycling rates

The quantity of household or municipal waste that can be captured for diversion into recycling or composting depends on:

- the materials in the waste stream targeted for recycling or composting
- the presence in the waste stream of those targeted materials
- the willingness and convenience for householders to separate materials for recycling
- the quality of collection, processing, storage and onward transport systems to deliver diverted materials to end users.

None of these factors is fixed:

- legislation and market opportunity can increase the range of materials targeted for recycling
- seasonal factors, consumption patterns and the development of new products will alter the proportion of targeted waste in the waste stream
- publicity drives, more convenient recycling opportunities, financial incentives, even legal penalties, can all affect the quantity and quality of householder participation
- improved equipment, better trained or motivated staff, good management of storage and loading of materials can improve collection performance and reduce contamination and rejection rates.

With so many variables, it is surprising that the Environment Agency in its Strategic waste management assessment 2000 – London should state that the **'maximum practicable levels of recycling and composting… will produce an overall recycling rate for London of 42 per cent by 2010.'** The same report also states that **'the maximum participation rate for kerbside collection of recyclable materials is assumed to be 60 per cent (taken across the whole region).'** The Committee heard evidence from the Consortium of Essex District Councils that recycling schemes in Witham, with its substantial London overspill housing estates, had already achieved a 45 per cent diversion rate. Ecologika, advisers to some of the Essex schemes, reported that a trial in Rochford was now achieving 50 per cent. Others accepted that 60 per cent recycling and composting was entirely feasible.

Meanwhile, municipal waste diversion rates are already substantially ahead of the Environment Agency's suggested maximum in Germany (46 per cent), the Netherlands (50 per cent) and the Flanders province of Belgium (56-59 per cent).

Participation in kerbside recycling of greater than 60 per cent have also been recorded and higher levels of participation are expected. In Sutton, participation rates of 97 per cent are being achieved in a trial of the borough's fortnightly dry recyclables collection, due to go borough-wide from March 2001. Lambeth's green box weekly kerbside programme has secured 80 per cent participation in some parts of the borough. The Committee learned that Wealden District Council's kerbside programme was achieving 80 per cent participation, a figure also expected to be achieved in Witham.

Information on what can be achieved by authorities actually operating successful recycling schemes should be made available to others just embarking on developing their recycling initiatives.

The new London Waste Reduction Commission proposed in this report will have a role to play in supporting the ALG and the boroughs in getting the best out of their collection service. The CIEH, Waste Managers and the Audit Commission have a role in providing information and support to Boroughs on this. Part of the new Commission's work should be to continually review the best value performance indicators to support recycling, for example, on participation and composting.

3.2 Recycling and Composting Infrastructure

The Committee received information on the practical aspects of providing residents with the means to deliver materials for recycling or the necessary encouragement to compost green waste.

3.2.1 Convenient recycling facilities

The need to provide convenient collection facilities for residents through kerbside or intensive drop-off facilities for street level properties and through schemes for residents of high rise flats and apartment blocks is well known. It is not being met. Many local authority and expert witnesses pointed out that overall London has, at best, patchy coverage of convenient recycling facilities. Residents are generally not prepared to take materials significant distances for recycling.

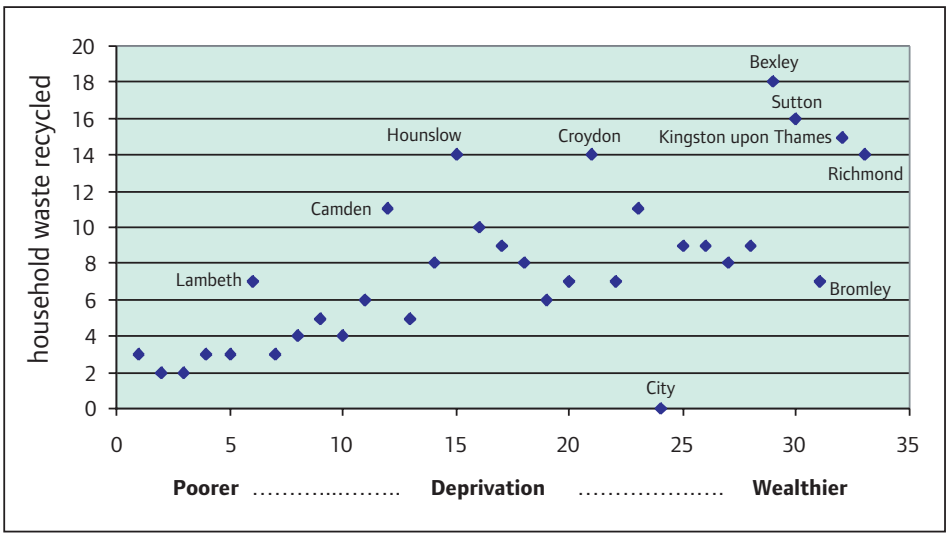
Two boroughs reported that they have reached saturation point for installing sets of drop-off or bring recycling centres, although the extent to which estates in both boroughs have been provided with such facilities

is unclear. One borough indicated to the Committee, on its visit, that to achieve their recycling targets they must augment their drop-off facilities with kerbside facilities.

3.2.2 Residents in socio-economically deprived areas

The graph in figure 3 below compares recycling rates, and deprivation levels.

Figure 3: Recycling rates and deprivation, as indicated by ward ranking



Source : DETR Guidance on Municipal Waste Management Strategies

The upper outliers on the graph, with relatively high recycling rates are:

- Bexley, with 18 per cent recycling
- Hounslow and Croydon, both with 14 per cent recycling
- Camden with 11 per cent recycling
- Lambeth, with 7 per cent recycling.

LB Bromley looks low, with an index of 31 but a recycling rate of only 7 per cent. The City is an exceptional case, at zero recycling but few domestic properties.

As shown by figure 3, there may be a rough correlation between social and economic deprivation and the effectiveness of recycling schemes. For example, as the Committee noted on its visit to their recycling projects, participation levels in the more deprived areas of Lambeth are significantly below those in the suburban areas in the south and west of the borough. It seems that several factors are involved:

- Some Lambeth estates, of which there are more in the deprived areas, have not yet installed recycling facilities.
- Street level properties in the more deprived areas tend to be multi-occupied, situated in congested streets which can be difficult to serve, and are subject to significant levels of box theft and misuse.
- The most deprived areas are also the most culturally diverse, demanding appropriate information and education strategies beyond traditional leafleting and newsletter campaigns.

Lambeth is pursuing all these issues with input from national waste charity Waste Watch.

Some commentators have given the view that residents in poorer areas will not join in on recycling schemes as enthusiastically as their neighbours in wealthier areas. The Committee received no hard evidence on this point. It was suggested that boroughs with greater levels of deprivation would be less inclined to invest in recycling.

The non-profit consultancy Recycling Consortium outlined to the Committee its Community Waste Action initiative in which careful consultation with local people is being used as the basis for developing community led initiatives to improve recycling facilities and participation in recycling schemes. Their experience is that residents in deprived areas were just as aware of waste issues as their neighbours in better–off neighbourhoods. Poor participation in recycling schemes was usually a result of poor quality or inconvenient services rather than lack of interest. Community contact seemed to be more effective at engendering participation than sending round leaflets. Waste Watch warned the Committee against the use of technical jargon in leaflets and community education campaigns.

Hounslow, also visited by the Committee, has developed promotional strategies designed to reach all its diverse cultures. It has developed Recycling Action Groups of interested residents. The first, in Brentford, has become an independent charity promoting local action on waste. Imaginative use of incentives can produce very good results. The Committee saw a case where landfill tax credits received had been spent to the direct benefit of estates (for example, in the supply and maintenance of window boxes), producing a positive response from residents.

3.2.3 The technical challenge of high rise flats

Collecting recyclables from high rise flats is seen by some as a serious barrier to recycling achievement, due to the increased cost of handling the logistical challenges.

The Committee heard evidence about several approaches to collecting recyclables from high rise estates. It became clear that recycling from high rise flats is successful provided the will to do it and the finance are there. One borough has installed small recycling sites made up of specially adapted 240 litre wheeled bins in convenient locations on its estates following consultation with housing managers and residents. Another has negotiated new duties with the caretakers on a high rise estate. Once a week, residents are asked to leave small recycling boxes specially designed for the limited space of the flats on their landings. The caretakers go floor to floor, collecting and sorting recyclable waste into wheeled bins brought to each floor in the lift. Collections, combined with nearby bring sites, have worked well and met with an enthusiastic response from high rise residents.

The Committee visited Hounslow, Kensington and Chelsea, Lambeth and Southwark, all of which are operating different types of recycling initiative from high-rise flats, and all working satisfactorily from a technical point of view. Problems of vehicle access, vandalism, community safety and relations with caretaking staff have been resolved satisfactorily.

Some technical barriers to recycling from flats have been overcome, but it is not yet clear whether boroughs have found ways of persuading large numbers of residents to take part effectively on all estates where facilities have been installed and increased cost will always be a factor.

From the evidence received by the Committee, the issues relevant to high rise flats are essentially the same as for terrace and kerb side collection, in that collections need to be both frequent and regular, there needs to be good consultation with residents, and a good rapport with the contractor providing the service.

Robust consultation with residents is essential. The Committee received some evidence that when residents get the benefit of improved caretaking on their estate they have been more enthusiastic in their support for recycling.

The Committee would support further research into devising financial incentives for residents.

'The community composting scheme is wonderful. We're looking forward to developing it. We've told other groups about it and it has attracted a lot of interest. We feel it's very positive for the community.'
Liz Obi,
Chair of PAPA, Lambeth

'It's great to see the local community involved in recycling kitchen waste and to see how the idea spreads to other areas. The compost is a valuable resource which is used for our window box schemes and community gardens. Everybody should be doing it.'
Sam Teague,
Chair of Rockingham Estate Play Association

3.2.4 Organic waste collections

As shown in tables 4 and 5 earlier, the percentages of organic material in dustbins means that recycling rates above 25 per cent or so can only be reached by including schemes to collect compostable materials.
A forthcoming report from the European Environment Agency , Biodegradable Municipal Waste Management in Europe: Strategies and Instruments, comments:

Countries that have made significant strides towards achieving these objectives (high diversion of biodegradable waste from landfill) have certain things in common. In particular, there is significant State intervention in all cases to encourage, on the one hand, high levels of separate collection and, on the other hand, high levels of diversion away from landfill, and in some cases, diversion away from incineration as well.

The Environment Agency's Strategic Waste Management Assessment 2000: London suggests that no more than 8 per cent of the household waste stream can be collected for composting. If the experiences of other countries, and that of St Edmundsbury Borough Council in Suffolk, are used as a guide, this is simply not correct.

Equally unhelpful have been over-estimates of the costs of collecting compostable waste:

- Several London Boroughs compost garden waste from households or send it for composting. Some, including Bexley and Hounslow, visited by the Committee, have substantial kerbside collection schemes to take garden waste for composting. Costs can be minimised by using off-duty refuse collection vehicles for weekend collections.
- Boroughs must plan to recover Biodegradable Municipal Waste (paper, garden waste and food waste) to meet the demands of the Landfill Directive. Boroughs able to invest in composting initiatives will be able to take advantage of the government's tradeable landfill permit scheme, details of which have recently been issued.

3.2.5 Home composting

Home composting is a powerful waste minimisation tool. Home-composted waste does not get into the waste collection stream.

Some Boroughs already promote home composting through subsidising provision of compost bins. Lambeth and Southwark, visited by the Committee, have experimental communal composting initiatives for the kitchen and window box waste of high rise estate residents. This was greeted with enthusiasm by the residents, enabling them to take pride in their environment and giving a useful focus for community activity. These

initiatives were supported by all residents irrespective of age, wealth and ethnicity and is something of which the boroughs can be proud.

It would be useful to know exactly how much material is being treated in this way. It is clear that just as some people will not persevere with a compost bin, some will engage in home composting without a compost bin being provided by the Council.

Councils need to be able to collect data and will be rewarded for promoting home composting by reduced waste disposal costs. Composting needs to remain as a data comparator even though it is not part of the main recycling statistics.

3.3 Publicity, promotion and education about recycling

The Committee's visits to six boroughs demonstrated that boroughs are aware of the importance of well designed, regularly distributed promotional and educational material about recycling facilities, produced in many languages.

Good publicity and educational initiatives tied in to local recycling facilities may be only part of the solution, although the best leaflet designs and the most effective Schools-based campaigns need to be celebrated. Incentive schemes through reduced waste charges for effective participation in recycling (as piloted in Brent) either at the household or estate level might also need to be considered.

The Committee welcomed Schools-based campaigns, noting their effectiveness as part of a wider approach. Action must be taken to reach out into the community to publicise recycling schemes effectively.

The most successful schemes were those which truly worked with the community and allowed community groups to devise their own publicity to support recycling. Targeted mail, specific to a certain area, was also most effective as, in these newsletters, residents could see increased levels of recycling in their neighbourhood and could benefit from information on recycled products. It is very clear that publicity and support to those who wish to engage in recycling is crucial, and even more crucial that it is given in a language they can understand. A full publicity strategy should be provided with any recycling strategy. This publicity strategy should relate to schools, adults, diverse community groups, etc.

3.4 Role of the not-for-profit and community sectors

The voluntary sector (community and non-profit bodies) has been a continuous source of innovation and has driven forward waste recycling, composting and minimisation in partnership with many London boroughs. This was demonstrated in the experience of most of the six boroughs visited by the committee and elsewhere. For example:

- In Bexley, the national recycling charity Waste Watch helped to develop Schools-based educational and publicity programmes. Waste Watch has also been involved in Lambeth, assisting in the development of more effective communication strategies. Lambeth's borough wide recycling collection service is delivered by a not-for-profit enterprise Lambeth Community Recycling.
- Hounslow's kerbside recycling is also delivered by a not-for-profit company, ECT Recycling, which is also the parent of the Lambeth operation. ECT delivers kerbside programmes to six London boroughs. Hounslow has worked with the voluntary sector (Recycling Consortium's Community Waste Action initiative) to set up local waste action groups.
- In Southwark, local environmental charity CRISP manages the estate based waste paper collections and the innovative estate composting initiatives.
- Richmond has worked with Community Repaint and with several local community groups.

The community sector has always been at the forefront of recycling and has been a driver in improving education in this field. There has been some innovative and exciting work providing good examples that can be followed. It is important that the community sector continues to work at this cutting edge and to use such additional monies as are available in a strategic and focused way.

The hierarchy of community involvement

National	WEN, CWA, Wastewatch, FOE, CRN
Community Non Profit	ECT, IWS, CRISP, LCR, HCR
Local Community Groups	BRAG

See the glossary on p 95 for explanations of these acronym

The London Community Recycling Network ('London CRN') can link boroughs with prospective local community sector partners.
The community sector is well placed to partner local authorities in meeting their recycling targets through its access to NOF and landfill tax resources.

London CRN expressed the view that more of the Landfill Tax Credits funding should be ear-marked for the community sector as had been indicated in DETR's Waste Strategy 2000 document. The sector sees itself playing an important role in economic development. Already, micro-enterprises provide as many as 2,000 jobs in the area, and London CRN estimate that this figure could reach 4,000 jobs in London. Their rate of expansion is of the order of 30 per cent per annum.

It would be helpful to see the development of a closer partnership between the commercial and the community waste management sectors. The Committee is aware that the community sector has in many instances established highly regarded employment, training and quality standards above the average for the waste management industry.

The community sector enjoys the advantages of a network of collaborative organisations, leading in many instances to innovations and value for money solutions to waste problems. Barriers to greater recycling, composting and waste minimisation performance can be addressed through effective partnership with not-for-profit and community bodies.

It is important the community sector is invited to engage with the new London Waste Reduction Commission proposed in this report.

Ingredients for a successful recycling scheme

- It must be easy to use.
- Collections must be regular.
- The scheme must be people friendly:
  - make sure it won't be noisy – consult before installing mini-sites
  - before you start, issue invitations to join in
  - local people need to know when collections happen and how to contact the collector
  - issue a complaints procedure so everyone can see you want to do it well.
- You must get some early wins – paper, glass, textiles.
- You must promote – distinctive kerbside boxes, re-used recycled plastic bags – experience shows people respond to this well.
- You must consult widely:
  - communicate with all stakeholders, in different languages as needed
  - let people know how the project is going
  - use community leaders to spread the message
  - communicate, communicate, communicate.

Ingredients for a successful recycling scheme

- Be flexible – deliver a good range of solutions, for both collection and processing.
- Be careful with the contract specification to release savings and use community sector funding, supplementary credit schemes, SRB, new deal-any opportunity.
- Find partners, share expertise, explore joint ventures with neighbours.

A more detailed list was given at the end of the previous section, based on the Committee's observations during site visits.

3.5 Green jobs

Different waste management options have different implications for employment, and different strategies for waste collection have a bearing upon the employment intensity of different approaches.

Materials for recycling must generally be separated at source, and this means more labour is needed at the point of collection.

Most materials are difficult, or impossible, to handle and separate for recycling if they are compacted, and so waste destined for recycling needs to be collected without being squashed. A collection vehicle will only be able to collect a low weight of such material. More by weight could be collected in the same vehicle if the material were compacted.

So recycling may mean fewer jobs for the operators of compactor vehicles but will mean more jobs for collectors, the net effect generally being positive. Conservatively, we estimate the net creation of jobs in collection to be of the order 3-4 persons per 3,000 tonnes of dry recyclables collected.

The implications for job creation of collecting green waste also depend on the approach used. It is possible to design schemes where net job creation is zero (for example, where split-bodied vehicles are used, or where the collection of organic wastes leads to a shift to alternate collections of residual and compostable wastes).

After collection, depending again on the approach used to collect materials, there may be jobs created in separation and processing of the materials collected. Further downstream, old and new ways of using secondary materials can be expected to generate new jobs in materials reprocessing. The net job creation (relative to landfilling / incinerating materials) is likely to be positive.

Two recent pieces of work indicate a potentially large number of jobs can be created by recycling. Waste Watch estimates that job creation in sorting and reprocessing can reach 20,000 at 25 per cent recycling rates in the UK, and 36,000 at 30 per cent recycling rates in 2010 (both for municipal waste). Murray[7] estimates that intensive recycling in Britain provides scope for 15,000 jobs in collection and sorting, and 25-40,000 jobs in manufacturing and reprocessing. Murray cites a report that Germany has 1,000 firms employing an average of 150 people each in the waste and recycling industry. 17,000 of the 150,000 jobs were believed to be related to packaging recycling alone.

If we assume that these jobs can be allocated pro-rata on arisings and note that London's household waste accounts for approximately 10 per cent of UK municipal waste, a rough estimate of the effects of 30 per cent recycling is that London could generate something of the order of 1,500-3,000 jobs in collection alone.

A threat to a number of jobs of this order in a manufacturing industry can be sufficient to trigger Government intervention. The dispersed nature of these potential jobs makes for a less powerful lobby, but the more dispersed the jobs, the greater the potential for economic development in all locations.

We conclude that job creation from recycling could be higher than from other intermediate labour market projects. Recycling has the potential to act as a source of industrial regeneration, offering jobs generated in a growing industry – manufacture from secondary materials – as well as those in waste collection and separation. There may be a strong case for support to recycling in the context of regional development and regeneration programmes.

Both community and private sectors have something to offer recycling, whether in offering innovation or long term investment. Stability and long term planning are important.

Recommendations on recycling and composting infrastructure

5: The GLA should lead a Commission comprising the boroughs, the waste authorities, the LWA and the London Community Recycling Network, aiming to identify and share emerging best practice in recycling. We see this new 'London Waste Reduction Commission' as an influential and high profile body capable of being a real catalyst for change.

6: London urgently needs more schemes to collect compostable materials, especially kitchen wastes. Boroughs should be required to submit proposals, with costings, for the separate collection and processing of the organic stream by the end of 2002.

- The Mayor's waste strategy should set specific targets for composting, including home composting and should work through the ALG, the boroughs and waste institutions on obtaining the best from their collection service.
- The BVPI on collections should include minimisation, participation and composting.
- A means of grading the quality of compost is needed.
- There should be a pan-London composting network.

Recommendations on community support and participation

7: The GLA, in partnership with the Recycling Consortium and Waste Watch, should consider promoting local waste action groups across London exploring the prospects of linking such initiatives with community groups and tenants' associations.

8: The Mayor should engage in a high level publicity strategy to promote reduction, re-use and recycling of waste across London.

Recommendation on potential job creation

9: All regional development and regeneration programmes should support the development of recycling schemes and market development programmes as a mechanism to improve recycling rates and increase employment simultaneously. Wherever possible, the LDA should work with current programmes.

References

7: Waste Watch (1999) Jobs from Waste: Employment Opportunities in Recycling, London: Waste Watch; Robin Murray (1999) Creating Wealth from Waste, London: Demos.

4 co-operation, co-ordination and planning

London can benefit from further co-ordination and sharing across the boroughs and other agencies concerned. For instance, the collection and disposal authorities should work together towards a common goal.

4.1 Sharing information on good practice

London boroughs have co-operated well, for example, in working with London Waste Action to secure and implement the Capital Challenge supplementary credit approvals and through the technical advice and information exchange supported by the ALG. The ALG, in evidence to the Committee, gave the view that greater openness between authorities on tackling challenging problems, negotiating favourable contract terms with operators, and securing new markets for recyclable materials will facilitate greater recycling achievement.

The six London boroughs visited by the Committee have experience of most recycling and composting methods and opportunities. Several successful methods of high rise recycling: imaginative publicity schemes; extensive kerbside collection experience; composting schemes; real nappy projects; home composter give-aways and promotions; dry MRF operation; are all there for other boroughs to learn from. The waste Beacon Councils hosted visits from many other authorities during 2000 and shared information on all aspects of their performance. All six boroughs were open about all aspects of their recycling performance when visited by the Committee.

Private sector contractors can absorb some of the risk, provided long term contracts are set up on a basis where risk is appropriately shared. Disposal authorities can contribute greatly towards achieving recycling targets, can contribute to the absorption of risk, and can deliver long term stability in the value of recyclates.

4.2 The need for better co-ordination of recycling efforts among boroughs and authorities

Space and the costs of investment are issues for all boroughs. Some London boroughs, particularly in Inner London, have very limited land available for waste storage and treatment purposes. Southwark Council told the Committee that lack of depot space inhibits its development of household recycling services. Southwark is actively seeking access to storage depots and waste management facilities in neighbouring boroughs. Richmond upon Thames said to the Committee that some of its plans for recycling and composting, especially of green waste, would depend on its ability to find partners to share the capital costs of installing equipment and ensuring that it was used most cost effectively.

Without co-ordination and sharing, serious barriers to improved recycling and composting remain. DETR Guidance on Municipal Waste Management Strategies published in March 2001 encourages authorities to collaborate to develop solutions to waste problems. It is too early to tell how quickly or effectively these guidelines will stimulate cross borough collaboration on anything from publicity strategies to the joint development of shared facilities.

4.3 Handling the interim period

Many waste management operations require sites, sometimes large, sometimes in residential areas, and waste can be toxic or otherwise harmful if not handled appropriately. During the period when the Mayor's Strategy is being implemented and the new Commission proposed in this report is finding its feet, boroughs should be encouraged to maintain current transfer stations, civic amenity sites and wharfages used for waste. It is important that all these sites are taken into consideration in the context of a London-wide strategy. The Mayor's Spatial Development Strategy should address this issue. Recycling and composting targets are subject to statutory best value review.

Regional strategies tend to focus on predictions of waste trends rather than on how councils might collaborate to develop effective recycling systems. This focus tends to disadvantage recycling-based solutions.

The Committee heard evidence that recycling and composting do not receive enough attention due to an excess of bureaucracy. Implementing a waste strategy in London, one contributor suggested, would necessitate the attention of some 60 committees.

There has been much discussion in the past on the potential conflict between waste collection authorities and waste disposal authorities. Clear evidence exists that, should boroughs and disposal authorities work collaboratively, benefits to recycling would arise. This has been under discussion for many years and would take time to achieve. The new Commission can work towards this goal. The Mayor's Strategy should consider this point in more detail.

The Committee's recommendation on co-operation

Setting up a joint Commission to share best practice and to help drive key initiatives forward, as described at the end of section 2.

5 financing to stimulate more recycling

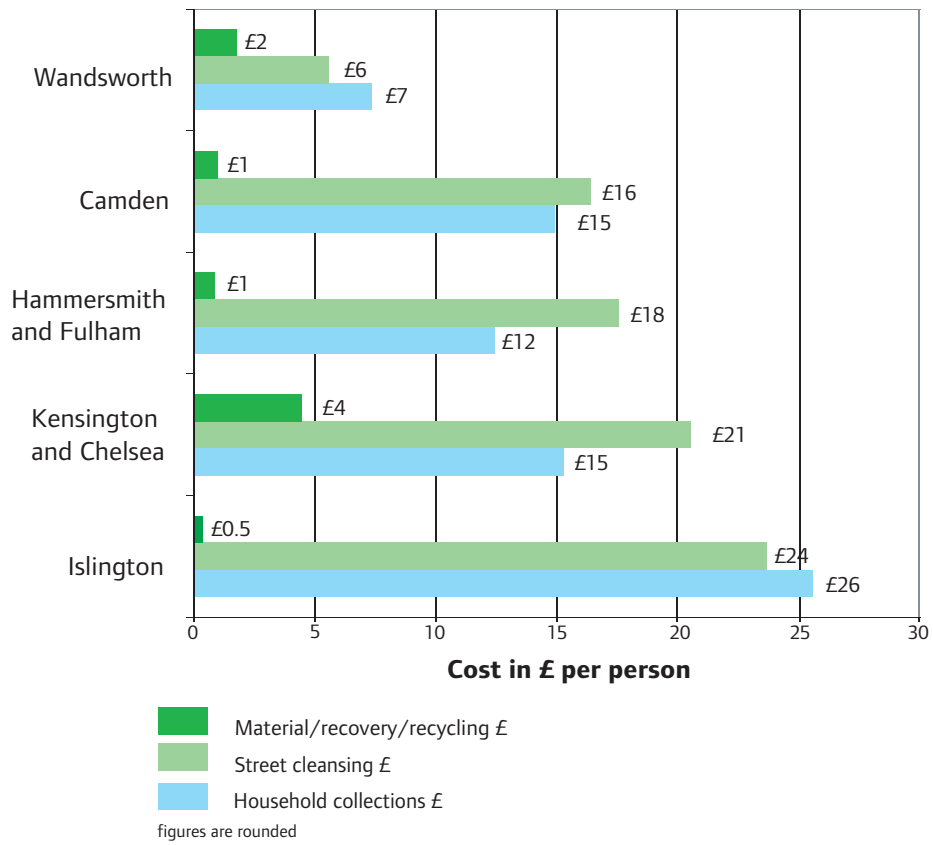
London spends only modest amounts on recycling, although this would increase if Londoners succeeded in recycling more waste. There are little or no financial incentives to improve recycling. The Committee was concerned by this state of affairs.

Boroughs have a well defined legal duty to collect and treat waste. They should also have a sound financial framework for enhanced recycling and composting. Without it, local authority attention may turn to alternative means of recovering waste to avoid landfill.

5.1 Perception of costs of recycling as high

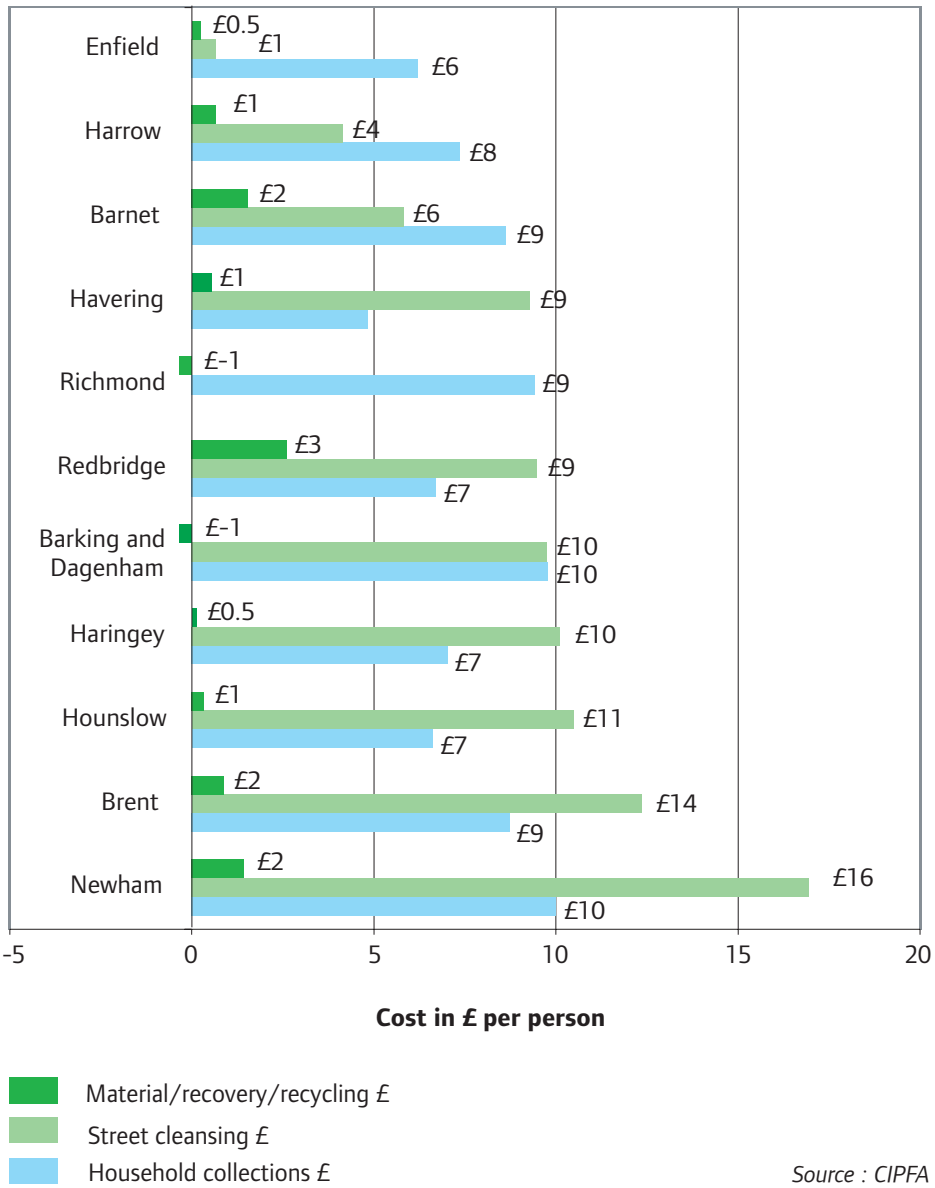
Relatively little is understood about the costs of waste management. The breakdown of expenditure is not always clear, even by practitioners. Table 6 below shows that the net expenditure per person per annum in London on street cleaning exceeds that for the household waste collection. The average expenditure on materials recovery or recycling is around £1 per person per annum. This illustrates the low financial priority being given to recycling in many boroughs in London. If the data is correct, the recycling collection service is provided at very low cost, but equally, as we have seen, the capture and diversion rates overall are low.

Figure 4: Cost per person per annum of household waste collections in selected inner London boroughs



figures are rounded

Figure 5: Cost per person per annum of household waste collection in selected outer London boroughs



Source : CIPFA

It should be noted that data concerning the costs of recycling schemes are not strictly comparable. Different accounting conventions are used and different schemes are in operation. For example, in some cases, multi-material kerbside schemes are in place across the borough, but in others, only paper may be being collected, or recycled materials may come principally from civic amenity sites. This means the basis of computation of recycling costs can vary widely.

Although the costs of comprehensive recycling and composting services for household waste, with kerbside collections and their equivalent in high rise flats, are higher than provision of drop-off facilities, the funding

requirement is not extreme. The relatively modest levels of investment in this scheme overseen by London Waste Action (£12m divided among 29 boroughs over a three year period) has permitted the rapid expansion of convenient kerbside, door step or near entrance recycling schemes. With this investment, boroughs have been able to significantly increase the proportion of their household waste being diverted into recycling. The ALG, in a written submission to the Committee, estimated that the programme was instrumental in increasing the municipal recycling rate in the capital from around just under 9per cent in 1997/98, to 13per cent in 1999/2000.

The Committee was advised that kerbside schemes for dry recyclables typically cost £8-15 per household per annum falling to £5-10 as participation rates (and collection densities) rise. These estimates allow for avoided waste disposal costs, reduced refuse collection charges and assume a modest revenue stream.

Before waste recycling targets took on statutory force, some boroughs reported that investment in recycling had been low on their list of priorities. Developing recycling facilities at the expense of other services within tightly constrained budgets would still be impossible for many boroughs.

5.2 Tradeable permits

The Government's 'Waste Strategy 2000' announced that a system of tradeable permits would be introduced in England to limit the amount of BMW local authorities could put in landfill. This would enable the targets in the Landfill Directive to be met. The permits, which would convey the right for a WDA to landfill a certain amount of BMW in a given period, could be traded and enable authorities to plan sensibly and have a flexible approach. The Mayor should endorse this system, and the new London Waste Reduction Commission proposed in this report should consider how it can be implemented most effectively.

The DETR consultation document on these tradeable permits omitted any mention of the Mayor, who should have a role in the distribution of the permits.

5.3 Costs of disposal and landfill

Waste collecting boroughs are financially penalised because they have to pay the waste disposal authority a rate per household and must incur the costs of recycling as well. A more equitable solution would be to base the charges on tonnes collected. This data is already available because waste delivered to the WDA is weighed on receipt.

Savings from avoided waste disposal costs are often overlooked in the cost computations carried out by boroughs for budget and planning purposes. Waste disposal costs should be taken account of in overall cost calculations for kerbside recycling schemes. Savings in refuse collection costs when more waste is being recycled are also often omitted.

Table 6: Waste tax rates across European states (in euros per tonne)

Country	*Landfill*	*Incineration (without energy recovery)*	*Incineration (with energy recovery)*	*Year*
Austria	5.8 – 43.9 *Variation depends on waste type and landfill quality.*			2000
Denmark	50.3	44.3	37.6	1998
Finland	15 270 *for hazardous waste.*			2000
Flanders	14-50* *Landfill rates dependent on waste type and landfill quality.*		6-20 *Depending on waste and technology.*	1997
France	9.15			1999
Italy	10-25 *for MSW* *(Northern and Central) 20-50 for MSW (South, where a critical waste situation) 1 - 10.3 (Inert) 5.1 - 10.3 (Special)*			1997
Netherlands	12.4 - 64.3 *landfill rates dependent on waste type*			2000
Sweden	29.2			2000
UK	3.2-17.6			2000
Norway	37.7 *No differentiation by landfill type.*	9.4 (fixed) + 28.3 (variable) *Basic charge applied to all incinerators. Variable tax refunded on the thermal efficiency of plant.*		1999
Switzerland	3.3 – 46.1			2001*

*Note that a 50 euro/tonne export tax is imposed to prevent 'waste tourism' to Wallonia

Source : Eunomia Consulting, 2001

Despite the scarcity of suitable sites, landfill costs remain relatively low. As several witnesses to the Committee hearings commented, landfill gate fees and landfill tax – currently £12 per tonne – are both much lower than in other European countries with better developed household waste recycling systems (see Table 6 above).

The Environment Agency reported that where the costs of landfill and incineration are more expensive, recycling makes more financial sense. But, at low participation rates, savings in diverting waste from landfill to avoid landfill costs fall short of the costs of setting up and sustaining the collection infrastructure, even allowing for landfill tax. The current market in landfill and the landfill tax do not reflect the wider environmental costs of landfilling. The same applies to thermal treatment options.

Landfill tax credit monies currently can be used for sustainable waste processing on a pilot basis, but not in the long term. The Committee supports changes to allow these monies to be used on long term capital expenditure. The Committee also concluded that the GLA should consider financial incentive schemes as part of its strategies for London.

There may be other savings in waste disposal costs, income from the sale of recyclable material, supplementary funding from government or through participation in schemes designed to meet the requirements of the Packaging Regulations.

5.4 Funding sources for the capital and revenue costs of recycling

Comprehensive household waste recycling requires investment in capital equipment and other costs. Collection vehicles, containers, sorting equipment, storage depots, drivers, collection operatives, transport managers, maintenance regimes, operating costs, publicity strategies and advice services must all be provided. Most authorities are unable to fund all this from the sources of finance normally available to local government (council tax, revenue grant, basic and supplementary credit schemes). Others depend on short term schemes, such as SRB, New Deal for Communities, European Social and Development Funding, available only in certain areas for fixed periods.

Waste Strategy 2000 and other government announcements have offered the promise of more sustained funding, directly and indirectly, to help local authorities meet the capital and revenue elements of comprehensive recycling services. Such funds will be critical to the ability of London boroughs to meet the recycling targets.

We list and summarise below the various potential sources of funding notified to the Committee.

'New Burden' monies via standard spending assessment

There is to be an increase in the Environmental Protection and Cultural Services element of the Standard Spending Assessment. Up to £1.127 billion per annum could eventually be available nationally, but only a relatively small proportion of it will be available for recycling. Over £120m will probably be required to pay the 'new burden' of additional Landfill Tax.

This money may therefore not stretch very far over the three years in which new waste strategy targets must be met

Private finance initiative

This procurement mechanism entails private sector capital being used in long-term service delivery. The Spending Review 2000 provided £220m of support for local authority PFI waste projects. Seven or eight projects approved have included incineration plants.

New criteria to be applied to PFI seek to:

a: reinforce the central place of recycling and composting in waste PFI applications – proposals for incinerators must demonstrate that all opportunities for recycling have been considered first, and should include proposals for combined heat and power where possible

b: strengthen the references to different tiers of authority working together

c: ensure accordance with national policies, targets and legislation.

Local authorities funding for recycling (DETR)

There is a fund of £140m, an issue on which the DETR was consulting at the time of writing. The funds are to be made available to local authorities over the period 2002/04.

Landfill Tax Credit Scheme

The Landfill Tax Credit scheme produces funding of the order of £100m per annum. According to Entrust[8], of the £7m spent on London, £0.6m has been spent on waste recycling projects. The Committee is in favour of a reform of the scheme so that more of this funding comes into public money with a new central distribution mechanism.

Transforming communities

There is a fund of £40m specifically for the community recycling sector, likely to be distributed over two years, with five year spend period 2001-2006. This is part of the New Opportunities lottery money fund.

SEED fund

A SEED fund of nearly £14m is available to be shared among community groups and, under appropriate conditions, to local authority partners. Distribution will start in September 2001 and end during 2003. Funds must be spent by 2006. Grants of up to £50K over three years are available. This funding is relatively small, is not exclusively (or even primarily) for recycling, and is only available to community groups.

Packaging regulation compliance

Some compliance schemes may work with or engage local authorities to assist in achieving higher levels of recycling and recovery. This, and the possible increase in market prices arising from the PRN scheme (Packaging Recovery Notes, discussed further below) may lead to a flow of revenue to boroughs for recycling. The amount can not be estimated.

General regeneration funding

The community sector has been making good use of regeneration funding in recent years. Many community waste activities, near to commercial viability, generate a high jobs to input money ratio. The National Strategy for Neighbourhood Renewal could be an important conduit for Community Sector funding. The DETR holds funds for both strategic waste initiatives and renewal, and is therefore in a position to ensure a level of joined-up thinking in the way regeneration funds are deployed with regard to community waste activity and market development projects.

EU funding

Objective 2 from the European Regional Development Fund and the European Social Fund applies. Priority 2 money is the most likely to be suitable for use in this area, giving a potential funding availability of some 72m in euros.

It is not clear how the local authorities funding for recycling noted above will be distributed. We consider the monies should be spent strategically in ways that will provide incentives for more recycling. The new Commission we have recommended should be active in ensuring London's share of these monies is equitable and is spent effectively.

Nor is it clear to what extent waste management budgets will benefit from an enhanced standard spending assessment since this is not hypothecated to the waste management budget. We doubt whether these measures alone will stimulate sufficient investment in additional recycling infrastructure to meet the demanding targets for recycling and composting set by DETR.

Some boroughs have successfully benefited from Landfill Tax Credit monies to promote pilot recycling schemes. Others are unable to do this, either because they do not have the ability to set up a fund with independent charitable status or they are too far from a landfill site.

The Committee supports a wide ranging review of the landfill tax credit system, which allows revenue funding for recycling across London.

Some boroughs lack confidence that they will be able to secure and sustain the capital to initiate schemes and the revenues to operate them. Landfill costs are too low to merit investment in avoiding them, income from material sales are too uncertain, cost savings by reduced refuse collection are simply overlooked, finance from government is yet to arrive, benefits from the packaging regulations are negligible. The GLA has a role in building confidence by calling for these direct and indirect sources of finance to be made available to the boroughs as quickly as possible.

There has been much criticism that the available funding is inadequate. While more money would be welcome, it is essential that all monies are used strategically and appropriately to improve recycling in London. It is therefore crucial that London's strategic authority, the GLA, takes the lead on how to spend all the money available and outlined above. The GLA should not try to reinvent the wheel, but should seek to create a sound partnership, working with organisations that have already been producing results in the waste sector for some time.

London Waste Action, the boroughs, the waste management companies and institutions and the community sector must all be represented in creating a sound business plan for the resource of London's waste.

In creating and discharging a business plan the body or agency concerned should be regularly scrutinised by the Assembly.

5.5 Packaging regulations

The packaging regulations, which have been in place for a number of years, were hailed as a huge step forward in ensuring manufacturers and producers took sustainability seriously. However, the positive results from the European experience have not been reflected here.

The underlying concept of the Packaging Regulations is still a sound one but it has not been developed or modified in a satisfactory fashion to meet the challenges of the 21st century.

Shared responsibility under the UK scheme has meant that no one has taken responsibility. The scheme now needs to be untangled and made thoroughly transparent. Targets must be assigned across all those involved in production, distribution, sale and disposal – the whole packaging chain.

The UK interpretation of the Packaging Regulations placed minimisation of compliance costs as the key goal. Targets for packaging recovery were set so that they could be met in the main from the industrial waste stream. They did not reach into the household waste stream which was seen as far more complex, with materials mixed up, only a partial collection infrastructure, and processes controlled by a multiplicity of local councils. PRNs have not at present been operated to benefit the municipal waste stream. We took evidence from boroughs and, although they must have received some funds from PRNs in their sale of collected recyclates, only those boroughs with direct connection with incinerators could identify how they specifically benefited from PRNs.

The increase predicted from the EU Directive from 15 to 20 per cent of packaging which must be recycled will ratchet upwards the value of Packaging Recovery Notes (PRNs). To meet these targets the PRN system will have to call on the municipal stream, and must increase the remuneration the boroughs receive from their recyclates.

Another key issue is the proliferation of compliance schemes, which does not lend itself to a focus on clear objectives or encourage long term thinking.

The schemes are complex to apply, with very short term ambitions, often competing with each other. For example, the value of PRNs has to be reported on a three monthly cycle to the relevant government department. This in turn results in short term trading in recyclates and a consequential fluctuation in their value. Boroughs then find it difficult to make long term commitments. Some boroughs even discontinue collecting some fractions as PRN values fall. A system of annual returns could smooth out these fluctuations and enable the boroughs to engage in longer term fiscal planning.

There is little evidence that the system as operated in the UK results in research into use of recyclates and development of new products. Fillers, packagers and distributers would have to engage fully in meeting more ambitious targets for recycling.

It is very clear that the PRN system is not warmly identified by boroughs as a system which contributes to greater recycling. This is in direct contrast to other European countries. It is now timely for the operation of the PRN system to be examined so that:

- A long term vision which can include the needs of all parties: fillers,packagers, manufacturers, distributors and even disposal authorities should work together to achieve a common long term goal – to increase the use of recycled materials and decrease packaging used. These two aims can work against each other so a balance must be struck.
- A focussed approach to the issue of waste as a resource, addressing the issue of the proliferation of players in the UK system. The system will contribute directly to research and development and any revisions in the system should have this built in as a primary issue. High value products should be given priority so that boroughs receive value for the recyclate.
- The PRN system should meet the more challenging targets for packaging recycling set by the EU. For this to happen, municipal and commercial sources of waste will be crucial and both need to be tapped to fulfill the targets.
- The system should be structured to ensure that the waste hierarchy is given appropriate prominence. Only reduction, re-use and recycling should attract PRNs

The PRN system should be reviewed regularly to assess progress against these criteria.

Recommendations on securing appropriate funding

10: The GLA, in partnership with the ALG, should explore the possibilities for the London boroughs to act collectively to exploit any tightening of the Packaging Directive targets. The PRN system needs to be revised to create real producer responsibility and to incorporate genuine incentives for research and development. The Commission we have recommended should be active on these issues too.

11: The GLA needs to take the lead, with the boroughs, the new Commission, the waste institutions and community recycling groups, in a strategic association to work out a recycling business plan for London. The business plan should be ratified within six months of the new commission starting work.

12: The Committee supports wide ranging reviews of packaging regulations and landfill tax credit schemes.

13: The Landfill Tax Credit scheme and the system of tradeable permits should be revised so all boroughs can benefit from long term revenue funding for recycling. The Mayor should endorse the revised system and the new Commission should consider operational issues.

References

8: See glossary p95.

6 the markets for recycled products

Recycling plays an important part in the treatment of waste. It contributes to waste minimisation and offers opportunities for manufacturing and employment. But its value is often not recognised and the incentives to promote it are few. The Committee would like to see the GLA take an active part, through financial incentives, in helping the boroughs enjoy more fully the benefits that recycling can provide. Government intervention, by means of subsidies and incentives, can improve employment opportunities and encourage new research and development that could provide a good stream of materials manufactured from recycled products.

SRB funding has played a role in the past. The LDA now has a key role in supporting both large corporations and small and medium sized enterprises (SMEs) which play an important role in the recycling chain. The economic case for expanding the recycling industries has not been made clearly as yet. The sector offers substantial employment opportunities, certainly if recycling figures approach the 60 per cent we know can be achieved.[9]

The Committee supports the London Assembly's Economic Development Committee in its forthcoming work on new environmental employment.

6.1 Perceptions of the markets for recyclables

Some London boroughs are reluctant to invest in recycling facilities due to a fear that markets are unstable creating a risk of unmanageable stock piles of material. A paper produced by LPAC in 1997, Towards a London Waste Strategy, argued convincingly that such fears of stock piling were unfounded. LPAC showed that regional demand for paper, glass, cans, textiles and other products of household waste could not be met by supply from the boroughs. This was part of the rationale for the London Pride Capital Challenge recycling programme overseen by London Waste Action, which has helped many boroughs set up at least some household waste recycling infrastructure. The message was repeated in LPAC's Supplementary Advice on Planning for Waste in London published in February 1998.

London First, Recoup and the LWA all agree there is a real possibility of inward investment in this sector. The markets need to be convinced of a hard political drive in this direction. We need a guaranteed steady stream of clean recyclates to give manufacturers the confidence to invest long term. Even compost needs to be of a good standard before parks and distributors will buy.

But this message does not seem to have been accepted widely. This may be because there are still few signs that sales of recovered materials are making a major contribution to revenue to offset the costs of household waste management. It is understandable that some authorities should look for certainty and income from materials sales.

Evidence would be required that the collection authorities can produce reasonable quantities of recyclate. We find ourselves in catch 22 – the collection authorities need to be convinced that the market exists, and the markets need to be convinced that the authorities will buy.

The LPAC paper and subsequent advice recognised the difference between unmet demand and regular sustained demand. These issues are now being addressed by the new national Waste Recycling Action Programme (WRAP) and by London Waste Action's Remade programme, both designed to stimulate the rapid development of sustained demand for recyclable materials. WRAP is now finalising its Business Plan. The Committee heard that WRAP will concentrate on strategic interventions, the aim of which would be to complement the more regional approach of the Remade schemes.

The Committee accepts that manufacturing from recyclables will be demand-led, and considers that WRAP and Remade activities should concentrate on high-value products from recyclables, so that local authorities may derive the highest possible end benefit.

The Committee believes it imperative that London receives its fair share of attention from the strategic WRAP funding available (£30m).
We welcome WRAP and support their work with Remade bids. The next step is to see more work in this vein across London, particularly on plastics and composting.

The Committee noted that the PRN system gives the right to issue PRNs to reprocessors to acknowledge that it is the reprocessors who also need to develop markets. They are the part of the packaging chain which looks forward to the consumer, and backwards to materials collectors, and are in a position to influence market development. Bur PRNs are based on weight and recycled packaging tends to be heavier[10], which means PRNs can work against the use of recycled materials in repackaging. The Committee concluded that the PRN system is in need of review.

In Europe, producers, fillers and retailers alike have to respond to the EU directives of waste minimisation. This has led to a joint response to the issue and led to some long term and strategic solutions (for example, drinks manufacturers working with the fillers and the retailers). All parties have an investment in reducing, re-using and recycling.

Research and development in packaging will require all parties to be engaged constructively.

6.2 The GLA as a role model

The GLA, its Functional Bodies, the ALG, and the boroughs have a shared interest in promoting a vibrant market for recyclates. All their own procurement policies should reflect support for the products of recycling. The GLA can then support London boroughs and businesses to buy the products of recycling.

Such initiatives could encourage inward investment to carry out research and development on the recycled products available, improving confidence in these products. More information is essential for products such as paving slabs and insulation to be purchased on a large scale. Purchasers need to be confident that their specifications are going to be met.

There is much for new initiatives to build on and consolidate. The GLA should start with current projects, promote new investment and support growth in strategic areas.

Recommendations on perceptions of the markets for recyclables

14: The GLA should initiate a collaborative exercise with the ALG, WRAP, Remade and other relevant professional institutions to establish a green procurement website and a procurement code for the boroughs, the Functional Bodies and London's businesses. The aims should be to boost the development of reprocessing industries in London, to increase employment opportunities and to increase the use of products from recyclables.

15: The GLA should mount a co-ordinated approach to retailers, starting with the supermarket chains, to initiate a London wide Buy Recycled campaign and to do whatever can be done to reduce packaging.

16: The GLA should extend its support for Remade and give its support to other consortia such as Ecologica more widely across greater London. Such support needs to be strategic. The London Development Agency would have a key role here to work to targets set by a London Waste business plan.

17: Greater London Enterprise, the ALG and the boroughs should investigate the availability of environmental investment funds to support recycling based industries.

18: The market for recyclates and recycling based industries is a key element to seeing London waste as a resource. This should be a major component of the Mayor's Waste Strategy and the business plan should be worked up by the new London Waste Reduction Commission.

References

9: Jobs from Waste, WasteWatch, October 1999 ISBN 1898 026971.
10: Evidence received from Sainsburys.

7 waste minimisation

In a huge disused warehouse under a tower block on the Aylesbury Estate in Southwark the Committee saw a remarkable example of waste reduction in action. Discarded furniture, in very large quantities, donated to OFFERS, is stored there for distribution to voluntary bodies and small businesses unable to afford new items. OFFERS is part of a network of community recycling projects in the borough. This furniture would otherwise go to landfill but instead is being matched with the needs of local users. Donors, individuals or large businesses, come to hear of the scheme by word of mouth, maildrops and a website.

This project shows what can be done to force waste minimisation and re-use on to the agenda. The potential environmental gains from not generating so much waste in the first place can far exceed those of recycling. Elsewhere in this report we mention similarly praiseworthy projects being run by the Women's Environmental Network, Waste Watch, and community Waste Action Groups in other boroughs.

In sharp contract, the Committee noted that very little on waste reduction and re-use appears in the Government's Waste Strategy 2000. The DETR told the Committee that it has decided not to take forward pilot schemes to provide incentives to reduce waste. Instead, the DETR will provide blueprints to councils interested in running their own schemes locally.

The Committee noted guidance published by the DETR, in March 2001, on the Waste Minimisation Act 1998. This guidance contains a few excellent schemes and ideas. More intervention and action is needed to turn such guidance into effective action.

The way boroughs and other agencies handle consumer and community perceptions can have a direct and positive effect on waste minimisation.

7.1 Consumer behaviour

Several witnesses and some of the authorities visited by the Committee took the view that predictions of waste growth of 3 per cent per annum demanded an urgent response to minimise waste.

The 1998 Waste Minimisation Act conferred on local authorities a power to promote and resource schemes to minimise waste entering the waste stream in the first place.

Much of the focus on waste minimisation activity was on consumer behaviour with particular emphasis on persuading parents and carers of young children to reduce their use of disposable nappies, a significant presence in household waste. The Women's Environmental Network

('WEN') had assisted many of London boroughs to initiate Real Nappy Schemes promoting, subsidising and assisting in the development of schemes to encourage reusable nappies and nappy laundering services. A Real Nappy Network had been formed to further promote such schemes.

Government guidance on the implementation of the act so far consists of three case studies in Annex C to the Guidance on Municipal Waste Management Strategy published in March 2001. Among the six boroughs visited by the Committee, minimisation initiatives of the type covered in the guidance are already in place. Besides real nappy schemes, home and estate composters and intensive advice on buying recycled products are well established features of the strategies of several of the boroughs visited.

However, as with so many initiatives, coverage of these schemes is very patchy in London. Many large areas receive no systematic advice for consumers on other measures to reduce waste.

A different view was put forward by the Energy from Waste Association which suggested that the difficulties of minimising household waste should not be under-estimated. Any caps for waste arisings would be difficult to set. The process would require individuals to make changes in lifestyle.

7.2 Charges

There was some support from some boroughs for the view that householder charges for waste collection were a barrier to waste minimisation because they remained constant irrespective of the recycling or minimisation efforts of the householder. Electronic weighing and household waste quotas (perhaps set at 500 kg per household per year) could be used to create a fair system of weight based charging that would not penalise low income families. Discussions around the issue raised the possibility of exempting some areas, or charging by postcode.

Variable charging would have to be treated with caution. Boroughs would have to demonstrate that they had put in place consistent, reliable and easy to use kerbside collections.

Boroughs also indicated that they would have difficulty in moving away from wheeled bins, popular in many areas.

There was support for the pilots that are currently being run by the Mayor for incentives (i.e. discounts on council tax) for participation.

Some boroughs pointed out to the Committee that the method by which payments are made from boroughs to waste disposal authorities is a barrier to waste minimisation. Payments to waste disposal authorities do not reflect the materials delivered for treatment or disposal but are based on the population of the borough and estimates of the balance of household and commercial waste collected by the authority. The charging method is underpinned by statute and attempts to establish tonnage based charging methods have not so far been successful.

7.3 Packaging regulations

Producer Responsibility (Packaging Waste) Regulations ('the Packaging Regulations') are aimed at commercial and industrial waste, not household waste. Packaging Regulations will only begin to reduce packaging in the household waste stream once targets for waste recycling are so high they can only be met by including collection and recycling of household waste.

The Packaging Regulations have probably encouraged more lightweight packaging i.e. packaging which uses less raw material inputs. This is a commercially effective way of increasing competitiveness of different packaging materials. For example, steel, aluminium, plastic and glass all compete in the market for beverage containers. But making packaging lighter in weight does not necessarily reduce its volume.

The Committee noted excessive packaging in product delivery. Stores supply further, possibly unnecessary, layers of packaging. The ratio of packaging materials to products is excessive in certain retail lines, such as cosmetics.

The weight of packaging material is not a good indicator of how sustainable packaging may be. Re-usable packaging tends to be heavier because it has to withstand repeated handling. We have had evidence from retailers that the PRN system precludes the use of recycled materials in packaging because recycled materials tend to be heavier.

Returnable reusable packaging helps to minimise waste overall. The use of returnable reusable packaging on a major scale is only likely if Packaging Regulation targets are established for re-use, or if the targets for recycling are set at very high levels. The Essential Requirements aspects of the Packaging Directive seek to establish rules on design of packaging and the quantity, and hazardousness, of materials used, having regard to suitability for re-use or recovery, including recycling. The Committee noted that these requirements do not seem to be taking effect. Trading standards officers will have a role to play in the enforcement of the

Essential Requirements, but the Committee queried whether there are enough trading standards officers to do this job effectively. Frequencies of inspection vary widely, dropping in one worst case scenario noted by the Committee to one inspection every 14 years. In fact to date, only one successful prosecution in the UK has resulted from the EU directive.

When the Regulations came into force the Local Authorities Co-ordinating Body on Food and Trading Standards (LACOTS) made a resources bid which DTI accepted and funds were added to the Revenue Support Grant. But these funds were only £120,000, divided among about 200 Trading Standards Authorities in the UK, £600 per authority.

Guidance developed by the DTI in conjunction with LACOTS was published in August 1998. It did not give recommended inspection frequencies or advice on enforcement approaches. A Code of Practice for optimising packaging and minimising packaging waste was produced by the Industry Council for Packaging and the Environment (INCPEN) and endorsed by relevant industry associations, the Institute of Packaging and LACOTS. A series of compliance statements for different types of packaging has been published by LACOTS, available on the LACOTS open website at www.lacots.org.uk (under Information Services). The European standards body, CEN, has developed standards which allow clearer interpretation of the Essential Requirements

Larger companies tend to comply with the Packaging Regulations, but there may be relatively low levels of awareness among SMEs. There may be a financial advantage to companies in achieving compliance.

The Committee noted that the packaging stream has remained more or less constant in quantitative terms over the period in which a 3 per cent growth in municipal waste arisings has been reported. This could reflect genuine movement of more material into the household stream (through, for example, Internet purchases direct from warehouses) but, equally, it may suggest movement of commercial waste into the municipal stream.

The business case for reducing packaging is clear, since minimised packaging can lead to reduced costs. The GLA, through the LDA, can work with businesses, such as the supermarkets, to reduce packaging. The LDA has a strategic role here as there are many jobs currently in packaging. The implications of package reduction on jobs need to be thought through.

7.4 E-commerce

Packaging plays a part in the marketing of products, although goods purchased on-line could be purchased without excessive layers of packaging. People deciding which products to purchase on the internet will have little regard for the packaging. The formation of consumer preferences may be more complex, with on-line purchases being influenced by the appearance of products as they appear on the High Street

E-commerce has the potential to contribute to both worsening and improvement of the situation in respect of household waste.

- On the one hand, the purchase of more goods over the internet may increase the flow of packaging material into the household waste stream because individual items may be packaged more heavily to avoid damage in transit.
- On the other hand, e-commerce may increase the possibilities for take-back of packaging, helping to increase the rate at which materials are recovered for recycling or re-use. E-commerce companies could potentially arrange for packaging take-back, and therefore may be well placed to increase the degree to which re-usable packaging is used. Some companies are believed to be actively developing initiatives on this.

The balance of these effects has yet to emerge.

Packaging materials arising from purchase of goods supplied from companies based abroad do not come within the scope of the Producer Responsibility (Packaging Waste) Regulations. Incentives to collect this material may, paradoxically, be less than that which drives the collection of other packaging materials purchased through companies domiciled in the UK. This is acknowledged as a loophole in the existing Regulations.

The Mayor's e-business team should look specifically at the issues of waste minimisation and packaging as part of environmentally-conscious procurement.

Recommendations on waste minimisation

19: The GLA should provide clear leadership on waste minimisation by establishing a Waste Reduction Commission for London to:

- set and monitor targets on waste minimisation
- bring together boroughs, retailers, the Womens' Environmental Network and community recycling interests to identify and promote innovations in waste minimisation
- devise campaigns, educational programmes and reward schemes for innovations and good practice in waste minimisation starting with nappies, home composting, plastic bags, food packaging.

20: The GLA should work with the ALG to help improve waste minimisation by building on the advice on waste minimisation in the recent Municipal Waste Strategy guide produced by DETR, devising a waste minimisation target for London, setting realistic plans and monitoring whether they are being met. For example:

- The Mayor should support a publicity campaign, promoted jointly with the NHS, to support the use of real nappies, and should require his e-business team to review waste minimisation issues.
- Home composting contributes to waste minimisation and the effects of it can be measured, but data on home composting is normally not included in statistics on waste minimisation.
- The LDA has a role in training SMEs through Skills Councils, business links and chambers of commerce.
- The LDA and the GLE (Greater London Enterprise), with an environmental investment, should support re-use industries such as jewellery, furniture schemes etc.

8 the problem of residual waste

Material that is not being recycled or composted has to be sent for disposal or treatment. The available landfill space in London is scarce, and London depends upon neighbouring counties to make landfill void space available. With landfill options curtailed by space and the EU Directive in place, authorities will be giving serious consideration to Energy from Waste schemes, principally through incineration. It is important that they do so as part of an overall waste strategy and that alternatives are fully considered too.

8.1 The place of Energy from Waste schemes

Energy from Waste incineration schemes need to be considered as part of an overall strategy for waste. The Committee was satisfied that the Energy from Waste industry itself takes this view. Public opinion in London is such that it is very unlikely that large numbers of mass burn sites would be acceptable.

Setting standards that can be met only through incineration would lead to much less flexible systems for integrated waste management, especially where this is at its starting point, as in several EU Member States and Accession States. Incinerators have been a suitable option in the waste management chain. But incinerators have to work at a certain throughput. If too many are built too soon, this could prejudice the growth of recycling. Boroughs with incineration contracts told the Committee that they depend on incineration to dispose of waste, while other boroughs would not contemplate incineration for fear of crowding out further growth in recycling.

As we have argued, predictions of growth in London's waste may be incorrect. If minimisation schemes begin to succeed and waste recycling and composting projects begin to show signs that they can achieve capture and diversion rates to match those in urban areas elsewhere in Europe, then authorities contemplating Energy from Waste schemes may be compromising their recycling and composting schemes.

The Committee heard from the Energy from Waste Association that the co-existence of incineration and recycling is a relatively happy one in Europe and is feasible in the UK. Friends of the Earth rejected this view, pointing to large facilities – at Allington for 500,000 tonnes and Colnbrook for 440,000 tonnes – as evidence of conflict.

In considering the place of incineration in waste management and treatment options, the committee heard evidence on health effects and on public opposition to waste incineration proposals. The greatest opposition arose in the wealthier areas. Such is the concern over the

products of incineration, particularly dioxins, that there are likely to be changes in the regulations. One such change is the continuous monitoring of dioxins, which is costly, but essential for the public to have confidence in the safety of the incineration process.

Since the Committee met, we understand from reports in the Press that the DETR has interpreted the Landfill Directive to say that toxic fly ash may not be disposed of even at special landfill sites. Industry representatives are currently considering what other options are available.

There is clear public distaste for incineration, and changes to the regulations may mean that incineration is no longer as cost-effective as it appeared at one time to be. But the Committee's first concern was with recycling. There is clear evidence that the option of mass burn crowds out recycling. If incineration has to be considered as an option then it should be taken in the wider context of also setting challenging targets for increased recycling.

8.2 Landfill

The UK has had substantial dependence on landfill, which has been addressed by many Government reviews.

More recently, the Mayor is being consulted on tradeable landfill permits. This consultation recognises Wales but has not identified London and its strategic authority, the GLA. For London to meet the challenge of waste as a resource, the GLA must be allowed to play an active role in how these permits are distributed and traded.

In addition, after the committee took evidence, the DETR indicated that fly ash could no longer be sent to special landfill sites. This would be similar to other European countries which require this waste to be disposed in sealed casks. Again this is costly, but important for communities to have confidence in the process.

8.2 Fiscal policy

Fiscal policies can make a significant contribution to the successful implementation of a clear waste strategy, as was recognised by the implementation of landfill tax. In the case of incineration, taxes can reinforce policy and help to encourage the diversion of waste towards recycling and recovery rather than towards Energy from Waste. Treatments other than reduce, re-use and recycle should attract a tax. The Committee recognises that care must be taken in devising any such tax to place the burden and the incentives in the right direction, and to avoid simply adding to the charges on local authorities. Suitable mechanisms for recycling revenue are required.

Fiscal policy should take account of and support the waste hierarchy, so that greater support would be directed to processes which deliver waste reduction, re-use and recycling, and lesser amounts of funding or other financial incentives would be directed to incineration and landfill. Fiscal policy should also treat incentives for sustainable waste management and renewable energy in the same way. Until recently, incineration has drawn benefits from both camps. London and the UK need a consistent fiscal policy which recognises the environmental costs of incineration.

We support the House of Commons Select Committee Report that a tax on incineration should be phased in to allow boroughs time to improve their recycling.

8.3 Alternatives to incineration

There are other methods of treating residual waste. Biological mechanical methods of neutralising some of the harmful effects of biodegradable and other elements in residual waste and non-incineration methods of recovering energy from waste were reported to the Committee. These can reduce the requirement for landfill space while at the same time deferring any apparent necessity to incinerate materials. Biological treatment of biodegradable municipal waste may qualify as landfill diversion under the terms of the Landfill Directive.[11]

Fermentable waste, in anaerobic conditions such as landfills, produces biogas, increases the concentration of chemicals in water leaching from the site, and causes settlement in the structure of the landfill. This means a threat to groundwater in the longer-term, to air quality (especially where landfill gas is not collected), and increased difficulty in site reclamation. It creates problems for land managers and problems of odour for people living near landfill sites.

If kitchen waste is not separated out effectively before recycling, there is a risk of a concentration of fermentable material inside the residue. For instance, in the Netherlands and Germany where there is very efficient recycling, the percentage of food waste remaining in residual waste is often reported to be 40-50 per cent. In those Italian communities where the most effective collection of food waste is reported, food waste still remains in the residue, in proportions ranging from 10 to 20 per cent.

To reduce fermentability, food waste can be separated out at source or can be treated, to degrade fermentable volatile solids before burying the waste. Biological or thermal treatments are possible.

Separation of food waste at source and pre-treatment, combined, offer an alternative to incineration for meeting Landfill Directive targets.

Biological treatment is generally seen as a good option for areas that are not densely populated, with lower production of municipal solid waste, being more cost-effective in these circumstances than investing in a large incineration plant or transporting waste over distances for incineration elsewhere. A biological treatment plant can evolve into a quality composting plant. This can be done progressively, in line with the growth of source separation.

New draft regulations to be issued in Italy, substantially set a certain respirometric index and BVS content (biodegradable volatile solids) to be attained. It is necessary to look both at the biodegradable element of volatile solids and the proportion of undegradable or not easily degradable organic compounds such as plastics, polyethylene, wood, to make a robust assessment of the potential for undesired side-effects related to landfilling.

Recommendations on residual waste

21: There should be one policy across Greater London on the use and installation of Energy from Waste plants, and new investment in incineration plants should proceed circumspectly, having regard to developments in the treatment of biodegradable waste.

22: Fiscal policy in respect of sustainable waste management is in need of review, to achieve better balance and consistency, to action the findings of the Select Committee of the House of Commons and to implement an incineration tax. The Committee supports the Select Committee and a tax on incineration.

23: The GLA should respond to DETR on tradeable permits for landfill, identifying the GLA's strategic role in waste resource in London.

24: Boroughs and disposal authorities, being required by law to have regard to the Mayor's Waste Strategy, should consider recycling issues before deciding on any long term contract undertakings for dealing with waste.

References

11: This is the wording currently in the Second Working Document on the Biological Treatment of Biowaste.

9 matters for the future

This section considers covenants and mandating, issues which the Committee decided were of interest but would be best left for future consideration.

9.1 Municipal waste covenants

Environmental covenants are an instrument used in the Flemish Region of Belgium (see case study overleaf). Entering into a covenant is voluntary, but achievement of the environmental objective of the covenant results in a financial remuneration being paid. Covenants are used as a means of encouraging local authorities to go beyond minimum standards. For example, a covenant exists which provides extra financial resources if the authority enters into an agreement (as a subsidy for the execution of the municipalities' actions) and to provide source segregated collection of the fractions of waste. These agreements stimulate under certain conditions among other things the organisation of separate collections, treatment facilities, marketing of municipal waste products and public awareness campaigns.

This instrument has been applied to a number of different waste schemes. In Flanders it was first used to encourage the collection of household hazardous waste and separate collection of either dry recyclables or the wet fraction of waste, later evolution of the policy has involved achievement of waste minimisation targets, provision of recycling facilities and reduction in street litter.

The covenant is basically a voluntary agreement which involves provision of extra funds for each option selected by the authorities. For example, payments were related to each kilogram of hazardous waste collected by authorities or the number of households served by separate collection. The success of the initiative has been linked to the additional provision of subsidies on the capital cost of constructing new bring facilities and processing facilities. Signature of a covenant provided the Flemish Environment Agency (OVAM) with the opportunity to thoroughly supervise the initiatives which were undertaken.

Case study: Environmental covenant concluded on voluntary basis with towns and municipalities, Flanders, Belgium

For about six years Flemish municipalities have been able to enter into a voluntary agreement on environment and nature policy with the Flanders region, the so-called municipal environmental covenant. In exchange for subsidies, municipalities agree to achieve a series of environmental goals which go beyond the minimum legal requirements. The first environmental covenant was in force from 1992 to 1996, and was primarily focused on promoting a systematic and professional approach of environmental tasks.

Since 1997 municipalities have been able to enter a new environment and nature agreement with the region. The new environmental covenant aims to improve environmental quality through:

- enhancing primary environmental care
- preparing an environmental policy plan and annual environmental programme
- consolidation of municipal environmental expertise
- encouraging public participation in municipal environmental policy-making, using an environmental helpdesk
- improvement of prevention and selective collection of waste
- effective implementation of measures described in municipal nature development plans.

The new agreement offers municipalities the possibility of choosing between a basic agreement and eleven sub-agreements or options. So far, some 284 municipalities have signed the basic agreement and 184 have also signed the option for prevention and selective collection of household waste. Municipalities that sign the covenant are paid by the Flemish Government, under what has become a very successful system.

9.2 Incentives and mandating

A question remains as to whether the Mayor might be able to require householders to participate in kerbside / doorstep / estate schemes for recycling and / or composting where they are provided. This could reduce the net costs of such schemes through increasing participation and, therefore, the density of materials collection. It would also increase borough recycling rates and encourage investment in such schemes (since the pay-off could be guaranteed more easily). This is the approach used in many local authorities overseas, for example Canada, the US, parts of Australia, Austria and Germany, and it is being considered in Denmark and Sweden.

The Mayor is currently running a pilot in Brent and in Lambeth whereby households receive a cash incentive for recycling with a view to incorporating such an incentive in the council tax rebate system.

The Committee felt it could not support any consideration of mandating at present, while the availability of kerbside recovery and recycling facilities is still low. A clear incentive for recycling would arise when householders see the increasing cost of waste disposal by the council being reflected in increases in the council tax bill.

Recommendation on incentives

25: The GLA should support the pilot work in Brent and Lambeth on a £10 incentive for recycling that may lead to a council tax rebate scheme.

summary of recommendations

The recommendations in this report are listed below, and each appears in more detail in the relevant sections of the report. They are also noted in the Committee's suggested action plan.

On waste data

1: The GLA should lead, with the DETR and others, to improve waste data and to develop appropriate incentives.

2: The GLA should work with the ALG, the boroughs and waste institutions to institute regular, waste analyses, to establish emerging trends.

3: The GLA should work with the boroughs, DETR, the Audit Commission, CIPFA and others to create a standardised waste management and recycling return for Best Value and all other purposes.

4 We believe these and other recommendations in this report can best be achieved by the formation of a new Waste Reduction Commission, to work as a partnership, and formed for the express purpose of promoting best practice in recycling in London.

On recycling and composting infrastructure

5: The GLA should lead a Commission comprising London boroughs, the ALG, the London Community Recycling Network and the LWA, to identify and share best practice in recycling.

6: Boroughs should be required to submit proposals, with costings, for the separate collection and processing of the organic stream by the end of 2002. The Mayor's waste strategy should set specific targets for composting, including home composting.

On community support and participation

7: The GLA, in partnership with the Recycling Consortium and Waste Watch, should consider promoting local waste action groups across London exploring the prospects of linking such initiatives with community groups and tenants' associations.

8: The Mayor should engage in a high level publicity strategy to promote reduction, re-use and recycling of waste across London.

Recommendation on potential job creation

9: All regional development programmes should support the development of recycling schemes and market development programmes, and the LDA should work with current programmes.

On securing appropriate funding

10: The GLA , in partnership with the ALG, should explore the possibilities for the London boroughs to act collectively to exploit any tightening of the Packaging Directive targets. The PRN system needs to be revised to create real producer responsibility and to incorporate genuine incentives for research and development. The Commission we have recommended should be active on these issues too.

11: The GLA needs to take the lead with the boroughs, the waste institutions and community recycling in a strategic association to work out a recycling business plan for London, to be achieved by the new commission within six months of starting work.

12: The Committee supports wide ranging reviews of packaging regulations and landfill tax credit schemes.

13: The landfill tax credit scheme should be revised so all boroughs can benefit from long term revenue funding for recycling.

On perceptions of the markets for recyclables

14: The GLA should initiate a collaborative exercise with the ALG, WRAP, Remade and other relevant professional institutions to boost the development of reprocessing industries in London, to increase employment opportunities and to increase the use of products from recyclables.

15: The GLA should mount a co-ordinated approach to retailers, starting with the supermarket chains, to initiate a London wide Buy Recycled campaign and to reduce packaging.

16: The GLA should extend its strategic support for Remade and give its support to other consortia such as Ecologica more widely across greater London.

17: Greater London Enterprise, the ALG and the boroughs should investigate the availability of environmental investment funds to support recycling based industries.

18: The market for recyclates and recycling based industries should be a major component of the Mayor's Waste Strategy and the business plan should be worked up by the London Waste Reduction Commission.

On waste minimisation

19: The GLA should provide clear leadership on waste minimisation by establishing a Waste Reduction Commission for London, linked with the waste disposal and sustainability Association, and (together with the FBs) establishing its own waste minimisation plans.

20: The GLA should work with the ALG to help improve waste minimisation, by means of incentives and other initiatives. Note also item 15 above.

On residual waste

21: There should be one policy across Greater London on the use and installation of Energy from Waste plants, and new investment in incineration plants should proceed circumspectly, having regard to developments in the treatment of biodegradable waste.

22: Fiscal policy in respect of sustainable waste management is in need of review, to achieve better balance and consistency, to action the findings of the Select Committee of the House of Commons and to implement an incineration tax. The Committee supports the Select Committee and a tax on incineration.

23: The GLA should respond to DETR on tradeable permits for landfill, identifying the GLA's strategic role in waste resource in London.

24: Boroughs and disposal authorities should have regard to the Mayor's Waste Strategy before deciding on any long term contract undertakings for dealing with waste.

On matters for the future

25: The GLA should support the pilot work in Brent and Lambeth on incentives for recycling leading to a potential council tax rebate scheme.

appendices

Appendix 1: Borough organisation for waste collection

All 32 boroughs and the City of London are waste collection authorities. There are 16 waste disposal authorities (WDAs). Twelve are also waste collection authorities (the unitaries), and the remaining four WDAs act for groups of boroughs to share disposal arrangements and costs.

West London Waste Authority

Ealing
Hounslow
Harrow
Hillingdon
Richmond upon Thames
Brent

East London Waste Authority

Newham
Redbridge
Barking and Dagenham
Havering

Western Riverside Waste Authority

Hammersmith and Fulham
Wandsworth
Kensington & Chelsea
Lambeth

North London Waste Authority

Barnet
Enfield
Waltham Forest
Islington
Camden
Haringey
Hackney

Unitary Authorities

Southwark
Lewisham
Bexley
Greenwich
Tower Hamlets
Bromley
City of London
Croydon
Sutton
Merton
Westminster
Kingston upon Thames

Appendix 2: Summary of activities in boroughs visited by the Committee

Bexley

Recycling and composting collection operations and facilities

Bexley's 220,000 population is served by a mixture of bring and kerbside recycling collection schemes as follows:

- Residents can take paper and card, glass, cans, textiles, shoes and books to 54 mini recycling centres consisting of sets of 1100 litre wheeled bins located throughout the borough.
- Residents can also take compostable garden and kitchen waste, batteries, oil, wood, construction and metal materials to two Civic Amenity Recycling Centres in the borough.
- Residents of three sheltered housing schemes can use micro recycling centres of 1100 and 240 litre wheeled bins on site to save paper, glass and cans.
- 86,000 of Bexley's 91,000 households are served by a fortnightly kerbside collection of paper and card for which they are provided with a 50 litre box.

Under the recently revised counting rules for recyclable waste Bexley report that over 20,490 tonnes of household waste was collected for recycling by these methods in 1999/2000.

Waste minimisation

Bexley has developed several initiatives aimed at reducing the amount of household waste for collection and disposal including:

- The sale of over 10,000 home composting bins at half price for residential kitchen and garden waste.
- The establishment of several Schools Waste Action Clubs (SWACs), a programme of practical education about waste and recycling for school children developed in partnership with Waste Watch.

Publicity about recycling and waste minimisation

Bexley's publicity programme about household waste recycling facilities includes:

- Regular leaflets and annual recycling wall planners delivered to every household.
- Local press advertising.
- An open membership Waste Minimisation and Recycling Focus Group which is involved in the preparation and revision of Bexley's recycling plan.
- Consultation with local tenants' and voluntary bodies about the location and upkeep of recycling facilities.
- A schools waste education pack.

Plans

Bexley's plans for enhancing household waste recycling include:

- Increasing the number of mini and micro recycling sites, including extending the range of materials collected at mini recycling sites.
- Continuing the sale of subsidised home composting bins.
- Investigating the feasibility of composting green waste collected in resident purchased green sacks.
- A trial of a wheeled bin based collection of kitchen and garden waste.
- A trial of a multi material kerbside collection.

In December 1999, Bexley was awarded Beacon Council status for its sustainable waste management achievements

Hounslow

Recycling and composting collection operations and facilities

Hounslow has a population of 212,000. Principal recycling facilities are as follows:

- 71,500 households are served by multi-material weekly kerbside collections. Residents are asked to save glass bottles and jars, newspapers and magazines, cans, textiles, shoes and aluminium foil. Residents are provided with a 50 litre green box to save their recyclables. Operatives sort the contents of the box into a compartmentalised vehicle.
- 528 households in Brentford Towers high-rise flats are served by a weekly multi-material doorstep collection. Residents are given a recycling basket, smaller than the kerbside box to save glass bottles and jars, cans and newspapers and magazines. Caretakers sort the contents of the baskets into 240 litre wheeled bins moved by lift on to each landing. The wheeled bins are then emptied into a compartmentalised collection vehicle equipped with a bin lifter. Care-taking duties have been modified to encompass the recycling collection.
- There are 42 multi-material drop-off recycling sites supplementing the kerbside programme. Most sites offer paper and glass banks, 14 have textile facilities and 12 collect cans. The council's Space Way Civic Amenity site also offers cardboard and oil collection.
- 10,000 households are involved in a kerbside garden waste collection scheme. Residents purchase green sacks from the council for a fortnightly Saturday only collection. Material, collected in an off-duty refuse collection vehicle, is taken for composting.

Hounslow report that over 13,000 tonnes of household waste was collected for recycling by in 1999/2000.

Waste minimisation

Hounslow has developed several waste minimisation initiatives focussed on reducing the amount of household waste actually collected. These include:

- Providing home composting sets consisting of a garden composter and a kitchen bin to residents for vegetable and garden waste. So far 5,700 sets have been distributed.
- Encouraging the development of independent residents Waste Action Groups to identify and promote local opportunities to reduce, re-use and recycle waste, in partnership with the Community Waste Action project.
- Promoting cotton reusable nappies and nappy laundry services to residents, midwives, health visitors, ante-natal groups, nurseries etc. to reduce the quantity of disposable nappies collected for disposal. This scheme has been developed in partnership with other West London boroughs.

Publicity about recycling and waste minimisation

Hounslow has developed some innovative approaches to publicising recycling and waste minimisation opportunities in the borough including:

- A quarterly newsletter produced to a high standard for residents served by the kerbside recycling project.
- A similar leaflet for high rise estate residents.
- A seasonal newsletter for those with home composting sets.
- Support for local waste action groups to produce reduce, re-use and recycle guides for residents.
- Training workshops on composting and a composting hotline.
- Minority language leaflets and minority language composting workshops.
- Annual campaigns in partnership with retailers to promote products made from recycled materials.

Plans

Hounslow's plans for enhancing household waste recycling include:

- Extending recycling collections to other estates (although Brentford Towers is the only high rise estate).
- Further promotion of home composting through distribution of composting sets.
- Encouragement of further Community Waste Action Groups.

In 1999, Hounslow, like Bexley, was awarded Beacon Council status for its sustainable waste management achievements.

Kensington & Chelsea

Recycling and composting collection operations and facilities

Kensington & Chelsea has operated kerbside collections of recyclable household waste for ten years. Collections have been adapted to the borough's pattern of busy streets with extensive flatted and multi-occupancy housing.

- Residents who receive a twice weekly doorstep or kerbside refuse collection are asked to save paper, glass, cans, cartons, textiles and plastic bottles in shopping bags or council supplied clear sacks. The recyclables are collected alongside the refuse on an adapted refuse collection vehicle. The vehicle compartment is divided into two for refuse and for mixed recyclables. The mixed recyclable material is off-loaded at Cremorne Wharf depot for separation and bulking at a Materials Reclamation Facility.
- On estates with communal refuse collection, single 660 or 1100 litre Blue Wheeled Bins are provided usually near to existing ground floor refuse areas. Residents are asked to save the same materials as in the kerbside scheme and simply to take them to the Blue Bin. The contents of the Blue Bins are taken to Cremorne Wharf for sorting. Although residents do not have a door-to-door or kerbside collection, they are able to take materials to the Blue Bin at any time during the day.
- Books, oil, white goods and compostable garden waste can be taken to Cremorne Wharf.
- A range of dry recyclables can also be taken to 12 recycling centres strategically located around the borough.

Kensington & Chelsea reported the recovery of 11,400 tonnes of household waste for recycling in 1998-99.

Waste minimisation and waste minimisation

Kensington & Chelsea's waste minimisation initiatives to reduce the amount of household waste for collection and disposal include:

- The sale at a discounted rate of home composting bins.
- A comprehensive leaflet entitled Waste Minimisation. why not think twice? offering hints and tips including contact numbers for a nappy service.
- A joint initiative with Sainsbury's – the Inside Out bag in which Sainsbury shopping bags bought at two stores in the borough can be turned inside out and used as recycling bags on recycling collection day. The inside is marked recycling bag.

Publicity about recycling

Kensington & Chelsea's recycling publicity includes:

- Small leaflets introducing the Doorstep Recycling service.
- A similar leaflet for the estate based blue bin scheme.
- Detailed descriptions of the recycling service are available at libraries and at council offices.
- In 2000 every household in the borough was surveyed about knowledge of and participation in the recycling service.
- Videos about the recycling service are shown to Year One and Year Seven pupils.

Plans

Kensington & Chelsea's plans include developing recycling information in minority languages.

Lambeth

Recycling and composting collection operations and facilities

As with some other boroughs in Inner London, Lambeth has developed household waste recycling collections around a pattern of suburban streets, congested areas of mixed tenure and large number of flatted medium and high rise estates. Recycling services include:

- Box based weekly kerbside collections are available to all 70,000 of Lambeth's street level properties. Residents are provided with a 50 litre green box and asked to save paper, glass, cans and textiles. Materials from the boxes are sorted into compartmentalised collection vehicles by collection operatives and taken to Vale Road depot for bulking and onward transport.
- Over 150 sets of estate based near entry recycling containers have been installed. Each set consists of five secured 240 litre wheeled bins, one each for paper, green, clear and brown glass and cans. Sets are sited close to the entrance to estate blocks in as convenient and safe a location as possible. Residents are asked to bring their recyclables to the containers and sort them into the appropriate bin. The bins are emptied onto a compartmentalised bin lifting vehicle and taken to Vale Road depot. Although the scheme is not designed as a kerbside or door-to-door collection, residents can bring their materials to the bin at any reasonable time.
- 23 street sited sets of recycling banks for paper, glass, textiles and cans.

Lambeth recorded the recovery of 7,809 tonnes of household waste for recycling in 1999/2000.

Waste minimisation

Lambeth's initiatives to reduce the amount of household waste for collection and disposal include:

- Subsidised home composting bins. Over 2000 units have been delivered since March 1999.
- A pilot community composting scheme for residents without gardens. Participants bring green and kitchen waste to a composter adjacent to a community garden. The compost is used as a soil improver in the community garden.

Publicity about recycling and waste minimisation

Lambeth and their recycling collection operator, Lambeth Community Recycling, have undertaken research into the effectiveness of recycling publicity. Current publicity includes:

- A well designed quarterly recycling newsletter for all households served by the kerbside scheme.
- Stickers for household wheeled refuse bins listing recyclable items which residents should put in their green box.
- Detailed guidance on introducing and overseeing estate based recycling schemes targeted at housing managers.
- Estate tailored leaflets for residents about the near entrance scheme.

Plans

Lambeth's plans include:

- Considering the feasibility of developing green waste collections for composting.
- Examining the scope for extending community schemes onto estates.
- Considering the collections of plastics for recycling, and of furniture and IT for refurbishment and re-use.
- Further investment in information and education campaigns aimed particularly at developing waste awareness and participation in areas of low involvement.

Richmond upon Thames

Recycling and composting collection operations and facilities

Richmond upon Thames operates both intensive bring and kerbside recycling schemes for householders. Current recycling collection services include:

- 111 bring sites sited near parks, public buildings, in pub and supermarket car parks etc. Eight are on housing estates. Most sites offer glass, paper and can collections in 1100 litre bins and larger capacity banks. A small number of larger sites offer textiles, cardboard, shoes, books and foil collections as well.
- A box based fortnightly kerbside collection of newspapers and magazines (replacing an earlier plastic bag based scheme).

- 8,000 households have enhanced box based collections of cans or of cans, glass and textiles in a multi-material kerbside trial.
- Garden green waste composting, and waste paint, plastic milk bottles, motor oil, some white goods, and scrap recycling at Townmead Road civic amenity site.

Richmond upon Thames recorded the collection of 13,164 tonnes of household waste for recycling in 1999/2000.

Waste minimisation

Schemes aimed at reducing waste for collection and disposal in Richmond upon Thames include:

- The distribution of over 9000 home composting units at a heavily discounted price.
- BinBlitz – intensive advice on reducing waste, reusing materials and products and recycling through information packs, events, advice on shopping for high recycled content products etc. Volunteer residents receive support from Richmond upon Thames Council's Eco Action project funded to stimulate community participation in waste recycling and waste minimisation.
- Eco Action also promotes a real nappy service, as one of a consortium of boroughs including Hounslow.

Publicity about recycling and waste minimisation

Recycling and waste minimisation in Richmond upon Thames is managed by the Eco Action project for the council. Publicity includes:

- A regular newsletter to all residents entitled Refuse and Recycling Update.
- Leaflets and educational programmes for schools.
- Promotional material on a real nappy scheme, Richmond upon Thames' scrap store, the waste paint initiative etc.

Plans

Richmond upon Thames is planning to extend the scale and scope of its recycling and related initiatives as follows:

- The extension of the multi material kerbside programme into areas where currently only paper is collected, making use of boxes that have already been distributed.
- Developing further recycling sites for estates and residents of multi-occupancy dwellings.
- Distributing 20,000 further home composting units by 2005.
- Improving the recycling performance of Townmead Road civic amenity site.

Southwark

Recycling and composting collection operations and facilities

Southwark initiatives include kerbside, bring and estate based schemes including:

- A fortnightly kerbside collection of newspaper and magazines from 35,000 households.
- 60 recycling sites on streets, outside public buildings and open spaces and on some estates each with containers for paper, glass and cans. Other materials are collected at the council's civic amenity site.
- *SURE*, the Southwark Estate Recycling project, offers a weekly door-to-door collection of newspapers and magazines from residents on the high rise Aylesbury Estate and at Elephant & Castle. A team of collection workers go from floor-to-floor collecting waste paper saved by residents in durable reusable plastic bags.

In 1999/2000 4,667 tonnes of household waste was collected for recycling in Southwark.

Waste minimisation

Initiatives to reduce the amount of waste collected in the first place in Southwark include:

- The provision of home composting bins to 12 community groups.
- The installation of community composting bins for kitchen scraps, grass cuttings etc. on eleven Southwark estates. Participants bring compostable materials to a centrally located secure composter and can then make use of the compost for window boxes and allotments etc. or it can be used on planted areas on the estate.

Plans

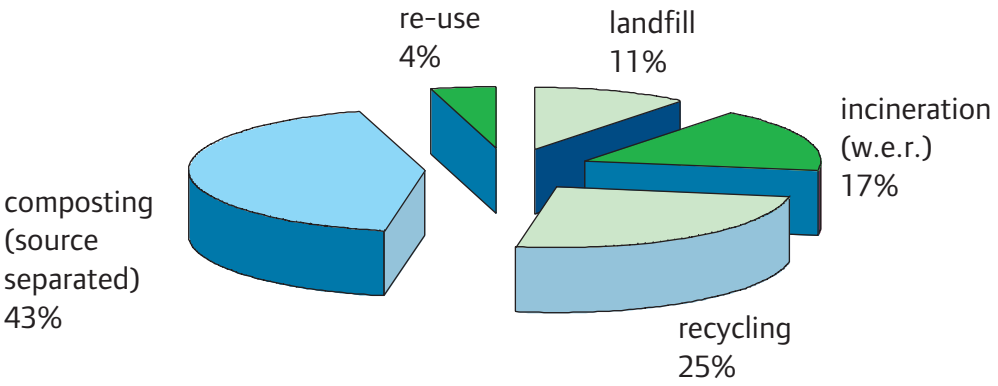
Future recycling developments in Southwark include extending the kerbside paper collection to street level properties borough wide during 2001.

Appendix 3: European and North American comparatives

Municipal waste

Flanders in Belgium re-uses, recycles and composts 72 per cent of its biodegradable municipal waste.

Figure 6: Treatment of Biodegradable Municipal Waste (BMW) in Flanders (1999, total BMW 1.5 million tonnes).



Catalonia (2.9 million tonnes MSW in 1997) has set itself a target for 2006 of separate collection and recycling of 60 per cent of all ordinary municipal solid waste (OMSW, that collected in bins). The treatment split expected is 50:50 between 'methanation' and composting, and dry recyclables. Of the residual, a more or less constant fraction (relative to the current position) of 33 per cent incineration is expected with landfill falling from just under 65 per cent of total in 1996 to 7 per cent in 2006. All municipalities with more than 5,000 inhabitants have to carry out separate collection of the organic fraction of OMSW. This affects more than 90 per cent of the population (or 5 million inhabitants).

Finland has set targets for the recovery of 70 per cent of MSW by 2005, mostly through recycling, composting and anaerobic digestion.
The objective includes one for recovery of 75 per cent of biowaste by 2005 through composting and other treatments, and one for 75 per cent paper and card by 2005. From 2005, no MSW may be landfilled unless the biodegradable fraction has been separated at source.

Household waste

In Germany, Taylor Nelson Sofres give figures for recycling of the household packaging fraction in Germany of 83 per cent for glass, 69 per cent for plastic, 92 per cent for paper and board, 77 per cent for tinplate and 63 per cent for aluminium.[12]

In the 1980s, the Netherlands set itself hugely ambitious targets for the recycling of specific materials from the household stream. The 1988 Memorandum on the Prevention and Re-use of Wastes which includes targets for household wastes, bulky household waste and other waste streams, coincided with a period of crisis in waste management, in which waste was stored on inland barges owing to public opposition to new landfills and incinerators. Obligatory targets for 50 per cent materials collection (from household waste) by 2000 were set, with 60-70 per cent being the target for the collection and useful application of bulky household waste.

Materials targets were also set, some of these (for non-returnable glass and ferrous metals) being set at 100 per cent for materials collection. These were subsequently scaled back after discussion in the Waste Management Council. By 1997, rates achieved were, 74 per cent for glass, 47 per cent for paper and board, and 21 per cent for textiles. Rates for plastics and metals were much lower because plastics are not part of the standard local authority collection model, and metals are recovered post-incineration at rates of 33 per cent (aluminium) and 60 per cent (steel). Quality is much lower when recovered from incineration slag. The more realistic targets for collection in 2000, based on experience, were set at 90 per cent for glass, 80 per cent for paper and board and 50 per cent for textiles. It was expected that together with composting, this would deliver an overall rate of recycling and composting of 59 per cent of all household waste by 2000.[13]

In the United States, a study looking at citizens' response to recycling programmes showed that 71 per cent of respondents were recycling in excess of 95 per cent of newsprint, 62 per cent were recycling more than 95 per cent of glass bottles, 61 per cent were recycling more than 95 per cent of aluminium and 52 per cent were recycling more than 95 per cent of plastic bottles (sample size was 1448).[14] Given that for every material, no less than 18 per cent of respondents were also recycling between 11 and 95 per cent of that material, the recycling rates for all materials would almost certainly have been in excess of 50 per cent, possibly more.

Composting

Germany and Austria are both thought to be treating more than 10 per cent of what would otherwise be municipal waste through home composting alone.

In the Netherlands, participation rates in source separation of organic materials are estimated at close to 100 per cent (participation is not obligatory but provision of the service is). In Austria, households are

required to compost at home, or set out all compostables for separate collection. Well in excess of 60 per cent of organic material is composted, either centrally or at home. Other countries and regions believed to be composting in excess of 60 per cent of the putrescible fraction are Germany, Flanders in Belgium, Denmark and the Netherlands.

Conclusion

All of this suggests that current estimated capture rates in the UK are far too low. It would be possible, today, to separately collect in excess of 60 per cent of municipal waste for recycling and composting (certainly, the maximum attainable would be in excess of this figure). In the longer-term, dynamic changes in industrial design, partly responding to producer responsibility, suggest that higher rates will be achievable and, as shown above, several countries are setting objectives with high capture rates in mind.

References

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13: AOO (1995) Programme on Separate Collection of Household Waste, Waste Management Council, April 1995.

14: Robin Jenkins, Salvador Martinez, Karen Palmer and Michael Podolsky (1999) The Determinants of Household Recycling: A Material Specific Analysis of Unit Pricing and Recycling Program Attributes, Discussion Paper 99-41, May 1999, Washington DC: Resources for the Future.

Appendix 4: Terms of reference

This report was produced for the Waste Recycling Investigative Committee of the London Assembly (the Committee) in a scrutiny review designed to explore the wide variations of recycling rates achieved by London boroughs, determine the barriers to greater recycling by the public and others, and identify solutions. The tasks carried out by consultants in supporting the Scrutiny Review were to:

- Gather data on the costs and the performance of recycling by the London boroughs.
- Identify six boroughs, representing a cross section of housing types, socio-economic make-up and recycling infrastructure.
- Make arrangements for the Committee to visit the six boroughs to view recycling and related operations.
- Provide briefings and questions for the Committee in discussions with members, officers, contractors, operatives and others during the visits to the six boroughs.
- Identify representatives of further boroughs and experts from the waste management industry, government departments and agencies, community organisations, environmental groups and others to take part in a programme of four hearings aimed at identifying barriers to greater recycling.
- Provide the Committee with briefings and questions to facilitate the four hearings.
- Contribute to a report on barriers to greater recycling and recommendations on means of overcoming the barriers.

The focus of the review was on household waste together with the related issues of composting and waste minimisation. Clinical waste, for example, or any other specialised form of waste was not covered in this review. The non-household component of municipal waste was only considered to the extent necessary to isolate data on the household waste component.

This report was produced by means of desk research, from evidence gathered in visits to six London boroughs and in hearings with expert witnesses.

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Julie Tallentire	Environmental Development Manager, Southwark
Martin Easteal	Essex Consortium of Waste Collection Authorities
Bob Read	Head of Waste Management, Kensington and Chelsea LBC
Kate Radford	Recycling Officer, Hounslow LBC
Cllr. Nick Dolezal	ALG
David Streeter	Director of Environmental and Operational Services, Richmond-upon-Thames, and Waste adviser to ALG
Christopher Lee	Environmental Policy Officer, ALG

From Lambeth

Cllr. Paul McGlone	Executive Councillor for Strategy and Performance
Niall Bolger	Head of Environment Management and Development
Jason Searles	Sustainable Wastes Manager

From Lewisham

Rachel Goldsmith	Waste Initiatives Manager
Kevin Moore	Service Policy and Partnerships Manager
Conrad Young	Head of Environmental Sustainability

From Newham

Cllr. John Saunders	Cabinet Member for Environment
Malcolm Smith	Director of Environment
Peter Gay	Acting Group Leader(Environmental Services)

From Havering

Cllr. Jean Mitchell	Lead Member for Environment
Heather Bonfield	Executive Director of Environment and Enterprise
Tracey Lee	Head of StreetCare

Glossary

Abbreviations used in this report

Abbreviation	Meaning
ALG	Association of Local Government, formed in 1995 to represent the interests of the 33 London Councils and the London Fire and Civil Defence Authority.
BMW	Biodegradable Municipal Waste
BRAG	Brentford Recycling Action Group – a community non-profit group set up by local people to raise awareness and promote recycling within the community
BVPI	Best Value Performance Indicator
CIEH	Chartered Institute of Environmental Health – formed in 1883, is a professional and educational body dedicated to promoting environmental health and encouraging high standards in the training and work of environmental health professionals
CRISP	Community Recycling in Southwark Project – set up in 1993 with the support of Southwark Council and voluntary organisations to facilitate waste minimisation projects
CRN	Community Recycling Network
Community Repaint	A waste minimisation and re-use initiative to divert unwanted surplus paint from homes, trade decorators, etc, for re-use by community groups, charities and voluntary organisations.
CWA	Community Waste Action – national project developed by the Recycling Consortium, a not-for-profit alliance of community enterprises and consultancy bodies in the Bristol and Bath areas
DETR	Department for Environment, Transport and the Regions
ECT Recycling	Recycling Ealing Community Recycling – the largest not-for-profit household waste recycling collection contractor in the UK
Entrust	The trading name of the Environmental Trust Scheme Regulatory Body Limited – the private sector not-for-profit company, limited by guarantee, which is approved by Customs & Excise as the sole regulator of the landfill tax credit scheme

FBs	The four Functional Bodies of the family; Transport for London, (TfL), the London Development Agency (LDA), the Metropolitan Police Authority, (MPA) and the London Fire and Emergency Planning Authority (LFEPA)
Fly ash	The finely divided byproduct from the combustion of coal, collected by electrostatic precipitations from flue gases in chimneys in incinerators
FoE	Friends of the Earth – national environmental campaigning organisation; some of its first campaigns were on waste recycling issues
GLE	Greater London Enterprise
HCR	Hackney Community Recycling – not-for-profit organisation concentrating mainly on recycling furniture and promoting educational activities
INCPEN	Industry Council for Packaging and the Environment
IWM	Institute of Wastes Management – the leading professional body, mainly in the UK but also has membership overseas
IWS	Islington Waste Saver – kerbside recycling collection operator who are currently developing a waste collection scheme for high rise flats
LACOTS	Local Authority Committee for Trading Standards
LCR	Lambeth Community Recycling – a subsidiary of ECT Recycling, operating in Lambeth
LPAC	London Planning Advisory Committee, set up in 1986 to provide advice to London boroughs and Government on planning and transportation issues, its staff and resources were absorbed into the GLA on 1 April 2000
LWA	London Waste Action
MRF	Materials Reclamation Facility, usually based at Council depots

MSW	Municipal Solid Waste
NOF	New Opportunities Fund, part of Lottery funding available to be bid for by community groups
OFFERS	Office Furniture Fittings and Equipment Recycling Scheme – based in Southwark and part-funded by the DETR, it aims to collect and supply re-used and recycled office furniture, fittings and equipment donated by businesses and organisations from the public and private sectors.
PFI	Public Finance Initiative
PRN	Packaging Recovery Notes
Recoup	Recycling Of Used Plastic Containers – set up in 1989 to promote and facilitate household plastic container recycling in the UK and to overcome technical and economic barriers to growth
Remade	Recyclables and Market Development – a scheme, based in the Thames Gateway area, mainly funded through the Single Regeneration Budget, aiming to stimulate more demand for recyclable material
SEED	Social, Economic and Environmental Development – a scheme awarding grants of up to £50,000 each to support social, economic and environmental development. The programme, administered through the Royal Society for Nature Conservation, will support a wide range of projects, including some on waste management.
SMEs	Small and medium sized enterprises
SRB	Single Regeneration Budget
The Committee	The GLA Waste Recycling Investigative Committee
WCA	Waste Collection Authority – all 33 London Councils are WCAs
WDA	Waste Disposal Authority – there are 16 WDAs in London
WEN	Women's Environmental Network (National)
WRAP	Waste and Resources Action Programme

Members of the Waste Recycling Investigative Committee

Samantha Heath (Chair)

Victor Anderson

Louise Bloom

Roger Evans

Nicky Gavron

Elizabeth Howlett

Greater London Authority
Romney House
Marsham Street
London SW1P 3PY
www.london.gov.uk
Enquiries **020 7983 4100**
Minicom **020 7983 4458**