

This Joint Municipal Waste Management Strategy (the Strategy) covers the West London Waste Authority area, encompassing the Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow, and Richmond upon Thames (Richmond). The West London Waste Authority (WLWA) and constituent Boroughs must produce a Strategy by law. The purpose of which is to set out how the authorities intend to manage municipal solid waste arisings between 2005 and 2020.

The Strategy should, in simple terms, answer three questions:

- where are we now?
- where do we want to be and when? and
- how do we get there?

This document provides a summary of the policies of the authorities with regard to the Strategy and is supported by a number of Annexes and technical reports which explain how and why these policies have been formulated and how they will be implemented. Together, they form West London's Strategy.

The Annexes:

- *Annex A* explains how the Strategy has been developed;
- *Annex B* reviews current waste management in West London and requirements for how waste should be managed;
- *Annex C* provides a summary of regional and local policies within which the Strategy must fit; and
- *Annex D* provides Action Plans for how the Strategy will be implemented and an assessment of the risks likely to be encountered.

Four technical reports are appended to the Strategy:

- Technical Report 1 provides the baseline assessment;
- Technical Report 2 provides a review of waste reduction and reuse options;
- Technical Report 3 provides a review of recycling and composting options; and
- Technical Report 4 provides a review of residual waste options.

West London needs to change the way it manages its waste. Like most other areas in the country, West London has relied upon disposing most of its waste in landfills until very recently. This now needs to change. Amongst other legal requirements, authorities must now meet statutory recycling and composting standards for waste from households by 2006 and must progressively reduce the amount of biodegradable municipal waste (BMW) landfilled each year between 2005 and 2020. This legislation will help reduce the impacts that waste has on our environment.

There are also sound financial arguments why more waste reduction, recycling, composting and recovery is needed. The amount of waste to be managed and the speed with which this grows has a major influence on cost. Reducing growth in waste will help to minimise costs. Further, the cost of disposing waste in landfills is rising year on year. The tax on landfilling waste alone is likely to almost double in the next six years and the penalty for not diverting sufficient amounts of BMW from landfill will be around £150 per tonne over the permitted amount. Measures to reduce the amount of waste arising and to divert material from landfill can be seen as investments which have the potential to save money over the medium to long term.

2.1

HOW HAS THE STRATEGY BEEN DEVELOPED?

The Strategy has been developed by the WLWA and the six constituent London Boroughs, working together to produce a joint way forward. Local people were consulted during its development through a waste forum and a community panel. Specific stakeholders such as contractors, local environmental groups and the Greater London Authority were also involved in the process (see *Annex A* for details). To ensure that the Strategy is workable and appropriate, local planning officers and finance officers have been involved in determining the Strategy and elected members were involved throughout the process.

Developing the Strategy involved the examination of a variety of different options for waste reduction and reuse, recycling and composting and residual waste. These were based on assumptions of how waste would grow in future. *Annex B* provides further details. Local people, specific stakeholders and elected members were engaged in determining criteria and in reviewing the results from these three studies. Technical reports summarising the outputs of the studies have been appended to the Strategy. The environmental impacts of residual waste options assessed have been assessed for the short and long term.

Decisions have been taken to seek the best environmental outcome taking account of what is feasible and what is an acceptable cost. This statement and appended Action Plans summarise these decisions. It is intended that this Strategy provides a framework for managing wastes in the future and remains flexible to change. It is also intended that a co-ordinated approach to the challenges of waste reduction and reuse should be pursued, working with the ALG and the Mayor of London.

2.2 ENVIRONMENTAL APPRAISAL OF OPTIONS

The preparation of the Strategy included an appraisal of options for the management of residual waste that is entirely consistent with the concept of the Best Practicable Environmental Option (BPEO) as laid out in Waste Strategy 2000. The appraisal is included in *Technical Report 4*. As the Strategy development process started before 21st July 2004 and as the West London authorities intend to adopt the strategy before 21st July 2006, the document will not be subject to Strategic Environmental Assessment (SEA). The appraisal of options within the Strategy is, however, largely consistent with a formal SEA as it reports on environmental impacts of proposals within the context of sustainable development; examines alternative options; builds in consultation with local communities; and demonstrates, in the final report, how consultation responses have been taken into account. Further information on SEA is provided in *Annex A*.

The West London Boroughs are collaborating on a Joint Waste Development Plan Document (JWDPD) for all waste streams, including municipal solid waste (MSW). In accordance with Planning Policy Statement 10: Sustainable Waste Management (PPS10) the JWDPD will draw on the Strategy for options for MSW management. The JWDPD will be subjected to a Sustainability Appraisal/SEA in due course. It is the Strategy's intention to make available to this process as much information as possible concerning the impact of the Strategy's proposals, including the appraisal of options in the *technical reports*.

2.3 WHAT WASTES DOES THE STRATEGY COVER?

The Strategy addresses all of the waste arisings within the WLWA area that come under the heading of 'municipal solid waste' (MSW). This includes waste produced by households, as well as trade wastes, fly-tipped materials and abandoned vehicles.

West London's Strategy has been based on sound data and analysis for the latest year for which complete data are available (financial year 2004/5). A detailed review of West London's current waste management practices and performance is provided in *Annex B*.

The WLWA area collected some 826 000 tonnes of MSW in the financial year 2004/5. Around one sixth of the waste collected was recycled and composted, with remaining material being landfilled. *Table 3.1* summarises waste arisings in West London.

Table 3.1 *Summary of Arisings & Waste Management 2004/05**

	Brent	Ealing	Harrow	Hilling- don	Hounslow	Richmond	WLWA
Municipal waste ('000 tonnes)	131	164	122	157	140	112	826
Household waste ('000 tonnes)	117	144	106	131	107	86	691
Waste generated per household (kg/hhld)	1 121	1 201	1 272	1 295	1 186	1 087	1195
Household waste recycling rate (%)	14.3	14.0	18.8	27.3	17.4	24.4	20.06

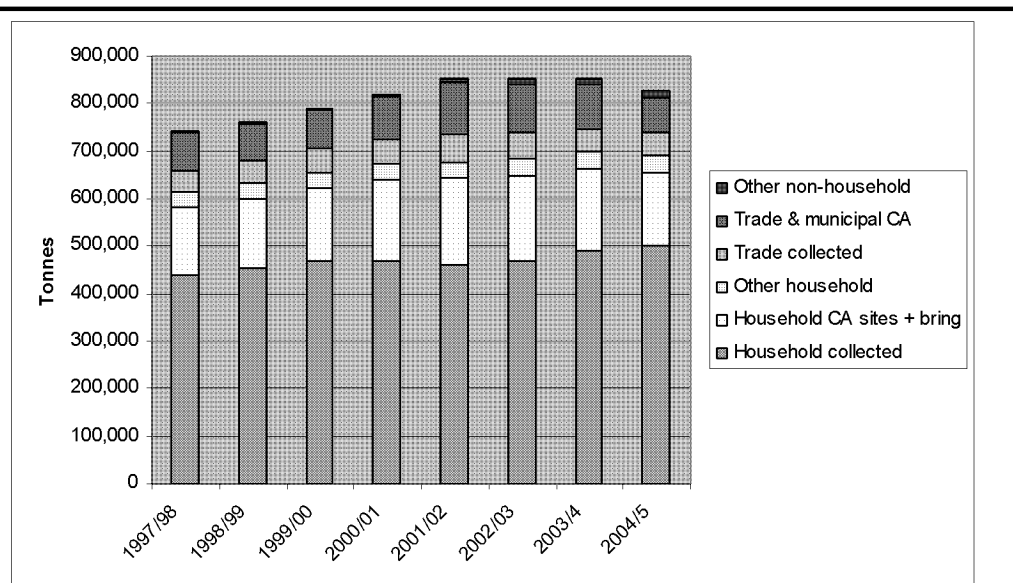
*Arisings and performance data updated as of 24 August 2005, information derived from West London's Matrix C

3.1

TRENDS IN WASTE ARISING

Figure 3.1 shows how municipal waste arisings in West London increased up to 2001/2 and have decreased in the last four years. This decrease reflects a decrease in civic amenity (CA) site and non-household waste arisings and has occurred despite the underlying increase in household waste collections shown in the figure. It is thought unlikely that this decrease will continue in future, without targeted waste reduction and reuse programmes.

Figure 3.1 Arisings of Municipal Waste between 1997/8 and 2004/5

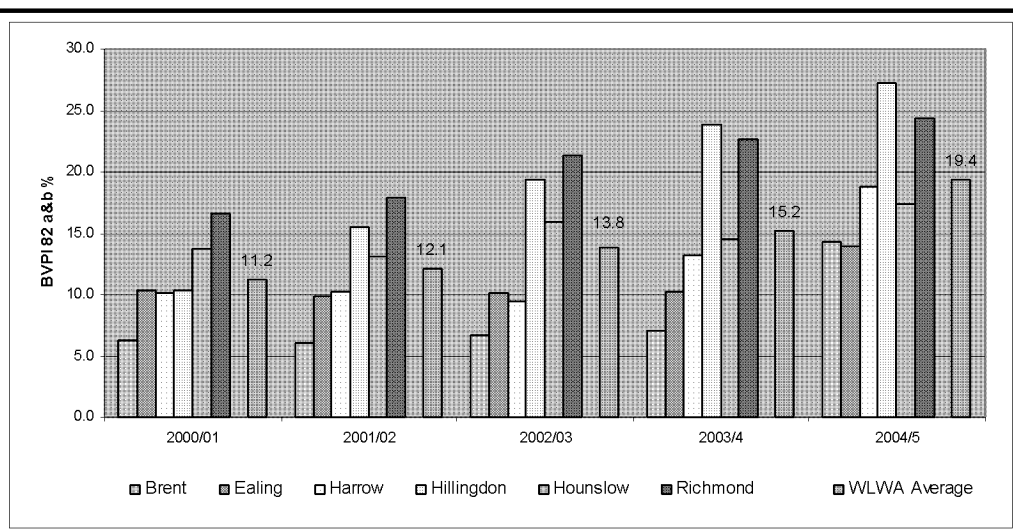


'Other non-household' wastes include fly-tipped waste and other, uncategorised MSW. 'Other household' wastes include special (bulky) waste collections, street sweepings and litter and clinical waste.

3.2 RECYCLING & COMPOSTING PERFORMANCE

Of the 699 000 tonnes of waste collected from households alone in 2003/4, some 17% was recycled or composted, just below the statutory performance standard of 18% for 2003/4, but a significant increase from the 11% recycling rate in 2000/1. Figure 3.2 shows how recycling and composting rates have increased across all West London authorities in the last five years.

Figure 3.2 Household Waste Recycling and Composting 2004/5



Services for the collection of a number of different materials, including recyclable or compostable materials, hazardous waste, end-of-life vehicles and electrical goods are provided across WLWA (*Annex B*). *Table 3.2* outlines the collection system operated by each constituent Borough.

Table 3.2 *Constituent Boroughs' Waste Collection Infrastructure*

Borough	Details of Collections		
	Residual	Recyclables	Organic
Brent	Wheeled bin	Green Box	Wheeled Bin & degradable bags
	Weekly	Weekly	Fortnightly
Ealing	Black sack	Green box	Degradable bag
	Weekly	Weekly	Fortnightly (Seasonal)
Harrow	Wheeled bin	Green box	Wheeled bin
	Weekly	Fortnightly	Fortnightly
Hillingdon	Black sack	Clear plastic sack	Plastic sack
	Weekly	Weekly	Fortnightly
Hounslow	Black sack	Green box	Degradable bags
	Weekly	Weekly	Weekly (Seasonal)
Richmond	Black sack	Black box	Degradable bags / 240l bin
	Weekly	Weekly	By appointment

Refer to annexes for further information on each Borough's collection system.

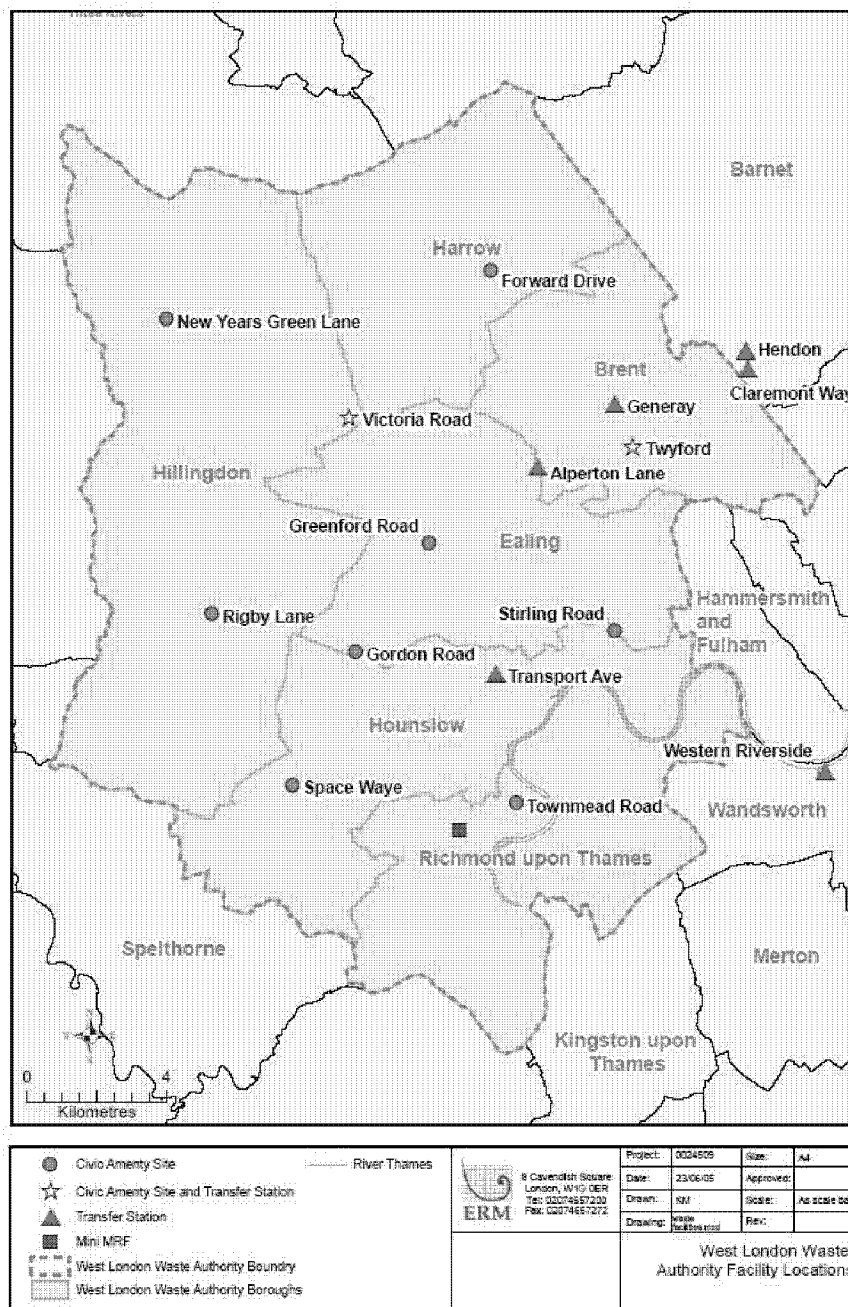
In terms of waste transfer and disposal, in 2004/5,

- **76% (412 000 tonnes)** was delivered to two rail transfer stations which WLWA operate at Transport Avenue, Brentford, and Victoria Road, South Ruislip.
- **8% (43 000 tonnes)** was distributed between the Authority's Twyford transfer station and the Boroughs' CA sites.
- **14% (76 000 tonnes)** was delivered to private sector operated transfer stations at which WLWA has arrangements. And just over 1% (7,000 tonnes) was delivered to West London Composting Ltd's newly opened facility at Harefield.

In addition to the waste delivered by the constituent Boroughs, WLWA's three transfer stations also received a total of 23 000 tonnes of commercial waste, which was delivered for disposal by the private sector.

Figure 3.3 shows the location of key waste management facilities within West London. This shows that there are limited existing facilities for managing West London's waste by recycling, composting or solutions that do not involve transfer of waste to landfills outside the capital.

Figure 3.3 Location of Waste Facilities in West London



In line with sustainable development, the West London Waste Authority and the London Boroughs of Brent, Ealing, Harrow, Hounslow, Hillingdon and Richmond-upon-Thames are committed to changing the way waste is managed. The authorities' objectives are to:

1. manage waste in accordance with the waste hierarchy: reduce waste first, then reuse, recycle and compost resources, then recover energy and, as a last resort, dispose of waste ;
2. manage waste at the nearest appropriate facility by the most appropriate method or technology;
3. make changes to the way waste is managed now to prevent environmental degradation, rather than postpone decisions;
4. manage waste in a way that protects human health and the environment;
5. manage waste in a way that meets the needs of West London's population now without compromising the ability of future generations to meet their own needs;
6. deliver services that offer value for money, not necessarily the cheapest service;
7. develop flexible services, so that new technological developments and legal requirements can be incorporated;
8. minimise the costs of waste management while complying with legislative requirements;
9. exceed performance required by current targets, to reduce the risk of failure and to put in systems that allow West London to be ahead of the game;
10. work together to develop coordinated services and infrastructure for waste collection, treatment, transfer and disposal and to share the costs and rewards of implementing the strategy; and
11. work together to encourage waste reduction and reuse initiatives within the wider community.

4.1***POLICIES***

This section sets out the policies formulated for the purposes of the Strategy. A separate document sets out Action Plans for achieving the Strategy objectives and meeting these.

By law, the West London authorities need to consider the guidance of the Secretary of State and the Mayor of London's Municipal Waste Management Strategy in preparing policies for their Strategy. Currently, this means taking account of Waste Strategy 2000 (as revised July 2005), consultation guidance

on preparing strategies, PPS10 and Rethinking Rubbish in London. These documents are changing, however, and any future policy development will need to take account of revisions (particularly to the national and London waste strategies) and anticipated guidance on preparing waste strategies.

Compliance with National Legislation

Current and future policy development should also take account of other national, regional and local guidance and the Best Value Performance Plans and Corporate Plans, Aims, Objectives and Strategies of all the authorities. *Annex A* explains how this has been incorporated into the current Strategy.

Policy 1: Current and future policy development will have regard to the National and Mayor of London's Municipal Waste Management Strategies and other relevant national, regional and local guidance.

Waste reduction and reuse

Waste reduction and reuse is at the top of the waste hierarchy. By reducing waste and reusing materials, the authorities will reduce the overall cost of waste management and help to achieve statutory requirements. In the past, waste reduction and reuse has not had a sufficiently high profile and therefore it is important that the Strategy provides a commitment to prioritise these activities.

Policy 2: West London Waste Authority and its constituent Boroughs will prioritise waste reduction and waste reuse.

Recycling & Composting

Though the authorities are performing relatively well in terms of recycling and composting (17% of household waste in 2003/4), more needs to be done. There are statutory targets to achieve 27% recycling and composting locally by 2005/6. Nationally, there are targets to achieve 30% household waste recycling and composting by 2010 and 33% by 2015. In London the Mayor aspires to higher targets for recycling and composting and considers they can be achieved in the longer term.

The authorities have agreed to set a challenging target for recycling: to recycle half the municipal waste arising by 2020. These targets are placed on all waste (municipal, including some commercial) collected by the Boroughs, rather than just waste produced from households. Interim targets to achieve these aims are set out in the Action Plans.

Policy 3: Jointly, the West London Waste Authority and constituent Boroughs will aim to recycle and compost at least:

- 28% of municipal waste by 2006/7;
- 40% of municipal waste by 2010; and
- 50% of municipal waste by 2020.

These targets will aim to be reached from a base of meeting statutory

performance standards for household waste recycling and composting in each authority by April 2006. The Action Plans will set intermediate targets.

The Mayor's Municipal Waste Management Strategy proposes that authorities provide all households with a collection of three materials for recycling. The Household Waste Recycling Act requires two materials to be collected separately by 2010. To deliver high levels of recycling, the West London waste authorities will aim to exceed this requirement and provide all households with recycling collections of at least four materials by 2008.

Policy 4: The collection authorities will serve all households with recycling collections of at least four materials by 2008.

Landfill

West London relies upon landfill to manage waste. The National and London waste strategies require authorities to recycle and recover more and landfill less. The authorities are also required, by law, to reduce the amount of biodegradable municipal waste sent to landfill by specific amounts each year. Authorities can choose to meet these requirements or to trade with other authorities who can divert more (using the Landfill Allowances Trading Scheme). The plan for how the West London authorities will meet these requirements (through recycling, composting, trading, residual waste treatment) is set out in the Action Plans.

Policy 5: West London Waste Authority and its constituent Boroughs will reduce biodegradable municipal waste landfilled with regard to the Landfill Allowance Trading Scheme.

Residual waste management

It is certain that the WLWA cannot meet the requirements for reducing biodegradable municipal waste landfilled through waste reduction, reuse, recycling and composting alone. A new way of managing remaining (residual) waste will be needed. In choosing and procuring the best option, or options, the authorities will keep the waste hierarchy in mind and will find an option that provides value for money and long term reliability.

Policy 6: West London Waste Authority and constituent Boroughs will seek a residual waste management solution in accordance with the waste hierarchy, that presents value for money and that offers reliability in the long term.

Other waste management services and streams

Other waste management services such as street cleaning, bulky waste management and trade waste collections will be managed in line with best value and provide customer satisfaction and meet legislative requirements. There are also requirements that West London need to meet for particular waste streams. These streams include hazardous waste, electronic equipment,

abandoned vehicles and clinical wastes. Separate Action Plans have been provided for these streams.

Policy 7: The West London Waste Authority and constituent Boroughs will seek to provide waste management services that offer good value, that provide customer satisfaction and that meet and exceed legislative requirements.

Sharing burdens

It is important that all the authorities work together to achieve the aims of the strategy and to ensure that burdens and rewards fall to authorities in an equitable manner.

Policy 8: The West London Waste Authority and constituent Boroughs will work together to achieve the aims of this strategy and are committed to share equitably the costs and rewards of achieving its aims.

5.1 HOW TO ACHIEVE OUR AIMS

The authorities recognise that major changes will need to be made in order to implement the objectives of the Strategy. A range of options for waste reduction and reuse, recycling and composting and residual waste treatment have been considered during the development of the Strategy. *Technical Reports 2-4* provide further detail on these analyses.

Changes to waste management in West London will be significant. In the short term, there will need to be a clear focus on tackling waste reduction and reuse and improving levels of recycling and composting. The Strategy encapsulates the waste management hierarchy and is underpinned by the desire to decouple economic growth from waste generation. Reduction and reuse initiatives that make a useful impact on reducing waste generated have been assessed and are already being explored and implemented by the Boroughs. The Strategy includes an ambitious timeline for the roll-out of new collections for recycling and composting material in order to meet obligations under LATS. It sets a target of 40% recycling and composting for 2010 that represents a significant challenge for the Boroughs. This demands substantial progress to be made towards this target year on year from 2005/06. The Action Plans in *Annex D* present the way forward for the implementation of collections across the Boroughs in the short-term, with decision points regarding further fundamental improvements such as the introduction of kitchen waste collections and a shift to fortnightly collections of residual waste. *Table 5.2* summarises the key elements of these plans.

Beyond 2010, and as LATS allowances reduce dramatically, a recycling and composting based Strategy will prove insufficient for WLWA to meet its obligations. Whilst the Strategy requires continued progress on raising recycling and composting rates towards a 2020 target of 50%, achievable rates will not be enough to prevent a LATS shortfall without a new residual treatment facilities becoming operational. The shortfall is likely to amount to approximately 150 000 tonnes of residual waste.

The appraisal of residual waste options ⁽¹⁾ shows that the options that offer the best performance and fit with the circumstances of WLWA are mechanical biological treatment (MBT) and energy from waste (EfW). New MBT and EfW facilities will take many years to implement, EfW longer so than MBT. It is extremely unlikely that any new plant, of a significant size, could be operational before 2010, and it could well be 2013 or later before capacity to divert residual waste from landfill comes on stream. This delay beyond the date at which the new contracts are let has significant implications for WLWA's LATS strategy. Options for bridging the gap include: the

(1) *Technical Report 4*

procurement of an interim small-scale MBT plant; procuring EfW capacity from outside the West London area; or paying LATS penalties/trading permits.

Table 5.1 provides a summary of the main costs, benefits and risks associated with the key options for residual waste management. Costs are indicative and are presented as aggregated figures over the Strategy time period.

Table 5.1 Indicative Costs, Benefits and Risks of Waste Management Options ⁽¹⁾

Long Term Option	Indicative Potential Cost (aggregated 2006-2020)	Indicative Avoided Cost (aggregated 2006-2020)	Principal Risks
<i>Baseline scenario – 'do nothing' ⁽²⁾</i>	<ul style="list-style-type: none"> • c £770 million baseline waste collection costs • c £480 million LATS fines • c £730 million landfill tax and gate fees 		<ul style="list-style-type: none"> • LATS penalties • Unknown market price for LATS permits
<i>High recycling, MBT long term treatment technology</i>	<ul style="list-style-type: none"> • c £750 000 promotion of reduction/reuse* • c £172 million rec/comp collection additional to baseline • c £170 million MBT gate fees (inc RDF disposal) • c £370 million landfill tax and gate fees 	<ul style="list-style-type: none"> • c £14 million avoided collection/disposal through reduction/reuse • c £480 million avoided LATS fines 	<ul style="list-style-type: none"> • Market for RDF • Large capacity requirement (approx 400ktpa)
<i>High recycling, EfW long term treatment technology</i>	<ul style="list-style-type: none"> • £750 000 promotion of reduction/reuse* • c £172 million rec/comp collection additional to baseline • c £75 million EfW gate fees • c £400 million landfill tax and gate fees (inc hazardous) 	<ul style="list-style-type: none"> • c £14 million avoided collection/disposal through reduction/reuse • c £480 million avoided LATS fines 	<ul style="list-style-type: none"> • Delivery of facility • Large capacity requirement (approx 240ktpa)
Interim Option	Indicative Cost (aggregated 2006-2013)	Indicative Avoided Cost (aggregated 2006-2013)	Principle Risks
<i>Procurement of small MBT plant</i>	<ul style="list-style-type: none"> • c £20 million MBT gate fees (inc RDF disposal) 	<ul style="list-style-type: none"> • c £15 million avoided LATS fines 	<ul style="list-style-type: none"> • Market for RDF
<i>Procurement of EfW capacity outside West London</i>	<ul style="list-style-type: none"> • c £6 million EfW gate fees 	<ul style="list-style-type: none"> • c £15 million avoided LATS fines 	<ul style="list-style-type: none"> • Availability of capacity on appropriate timescale
<i>LATS payment/trading in interim period</i>	<ul style="list-style-type: none"> • c £15 million LATS fines 		<ul style="list-style-type: none"> • LATS penalties • Unknown market price for LATS permits

*Based on the four options for reduction and reuse assessed (Technical Report 2)

(1) All cost assumptions can be found in *Technical Reports 2-4*.

(2) Based on 2003/04 figures for recycling and composting

The Strategy will therefore require an initial procurement of residual waste treatment and/or disposal capacity to bridge the LATS gap expected from 2010 – 2013 or thereabouts. The cushion that this will provide places WLWA in a position of strength with regard to the trading of LATS allowances, and creates a safety net in terms of diversion from landfill should one or more of the Boroughs be unable to match the demands of the recycling and composting based approach through until 2010. The initial procurement should use the same basis as a reference case as recommended for the main procurement for new contracts in 2008: MBT or EfW. *Annex D* and *Table 5.2* also provide information on the Strategy and decision points for residual waste management.

Table 5.2 *Summary of Plan for achieving Strategy Aims*

Date	Action
2005/6	<ul style="list-style-type: none"> • active promotion of waste reduction & reuse initiatives • improve efficiencies in existing recycling/composting services to meet BVPIs
2006/7 – 2009/10	<ul style="list-style-type: none"> • prepare detailed plans for achieving strategy aims • continue to promote waste reduction and reuse initiatives and improve participation • improve recycling and composting services to achieve 40% MSW recycling by 2010 • divert biodegradable municipal waste from landfill • secure residual treatment capacity to help meet requirements to reduce biodegradable municipal waste landfilled • use Landfill Allowance Trading Scheme (buy/borrow) to meet any shortfall between performance and required reduction in biodegradable municipal waste sent to landfill. • prepare new collection contracts (Brent, Hounslow) and new disposal contract (2008) to be consistent with the Strategy. • work to bring forward the date by which non-landfill residual waste treatment infrastructure can be secured. WLWA will not meet LATS after 2010 without this.
2009/10 – 2012/13	<ul style="list-style-type: none"> • continue to promote waste reduction and reuse • improve recycling and composting rates to achieve 43% MSW recycling by 2013 • continue to improve recycling and composting collection systems, through initiatives such as making recycling compulsory • recycling & composting strategy becomes insufficient to meet LATS • maintain capacity outside West London for residual waste treatment • construct / secure non-landfill residual waste treatment infrastructure
2012/13 – 2019/20	<ul style="list-style-type: none"> • improve recycling and composting rates to achieve 50% recycling by 2020 • dedicated residual waste treatment infrastructure is likely to become available by this date • sell landfill allowances to others

There is strong corporate support for making the actions within the Strategy happen. The changes required are being considered for inclusion in budgets for 2006/7. At the time of drafting the Strategy itself has not been adopted by all constituent Authorities, but is being submitted for approval.

By law (WET Act, section 32 (2)) the WLWA and constituent Boroughs are required to keep the policies formulated under the joint Municipal Waste Management Strategy under review. The authorities' plan for making this happen is to update the Action Plans each year as a minimum, at the same time as Best Value reviews are prepared. If the Action Plans no longer fit with the overarching Strategy, this will trigger a review of the high-level document.

At the latest, the overarching document will be revised in 2008, before the implementation of the new contract, in line with the Mayor's Municipal Waste Management Strategy and before the first key year (2009) for reducing biodegradable municipal waste landfilled. This revised document will be subject to Strategic Environmental Assessment. Thereafter, the Strategy will be reviewed every five years, or in line with revisions to the Mayor's Municipal Waste Management Strategy.

The Action Plans provide the next steps in Strategy development, further details of how progress against the Strategy will be measured and actions for how the authorities will maintain a close working relationship with local people and key stakeholders.

Appendix B

Policy and Partnerships

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Mike Nicholls
General Manager
West London Waste Authority
Mogden Works,
Mogden Lane,
Isleworth
TW7 7LP.

Our ref: AR
Your ref:
Date: 26 May 2006

Dear Mike

Re: West London Waste Authority area Joint Municipal Waste Strategy.

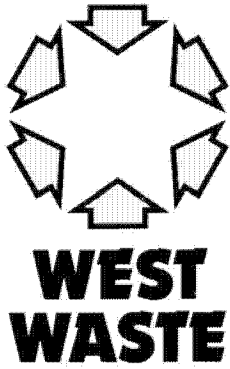
Further to our meeting of 13 April 2006 at which I agreed to send further comments on the areas that we did not discuss in the meeting, please find those comments and questions below;

- The Mayor's Municipal Waste Management Strategy has a number of Proposals that relate to Reuse and Recycling Centres (RRC). It would appear from your strategy that the West London Waste Authority (WLWA) constituent boroughs do not have a single approach to such things as hazardous waste acceptance at the sites. Will WLWA encourage consistency in RRC facilities across the area.
- Proposal 4 in the Mayor's strategy refers to waste data and the provision of it to the Mayor. The Mayor now gathers data from Waste Data Flow, can I take your comment that WLWA and the constituent boroughs will continue to provide data to the Mayor as a commitment to complete Waste Data Flow?
- Will WLWA be encouraging Harrow and Hillingdon to move to a weekly collection of recyclables?
- The constituent authority's policies on vehicle emissions and fuel type and usage are not consistent. Will WLWA encourage good practice and uniformity with regards to waste vehicles?

I look forward to receiving your comments on the above and to receiving your response to our discussions at the meeting of 13 April 2006.

Yours sincerely,

Andrew Richmond
Senior Policy Officer (Waste)
Greater London Authority



Appendix C1

West London Waste Authority

M. J. Nicholls
The Director

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Telephone 020 8847 5555
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Date 7 June 2006

Mr. Andrew Richmond
Senior Policy Officer (Waste)
Greater London Authority
City Hall
The Queens Walk
London SE1 2AA

Dear Andrew,

West London Waste Authority area draft Joint Municipal Waste Strategy

Thank you for your letter of 26 May 2006.

Attached are the extracts from our draft JMWS documents that relate to the matters that were raised at our meeting on 13 April 2006. Reflecting our discussions at the meeting, amendments have been made that I hope you will find satisfactory. The amended paragraphs/sections are highlighted in yellow. The revisions have been canvassed with all the constituent boroughs and have their assent.

In brief, the extract from Volume 1 has been amended to make it clearer that any future procurement will be technology neutral, and to show that the residual waste options appraisal in Volume 2 resulted in gasification being a very close runner-up to MBT & EfW. A reference to waste transport systems is also included. The extract from Volume 2 is the whole of the Technical Report 3 'Assessment of Options for Residual Waste Management' barring the Annexes. The amendments here address several points but the principal changes arise from the inclusion of a sensitivity analysis on compliance with policy in the Mayor's strategy to supplement the original analysis on compliance with national waste policy.

Returning to the additional points in your 26 May letter:

- **RRCs.** I believe the draft JMWS does show a good degree of consistency of approach at RRCs across the area, including the acceptance of a fair range of hazardous wastes and an area-wide provision for cement-bonded asbestos, and also a very substantial regard to the other Proposals relating to RRCs in the Mayor's strategy – very notably in acceptance of green waste for composting (Proposal 24) and in continuing to accept cross-boundary waste free of charge (Proposal 45). Moreover, in the last three years, the area overall has made first class progress with its RRCs - with one brand new major RRC opened and four existing RRCs substantially re-modelled and upgraded.

In terms of consistency in approach for future policy developments, the different sizes and configurations of sites unavoidably will present a practical constraint on what can be done everywhere, of course. And future planning is to some extent currently blighted by the delay in information about the way that the WEEE Directive will impact on RRCs. However, it has long been the aim of the seven authorities to keep RRC policy in step so far as possible, and discussion of RRC issues with a view to establishing a common approach is a regular feature at meetings of our monthly Constituent Engineers' Group.

- **Waste Data.** We are wholly at one with the Mayor on this since the UK has long suffered from poor and incomplete waste data. We were pleased when the Mayor first took the initiative in collecting the data for London. Notwithstanding WasteDataFlow's very considerable initial deficiencies, the Authority and the six constituent boroughs are completing it (not least because of the need for LATS reporting) and the data consequently will be available to the Mayor.
- **Weekly collections of recyclables.** The passage of time has resulted in this issue having been mostly overtaken by events. LB Hillingdon now does collect recyclables weekly borough-wide, and LB Harrow's borough-wide collections of compostables (garden, food, & cardboard) are to increase from fortnightly to weekly as from 3 July. Additionally, LB Harrow has just started a full review of its green box and waste bin collections, which will include reviewing the frequency of collections, and WLWA clearly will be in support of any change that will increase recycling levels.
- **Vehicle emissions etc.** Though policies across the seven authorities cannot be shown to be exactly the same at the moment, it nonetheless is the case that all do have this issue under consideration since all are aware of their individual statutory duties to have regard to Proposals 89, 90, and 91 in the Mayor's strategy and of the Mayor's expectations and powers in this regard in relation to any new waste contracts that may be let. Adding weight to this, of course, also is the very powerful incentive from Mayor's and TfL's proposal for a LEZ for London. Against this background, WLWA will be pleased to lend support to the need for all authorities to follow good practice in these matters.

As I say above, I hope you will find this response satisfactory. Please do not hesitate to contact me if you need anything further.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Mike Nicholls', with a horizontal line underneath.

Mike Nicholls
Director

Appendix C2

*West London Waste Authority area
Draft Joint Municipal Waste Management Strategy*

**Brent Ealing Harrow
Hillingdon Hounslow Richmond
West London Waste Authority**

Volume 1: Core Report

**Extract showing amendments proposed in June 2006
in response to matters raised by the Mayor's Office**

Note: New text insertions are shown in bold and underlined. Deleted text is shown in strikethrough.

5.1 HOW TO ACHIEVE OUR AIMS

The authorities recognise that major changes will need to be made in order to implement the objectives of the Strategy. A range of options for waste reduction and reuse, recycling and composting and residual waste treatment have been considered during the development of the Strategy. *Technical Reports 2-4* provide further detail on these analyses.

Changes to waste management in West London will be significant. In the short term, there will need to be a clear focus on tackling waste reduction and reuse and improving levels of recycling and composting. The Strategy encapsulates the waste management hierarchy and is underpinned by the desire to decouple economic growth from waste generation. Reduction and reuse initiatives that make a useful impact on reducing waste generated have been assessed and are already being explored and implemented by the Boroughs.

The Strategy includes an ambitious timeline for the roll-out of new collections for recycling and composting material in order to meet obligations under LATS. It sets a target of 40% recycling and composting for 2010 that represents a significant challenge for the Boroughs. This demands substantial progress to be made towards this target year on year from 2005/06. The Action Plans in *Annex D* present the way forward for the implementation of collections across the Boroughs in the short-term, with decision points regarding further fundamental improvements such as the introduction of kitchen waste collections and a shift to fortnightly collections of residual waste. *Table 5.2* summarises the key elements of these plans.

Beyond 2010, and as LATS allowances reduce dramatically, a recycling and composting based Strategy will prove insufficient for WLWA to meet its obligations. Whilst the Strategy requires continued progress on raising recycling and composting rates towards a 2020 target of 50%, achievable rates will not be enough to prevent a LATS shortfall without a new residual treatment facilities becoming operational. The shortfall is likely to amount to approximately 150 000 tonnes of residual waste.

The appraisal of residual waste options ⁽¹⁾ shows that the options that offer the best performance and fit with the circumstances of WLWA are mechanical biological treatment (MBT) and energy from waste (EfW), **with gasification offering a similar level of benefits. One of these technologies would be likely to be the basis of a reference case for procurement. In practice, the financial costs and technical details of bids would be expected to**

(1) *Technical Report 4*

vary from the results of the appraisal. Consequently, the procurement of residual waste management capacity would be 'technology-neutral'. This would allow bidders to bring forward any technology that could be demonstrated to offer a similar level of benefits to the reference case.

New MBT, EfW **or gasification** facilities will take many years to implement, EfW **and gasification** longer so than MBT. It is extremely unlikely that any new plant, of a significant size, could be operational before 2010, and it could well be 2013 or later before capacity to divert residual waste from landfill comes on stream. This delay beyond the date at which the new contracts are let has significant implications for WLWA's LATS strategy.

A two-stage procurement represents the best opportunity for bridging the gap between service provision and WLWA's LATS allowances. The first stage procurement would be technology-neutral, but its requirements would be likely to be fulfilled through either: an interim, small-scale facility that could become operational quickly; securing capacity at existing facilities able to serve the West London area; or paying LATS penalties/trading permits.

Options for bridging the gap include: the procurement of an interim small-scale MBT plant; procuring EfW capacity from outside the West London area; or paying LATS penalties/trading permits.—

5.2

WASTE TRANSPORT

Residual waste is currently transported from West London to landfill in Buckinghamshire and Oxfordshire by rail. The appraisal of residual waste options examined the transport impacts of more proximate, but hypothetical, sites, served by road, in order to demonstrate the benefits of a larger number of small facilities. In procurement, WLWA will encourage bids that, where practicable, preserve the rail transfer of wastes and that employ water transfer.

Table 5.1 provides a summary of the main costs, benefits and risks associated with the key options for residual waste management. Costs are indicative and are presented as aggregated figures over the Strategy time period.

Table 5.1 Indicative Costs, Benefits and Risks of Waste Management Options ⁽¹⁾

Long Term Option	Indicative Potential Cost (aggregated 2006-2020)	Indicative Avoided Cost (aggregated 2006-2020)	Principal Risks
<i>Baseline scenario – ‘do nothing’ ⁽²⁾</i>	<ul style="list-style-type: none"> • c £770 million baseline waste collection costs • c £480 million LATS fines • c £730 million landfill tax and gate fees 		<ul style="list-style-type: none"> • LATS penalties • Unknown market price for LATS permits
<i>High recycling, MBT long term treatment technology</i>	<ul style="list-style-type: none"> • c £750 000 promotion of reduction/reuse* • c £172 million rec/comp collection additional to baseline • c £170 million MBT gate fees (inc RDF disposal) • c £370 million landfill tax and gate fees 	<ul style="list-style-type: none"> • c £14 million avoided collection/disposal through reduction/reuse • c £480 million avoided LATS fines 	<ul style="list-style-type: none"> • Market for RDF • Large capacity requirement (approx 400ktpa)
<i>High recycling, EfW long term treatment technology</i>	<ul style="list-style-type: none"> • £750 000 promotion of reduction/reuse* • c £172 million rec/comp collection additional to baseline • c £75 million EfW gate fees • c £400 million landfill tax and gate fees (inc hazardous) 	<ul style="list-style-type: none"> • c £14 million avoided collection/disposal through reduction/reuse • c £480 million avoided LATS fines 	<ul style="list-style-type: none"> • Delivery of facility • Large capacity requirement (approx 240ktpa)
Interim Option	Indicative Cost (aggregated 2006-2013)	Indicative Avoided Cost (aggregated 2006-2013)	Principal Risks
<i>Procurement of small MBT plant</i>	<ul style="list-style-type: none"> • c £20 million MBT gate fees (inc RDF disposal) 	<ul style="list-style-type: none"> • c £15 million avoided LATS fines 	<ul style="list-style-type: none"> • Market for RDF
<i>Procurement of EfW capacity outside West London</i>	<ul style="list-style-type: none"> • c £6 million EfW gate fees 	<ul style="list-style-type: none"> • c £15 million avoided LATS fines 	<ul style="list-style-type: none"> • Availability of capacity on appropriate timescale
<i>LATS payment/trading in interim period</i>	<ul style="list-style-type: none"> • c £15 million LATS fines 		<ul style="list-style-type: none"> • LATS penalties • Unknown market price for LATS permits

*Based on the four options for reduction and reuse assessed (Technical Report 2). **It should be noted that the benefits of gasification were shown in the appraisal of residual waste options to be only slightly less than those of EfW. In procurement both of long term and of interim options, gasification might substitute for EfW.**

The Strategy will therefore require an initial procurement of residual waste treatment and/or disposal capacity to bridge the LATS gap expected from 2010 – 2013 or thereabouts. The cushion that this will provide places WLWA in a position of strength with regard to the trading of LATS allowances, and creates a safety net in terms of diversion from landfill should one or more of the Boroughs be unable to match the demands of the recycling and composting based approach through until 2010. The initial procurement

(1) All cost assumptions can be found in *Technical Reports 2-4*.

(2) Based on 2003/04 figures for recycling and composting

should use the same basis as a reference case as recommended for the main procurement for new contracts in 2008: MBT, EfW **or gasification**. *Annex D* and *Table 5.2* also provide information on the Strategy and decision points for residual waste management.

Appendix C3

*West London Waste Authority area
Draft Joint Municipal Waste Management Strategy*

Brent Ealing Harrow

Hillingdon Hounslow Richmond

West London Waste Authority

Volume 2: Technical Reports

**Extract from Technical Report 3: Assessment of
Options for Residual Waste Management showing
amendments proposed in June 2006 in response to
matters raised by the Mayor's Office**

Note: No text has been deleted. New sections at 2.8 and 3.7 have been inserted. Other new text insertions are shown in bold and **underlined**.

1.3.2. Objectives and Performance Criteria

The assessment procedure requires that the performance of alternative options is assessed against key objectives, reflected through a range of criteria, in order to identify the option/s, that perform best overall. As well as environmental criteria, regard was also given to technology and financial costs, in order to ensure that proposals are practicable.

The Office of the Deputy Prime Minister's (ODPM) guidance on *Strategic Planning for Sustainable Waste Management* ⁽¹⁾ was used as the basis for criteria selection, with some modifications resulting from feedback gained at the first WLWA and Constituent Boroughs Waste Forum, held on 18th January 2005. As a result of consultation at the Waste Forum, it was considered that the following criteria were of less importance for a strategic appraisal and so were not used in the assessment:

- employment;
- visual impact; and
- local amenity.

Employment was not seen as a significant criterion because of the number of jobs likely to be secured through new residual waste facilities and because of the high rate of employment in West London. Visual impact was considered to be impracticable to assess at the strategic level for hypothetical facilities and without a site-specific context and a project design. Local amenity was also judged impracticable to assess without design details and a site-specific context. These criteria will be of importance in evaluating bids, when actual sites are known, and visual impact and local amenity will be significant issues in the determination of site-specific planning applications.

The selected criteria also reflect the Sustainability Criteria developed by the Mayor in the London Plan⁽²⁾ and that are likely to be used in drafting Sub-Regional Development Frameworks, local development plan documents, and when considering planning applications.

(1) Strategic Planning for Sustainable Waste Management 'Guidance on Option Development and Appraisal'. ODPM October 2002. Section 2, Page 20.

(2) London Plan (2004), Policy 2A.1 Sustainability criteria

Table 3.1

Brief Description of Waste Treatment Technologies

Technology	Description
Anaerobic Digestion (AD)	Anaerobic digestion is undertaken in conditions that encourage the natural breakdown of organic matter by bacteria in the absence of air. The process generates a biogas that is rich in methane and carbon dioxide, and that can be used as a source of renewable energy to meet on-site power and process heat requirements. Depending on the feedstock used, a digestate can also be produced, which may contain valuable nutrients. After a process of aeration and maturation it can often be used as compost. However, if it is not of a suitable standard, this will require disposal to landfill.
Mechanical Biological Treatment (MBT)	MBT systems involve a combination of the mechanical sorting of materials for recycling and the biological treatment of biodegradable material in residual waste. It is a treatment technology rather than disposal, producing residues that must be managed at other facilities. Systems can be configured in a number of ways to deliver different outcomes. The aim will be to maximise the diversion of recyclable materials and to stabilise compostable materials or to separate a refuse derived fuel (RDF). The majority of material entering an MBT facility will leave either as a 'stabilised' residue that requires landfill, or as an RDF that will require combustion in a power station, cement kiln, incinerator or other suitable facility in order to recover energy.
Autoclaving	Autoclaving sterilises residual waste through the application of high temperature steam and 'cooks' biodegradable material to produce a biomass fibre. This is a treatment technology rather than disposal, producing residues that must be managed at other facilities. The process cleans metals and aids separation of plastics and heavy fractions to assist recycling. The fibre material may find use as a secondary material, particularly in building products and packaging, or may be used as a fuel for co-firing. The fibre could also be composted to use in remediation applications.
Gasification	Waste is shredded to give an appropriate surface-to-volume ratio and metals are removed. The process is divided into a primary chamber, where the gasification of the solid fuel takes place, and a secondary gas combustion chamber. The primary chamber is fed with waste and primary air, and is heated by an oil-heated grate. The slag discharged from the end of the grate is cooled in a water-basin. After the combustible gases have left the primary chamber, secondary air and re-circulated flue gas are added to obtain the desired combustion profile. Exhaust gases are cleaned prior to their release to atmosphere.
Energy from Waste (EfW)	There are a number of EfW technologies available. These methods include moving grate incineration, fluidised bed and rotary kiln incineration, pyrolysis and gasification. There are many operating conventional moving grate incinerators in the UK and Europe. There are a smaller number of fluidised bed facilities, including the Dundee & Allington plant (under construction), and a rotary kiln facility in Grimsby. All of these technologies are designed to generate power, and often heat, through the combustion of waste or a synthetic fuel. <u>For this assessment of residual waste management options, EfW was taken to be moving grate incineration.</u>

2.3.1

Resource Depletion

Methods and Assumptions Used

WISARD ⁽¹⁾ determines non-renewable resource depletion as the 'Abiotic Depletion Factor' (ADF) for the extraction of individual minerals and fossil fuels. This is based on concentration reserves and rate of de-accumulation, and expresses the results in 'kg antimony equivalents/kg extraction'.

For this study, we have simplified the process by assessing the depletion of coal, natural gas and crude oil as proxies for the ADF. Since these are the major resources affected by the options assessed, it is assumed that this represents a valid means of performing the analysis. **Many previous assessments of resource depletion impacts associated with waste management have looked at a wider range of issues, but indicate that these contribute most significantly to the ADF.**

2. 3.2

Air Pollution (Acidification)

Method and Assumptions Used

Extensive experience by ERM and others in assessing the acidification impact of integrated waste management processes has found SO₂ emissions to be the greatest contributor to the acidification impact, with NO_x emissions the second largest contributor ⁽²⁾. Both NO_x and SO₂ emissions are the result of combustion processes and the emission of one is considered an indicator for the presence of the other ⁽³⁾. When determining the contribution to acidification impact, 1kg of SO₂ has a greater acidifying impact than 1kg of NO_x ⁽⁴⁾.

Hence for this study, we have focused solely on SO₂ emissions as a proxy for all the acidifying gases. It is assumed that SO₂ emissions alone are satisfactorily indicative of the overall acidification potential of the options. **The importance of emissions of other acidifying gases, particularly NO_x, is not intended to be dismissed by virtue of this assumption. These gases will be strictly regulated as part of any PPC application.**

(1) **WISARD** is the Environment Agency's life cycle assessment software for waste management. Details of the **WISARD** software can be found in *Annex F*.

(2) Envirospire (January 2002) arc21 - Consultation Waste Management Plan

(3) <http://www.aeat.co.uk/netcen/airqual/naei/annreport/annrep99/index.htm> [05Jan05 @ 11:44]

(4) CML 2 Baseline 2000, Institute of Environmental Sciences (CML), University of Leiden, the Netherlands, 2000.

2.2.4 Emissions which are Injurious to Public Health

Box 3.3 Health Impact Technology Assumptions

Autoclaving:	Autoclaving is a sterilisation process, neither biological (MBT) nor combustion (incineration). It has been assumed that the health effects of autoclaving are similar to those of anaerobic digestion, and those figures have been used. ¹
Composting:	Given that the release of bioaerosols from composting plants can be an issue, it has been decided to assign to composting the higher of the impacts in each category from the most similar processes, MBT and anaerobic digestion. ¹
Landfill:	Data is given on six different landfill types, using flares or engines at small, medium and large sites. A typical value has been deduced by averaging the impacts from medium-sized flare and medium-sized engine landfill sites.
Cement Kiln:	A number of the options send RDF from MBT or autoclaving processes to a cement kiln. This is outside the remit of the Defra study, so we have assumed that impacts from a cement kiln are similar to those from an EfW facility. ¹

¹ Please note that, where, due to missing data, impacts have been assumed to be the same as those of another technology, the transfer is made on the basis of the number of tonnes of waste treated. Tonnages treated may vary between technologies.

2.2.7 Total Road Kilometres

Currently, residual wastes from West London are transferred to rail for transport to landfill in Buckinghamshire and Oxfordshire. This appraisal examines a hypothetical set of options assumed to be located in West London, and, as a result, road transport distances are used as a means of discriminating between the impacts of larger numbers of small facilities and small numbers of larger ones. In a procurement, WLWA will seek, if practicable, to preserve rail transfer, and to encourage transfer by water where this is appropriate.

The total expected road distance travelled in each option has been calculated. These figures can give an indication of the local transport impacts associated with each option, for example, road traffic congestion and accidents.

2.2.8 Financial Costs

A problem commonly associated with data on the financial costs of waste management activities is the acquisition of detailed, reliable and up-to-date information, and the necessity of relying on small and dated data sets in forecasting future costs. In addition, some technologies are not as well established as others, resulting in additional difficulties in making accurate cost predictions. Another significant barrier is that this information is often commercially sensitive and so not readily available. Assumptions underpinning the estimation of financial costs in this assessment can be found in *Annex E*.

This analysis of financial costs is intended to be an indicative snapshot for the purposes of informing the Strategy, and is unlikely to be entirely characteristic of the costs that are put forward in tenders. A large number of factors will influence prices tendered in due course, including competitiveness, experience with new technologies and the development of markets for secondary products and fuels.

2.2.10 *Compliance with Waste Policy*

This criterion assesses the ability of each of the options to manage waste in accordance with UK waste policy. Nevertheless, key constraints were established during the initial development of options to ensure that each of the options complies with the statutory LATS targets and meets, or exceeds, statutory BVPI targets. As such, these requirements have been excluded from the assessment of this criterion.

In *Waste Strategy 2000*, the government suggests that the principle of the waste hierarchy should be embraced. The waste hierarchy seeks to promote an integrated approach to waste management. It reflects the fact that the best option for dealing with waste is to reduce the amount created, followed by re-use and then recovery, which includes recycling, composting and EfW. Only when these options have been exhausted should waste be disposed of to landfill. The aim is to move up the hierarchy to ensure better environmental protection and meet statutory targets.

The policy in the Mayor's Municipal Waste Management Strategy (MMWMS) promotes other forms of recovery above EfW. The effect of using this interpretation of the waste hierarchy has been examined in a sensitivity analysis which is reported in Section 2.8.

2.5 *Step 6 - Evaluate and Rank the Options*

The weight set shown in *Error! Reference source not found.* has been applied to the valued performance data presented in *Error! Reference source not found.* In doing so, the relative importance of the assessment criteria is accounted for, and the weighted valued performance can be totalled to yield a total weighted value for each option.

A set of results from this process is presented in *Error! Reference source not found.* This employs the weights derived from the combined Community Panel and Officer weight set. In the final row, the total weighted valued performance is shown. The higher the number, the higher the overall performance of an option.

The table indicates that, for this set of weights, MBT (option 5) is identified as the highest scoring technology option, followed by EfW (option 4). It should be noted that there is very little difference between the weighted scores for these two options, however. Gasification (option 2) also performs well in the assessment, **with little difference between this option and the other two front-runners. The other options perform much less well.**

The assessment has also concluded that a larger facility may be beneficial to a number of small/ medium sized facilities, as option 7, with multiple MBT plants, performs the least well of the three MBT options. Criteria covering issues of economies of scale, reliability of delivery and environmental performance influenced this conclusion.

2.8 *Sensitivity Analysis – Compliance with Policy in the Mayor’s Municipal Waste Management Strategy* (Note: the whole of this 2.8 section that follows is new. The original 2.8 in consequence has been renumbered 2.9)

2.8.1 *Introduction*

In *Section 2.2.10*, each of the options was assessed in terms of compliance with waste policy. Performance against this criterion was assessed in terms of the extent to which waste was managed in accordance with national waste policy as set out in *Waste Strategy 2000*, through adherence to the principle of the waste hierarchy.

The *Mayor’s Municipal Waste Management Strategy (MMWMS)* ⁽¹⁾ also suggests that the waste hierarchy should be embraced. However, it places a slightly different emphasis on EfW, which is less favoured than other forms of recovery, viz. gasification and anaerobic digestion. Accordingly, the results of assessing compliance with policy in the MMWMS will vary from those in *Section 2.2.10*.

This section describes a sensitivity analysis conducted to determine the impact of variation in policy on the results of the appraisal. An alternative scoring of management route to that shown in *Error! Reference source not found.*, consistent with the MMWMS, has been developed, as shown in *Table 2.42*. These scores have been used to determine the performance of each option. The only difference is the score accorded EfW.

(1) Mayor of London (2003) Rethinking Rubbish in London. The Mayor's Municipal Waste Management Strategy. Greater London Authority.

Table 2.42 *Ranking System for Waste Policy Criterion – MMWMS Sensitivity*

Waste treatment/disposal facility	Waste Strategy 2000 hierarchy score (as used in Table 2.20)	The Mayor's MWMS hierarchy score
Waste reduction & minimisation	5	5
Recycling & composting	4	4
Anaerobic digestion	3	3
Recovery	3	3
Gasification	3	3
Energy from waste	3	2
Landfill	1	1

2.8.2 *Method and Assumptions Used*

The method and assumptions used are as previously reported in *Section 2.2.10*.

The total quantities of waste managed by each technology for each option are as previously shown in *Table 2.21*.

Table 2.43 presents the performance scores for each option against compliance with waste policy in the MMWMS. The table can be compared with *Table 2.22*, where compliance was judged against the hierarchy in *Waste Strategy 2000*. The score for option 4, led by EfW, is the only one that changes.

The MBT options (5 and 6) employ treatment facilities that manage waste at the top of the waste hierarchy and have low volumes to landfill. As a result, these gain the highest overall rank (1). EfW and multi-plant MBT (options 4 and 7 respectively) score least well, with EfW dropping significantly from its rank of fourth when using compliance with policy in *Waste Strategy 2000*.

Table 2.43 *Compliance with Waste Policy to Determine Performance Score for MSW Options – MMWMS Sensitivity*

Waste technology	Option						
	1	2	3	4	5	6	7
Recycling/composting	242	195	214	195	210	210	208
Recovery	19	0	56	0	65	65	56
Gasification	0	76	0	0	0	0	0
Energy from waste	0	0	0	51	0	0	0
Landfill	33	26	28	26	26	26	29
Total	294	297	298	271	301	301	293
Rank	5	4	3	7	1	1	6

2.8.3

Step 4 - Value Performance

The reasons for assessing performance in terms of value, and the method by which this is achieved, are described in *Section 2.2*. *Table 2.44* shows the results of converting performance to value for the compliance with waste policy criterion for performance based both on *Waste Strategy 2000* and the MMWMS. The remainder of the performance of the options against the criteria is unchanged, and is reported in summary in *Table 2.26* and as value in *Table 2.27*. Under this sensitivity analysis, EfW offers a value of zero against this criterion.

Table 2.44 Alternative Technology Options - Value - MMWMS Sensitivity

Criterion	Option						
	1	2	3	4	5	6	7
Compliance with policy (Waste Strategy 2000)	0.13	0.47	0.60	0.47	1.00	1.00	0.00
Compliance with policy (Mayor's MWMS)	0.77	0.87	0.90	0.00	1.00	1.00	0.73

The process of valuing, evaluating and ranking the results of the appraisal was described in *Section 2.4* and *Section 2.5*. *Table 2.45* shows the weighted valued performance of the options under the sensitivity analysis. The weighted values in the table are the same as in *Table 2.29*, previously, with the exception of the values for compliance with waste policy.

Table 2.45 Weighted Valued Performance for Alternative Technology Options Using Combined Officer and Community Weight Set - MMWMS Sensitivity

Criterion	Option	Option	Option	Option	Option	Option	Option
	1	2	3	4	5	6	7
Depletion of resources	0.000	0.026	0.066	0.028	0.057	0.057	0.048
Air pollution (acidification)	0.000	0.062	0.068	0.019	0.083	0.083	0.071
Greenhouse gas emissions	0.000	0.021	0.082	0.023	0.057	0.057	0.045
Emissions which are injurious to public health	0.093	0.063	0.015	0.000	0.017	0.017	0.029
Landtake	0.000	0.032	0.044	0.047	0.044	0.038	0.012
Extent of water pollution	0.048	0.063	0.052	0.049	0.052	0.040	0.000
Total road kilometres	0.038	0.054	0.000	0.053	0.024	0.032	0.037
Financial cost	0.046	0.112	0.000	0.161	0.087	0.047	0.021
Reliability of delivery	0.113	0.075	0.075	0.151	0.113	0.057	0.000
Compliance with policy	0.087	0.098	0.102	0.000	0.113	0.113	0.083
Liability of end product	0.071	0.088	0.000	0.083	0.021	0.021	0.032
TOTAL							
Weighted Scores	0.50	0.69	0.50	0.61	0.67	0.56	0.38
Rank	6	1	5	3	2	4	7
Value	0.37	1.00	0.40	0.74	0.92	0.59	0.00

With this weight set, option 2, led by gasification, is demonstrated to offer the best mix of benefits to WLWA. MBT-led option 5 drops from first to

second place, whilst option4, led by EfW, drops to third. Option 2 overtakes option 5 because, by comparison with the poor performance of option 4 in the sensitivity analysis on compliance with waste policy, it gains significantly in terms of 'value', whilst option 5 remains the best performer against this criterion, and does not make any gain.

2.8.4 Step 7 - Analyse the Sensitivity of the Results

Previously, a number of different weight sets were applied to with the results of the sensitivity analysis shown in Section 2.6. Table 2.46 shows the effects of applying these weight sets to the valued results with the compliance with waste policy criterion based on the MMWMS. For ease of comparison, the results with this criterion based on Waste Strategy 2000 are also included in the table.

Table 2.46 Total Weighted Performance of Alternative Technology Options Using Different Weight Sets - MMWMS Sensitivity

Weight Set/Method	Option						
	1	2	3	4	5	6	7
<i>WLWA Constituent Borough Officers</i>							
<i>Waste Strategy 2000</i>							
Total Weighted Scores	0.44	0.64	0.39	0.74	0.66	0.53	0.23
Rank	5	3	6	1	2	4	7
Value	0.42	0.81	0.31	1.00	0.84	0.59	0.00
<i>The Mayor's MWMS</i>							
Total Weighted Scores	0.55	0.71	0.44	0.66	0.66	0.53	0.36
Rank	4	1	6	2	3	5	7
Value	0.55	1.00	0.24	0.85	0.85	0.50	0.00
<i>WLWA Community Panel</i>							
<i>Waste Strategy 2000</i>							
Total Weighted Scores	0.40	0.66	0.55	0.59	0.68	0.59	0.36
Rank	6	2	5	4	1	3	7
Value	0.14	0.93	0.59	0.73	1.00	0.74	0.00
<i>The Mayor's MWMS</i>							
Total Weighted Scores	0.44	0.68	0.56	0.57	0.68	0.59	0.40
Rank	6	2	5	4	1	3	7
Value	0.15	1.00	0.59	0.60	1.00	0.70	0.00
<i>North Yorkshire Members & Officers</i>							
<i>Waste Strategy 2000</i>							
Total Weighted Scores	0.43	0.62	0.46	0.67	0.62	0.51	0.33
Rank	6	2	5	1	3	4	7
Value	0.30	0.86	0.38	1.00	0.85	0.53	0.00
<i>The Mayor's MWMS</i>							
Total Weighted Scores	0.46	0.64	0.46	0.66	0.61	0.50	0.36
Rank	6	2	5	1	3	4	7
Value	0.34	0.95	0.35	1.00	0.85	0.49	0.00
<i>City of York Members & Officers</i>							
<i>Waste Strategy 2000</i>							
Total Weighted Scores	0.41	0.62	0.41	0.67	0.64	0.54	0.29
Rank	6	3	5	1	2	4	7
Value	0.31	0.87	0.31	1.00	0.92	0.66	0.00
<i>The Mayor's MWMS</i>							
Total Weighted Scores	0.50	0.67	0.45	0.60	0.63	0.54	0.40
Rank	5	1	6	3	2	4	7

Weight Set/Method	Option						
	1	2	3	4	5	6	7
Value	0.37	1.00	0.18	0.75	0.85	0.51	0.00

Applying the different weight sets with compliance with waste policy altered to be consistent with the Mayor's MWMS results in some changes to the highest scoring options. With the WLWA Constituent Borough Officers' weight set, option 2 moves from third to first, with option 4 and option 5 each dropping a place. There is no change in positions with the WLWA Community Panel weight set, although the 'value' offered by the options does change. With the North Yorkshire Members' & Officers' weight set, the ranking remains the same, although the performance of option 2 in terms of value improves. With the City of York Members & Officers weight set, option 2 moves from third to first, swapping places with option 4.

Options 2, 4 and 5 remain the best three performers, with the exception of the WLWA Community Panel weight set, where the results remain unchanged, and option 6 displaces option 4 in third place.

2.8.5 *Assessment of Options S1 and S2*

Table 2.46 presents the performance of options S1 and S2 with the sensitivity analysis on compliance with MWMWS waste policy, with the Waste Strategy 2000 results included for comparison. Option S1 performed best when using the ranking system derived from *Waste Strategy 2000*, but slips to third place when compliance with policy in the MMWMS is considered. In this case, option 3 moves from. Option S2 performed worst for both criteria due to its dependence on landfill.

Table 2.46 *Compliance with Waste Policy Criteria (including S1 and S2) - Summary of Results - MMWMS Sensitivity*

Criterion	Option 1	Option 2	Option 3	Option 4	Option S1	Option S2
Compliance with policy (Waste Strategy 2000)	294 (5)	297 (4)	298 (2)	297 (3)	301 (1)	258 (6)
Compliance with policy (Mayor's MWMS)	294 (3)	297 (2)	298 (1)	271 (5)	287 (4)	258 (6)

2.8.6 *Value Performance*

The valued performance data for the compliance with waste policy criterion is presented in Table 2.47, with the line from the assessment in Table 2.36 included for the purposes of comparison.

Table 2.47 *Alternative Technology Options (including S1 and S2) - Value - MMWMS Sensitivity*

Criterion	Option 1	Option 2	Option 3	Option 4	Option S1	Option S2
Compliance with policy (Waste Strategy 2000)	0.84	0.90	0.93	0.90	1.00	0.00
Compliance with policy (Mayor's MWMS)	0.90	0.98	1	0.33	0.73	0

Table 2.48 shows the weighted valued performance of the options in the sensitivity analysis. The weighted values in the table are the same as in Table 2.37, previously, with the exception of the values for compliance with waste policy. Option 4 remains the highest scoring option, but is only marginally better than option 2. Options 1 and S1 swap places in third and fourth position.

Table 3.48 *Weighted Valued Performance for Alternative Technology Options (including S1 and S2) Using Combined Officer and Community Weight Set - MMWMS Sensitivity*

Criterion	Option 1	Option 2	Option 3	Option 4	Option S1	Option S2
Depletion of resources	0.000	0.026	0.066	0.028	0.026	0.002
Air pollution (acidification)	0.000	0.077	0.083	0.023	0.029	0.010
Greenhouse gas emissions	0.012	0.030	0.082	0.032	0.017	0.000
Emissions which are injurious to public health	0.093	0.063	0.015	0.000	0.017	0.068
Landtake	0.000	0.023	0.039	0.046	0.045	0.000
Extent of water pollution	0.032	0.063	0.039	0.033	0.009	0.000
Total road kilometres	0.038	0.054	0.000	0.053	0.044	0.021
Financial cost	0.046	0.112	0.000	0.161	0.087	0.011
Reliability of delivery	0.075	0.000	0.000	0.151	0.075	0.075
Compliance with policy	0.102	0.111	0.113	0.037	0.082	0.000
Liability of end product	0.071	0.088	0.000	0.083	0.021	0.074
TOTAL						
Weighted Scores	0.47	0.65	0.44	0.65	0.45	0.26
Rank	3	2	5	1	4	6
Value	0.54	1.00	0.46	1.00	0.50	0.00

NB Value numbers are rounded to 2 decimal places. Option 4 scores higher than option 2 for value.

2.8.7 *Sensitivity Analysis of Weighting Results (including S1 and S2)*

The results of applying the different weight sets employed to the results are shown in Table 2.48.

Table 2.48 Total Weighted Performance of Alternative Technology Options Using Different Weight Sets – MMWMS Sensitivity

	Option					
	1	2	3	4	S1	S2
WLWA Constituent Borough Officers						
<i>Waste Strategy 2000</i>						
Total Weighted Scores	0.51	0.63	0.35	0.81	0.52	0.28
Rank	4	2	5	1	3	6
Value	0.44	0.65	0.12	1.00	0.45	0.00
<i>The Mayor's MWMS</i>						
Total Weighted Scores	0.53	0.53	0.36	0.71	0.48	0.28
Rank	3	2	5	1	4	6
Value	0.56	0.57	0.18	1.00	0.45	0.00
WLWA Community Panel						
<i>Waste Strategy 2000</i>						
Total Weighted Scores	0.41	0.64	0.51	0.61	0.45	0.24
Rank	5	1	3	2	4	6
Value	0.43	1.00	0.67	0.91	0.51	0.00
<i>The Mayor's MWMS</i>						
Total Weighted Scores	0.41	0.61	0.51	0.58	0.43	0.24
Rank	5	1	3	2	4	6
Value	0.47	1.00	0.74	0.91	0.52	0.00
North Yorkshire Members & Officers						
<i>Waste Strategy 2000</i>						
Total Weighted Scores	0.43	0.59	0.38	0.70	0.41	0.29
Rank	3	2	5	1	4	6
Value	0.36	0.73	0.23	1.00	0.30	0.00
<i>The Mayor's MWMS</i>						
Total Weighted Scores	0.44	0.56	0.38	0.68	0.40	0.29
Rank	3	2	5	1	4	6
Value	0.38	0.71	0.25	1.00	0.29	0.00
City of York Members & Officers						
<i>Waste Strategy 2000</i>						
Total Weighted Scores	0.49	0.64	0.39	0.74	0.50	0.25
Rank	4	2	5	1	3	6
Value	0.49	0.79	0.28	1.00	0.51	0.00
<i>The Mayor's MWMS</i>						
Total Weighted Scores	0.50	0.55	0.40	0.66	0.46	0.25
Rank	3	2	5	1	4	6
Value	0.61	0.74	0.36	1.00	0.52	0.00

When the sensitivity weight sets are applied to the MMWMS results the figures differ very slightly to the *Waste Strategy 2000* results. Option 4 is still the highest scoring option when the City of York, North Yorkshire and Officer weight sets are applied, but option 2 remains the preferred option when the Community Panel weight set is employed. The results of the sensitivity analysis are not as marked as when the original options 1 – 6 were examined, because option S2, with the products of MBT sent to landfill, performs much less well against the compliance with waste policy criterion than EfW.

Results of the alternative technology assessment identify MBT as the highest scoring technology option for WLWA's residual waste. However, sensitivity analyses have shown that these results are sensitive to a number of key assumptions made during the modelling procedure.

If alternative weight sets are used to balance the relative importance of the assessment criteria, EfW becomes the highest scoring technology on the majority of occasions. Similarly, if it is assumed that the cement kiln market for RDF from MBT fails, EfW again becomes the highest scoring technology when the majority of alternative weight sets are applied.

Where a sensitivity analysis on the method used for compliance with waste policy is conducted, using policy drawn from the Mayor's MWMS, the performance of the option led by gasification improves, becoming the highest scoring option with the WLWA Combined Officer and Community Panel weight. The relative positions of the options led by gasification, EfW and MBT vary with the other weight sets employed, all three being placed first in one or more instances. When this sensitivity analysis is repeated in examining the impact of sending RDF from MBT to EfW or to landfill, the performance of the gasification-led option once again improves, and scores a close second to EfW, and, with some weight sets, scores more highly.

In light of this, and with regard to the general uncertainties and ongoing consultation surrounding MBT ⁽¹⁾, it is considered that the residual waste management options comprising the second stage of assessment should encompass both the lead technologies **in the original analysis**: MBT and EfW. **Gasification offers a similar balance of benefits to EfW, with the exception of the sensitivity analysis to compliance with waste policy.**

In order to reduce the number of options considered, EfW has been used in the assessment of integrated waste management options for WLWA. However, it should be noted that the results of this stage of the appraisal demonstrate that gasification would continue to offer a similar level of benefits to the option with an EfW lead, and would overtake it in terms of performance were the compliance with waste policy criterion to be based on the Mayor's MWMS.

The Environment Agency is currently carrying out a consultation process, focusing on how bio-treated outputs from MBT will contribute to LATS diversion targets ⁽²⁾. Until this has been clarified, it is difficult to determine, with certainty, how this will impact on performance.

(1) Assessing the diversion of biodegradable municipal waste from landfill by mechanical biological treatment and other options, Environment Agency, 2004.

(2) Assessing the diversion of biodegradable municipal waste from landfill by mechanical biological treatment and other options, Environment Agency, November 2004.

3.1 STEP 2: IDENTIFY RESIDUAL WASTE MANAGEMENT OPTIONS

A series of six integrated options for residual waste management were developed, based on the highest scoring technologies identified during stage one of the assessment, MBT and EfW ⁽¹⁾. The options encompass all reasonable means of meeting WLWA's LATS targets over the Strategy period, 2005-2020, and can be broadly split into two categories, according to the lead technology:

- MBT-based options. Two possible options were identified for the use of MBT as lead technology. The first was to introduce a small MBT plant prior to 2013, and the second was to introduce the larger MBT facility earlier on in the Strategy period, in order to meet LATS requirements in 2010; and
- EfW-based options. Four possible options were identified for the use of EfW as lead technology. It was not considered possible to introduce an EfW plant earlier than 2013 and, as such, each option considers the introduction of an EfW plant in 2013, together with an alternative method of diverting wastes from landfill between 2010 and 2013, in order to meet LATS requirements. These include exporting wastes to an existing EfW plant, or introducing a small MBT plant and scaling down the size of EfW required from 2013. An option that investigates the implications of taking no action until 2013, and facing LATS penalties, was also considered.

The six options are intended to be illustrative rather than precise. They reflect the total forecast arisings of MSW across WLWA between 2005 and 2020 and so take into consideration:

- predicted recycling and composting rates as discussed in *Section Error! Reference source not found.*;
- the yearly throughput of residual waste to treatment facilities required to meet LATS targets over the period (taking into consideration the fate of all residues from the treatment process); and
- the remaining quantity of waste that the Authority is permitted to landfill.

The finalised options are summarised in *Error! Reference source not found.* and shown graphically in *Error! Reference source not found.* to *Error!*

(1) Stage 1 of the residual waste management options appraisal showed gasification to be a close third in terms of the mix of benefits offered by a lead technology. Gasification has not been taken forward to Stage 2 because Stage 1 demonstrated that its assessment would closely mirror EfW-led options, and unnecessarily complicate the analysis. Nevertheless, it is important to recognise that gasification would offer a similar mix of benefits if substituted into those options led by EfW.

Reference source not found. below. The recycling and composting rates given in *Error! Reference source not found.* illustrate the amount of material collected separately for reprocessing. Some of the treatment technologies also produce material suitable for recycling and composting. This material is included as part of the assessment and is in addition to the recycling and composting rates shown ⁽¹⁾.

Full lists of all technology assumptions made are provided in *Annex A*.

3.2.10 *Compliance with Waste Policy*

The methods and assumptions used in calculating the compliance with waste policy criterion are detailed in *Section 0*. **As previously observed, the method is based on the extent to which options are consistent with the waste hierarchy as set out in Waste Strategy 2000. The policy in the Mayor's Municipal Waste Management Strategy (MMWMS) varies slightly, in promoting other forms of recovery above EfW. The effect of using this interpretation of the waste hierarchy is examined in a sensitivity analysis which is reported in Section 3.7.**

3.7 *SENSITIVITY ANALYSIS – COMPLIANCE WITH WASTE POLICY IN THE MAYOR'S MUNICIPAL WASTE MANAGEMENT STRATEGY* *(NOTE: THE WHOLE OF THIS 3.7 SECTION THAT FOLLOWS IS NEW. THE ORIGINAL 3.7 IN CONSEQUENCE HAS BEEN RENUMBERED 3.8)*

3.7.1 *Method and Assumptions Used*

The method and assumptions used in the sensitivity analysis are as indicated in *Section 2.8*.

3.7.2 *Results*

Table 3.11 presented the total quantities of waste as a percentage managed by each technology for each option. These percentages were multiplied by the waste hierarchy rank for each technology over the whole 16-year period, based on the scoring of technologies as set out for compliance with the MMWMS in *Table 2.42*.

Table 3.24 presents the performance scores for each option.

(1) Recycling and composting rates are based on the optimal scenario for recycling and composting, as determined during recycling and composting options appraisal.

Table 3.1 Compliance with Waste Policy to Determine Performance Score for MSW Options – MMWMS Sensitivity

Waste technology	Option					
	A	B	C	D	E	F
Recycling/composting	174	176	165	165	169	169
Recovery	38	46	0	0	16	16
Gasification	0	0	0	0	0	0
Energy from waste	0	0	28	26	17	17
Landfill	44	41	45	46	44	44
Total	256	263	238	237	246	246
Rank	2	1	5	6	3	3

Option B employed treatment facilities that manage waste at the top of the waste hierarchy and had low volumes to landfill, and as a result is the highest ranked option. Options D and C scored least well because they involve the greatest proportion of waste managed via EfW of any of the options.

The ranking of the options is the same in this sensitivity analysis as when the compliance with waste policy criterion was based on *Waste Strategy 2000*, and as shown in *Table 3.12*. However, the actual scores differ.

3.7.3 Evaluate and Rank the Options

The valued performance data for the residual waste management options against the compliance with waste policy criterion is shown in *Table 3.27*. The line for compliance with waste policy in *Table 3.16* is reproduced here for the purposes of comparison: Option A offers better ‘value’, options C and D offer less, and options B, E and F are unchanged.

Table 3.2 Integrated Residual Waste Management Options – Value – MMWMS Sensitivity

Criterion	Option					
	A	B	C	D	E	F
Compliance with policy (Waste Strategy 2000)	0.46	1.00	0.17	0.00	0.35	0.35
Compliance with policy (Mayor’s MWMS)	0.73	1.00	0.04	0.00	0.35	0.35

The overall results are shown in *Table 3.28*. Only the compliance with waste policy line, and the overall scores and values have changed from *Table 3.18*.

Table 3.3 *Weighted Valued Performance for Residual Waste Options Using Combined Officer and Community Weight Set - MMWMS Sensitivity*

Criterion	Option A	Option B	Option C	Option D	Option E	Option F
Depletion of resources	0.047	0.066	0.003	0.000	0.023	0.004
Air pollution (acidification)	0.065	0.083	0.001	0.000	0.029	0.004
Greenhouse gas emissions	0.057	0.082	0.007	0.002	0.030	0.000
Emissions which are injurious to public health	0.093	0.000	0.019	0.058	0.035	0.035
Landtake	0.008	0.047	0.008	0.000	0.009	0.003
Extent of water pollution	0.026	0.063	0.039	0.047	0.000	0.012
Total road kilometres	0.002	0.000	0.031	0.027	0.024	0.054
Financial cost	0.000	0.025	0.161	0.114	0.061	0.046
Reliability of delivery	0.000	0.090	0.151	0.151	0.030	0.030
Compliance with policy	0.083	0.113	0.005	0.000	0.039	0.039
Liability of end product	0.018	0.000	0.088	0.088	0.057	0.076
TOTAL Weighted Scores	0.40	0.57	0.51	0.49	0.34	0.30
Rank	4	1	2	3	5	6
Value	0.35	1.00	0.79	0.69	0.13	0.00

The ranking of the options remains the same as with the assessment of compliance with waste policy in *Table 3.18*. Option B remains the option that is highest scoring overall, with option C and option D in second and third place respectively. The other options score considerably less well. Nevertheless, options C performs slightly less well than previously, and option A performs better than before.

Sensitivity analysis to the weights used was conducted using the same sets as described previously. The results remain the same, apart from options A and E swapping fourth and fifth places when the North Yorkshire Officers & Members and the City of York Officers & Members weight sets were employed. The results are not presented here for reasons of space.

RESULTS SUMMARY

(NOTE: THIS SECTION WAS NUMBERED 3.7 IN THE ORIGINAL DOCUMENT)

Results of the assessment of integrated waste management options identify option B – the introduction of one large MBT facility in 2010 – to be the option that may best meet WLWA’s residual waste needs. However, it has been shown that this result is sensitive to a number of key assumptions made during the modelling procedure. In particular:

- if alternative weight sets are used to balance the relative importance of the assessment criteria, option C scores the higher value on the majority of occasions. This option models the outcome of commissioning one EfW facility in 2013 and exporting waste to an external EfW facility prior to 2013, to meet LATS requirements;
- EfW is likely to again become the better fitting waste treatment technology if it is assumed that the cement kiln market for RDF from MBT fails, as detailed analyses from the first stage of assessment have shown;
- if it assumed that the reliability of delivering an option is not significantly affected by the number of treatment plants required, the introduction of a small MBT facility to address LATS requirements from 2010 performs well. Based on the combined weight set provided by WLWA Constituent Borough Officers and the Community Panel, option A becomes the highest scoring option. This option models the outcome of introducing one small MBT facility in 2010 and one large.

The appraisal of residual waste management options shows that gasification offers a similar level of benefits to EfW, and, with one weight set, it out-performs EfW.

Sensitivity analyses carried out to examine the effect of employing the Mayor’s MWMS in the compliance with policy criterion show that gasification becomes the highest scoring option under some weight sets, with MBT and EfW the highest scoring with others.

APPENDIX D

CONSULTATION RESPONSES TO DRAFT JOINT MUNICIPAL WASTE MANAGEMENT STRATEGY

A good response has been received to publication of the draft municipal waste management strategy, prepared jointly by the West London Waste Authority and the London Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond-upon-Thames.

These representations have been grouped into relevant topics:

- 1.1 Recycling and Waste Reduction;
- 1.2 Composting and Garden Waste;
- 1.3 Awareness Raising/Education;
- 1.4 Thermal Treatment/Recovery;
- 1.5 Kerbside/Household Collections;
- 1.6 Hazardous Waste;
- 1.7 Planning/Enforcement;
- 1.8 Producer Responsibility;
- 1.9 Residual Waste Management Options Assessment;
- 1.10 Other – More Policy Related Comments; and
- 1.11 Typing Errors/Suggestions.

Many of the representations focus on specific actions relevant to the collection of household waste. All of these comments will be reviewed by the relevant London Borough, but are largely beyond the remit of the joint municipal waste management strategy. The strategy is concerned with the waste management infrastructure in the round, it is a strategic document and therefore does not itself refer to specific actions to be implemented by each Borough. Action Plans provide some further detail, but how the objectives of the strategy are implemented in each Borough is primarily a decision for each authority, notwithstanding the policy commitment to work together.

Representations made regarding technical work undertaken in development of the strategy have been considered and appropriate amendments made.

In conclusion, the representations provide a useful input in two ways. First, in developing the strategy to a document to be adopted, but also (and perhaps more importantly) in implementing the policies of the strategy, for example through suggestions for raising awareness of waste management issues and ideas for waste minimisation initiatives.

1.1 RECYCLING AND WASTE REDUCTION

Respondent	Comment on draft Strategy	Response
Hounslow resident/Harrow Waste Management Topic Group/West London FoE	Council should set up a waste exchange website like Freecycle and introduce an Ecostore for the reuse of unwanted items which residents could pick up for free. These should be promoted widely. Could the special collection service supply good quality furniture and white goods to the community sector for reuse? Is there scope to liaise with social services to help people furnish homes? Continue with 'give and take' days - these are an effective method for reuse of goods. Support and partnerships with reuse/repair organisations to help improve markets	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Hounslow resident	Have a free collection day for heavy/bulky items. Keep CA sites for bulkier items	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Hounslow resident	Minimise packaging - eg bottle returns, ban sandwich containers. Can crushers should be available in all schools.	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Hounslow resident/Harrow Waste Management Topic Group/ Richmond upon Thames resident	LBH to reduce the amount of paper it sends out to residents and uses generally. The council should lead by example and ensure that local businesses do the same. All efforts should be made by the Council to encourage retail outlets participation	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Hounslow resident	Nappies:	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. EA nappy report concluded that environmental benefits of reusable nappies are not clear cut. Policy 2 identifies that waste reduction and reuse will be a priority.
Harrow resident	<ul style="list-style-type: none"> Continue with support for real nappies to minimise waste. 	
West London FoE	<ul style="list-style-type: none"> All councils can give a free sample pack of a choice of three post effective washable nappies systems to new mothers. A free voucher towards the cost of the parents buying more washable nappies should be included 	
Hillingdon Alliance of Residents Associations	<ul style="list-style-type: none"> Targets set for nappy diversion and other composting./reuse measures seem conservative for the 14 year period. Should they be higher? Problem of nappies (reusable or disposable) needs to be examined further. Issues with reusable nappies and water treatment and the added costs involved. Disposable nappies make up a large proportion of the black bag system. 	
Hounslow resident/Chiswick area/Heston & Cranford/ Harrow Waste Management Topic Group/Harrow resident	Fully support waste reduction and reuse, but more recycling should be encouraged and potentially made compulsory. Waste reduction and reuse is higher up the waste hierarchy and this should be reflected by the amount of investment in reusable nappies, home composting, and furniture reuse.	Policy 2 states that waste reduction and reuse will be a priority. Policy 3 has targets for recycling and composting. Intermediate targets are available in individual borough action plans

Respondent	Comment on draft Strategy	Response
Central Hounslow	Instigate specific initiatives to assist individuals, households and communities in preventing waste. Members suggested providing information that additional green recycling bins were available on request. They wished to stem the increase in waste arising per household	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Heston and Cranford	Concerns over hygiene aspects around the recycling of kitchen waste – provision of solid containers for the waste?	Health and safety and hygiene matters are covered by legislation. All Boroughs and the West London Waste Authority will comply with relevant legislation.
Harrow resident/Richmond upon Thames resident	More recyclable/re use collections for the elderly. More difficult to get to a recycling centre or bring sites. Suggestion that skips full of domestic waste from house clearances should be the council's responsibility, in order that items can be reused. All residents, notwithstanding practical difficulties where space is limited, in flats or houses should have access to the same facilities	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Harrow resident/Richmond upon Thames resident	All supermarkets in West London should sell reusable plastic or canvas bags. www.netto.co.uk already does this. No reason why other supermarkets can not follow by example.	Policy 2 states that waste reduction and reuse will be a priority.
Harrow resident	Extend services in libraries to offer more reference magazines and newspapers	Noted. Beyond remit of Strategy.
Harrow resident	Bins/Containers	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority. Policy 7 seeks to provide waste management services that offer good value.
Hounslow resident	<ul style="list-style-type: none"> Better bins – could the council design and provide effective bins with 2 or more compartments for more easy sorting of rubbish and recyclables? 	
Hounslow resident	<ul style="list-style-type: none"> Council to provide an external container to store recyclables for small flats. Only one rubbish sack per household per week with further ones paid for. Charge for refuse collection by the number of bags put out. Introduce a refuse quota for each household and charge for anything above it. 	
Harrow Waste Management Topic Group/ West London FoE/ Central Hounslow	Targets: <ul style="list-style-type: none"> The group supports the target of four materials from each household by 2008 and believes that the council should increase this to five by 2010 – one of which should be kitchen waste Far more ambitious targets are needed for waste reduction, and they need to be made more visible. Establishing more effective local waste reduction, recycling and recovery schemes to meet the governments targets 	Policy's 3 and 4 are based on statutory targets, and the Strategy has already set challenging targets which are higher than the statutory targets. Targets need also to be realistic and achievable as well as challenging. Individual boroughs can choose to also collect kitchen waste.
Brent residents/Hounslow residents	Offer incentives to those who recycle (prizes or Council Tax discounts) and fine those who don't. Make it easier to recycle in high streets and public places	Policy 2 states that waste reduction and reuse will be a priority.
Hillingdon Alliance of Residents Associations	Partnerships - agree that the borough should be involved with neighbouring authorities to achieve greater efficiency, more sustainable use of resources and diminishing landfill sites.	Policy 8 - authorities will work together to achieve the aims of the strategy.

Respondent	Comment on draft Strategy	Response
West London FoE	How seriously does the strategy take waste reduction and reuse? Policy 2 mentions prioritising waste reduction and reuse, but total effect of all the planned measures is 0.3% per year of reductions.	The Strategy takes waste reduction and reuse seriously, it was included as part of the modelling work and is included in policy. Waste minimisation initiatives were also assumed to be effective in considering future waste growth rates – ie the amount of residual waste assumed to require treatment is lower than it could be.

1.2 COMPOSTING AND GARDEN WASTE

Respondent	Comment on draft Strategy	Response
Hounslow resident	Organics collected weekly at the kerbside from small bins.	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Chiswick/West London FoE/Richmond upon Thames resident	Free garden waste service with free sacks for residents. However, free collection of garden waste adds to total amount of waste collected and should not be used solely to take advantage of a weakness in the government's choice of performance indicators. £1 a sack may be a high price for those on fixed or low incomes and it is suggested that the group be exempt from charges. A reduction could be offered for the £30 a year wheelie bin.	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority Policy 4 commits to all households being served with recycling collections of 4 materials by 2008.
Chiswick/ Hounslow resident/ Harrow Waste Management Topic Group/West London FoE	A compost collection service as well as a cooked food/ meat/ fish waste collection service should be provided for those without a garden. Home composting should be compulsory. Wormeries should be encouraged and should be offered by councils at low cost or free of charge. Green cones offered as an alternative to home composters. Special offers on different composters for use for people without gardens. Promotion of other pet waste digesters (www.armitages.co.uk/dogs3.htm)	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority Policy 4 commits to all households being served with recycling collections of 4 materials by 2008.
Hounslow resident	Maintain kerbside garden waste collection in paid for biodegradable bags.	Specific actions beyond remit of the Strategy, but which can be taken up by each borough as appropriate. Policy 2 identifies that waste reduction and reuse will be a priority.
Hounslow resident	Excess foodstuffs should go to charitable organisations rather than landfill from supermarkets.	A specific action beyond the remit of the Strategy. There are health and safety implications of this proposal.

Hillingdon Alliance of Residents Association

The suggestion to collect green waste for 6 months of the year is totally against the ethos that is currently established in Hillingdon. Whilst the collection of kitchen waste is desirable and could be a positive method, we feel that a lot of work would have to be done to explain the system.

This is a borough specific action and does not apply to the Strategy. Policy 2 states that waste reduction and reuse will be a priority. Policy 4 commits to all households being served with recycling collections of 4 materials by 2008.

1.3 AWARENESS RAISING/EDUCATION

Respondent	Comment on draft Strategy	Response
Chiswick/ Hounslow & Harrow resident/ Isleworth and Brentford/ West London FoE	Improved publicity, education and information needed. Regular monitoring and further information needed for areas not using the service to promote recycling. Teach recycling in schools and have leaflets explaining what can be recycled	Noted. Awareness raising and improved publicity and education will form part of the Strategy policy aims to provide a flexible and value for money waste management service.
Central Hounslow	Officers from LBH should work to design and implement a high profile waste minimisation campaign and build on the door-to-door promotional work. Work in conjunction with public, private and professional training and educational bodies to assess needs and initiate the necessary training programmes for residents. Promote best practice in waste management.	This is a borough specific action. The WLWA and constituent Boroughs all seek to deliver best practice in delivery of waste management services.
Harrow Waste Management Topic Group	Develop schemes in collaboration with the Health Service, nurseries, childminders, carers etc to promote reusable nappies. Providing information via the birth registry service should also be considered.	This is a specific action that is beyond the remit of the Strategy. However, such initiatives will be considered as appropriate, particularly under the remit of Policy 2.
Harrow Waste Management Topic Group/ West London FoE	Advertise more widely the availability of subsidised home composters and the option of having a composter instead of a Brown bin. Are compost bin promotions followed up? How many people are successfully using them, or having problems?	Specific questions and actions beyond the remit of the Strategy. However, such initiatives will be considered as appropriate, particularly under the remit of Policy 2.
West London FoE	Waste metering should be introduced – valuable in terms of information and education for those who dispose of the most waste.	This is beyond the remit of the Strategy, the WLWA and its constituent Boroughs.
Richmond upon Thames resident	Additional publicity may be required for the newly introduced organic waste collection scheme to assist residents in making the transition from mixed waste to source separation. Widespread information should be available in order to ensure success.	Noted. Awareness raising and improved publicity and education will form part of the Strategy policy aims to provide a flexible and value for money waste management service.
Richmond upon Thames resident	Businesses through the Borough should be encouraged to use the ink toner and plastics recycling facilities.	Specific questions and actions beyond the remit of the Strategy. However, such initiatives will be considered as appropriate, particularly under the remit of Policy 2.

Richmond upon Thames resident	Non-participation in recycling must be seen as an anti-social practice in the way that littering and smoking currently is.	Noted
Harrow resident	Have a junk mail campaign that includes mailing preference. Give out free front door stickers that say 'No Junk Mail'. Mail preference services should work in the opposite way – should automatically expect people to not want the mail, and to have to sign up to the company to receive it.	Specific questions and actions beyond the remit of the Strategy. However, such initiatives will be considered as appropriate, particularly under the remit of Policy 2.

1.4 THERMAL TREATMENT/RECOVERY

Respondent	Comment on draft Strategy	Response
Hounslow resident / Isleworth and Brentford/West Area/ Richmond upon Thames resident	MBT seen as expensive in capital expenditure terms but the preferred option due to extraction of useful materials and low emissions. Concerns about the cost hence charging for refuse collection. Suggests paying for refuse collection after the first bag free. Any consideration of MBT should stipulate that the end product be rendered inert for composting. Much of RDF from MBT is currently used as a fuel in cement kilns and is unpopular in many communities.	Policy 6 states that the authorities will keep the waste hierarchy in mind and will find an option that provides value for money and long term reliability. The Strategy does not seek to be technology specific.
Hounslow resident / Central Hounslow / Harrow Resident / West Area / Richmond upon Thames resident	Some residents support incineration, whereas others are not in favour of incineration and there are concerns from a public health perspective.	Policy 6 states that the authorities will keep the waste hierarchy in mind and will find an option that provides value for money and long term reliability.
Hounslow resident	Conduct thorough research before deciding on final treatment.	The Strategy has been developed following detailed modelling. Policy 6 states that the authorities will keep the waste hierarchy in mind and will find an option that provides value for money and long term reliability.
Richmond upon Thames resident	Premature to include energy from waste when the government is shortly to consult on the review of Waste Strategy 2000. With various EU Directives becoming statutory there is a need to prioritise reduction, recycling and composting	Policy 6 states that the authorities will keep the waste hierarchy in mind and will find an option that provides value for money and long term reliability. Policy 1 states that current and future policy development will have regard to the National and Mayor of London's Municipal Waste Management Strategies and other relevant national, regional and local guidance.

1.5 KERBSIDE/HOUSEHOLD COLLECTIONS

Respondent	Comment on draft Strategy	Response
Hounslow resident	Support for current kerbside recycling, although some felt service could be improved. Suggest monitoring kerbside recycling and leaflet residents not using the service.	Noted.
Hounslow resident/Harrow Resident	Assistance for elderly residents for collection of bulky recyclables.	This is a borough specific action and beyond the remit of the Strategy. Policy 7 states that bulky waste management will be managed in line with best value and provide customer satisfaction and meet legislative requirements.
Brent resident/Hounslow resident	Bring sites for plastics should be kept, however a number of residents felt that more materials should be collected including cardboard, plastics and kitchen waste. Dry recyclables should be collected weekly at the kerbside in clear sacks for MRF.	This is a borough specific action and beyond the remit of the Strategy. Policy 4 commits to serving all households with recycling collections of at least four materials by 2008.
Central Hounslow	Introduce different coloured bags for different types of waste, and introducing a levy per bag was considered.	This is a borough specific action and beyond the remit of the Strategy.
Chiswick/Brent resident	More regular collections from the plastic recycling bins in Sainsburys and community sites as they tended to fill quickly. They also suggested the option of an alternative site as the parking arrangements at Sainsburys were not convenient.	This is a borough specific action and beyond the remit of the Strategy. However, Policy 2 states that waste reduction and reuse will be a priority.
Hounslow resident	Street cleansing waste to go to an MRF and there should be split litter bins for paper and can recycling.	Noted. This is a specific action and beyond the remit of the Strategy. Policy 7 states that street cleaning will be managed in line with best value and provide customer satisfaction and meet legislative requirements.
West Area	Problems of trade waste - as taxpayers are paying the high cost of disposal.	Policy 7 states that trade waste collections will be managed in line with best value and provide customer satisfaction and meet legislative requirements.
Harrow resident/Hounslow resident	Rubbish (green bin rubbish) should be collected every 3 weeks and all the main recycled rubbish to be collected more regularly. Other residents felt that the black bag refuse collections should cease.	This is a borough specific action and beyond the remit of the Strategy. Development of the Strategy considered different kerbside collection schemes.
Hillingdon Alliance of Residents Association/ Hounslow resident	Having 3 bins to collect the different sorts of waste at different times is excessive. There are many households that do not have the space for these bins. What will happen in the case of flats and elderly or supported housing? Need to take into account disabled and elderly residents when introducing new collection systems	This is a borough specific action and beyond the remit of the Strategy. Policy 4 commits to serving all households with recycling collections of at least four materials by 2008

Richmond upon Thames resident	Separation of recyclables and compostables at source, with local baling, to secure high percentage reclaim for recycling and composting. This is environmentally beneficial.	This is a specific action proposal and beyond the remit of the Strategy.
West London FoE	Once kitchen waste collection in place, should move residuals to a fortnightly collection to reduce costs, encourage waste reduction and recycling.	This is a specific action proposal and beyond the remit of the Strategy.

1.6 HAZARDOUS WASTE

Respondent	Comment on draft Strategy	Response
Harrow Waste Management Topic Group	The free service for the collection of hazardous waste should be more widely advertised.	Noted.
West London FoE/ Richmond upon Thames resident/ Hounslow resident	Must be some means provided for residents to dispose of hazardous wastes, such as batteries, pesticides etc, in order to reduce the environmental impact of whichever residual waste management option chosen. No facility in Harrow to dispose of batteries	This is a borough specific action and beyond the remit of the Strategy. Policy 7 seeks to provide waste management services that offer good value and that provide customer satisfaction. Separate action plans have been provided for hazardous waste.

1.7 PLANNING/ENFORCEMENT

Respondent	Comment on draft Strategy	Response
Isleworth and Brentford/ Central Hounslow/ Hounslow Resident/ Brent resident	New treatment facilities are needed to help meet the EU Directive targets for diversion of packaging materials and biodegradable municipal waste from landfill. These facilities should be developed as part of the integrated network of regional facilities. Another CA site is needed for the central/ eastern part of the borough and facilities required in the north – inconvenient since the facilities at Wembley Stadium have gone.	Policy 7 seeks to provide waste management services that offer good value, that provide customer satisfaction and that meet and exceed legislative requirements.
Isleworth and Brentford	Attention drawn to the Barnet method of collection and enforcement.	Noted. This is a specific action proposal and beyond the remit of the Strategy.
Isleworth and Brentford/ Hounslow Resident	Introduce a clear refuse sack to ease enforcement, and introduce more strict enforcement of dumping. Inspect properties where rubbish is left out for long periods	Noted. This is a specific action proposal and beyond the remit of the Strategy. Policy 2 states that waste reduction and reuse will be a priority.

Central Hounslow	The use of economic instruments and the wider application of the 'polluter pays' principle should be used to ensure progress towards the targets in the Strategy.	Policy 1 states that current and future policy development will have regard to the National and Mayor of London's Municipal Waste Management Strategies and other relevant national, regional and local guidance.
Central Hounslow	Transport policy - householders should be able to participate in reduce, reuse and recycle initiatives without the need for additional car journeys and site facilities to minimise the impact of connections from major transport corridors.	Householders can contribute to reduce and reuse initiatives by making small lifestyle changes that do not require any additional vehicle movements. Policy 4 commits to all households being served with recycling collections of 4 materials by 2008. Policy 7 seeks to provide waste management services that offer good value, that provide customer satisfaction and that meet and exceed legislative requirements.
Hounslow resident	Stronger legislation to require the use of recycled products into new buildings.	This action would need primary legislation from central government. Policy 1 states that current and future policy development will have regard to the National and Mayor of London's Municipal Waste Management Strategies and other relevant national, regional and local guidance.
Harrow resident	What are the risks of government imposed fines being passed on to the council tax payer?	Policy 8 states that the WLWA and constituent Boroughs will work together to achieve the aims of this strategy and are committed to share equitably the costs and rewards of achieving its aims. LATS payments will be distributed amongst the constituent Boroughs and are likely to be charged through Council Tax.
Harrow resident/Isleworth and Brentford/Hounslow	Residents should be charged for the amount of waste they put in their rubbish bin.	This is a specific action proposal and is beyond the remit of the Strategy. Policy 2 commits to making waste reduction and reuse a priority.

Harrow Waste Management Topic Group	The council should provide facilities for the collection of household batteries at the civic amenity site.	This is a specific action proposal beyond the remit of the Strategy. Policy 7 seeks to provide waste management services that offer good value, that provide customer satisfaction and that meet and exceed legislative requirements.
West London FoE	Minister for the Environment Eliot Morley has stated that he is in favour of enabling variable charging and would like to encourage LAs to trial this scheme (www.pswg.org.uk/newsb.asp?id=4) Suggests that WLWA should take up this invitation.	The WMA 1998 does not enable variable charging for household waste, or charging for any household waste except for the household waste prescribed in the Controlled Waste Regs 1992 for which a charge for collection (but not disposal) can be made.

1.8 PRODUCER RESPONSIBILITY

Respondent	Comment on draft Strategy	Response
Chiswick/Central Hounslow/Hounslow Resident	Pressure should be applied to manufacturers to both reduce packaging and use single materials able to be separated for recycling, (eg juice packs with plastic tops were unhelpful). The authority should work with traders, particularly supermarkets and fast food outlets to reduce packaging and meet government requirements of producer responsibility. Traders should be made responsible for packaging, for example in the USA packaging could be dumped in the car park for the supermarket to remove. Shops and supermarkets should be responsible for recycling consumer's packaging. Tax on plastic bags?	Noted. Awareness raising and improved publicity and education will form part of the Strategy policy aims to provide a flexible and value for money waste management service. Policy 2 states that waste reduction and reuse will be a priority.

1.9 RESIDUAL WASTE MANAGEMENT OPTIONS ASSESSMENT

Respondent	Comment on draft Strategy	Response
West London FoE	Why is anaerobic digestion score so low on compliance with waste policy, as it involves the most recycling?	Anaerobic Digestion was modelled for residual waste management treatment, not to take a separated stream of kitchen and garden wastes. As such, it does contribute to 'recycling' targets.

West London FoE	Not clear where incinerator bottom ash comes in the End Product Liability Score	There is no real issue with the practicability of sending bottom ash to landfill. In certain circumstances, incinerator bottom ash might be recycled but the modelling undertaken did not include the benefits gained from this management route.
West London FoE	When combining the 7 environmental criteria, incineration comes out worst. Its main benefit is low cost, but how reliable are cost estimates?	They are a reasonably good indication of the costs likely to result from a tendering exercise, coming as they do from a survey of real plant data.
West London FoE	Not much information is provided about the source of the cost estimates for the different technologies.	Much of the information came from the Environment Agency's website information on new technologies. Other sources are noted as appropriate.
West London FoE	Two significant cost risks associated with incineration should be modelled: <ul style="list-style-type: none"> Waste Strategy 2000: 'around 30% of the capital costs of a conventional incineration is attributable to the flue gas clean-up system. This is likely to increase significantly as tighter discharge limits require the installation of additional treatments.' Current tax anomaly is likely to be corrected. There is growing support for an incineration tax, to ensure UK doesn't rely on incineration to meet targets 	There are no plans to increase the emission limits on incineration following the WID. There are no plans for Government to introduce an incineration tax.
West London FoE	Table 5.1 (v1, p20) is confusing and may be misleading. Can costs and revenues be separately listed for clarity?	Table 5.1 identifies indicative potential costs and indicative potential cost savings. It is included to provide an indicative overview of the aggregated costs and benefits over the Strategy period. It is not intended to be specific about costs and revenues.
West London FoE	A series of costs are provided on the 'indicative costs and benefits' tables 5.1-5.14 (vol 1, p99-113). These figures are haphazard, inconsistent and misleading. They are superseded by figures in volume 2 so should be removed.	The figures presented in volume 1 are relevant to providing an overview of each of the technologies. The figures presented in volume 2 are those used in the modelling.

1.10 OTHER – MORE POLICY RELATED COMMENTS

Respondent	Comment on draft Strategy	Response
Harrow Waste Management Topic Group	Supports targets set out in the strategy but urges the council to exceed them where possible. Concerned about levels of participation by the public and urges the council to review options (such as compulsory recycling and charging) if the targets are not being achieved after 2-3 years	Borough specific action proposal.

Harrow Waste Management Topic Group West London FoE	Supports policies 5,6,7 and 8 Recycling targets of Policy 3 could be more ambitious.	Noted. Policy 3 is based on statutory targets, and the strategy has already set challenging targets which are higher than the statutory ones. Targets need to be achievable and realistic as well as challenging. Unable to locate comment. There is likely to be a requirement to examine the feasibility of CHP as part of any tendering exercise.
West London FoE	Vol 1, p192 – the Mayor’s strategy is referring to pre-treatment of residual waste after normal recycling and composting has been performed – the response (1) does not clearly address this. Response (3) implies that minimum legislative requirements will be met. The response that CHP will be used ‘where appropriate’ implies that it will not be a fundamental consideration in design of system.	
West London FoE	Objectives 6 and 8 (vol 1, p15) are somewhat in conflict: 6 says ‘not necessarily the cheapest’, 8 says ‘minimise the costs’	It is possible to seek to minimise the costs of waste management without committing to the cheapest service delivery. They are not considered to be inconsistent.
West London FoE	Report should indicate which future government policies would help in meeting strategy objectives	Not sure of meaning of comment. Policy 1 provides a commitment to have regard to appropriate Strategies and policy documents. Future government policies are not currently known.
West London FoE	Policy 6: the wording plays down environmental impact.	Implementation of the waste hierarchy is considered to be fundamental in delivery of a sustainable waste management infrastructure. Strategy was developed using a number of environmental criteria.
Richmond upon Thames resident	Main Doc: Why is there no tie in with sustainability policies? Is waste management considered a separate issue to sustainability?	Delivery of a sustainable waste management infrastructure is key to delivery of sustainable communities. Implementation of the waste hierarchy (policy 6) is considered to be fundamental in delivery of a sustainable waste management infrastructure.

Richmond upon Thames resident	<p>Objectives: Why is there no strategy for trade wastes?</p> <p>Objectives: Why only the highest in London – why not benchmark against the best of the rest of the world?</p> <p>Objectives: What fundamental research work is being done/ encouraged to reduce costs of recycling?</p> <p>Objectives: How are technological developments being encouraged? How will the council keep abreast of them?</p> <p>Objectives: How could performance in this area be measured? What support would businesses receive?</p> <p>Objectives: Will the council adopt a sustainable procurement policy?</p>	<p>The Strategy remit is for municipal waste.</p> <p>Not sure of meaning of comment – objectives do not refer to highest in London.</p> <p>Not sure of meaning of comment - objectives do not refer to research work to reduce costs of recycling.</p> <p>A specific question beyond the remit of the Strategy. Production of the Strategy has been underpinned with modelling of various developing technologies, including variation of collection methods.</p> <p>Not sure of meaning of comment – what area is performance measurement being sought?</p> <p>Business support is a specific action proposal beyond the remit of the Strategy. It is something that could be developed within each area action plan.</p> <p>Objective 1 and Policy 6 includes commitment to the waste hierarchy.</p> <p>Implementation of the waste hierarchy is considered to be fundamental in delivery of a sustainable waste management infrastructure.</p>
Richmond upon Thames resident	<p>Establish an environmental research park – this would be akin to pharmaceutical research parks. The prestige and revenue for the Borough would increase. It could provide research to help local factories/firms to design for recyclability/sustainability. Annex D (p15) states that recycling and composting facilities are in short supply in West London. This park could incorporate these facilities and ease the implementation of the Boroughs targets</p>	<p>A specific action proposal beyond remit of the Strategy. More likely to be pursued through the planning process, but could also be supported through Strategy policy.</p>

1.11 TYPING ERRORS/SUGGESTIONS

Respondent	Typing Errors	Response
West London FoE	Vol 2, p 10 para 2 (composting) 1.6% of current household waste – should it be 16%	Unable to locate comment.
West London FoE	Vol 2, p 164 – on road transport ‘The anaerobic digestion option (3) performs worst’ – anaerobic digestion is option 1, autoclaving is option 3. Which one performs worst?	Option 3 performs worst and should be referenced as autoclaving.

West London FoE	The term 'energy from waste' is used inconsistently. Occasionally it is used correctly referring to several technologies. More commonly it is used to apply only to incineration.	Noted. Any incineration, gasification or pyrolysis technology used should be expected to generate energy from waste. Meaning of comment unclear. Annex C refers to Landtake Requirements.
Hillingdon resident	Annex C - fine but short and missing West London Composting and possibly others. Worth checking/ extending	
Hillingdon resident	Annex D - action plans. How likely is it that the Boroughs will want to do their own thing and how would alignment be possible?	Boroughs may well do their own thing but proposals will be discussed with WLWA and constituent Boroughs to ensure experience can be shared across the authorities and benefits of alignment taken wherever possible. Policy 8 commits to joint working and sharing costs and benefits. Noted.
Hillingdon resident	Spatial location of facilities: interested in development of new infrastructure and locations. Landfill/ disposal is not often considered by many West London residents.	Noted.
Hillingdon Alliance of Residents Association	The technical reports are haphazard and badly coordinated. Concerned that ERM has made lots of assumptions on the assessments as there is no data available. These assumptions could be the reason that causes us, as a paying authority, to miss targets or have to pay high fines and still be left with wastes that need to be taken to landfill	Assumptions have to be made in all modelling work. They have been prepared on the most relevant and robust data available and have been challenged through sensitivity analysis.
Hillingdon Alliance of Residents Association	Concerns about clarity of MBT and RDF results in the report - they are not clearly stated	
Richmond upon Thames resident	Annex D: there is no mention of MBT facilities in this annex. The residual waste collected still has plenty of recyclables in it which can be extracted at an MBT facility. If the plant were located in the Borough, then the recycling tonnages could count towards the Borough's targets	Meaning of comment unclear. Annex D refers to Transport Assumptions. .