

WEST MIDLANDS REGIONAL WASTE **PLANNING STRATEGY**

DRAFT

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SUMMARY AND MAIN CONCLUSIONS

Background

The aim of this Paper is to help to secure the commitment of all the Region's waste planning, collection and disposal authorities, the Environment Agency, industry and commerce, the waste management industry and the wider community, to a set of strategic principles which will guide the planning and provision of waste management facilities in the West Midlands over the next 10-15 years. As organisations and as individuals in the West Midlands, we all share the responsibility for minimising the waste we produce, and treating or disposing of it safely and without harming the environment.

The *EC Framework Directive on Waste* requires the establishment of an "integrated and adequate network of waste disposal installations." The *National Waste Strategy* sets out the changes needed to deliver more sustainable development" and sets national targets for recycling, recovery and the reduction in landfill. Regional Planning Guidance for the West Midlands was published by the Government Office for the West Midlands as RPG11 in September 1995, and revised in April 1998. Specifically regarding waste planning, the Guidance refers to the net flow of household and industrial waste from the metropolitan area to landfill in the shire counties, and to the reverse flow of special wastes. The review of RPG11 was commenced in February, 2000 and submitted to government in November, 2001, with a view to final guidance being issued by late 2002.

The Project Brief for the Review includes the following Key Issue: *"What should the targets be for the region and its sub-regions for reducing reliance on landfill and for increasing recycling/ recovery of waste, taking into account national targets, the present situation, constraints and opportunities?"*

This draft Strategy responds to the Key Issue to provide a response to the Regional Vision by reviewing the facilities in the Region and by setting targets for waste recycling and recovery, and the reduction in dependence on landfill.

The Regional Waste Planning Strategy provides guidance to waste planning authorities (WPAs), waste collection and waste disposal authorities (WCAs, WDAs) in the Region for their land use and waste management planning, for the period to 2011 and beyond. The Strategy provides a context for decisions on future investment by waste collection and disposal authorities and the waste management industry. It sets the framework for monitoring regional progress towards more sustainable waste management; achievement of the National targets and helps to promote the importance of, and to secure commitment to, more sustainable waste management practices by industry and commerce and the general public.

WASTE MANAGEMENT IN THE WEST MIDLANDS - CURRENT POSITION

The Environment Agency has published Strategic Waste Management Assessments (SWMAs) for each of the planning regions in England. The West Midlands produced about 16.6 million tonnes of controlled waste in 1998/99; about 46% of the waste was industrial/ commercial in origin, 38% was construction and demolition waste, and only 16% was municipal waste.

Almost half of the 2.7 million tonnes of municipal waste was produced in the Metropolitan area and 70% of the 7.5 million tonnes of industrial and commercial waste was from industrial activity. Compared with other regions, the West Midlands produced relatively large proportions of inert/ construction and demolition waste, metals and scrap equipment, and general contaminated waste. About 600,000 tonnes of the industrial and commercial waste was classified as 'special waste'.

Municipal Waste:

- 1.6 million tonnes (60%) landfilled;
- 0.9 million tonnes (33%) incinerated at energy from waste plants;
- 0.2 million tonnes (7%) recycled.

Industrial and Commercial Waste:

- 3.2 million tonnes (42%) landfilled;
- 2.3 million tonnes (30%) recycled;
- 0.6 million tonnes (8%) treated;
- 0.4 million tonnes (5%) reused.

Construction and Demolition Waste:

- 2.13 million tonnes (34%) recycled as aggregates and soil;
- 0.93 million tonnes (15%) reused on landfill sites;
- 1.81 million tonnes (29%) inert waste recovered on exempt sites;
- 1.44 million tonnes (23%) landfilled as waste.

Waste Management Facilities

In the West Midlands Region in 1998/99 there were 528 licensed facilities that accepted waste in 1998/99; these included:

- 93 landfill sites;
- 40 waste treatment facilities;
- 141 open gate transfer stations;
- 193 metal recycling sites.

Licensed landfill sites received some 7.1 million tonnes of waste during 1998/99. The SWMA calculates the remaining capacity of licensed landfill sites in the Region at approximately 88 million tonnes. About 60% of this waste was received by sites in Staffordshire and Warwickshire and they have about 60% of the remaining capacity. With the exception of Herefordshire, all of the sub-regions have significant licensed landfill capacity. Using 1998/99 rates of input, and making allowance for capacity taken up by engineering works, the SWMA calculates an overall remaining lifespan in the Region for sites licensed to take household, industrial and commercial wastes of 8.6 years.

The WPAs have carried out a survey of the approximate capacity of sites which have planning permission for landfill, but which are not licensed. In total, there is capacity for about 19 million cubic metres of inert, and 57 million cubic metres of other/ non-inert waste in the identified sites.

KEY ISSUES AND PRINCIPLES FOR THE REGION

The West Midlands has, with two minor exceptions, an adequate supply of licensed landfill sites and sites with planning permission, throughout the Region, to meet the anticipated requirements for the next 15 years, if the diversion through minimisation, reuse, recycling and recovery is achieved. To make additional provision for landfill would act as a disincentive to the provision of more costly solutions further up the waste hierarchy. Some parts of the Region have already invested in state of the art energy from waste plants but the recycling and composting targets will challenge all authorities.

The introduction of the National Waste Strategy, and the challenging targets which it sets, is resulting in all local authorities looking at their waste collection and disposal arrangements to assess how they can be revised to meet the targets. The National targets are considered to be sufficiently challenging for the RTAB not to recommend different targets in the RPG.

There will be a need for additional facilities to treat waste, even if it is separated at source by householders, or industry. This will put significant demands on capital expenditure for all parties and co-operation will be required to plan investment in the most effective way to achieve the desired aims. Traditional patterns of behaviour will have to be challenged and new spheres of joint working will need to be introduced. This may involve new alliances between local authorities and industry and between local authorities who have traditionally sought to address the problem within their own boundaries.

The potential to form new partnerships through initiatives such as Business in the Environment Network and Business Park waste Clubs, possibly organised by local Chambers of Commerce or business park managers could help to reduce the amount of waste which needs to be disposed of. Opportunities exist for reuse and recycling of materials that have traditionally been disposed of if the connections can be made.

In the past, waste generated by industry and commerce was seen as something of a 'barometer' for the health of the economy. This is a relationship that needs to be broken if we are to succeed in achieving a more sustainable approach to waste. Industry and commerce is becoming leaner and thinner and they are aware of the link between waste and profit. Despite the impact of the Packaging Directive, the connection between one person's waste and another person's promotion and publicity material is not always made.

If those who are responsible for generating waste had to bear the full environmental as well as financial cost of managing that waste there would be a greater stimulus to waste minimisation and sustainable waste management. All those involved in the plan making process, whether statutory development plans or Integrated Municipal Waste Management Plans, will need to show they are meeting the sustainability targets, dealing with waste close to the point of origin, and making provision for facilities to 1.

INTRODUCTION

The Purpose of this Paper

1.1 Waste is an inevitable by-product of the region's economic and social activity. The way we plan for and manage our waste, however, must play its part in fulfilling our regional commitment to sustainable development, in terms both of reducing our demands on scarce resources, and of minimising the environmental impact of its treatment or disposal. Managing our waste in a more sustainable way will contribute to our shared regional vision of economic prosperity, a distinctive and quality environment, and regenerated urban and rural areas that provide a better quality of life for all our citizens. As organisations and as individuals in the West Midlands, we all share the responsibility for minimising the waste we produce, and treating or disposing of it safely and without harming the environment.

1.2 It is both necessary and desirable to co-ordinate waste planning and management at the regional level. Waste flows cross our administrative boundaries, and facilities often need to be considered at sub-regional, regional or even national levels. Anticipating the advice contained in the Government's Planning Policy Guidance Note on Waste Disposal and Management, the West Midlands Local Government Association established a Regional Waste Planning Technical Group. This Group provides specialist and expert advice on options and strategies for dealing with waste, and has been asked by the WMLGA to prepare a draft Regional Waste Planning Strategy to be included in the Regional Planning Guidance and to help to provide co-ordination at the regional level.

1.3 The aim of this Paper is to help to secure the commitment of all the Region's waste planning, collection and disposal authorities, the Environment Agency, industry and commerce, the waste management industry and the wider community, to a set of strategic principles which will guide the planning and provision of waste management facilities in the West Midlands over the next 20 years. This Paper provides the technical background to the section on waste in the Regional Planning Guidance and is intended to form the basis of consultation with regional stakeholders, prior to the finalisation of the Waste Planning Strategy for the West Midlands Region.

1.4 The purpose of the Regional Waste Planning Strategy is to provide guidance to constituent waste planning authorities (WPAs), waste collection and waste disposal authorities (WCAs, WDAs) for their land use and waste management planning, for the period to 2021. It will be taken into account in the forthcoming review of Regional Planning Guidance, and in the preparation of structure plans, waste local plans and unitary development plans. It should also be taken into account in the preparation of Integrated Municipal Waste Strategies and Recycling Plans. The Strategy provides a context for decisions on future investment by waste collection and disposal authorities and the waste management industry. It provides an indication of the levels of waste minimisation and recycling to be aimed for, and the provision to be made for treatment and disposal of waste, in the region. The Strategy sets the framework for monitoring regional progress towards more sustainable waste management; and it helps to promote the importance of, and to secure commitment to, more sustainable waste management practices by industry and commerce and the general public.

The West Midlands Region

1.5 The West Midlands Region comprises the counties of Staffordshire, Warwickshire, Worcestershire and Shropshire; the new unitary authorities of Telford & Wrekin, Stoke on Trent and Herefordshire; and the seven metropolitan districts of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton. It has a population of about 5.3 million (some 9% of the UK total), of which just over half lives in the metropolitan area. The Region provided about 2.4 million jobs in 1996/7 (about 9.5% of the UK total), of which a relatively high proportion were in manufacturing industries (at 27%, the highest proportion in any region in the UK; the national average being 18%). About **X%** of the land area of the region is in agricultural use.

MAP OF REGION: MAIN PLACES/ CENTRES OF POPULATION, GREEN BELT, MAIN COMMUNICATIONS

MAP OF SUB-REGIONS

2. THE POLICY CONTEXT

National and International Policy

2.1 The 1992 'Earth Summit' of world leaders in Rio de Janeiro supported a commitment to 'Agenda 21', an international action plan to promote sustainable development. The UK Government's own Sustainable Development Strategy was published in 1994, and this was followed in 1995 by the White Paper, 'Making Waste Work: A Strategy for Sustainable Waste Management in England and Wales'.

2.2 The present Government has now published its *National Waste Strategy – 'Waste Strategy 2000'*. The Strategy describes the Government's vision for managing waste and resources better, and sets out the changes needed to deliver more sustainable development. It sets the following targets:

- by 2005 to reduce the amount of industrial and commercial waste sent to landfill to 85% of that landfilled in 1998;
- to recover value from 40% of municipal waste by 2005; 45% by 2010; and 67% by 2015; and
- to recycle or compost at least 25% of household waste by 2005; 30% by 2010; and 33% by 2015.

("Recover" means obtain value from wastes through one of the following means: recycling, composting, other forms of material recovery such as anaerobic digestion, and energy recovery.)

2.3 The Government intends to set statutory performance standards for local authority recycling in England. Best Value Performance Indicators have been established for 2001/2002, and it is intended to introduce statutory performance standards for 2003/04 and 2005/06 to double and treble recycling and composting rates respectively.

2.4 The Strategy recognises the difficulty of breaking down these national targets to regional level, and looks to Regional Technical Advisory Bodies to identify guide figures for waste streams to be managed in each region.

2.5 The Government announced in 1999 that the *Landfill Tax*, adopted as a policy instrument to encourage a move away from reliance on landfill, would be increased from the then rate of £10 per tonne by £1 per year, with a review in 2004. This was intended to provide a clear basis for planning future waste management.

2.6 *Planning Policy Guidance Note 10*, 'Waste Disposal and Management' states that the planning system should aim to meet the following objectives:

- to ensure that an adequate planning framework is in place to enable waste management facilities to be provided to meet the needs of society for the reduction, re-use, recovery and disposal of waste
- to encourage sensitive waste management working practices in order to preserve or enhance the overall quality of the environment and avoid risks to human health
- to protect natural resources, such as areas of designated landscape or nature conservation value, from inappropriate waste management development and to safeguard sites of national, regional and local significance
- to minimise any adverse impact arising from the handling, processing, transport and disposal of waste; and
- to accord with the "best practicable environmental option" (BPEO) for any proposed operation, processing facility or plant and the various types of waste which may be

produced, including that which may arise from any decommissioning activity and demolition or rehabilitation works.

2.7 PPG10 also provides guidance on the locational requirements and planning implications of specific waste management facilities, which will need to be taken into account in development plans.

2.8 The *EC Framework Directive on Waste* (75/442/EEC as amended by 91/156/EEC and adapted by 96/350/EC) requires the establishment of an "integrated and adequate network of waste disposal installations." The purpose is to enable self-sufficiency in waste management across the EC as a whole and within member states, so that waste can be disposed of at one of the nearest appropriate installations, and to protect the environment and public health. The Framework Directive sets a clear direction away from landfill and towards recycling. In 1997, the EC reviewed the Community Waste Management Strategy adopted in 1989. The EC confirmed the strategy's objective of ensuring a high degree of environmental protection without distorting the functioning of the internal market, in order to promote sustainable development. Waste prevention was reaffirmed as first priority, followed by recovery and finally safe disposal.

2.9 The European Parliament is currently considering a group of waste directives, including measures on landfilling and incineration of hazardous and non-hazardous waste. A directive on composting is expected. The *Landfill Directive* (EC Directive on Landfilling Waste 1999/31/EEC) has been adopted. It starts from the principle that landfill of waste is the last resort in the hierarchy, and aims to ensure high standards for the disposal of waste and to stimulate recycling and recovery schemes. It seeks to harmonise standards of environmental protection and to create a level playing field for the cost of disposal across the EC, in order to prevent the unnecessary movement of waste.

2.10 The Landfill Directive requirements are

- by 2010, to reduce biodegradable municipal waste landfilled to 75% of that produced in 1995; by 2013, to reduce the proportion to 50%; and by 2020 to reduce to 35% of that produced in 1995;
- banning co-disposal of non-hazardous and hazardous wastes, and requiring separate landfills for hazardous, non-hazardous and inert wastes;
- banning landfilling of tyres;
- banning landfilling of liquid wastes, infectious clinical wastes and certain types of hazardous wastes; by 2001.

2.11 This Directive will have a profound effect on the management of waste across the EC. The need for pre-treatment, where it applies, will inevitably add to the cost of landfill. The Government is consulting on the formal mechanisms for implementing the Directive, and intends to issue draft regulations in early 2001. Whatever instruments and procedures are adopted, there will be a need for major capital investment in waste management facilities in order to achieve the Directive's requirements. The West Midlands has made a positive move in this respect, but there are a number of WDAs in the Region who will need to develop their strategies to meet these targets.

2.12 One of the main ways in which waste arises is from the packaging of goods to protect the product in transit and to make it more attractive to purchasers. The ***Producer Responsibility (Packaging Waste) Regulations 1997*** and amendments, and the ***Packaging (Essential Requirements) Regulations 1998*** were introduced to implement the EC Directive on Packaging and Packaging Waste. They include specific targets for recycling and recovery of packaging waste, and encourage reduction and reuse of packaging materials.

Regional Planning Guidance for the West Midlands (RPG11)

2.13 Regional Planning Guidance for the West Midlands was published by the Government Office for the West Midlands as RPG11 in September 1995, and revised in April 1998. The Guidance sets out the development principles which should underpin the policies and proposals of Development Plans in the Region, stressing that "it is the role of the planning system at all levels to ensure that such development is sustainable". Emphasis is placed on promoting economic growth, supporting urban and rural regeneration, promoting a sustainable pattern of development, and maintaining and enhancing the region's environment. The need to coordinate policies for transport and other forms of development, to encourage the conservation of natural resources, through reducing demand, using renewable resources and recycling, and to ensure that development is carried out in an environmentally sensitive manner, are highlighted.

2.14 Specifically regarding waste planning, the Guidance refers to the net flow of household and industrial waste from the metropolitan area to landfill in the shire counties, and to the reverse flow of special wastes. The Guidance explains the waste hierarchy, and emphasises the importance of waste minimisation and recycling, the overall aim of regional self-sufficiency, and the "proximity principle" under which waste should be disposed of (or otherwise managed) close to the point at which it is generated. RPG11 confirms the importance of continued coordination of waste planning at the regional level.

2.15 A review of RPG11 is now underway, with a view to final guidance being issued by late 2002. A Regional Vision has been adopted to set the context for the review; this is of "*an economically successful, outward looking and adaptable Region, which is rich in culture and environment, where all people, working together, are able to meet their aspirations and needs without prejudicing the quality of life of future generations*".

2.16 The Project Brief for the Review includes the following Key Issue: "*What should the targets be for the region and its sub-regions for reducing reliance on landfill and for increasing recycling/recovery of waste, taking into account national targets, the present situation, constraints and opportunities?*"

2.17 This draft Strategy seeks to respond to the Regional Vision, and to provide a proposed response to the Key Issue.

Waste Management and Waste Planning Responsibilities in the Region

2.18 The Environment Agency was formed in April 1996, and inherited the responsibilities of the former Waste Regulation Authorities (WRAs), Her Majesty's Inspectorate of Pollution (HMIP) and the National Rivers Authority (NRA). The Agency was set up to protect and enhance the environment as part of the Government's overall commitment to sustainable development, and as such plays a central role in putting environmental policies into place. The Agency regulates the keeping, treatment and disposal of wastes.

2.19 The Agency has a remit to improve the quality and availability of information relating to waste management. The Agency needs information for a number of reasons. These include the need to inform the Government's national waste strategy, to promote sustainable development and environmental protection, to prepare sustainable development strategies, and to prepare Local Environment Agency Plans (LEAPS) and Strategic Waste Management Assessments for each planning region in England and Wales.

2.20 The Agency and Local Authorities have agreed to work closely together on initiatives relating to the minimisation of wastes, reuse and recycling activities, strategy development and the

identification and appraisal of waste management options. This will necessitate the sharing of information.

2.21 The local authorities as Waste Collection and Waste Disposal Authorities (WCAs and WDAs) retain the responsibilities of waste collection and disposal. The National Waste Strategy sets out the requirement for local authorities to prepare Municipal Waste Management Strategies. WCAs in addition have to prepare waste recycling plans. The Metropolitan Districts, county councils and unitary authorities as waste planning authorities (WPAs) have to consider the land use and transport implications of waste minimisation and management issues through their development plans. The current position in the preparation of municipal waste management strategies and Waste Local Plans/ Unitary Development Plans in the region is as follows:

- The WCAs and WDAs in Shropshire are co-operating to produce a joint household waste strategy which will be published for public consultation in 2001. Shropshire County Council is preparing a Waste Local Plan for Shropshire. An issues paper will be published for public consultation during 2001. A draft waste management strategy was published for Telford & Wrekin in 2000.
- Staffordshire County and Stoke on Trent City Councils have adopted a Joint Waste Strategy and published a deposit draft Waste Local Plan.
- In Worcestershire, the WDA and WCAs are working on a joint Municipal Waste Management Strategy. Preparation of the Waste Local Plan is yet to commence.
- Herefordshire Council has joined with Worcestershire and the same private sector partner to implement a long term sustainable waste management strategy. The Council is preparing a Unitary Development Plan to cover all waste planning issues; a draft Plan will be published for consultation in late 1999.
- The Warwickshire Waste Local Plan has been adopted.
- Coventry City Council's Waste Management Strategy was adopted in June 1999.
- Birmingham City Council's Waste Management Strategy was adopted in April 2000. The strategy has been produced to provide a framework to enable strategic decisions to be taken by the City Council for the management of its waste having due regard to legislative, Government and local policy, and environmental matters. The strategy builds on the ideas already being pursued to provide a sustainable operation.
- The other Metropolitan Districts are developing waste management strategies, and all are currently reviewing their Unitary Development Plans, which will include land use and transportation policies and proposals for waste.

3. WASTE MANAGEMENT IN THE WEST MIDLANDS - CURRENT POSITION

Introduction

3.1 The Environment Agency has completed its National Waste Production Survey and has published Strategic Waste Management Assessments (SWMAs) for each of the planning regions in England and Wales. These Assessments draw on data from the survey, together with information from waste management facilities, landfill voidspace surveys, IPC authorisations, etc. The following information on waste production and waste management facilities in the Region is taken from the Strategic Waste Management Assessment 2000 for the West Midlands (unless indicated otherwise). For more detailed information, reference should be made to the SWMA itself. The Regional Waste Planning Technical Group is grateful to the Environment Agency for making this information available.

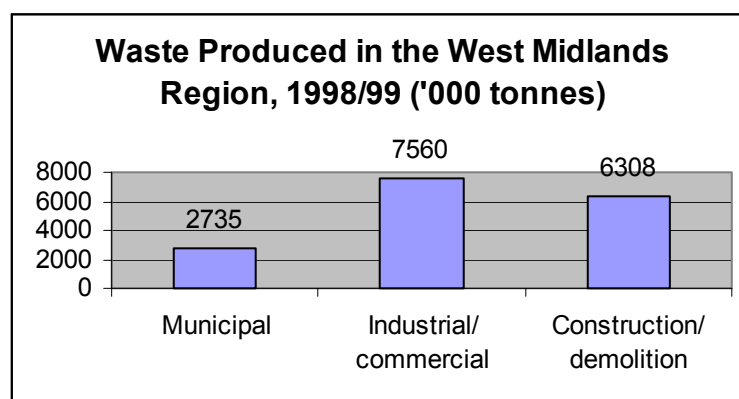
Waste Produced in the West Midlands

Table 1

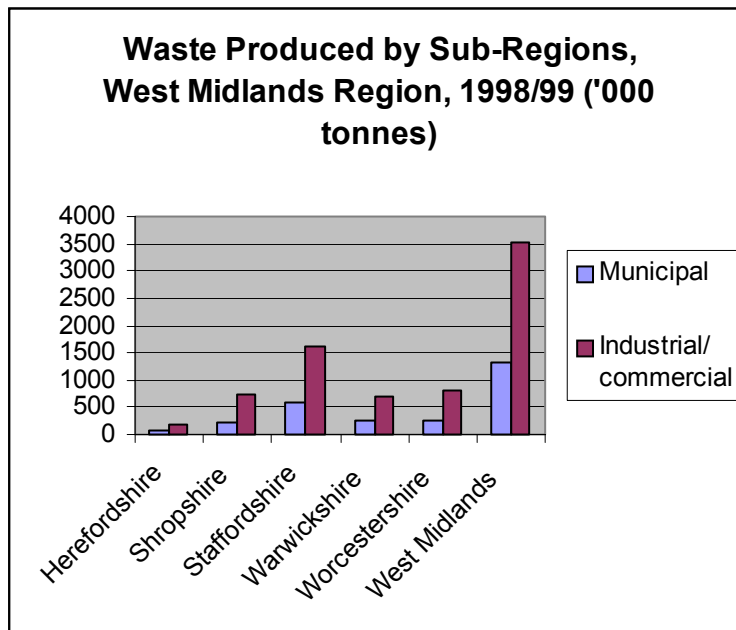
Controlled Waste Produced in West Midlands Region, 1998/99 ('000 tonnes)

Sub Region	Municipal	Industrial/ commercial	Construction/ demolition	Total
Herefordshire	70	177		
Shropshire	238	738		
Staffordshire	575	1,630		
Warwickshire	265	683		
Worcestershire	251	810		
West Midlands	1,336	3,522		
Total	2,735	7,560	6,308	16,603

(Controlled waste is defined as any household, industrial or commercial waste.)



3.2 The Region produced about 16.6 million tonnes of controlled waste in 1998/99. Of this, about 46% was industrial/ commercial in origin, 38% was construction and demolition waste, and only 16% was municipal waste.



Municipal Waste

3.3 The Region produced about 2.7 million tonnes of municipal waste in 1998/99. Almost half of this (1.3 million tonnes) was produced in the Metropolitan area, Staffordshire produced almost 0.6 million tonnes, and Shropshire, Warwickshire and Worcestershire each produced about 0.25 million tonnes. Herefordshire produced only 70,000 tonnes (3%). Some two-thirds of the waste was collected as part of the normal household collection round. Civic amenity waste amounted to about one-fifth of all municipal waste collections. About 10% of the municipal waste collected was non-household waste.

Industrial and Commercial Waste

3.4 The Region produced about 7.5 million tonnes of industrial and commercial waste in 1998/99, of which 70% was from industrial activity. Compared with other regions, the West Midlands Region produced relatively large proportions of inert/ construction and demolition waste, metals and scrap equipment, and general contaminated waste. Almost half (about 3.5 million tonnes) of the Region's industrial and commercial waste was produced in the metropolitan area. Staffordshire accounted for about a fifth (1.6 million tonnes).

3.5 About 600,000 tonnes (about 8%) of the industrial and commercial waste produced in the Region in 1998/99 was classified as 'special waste'.

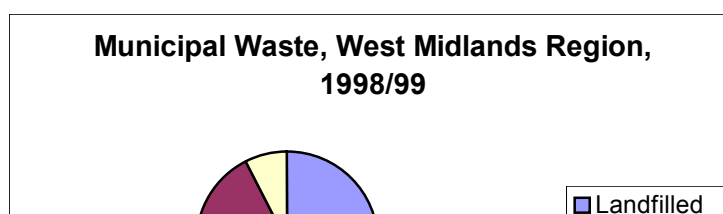
Construction and Demolition Wastes

3.6 The total estimated amount of construction and demolition waste produced by the Region in 1999 was 6.3 million tonnes. Of this, about one third was in the form of soil, and a further fifth was mixed construction and demolition waste and soil.

Management of Waste

3.7 Information on the management of the wastes produced in the Region is detailed in the Strategic Waste Management Assessment. In summary, in 1998/99:

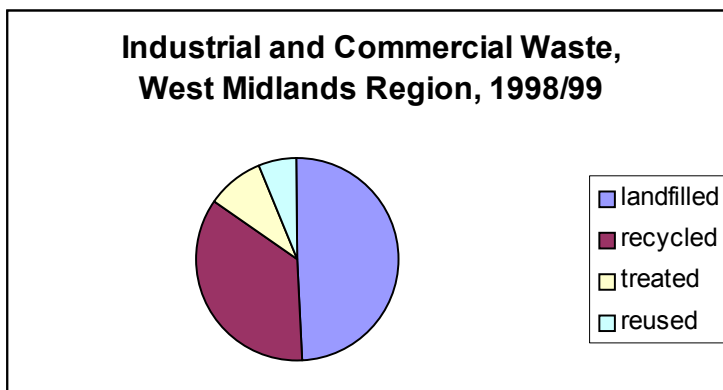
Municipal Waste:



- 1.6 million tonnes (60%) landfilled;
- 0.9 million tonnes (33%) incinerated at energy from waste plants;
- 0.2 million tonnes (7%) recycled.

3.8 Most municipal waste was managed within the sub-region of its origin; the main exceptions were significant movements from the metropolitan area to Warwickshire and to Staffordshire which together accounted for about 35% of the municipal waste produced in the metropolitan area.

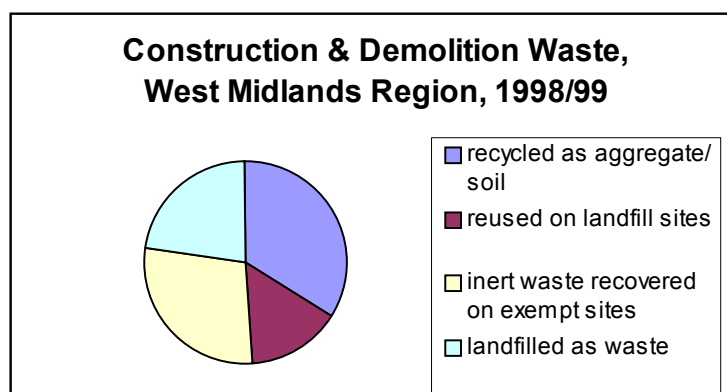
Industrial and Commercial Waste:



- 3.2 million tonnes (42%) landfilled;
- 2.3 million tonnes (30%) recycled;
- 0.6 million tonnes (8%) treated;
- 0.4 million tonnes (5%) reused.

3.9 There were significant movements of industrial and commercial waste across inter- and intra-regional boundaries. Most significant were movements from Staffordshire, the metropolitan area and Warwickshire out of the region, and movements from the metropolitan area to Staffordshire and Warwickshire.

Construction and Demolition Waste:



- 2.13 million tonnes (34%) recycled as aggregates and soil;
- 0.93 million tonnes (15%) reused on landfill sites;
- 1.81 million tonnes (29%) inert waste recovered on exempt sites;
- 1.44 million tonnes (23%) landfilled as waste.

3.10 Changes in the licensing regime, and introduction of the Landfill Tax, have led to significant changes in the management of construction and demolition wastes, with an increasing proportion going to sites exempt from licensing and being treated prior to reuse.

Waste Management Facilities

3.11 The Strategic Waste Management Assessment provides detailed information on the number, type and capacities of licensed waste management facilities in the West Midlands Region in 1998/99. There were 528 licensed facilities that accepted waste in 1998/99; these included:

- 93 landfill sites;
- 40 waste treatment facilities;
- 141 open gate transfer stations;
- 193 metal recycling sites.

These sites handled about 12.7 million tonnes of waste in 1998/99.

Landfill Sites

Licensed Sites

3.12 Licensed landfill sites received some 7.1 million tonnes of waste during 1998/99, of which 48% was industrial/ commercial, 27% was construction and demolition, and 23% was municipal waste. About 60% of this waste was received by sites in Staffordshire and Warwickshire. Of the 7.1 million tonnes, 6.1 mt went to open gate sites.

3.13 The SWMA calculates the remaining capacity of licensed landfill sites in the Region at approximately 88 million cubic metres, of which 77.7 cu m is available at open gate sites. Of the remaining open gate site capacity, there is 55.7 cu m capacity available at co-disposal sites, some 13.8 cu m at sites licensed for household, industrial and commercial wastes, and 8.1 cu m capacity in inert-only sites. Staffordshire and Warwickshire have about 60% of the remaining capacity. With the exception of Herefordshire and Shropshire, all of the sub-regions have significant licensed landfill capacity.

3.14 Using 1998/99 rates of input, and making an allowance for capacity taken up by engineering works, the SWMA calculates an overall remaining lifespan in the Region for sites licensed to take household, industrial and commercial wastes of 8.6 years. (The Technical group has prepared its own assessment, which is set out in sections 4 and 5 and the Appendix.)

Unlicensed Sites with Planning Permission

3.15 The WPAs have carried out a survey of the approximate capacity of sites which have planning permission for landfill, but which are not licensed. In total, there is capacity for about 19 million cubic metres of inert, and 57 million cubic metres of other/ non-inert waste in the identified sites.

3.16 The deposits of clay which are commercially exploited tend to occur on the fringe of the West Midlands conurbation and in north Staffordshire. There are about half a dozen particularly large clay pits, over 1 million cubic metres in capacity, which will be worked out in the short-term which have planning permission for tipping as part of their restoration conditions. These sites have the potential to provide large capacity non-inert landfills if they are licensed by the Environment Agency.

3.17 Those sites on the fringe of the conurbation are at Himley Quarry and at Oak Farm, Dudley, Highfields South Quarry in Walsall, and Rush Lane, Dosthill. In addition planning permission has been granted with a legal agreement for an extension to the above ground disposal site at Packington in Warwickshire and there are large sites with planning permission at Judkins Quarry (Nuneaton), Rugby, Throckmorton Road (Persore) and Walley's Quarry at Newcastle under Lyme. These sites have a combined capacity of over 30 million cubic metres.

3.18 In the medium and long term there are other active, or consented, mineral workings in low permeability strata, each of a similar scale, which will provide a continuity of space in which non-inert waste can be deposited. How quickly these sites will be restored depends to a large extent on the level of recycling of construction and demolition waste and the impact of the Landfill Tax.

3.19 There are similar large sites that can accommodate inert waste. The majority of the large sites are in Staffordshire, mainly in the Trent and Tame valleys, and are required, by planning condition, to be restored to good quality farmland.

3.20 In addition to these large sites there are very many sites in the 100,000 to 1,000,000 cubic metre range which when aggregated together represent a sizeable proportion of the market.

Incinerator - energy from waste - capacity

3.21 The SWMA indicates that in 1998/99, some 1.1 million tonnes of waste was incinerated; of this, 0.86 mt was municipal waste.

3.22 There is about 1.2 million tonnes per annum of authorised waste incineration capacity in the Region. There are 5 municipal waste to energy plants (4 in the metropolitan area, one in Stoke on Trent) which generate electricity and provide a capacity of about 1 million tonnes pa. In addition, there are smaller scale specialist facilities which are licensed to accept hazardous and clinical waste and tyres.

Treatment

3.23 In 1998/99, about 0.7 million tonnes (8% of wastes managed in the region) were treated. The overwhelming majority of this waste was industrial and commercial, almost half of which was special waste. Most will have been subsequently disposed of to landfill.

Sorting and transfer

3.24 About 2.9 million tonnes of waste passed through open gate transfer facilities (2.3 mt) and civic amenity sites (0.6 mt). About 36% of this waste was industrial/ commercial, 33% was inert/ construction and demolition, and 30% was municipal. Much of this waste will have been subsequently disposed of through other facilities in the region. A further 1.8 million tonnes of waste was handled by licensed metal recycling sites, 85% of which was handled by sites in the metropolitan area.

Other waste management facilities in the West Midlands

Agricultural wastes

3.25 Agricultural production generates large quantities of waste and the most recent estimates are set out in Table which shows a total of nearly 6.8 million tonnes per year for the Region. The animal matter at 6.4 million tonnes arises from housed livestock and excludes waste produced in the field. However, most of this is not 'waste' in the sense of having no useful purpose and requiring 'final' disposal. Much of it has a significant further value and is recycled within the farm holding or purchased and used by other farmers. There are a number of pollution control issues related to this material and MAFF has issued Codes of Good Agricultural Practice for the Protection of Water, Soil and Air to encourage the safe use of this material. It is not thought that any special or additional provision will be needed to dispose of farm waste for the period up to 2011.

3.26 Other wastes arising from agriculture can include

- chemical containers and surplus chemical concentrates;
- asbestos and other demolition materials;
- plastics such as fertiliser sacks, film for silage wrapping and early crop protection;
- scrap metal.

3.27 At present much farm waste is disposed of 'on farm' through permitted development rights. The DETR are expected to issue a consultation paper proposing that in future farmers will have to show that they have a sensible and regular method of disposal for waste.

Priority Waste Streams

3.28 The SWMA provides information on the national position regarding those specific waste streams identified by the European Commission as posing a potential threat to the environment. These waste streams include inert and construction/ demolition waste, packaging waste, batteries, solvents, oils, polychlorinated biphenyls, tyres, end of life vehicles, fragmentiser waste, waste electrical and electronic equipment, and fluorescent tubes. Special waste management facilities are required for many of these waste streams. The Regional Waste Planning Technical group recognises the need for more technical work on these waste streams.

4. KEY ISSUES AND PRINCIPLES FOR THE REGION

Roles and Responsibilities

4.1 It was stated at the outset that everyone has a part to play in encouraging and achieving a more sustainable approach to waste in our Region. We will have to work closely together, but it is also important to identify who will need to take the lead in the various actions which are identified in the Strategy. The rest of this document will identify the particular roles to be played by the following key organisations and groups in the Region:

- Residents and households, who create waste and whose attitudes, involvement and understanding are fundamental to the future direction of waste management.
- Industry and commerce, including the construction and demolition industries, who create the vast majority (84%) of the region's waste.
- National government, which sets the National Strategy, legislates, and applies economic and financial instruments.
- The Environment Agency, which regulates and provides information and specialist advice.
- The waste management industry, which owns and operates the infrastructure, and provides investment.
- Educational organisations, which can play a significant part in encouraging minimisation and recycling.
- The voluntary sector, which can play a part in operating recycling schemes, and promoting minimisation.
- Waste Collection Authorities, which are responsible for collecting household and trade waste, and must play a significant role in educating and encouraging waste minimisation and recycling.
- Waste Disposal Authorities, which set the strategy for their area and let contracts to implement these strategies.
- Waste Planning Authorities, which have to draw up land use plans and make decisions on planning applications for waste facilities.

Targets for Waste Planning in the Region

4.2 The Region must play its part in delivering the targets set by the National Waste. It is proposed that the national targets are adopted for the West Midlands:

- a) to recover value from at least 40% of municipal waste by 2005; 45% by 2010; and 67% by 2015;
- b) to recycle or compost 25% of household waste by 2005; 30% by 2010; and 33% by 2015; and
- c) to reduce the proportion of industrial and commercial waste which is disposed of to landfill to 85% of 1998 levels by 2005.

SP 1

Integration and Coordination

4.3 The integration and co-ordination of waste management and planning at regional, sub-regional and local levels is a key principle. All controlled waste streams will need to be considered in preparing Waste Local Plans and UDPs, and Waste Management Strategies, even though it is acknowledged that the local authorities in the Region have limited ability to influence directly the management of industrial, commercial, construction and demolition wastes which account for the majority of the Region's waste.

SP 1A

LOCAL WASTE STRATEGIES AND WASTE LOCAL PLANS/ UNITARY DEVELOPMENT PLANS SHOULD CONSIDER AND WHERE APPROPRIATE INCLUDE POLICIES AND PROPOSALS FOR ALL TYPES OF WASTE. THEY SHOULD PROMOTE AN INTEGRATED APPROACH TO THE MINIMISATION AND MANAGEMENT OF WASTE WITHIN THEIR AREA.

SP 1B

LOCAL WASTE STRATEGIES AND RECYCLING PLANS SHOULD TAKE INTO ACCOUNT THE POLICIES AND PROPOSALS OF ANY WASTE LOCAL PLANS FOR THEIR AREA; AND WASTE LOCAL PLANS SHOULD TAKE ACCOUNT OF THE CONTENT OF RELEVANT LOCAL WASTE STRATEGIES AND RECYCLING PLANS.

SP 1C

POLICIES FOR AND THE PROVISION OF FACILITIES SHOULD WHEREVER POSSIBLE BE COORDINATED BETWEEN NEIGHBOURING LOCAL AUTHORITIES, TO ENSURE THAT MAXIMUM USE IS MADE OF FACILITIES AND THAT TRANSPORT DISTANCES ARE MINIMISED. WASTE COLLECTION AND WASTE DISPOSAL AUTHORITIES SHOULD WORK CLOSELY TOGETHER TO ENSURE THE INTEGRATION OF STRATEGIES AND PROPOSALS FOR WASTE MANAGEMENT.

SP 1D

LOCAL AUTHORITIES SHOULD WORK CLOSELY WITH INDUSTRY AND COMMERCE AND THE WASTE MANAGEMENT INDUSTRY TO ENSURE THAT MAXIMUM BENEFIT IS DERIVED FROM PLANNED INVESTMENT IN WASTE MANAGEMENT FACILITIES.

SP 2

Proximity

4.4 The waste challenge needs to be acknowledged and 'owned', and dealt with, locally wherever possible: if those who are responsible for generating waste had to bear the full environmental as well as financial costs of managing that waste within their own area, this would provide a stimulus to waste minimisation and more sustainable waste management.

4.5 The Proximity Principle is therefore a key concept in promoting sustainable waste management. EC and UK Government policy seeks to ensure that all waste is disposed of, or otherwise managed, as close as practicable to the point at which it is generated.

4.6 The adverse effects of transport of waste on the regional environment and local amenity need to be minimised. Transport of waste to landfill should be minimised by encouraging separation, recycling and pre-treatment close to source. There is a potential conflict between proximity and the trend to increasingly large facilities which seek to take advantage of economies of scale. Large scale facilities typically accept waste from a wide radius. This may be justified for specialist facilities. Plants handling more general wastes, and smaller scale facilities may, however, be easier to integrate into the region's urban areas and may help to reduce transport costs and impacts. Joint working between authorities and the waste management industry, and between industrial and commercial businesses, may enable facilities to be provided which would otherwise not be financially viable. The proximity principle will therefore be an important factor in considering the BPEO for a particular waste or means of treatment or disposal, and its location.

4.7 Complex financial and commercial factors will determine the relationship between the origin of waste and where it is ultimately disposed of, but as far as is practicable final disposal should be as close as possible to the source. The distances that waste will be transported, and the impact of the routes which will be taken on residential amenity and environmental assets, will be material planning considerations, in preparing Waste Local Plans and Unitary Development Plans and in determining planning applications. Because of the quantities of wastes produced in the metropolitan area, particular attention should be given in Waste Local Plans and Unitary Development Plans to opportunities to locate waste management facilities within and close to the metropolitan area - within the 'central crescent' - and close to other major urban concentrations. Land use plans will need to give careful consideration to the implications of the need for waste management facilities for the green belt.

4.8 Proximity should be assessed in terms of actual travel distances, and should take into account the environmental sensitivity of the route. Wherever possible, advantage should be taken of opportunities to transport waste by rail and water.

4.9 The Local Authorities should investigate the scope for joint working with the waste management industry to increase the efficiency in transporting wastes, particularly recyclable municipal wastes, to processing facilities. Specifically, consideration should be given to funding a research project via the Landfill Tax Credit Scheme to identify the scope and potential benefits of co-ordination at a regional or sub-regional level.

SP 2A

WASTE MANAGEMENT STRATEGIES AND PLANS SHOULD ENCOURAGE THE PRE-TREATMENT, RECYCLING AND DISPOSAL OF WASTE CLOSE TO ITS SOURCE WHEREVER THIS IS ECONOMICALLY VIABLE AND CONSISTENT WITH OTHER LAND USE AND ENVIRONMENTAL CONSIDERATIONS.

SP 2B

CONSIDERATION SHOULD BE GIVEN TO THE ADVANTAGES OF SMALL SCALE FACILITIES WHICH MAY BE MORE EASILY INTEGRATED INTO URBAN AREAS.

SP 2C

IN SOME CIRCUMSTANCES IT MAY BE APPROPRIATE TO CO-LOCATE WASTE TREATMENT, RECYCLING AND LANDFILL FACILITIES, BUT THE BENEFITS OF THIS WOULD NEED TO BE DEMONSTRATED BY A CAREFUL ASSESSMENT OF THE BEST PRACTICAL ENVIRONMENTAL OPTION.

SP 2D

THE LOCAL AUTHORITIES IN THE REGION SHOULD WORK TOGETHER AND WITH THE WASTE MANAGEMENT INDUSTRY TO IDENTIFY WAYS OF MINIMISING THE COSTS AND IMPACTS OF TRANSPORTING WASTE AND RECYCLABLE MATERIALS.

SP 3

Regional Self Sufficiency and County Interdependency

4.10 The Government promotes the concept of Regional Self Sufficiency in order to encourage the management of waste close to source and to reduce the distances that waste has to be transported. The SWMA is largely silent on the issue of waste movements between the West Midlands and North West Region. Although some indication is given as to Special Waste (fig4.10), this a relatively small amount of total waste arisings. Information from the mid 1990s suggested that imports to and exports from the West Midlands Region were broadly in balance. Interchange at the boundaries of the Region are to be expected and in most cases will be in accordance with the proximity principle. The nature and extent of these inter-regional flows are largely determined by commercial factors, and more specifically, the collection rounds and waste disposal facilities used by commercial waste operators.

SP 3A

IN PREPARING WASTE LOCAL PLANS/ UNITARY DEVELOPMENT PLANS, LOCAL PLANNING AUTHORITIES AND WASTE COLLECTION/ DISPOSAL AUTHORITIES SHOULD AIM TO CONTRIBUTE TOWARDS REGIONAL SELF-SUFFICIENCY, MAINTAINING A BROAD BALANCE SIMILAR TO THAT WHICH EXISTED IN THE MID/ LATE 1990s.

SP 3B

CONSULTATION WILL TAKE PLACE WITH NEIGHBOURING REGIONS, PARTICULARLY THE NORTH WEST AND EAST MIDLANDS REGIONS, AND WALES, TO AGREE MUTUALLY ACCEPTABLE AND REALISTIC ASSUMPTIONS ABOUT CROSS-BOUNDARY WASTE FLOWS.

4.11 Within the region, there are complex flows of waste between sub-regions. The pattern of movements of waste from the metropolitan area to landfill sites in surrounding shire counties, particularly the 'central crescent', is the most obvious manifestation, but also significant are flows of special wastes from the shire areas into the metropolitan area for treatment at specialist facilities. It is inevitable, and sometimes consistent with the proximity principle, that movements across boundaries within the Region will continue to some extent.

SP 3C

ALTHOUGH 'COUNTY SELF SUFFICIENCY' IS NOT A PRACTICAL CONCEPT FOR ALL SUB-REGIONS, IT IS NEVERTHELESS ESSENTIAL THAT EACH WCA, WDA AND WPA SEEKS TO PROVIDE FACILITIES TO MANAGE AS MUCH OF THE WASTE GENERATED WITHIN ITS AREA AS POSSIBLE.

SP 4

The Waste Hierarchy and Best Practical Environmental Option

4.12 The National Waste Strategy confirms the Government's view that the key principle to be adopted in pursuit of sustainable waste management is that of the Best Practical Environmental Option (BPEO). All those responsible for planning for waste in the Region should assess the full environmental consequences of all options, as well as their practical and financial implications, before coming to a decision on the Best Practical Environmental Option. The Environment Agency is mid way through a research programme to help provide a common basis for decision-making in waste management. This programme is exploring the use of Life Cycle Assessment (LCA) to help to assess the environmental and other costs and benefits of waste management options and the development of waste management strategies.

4.13 The National Waste Strategy also emphasises its support for the 'waste hierarchy' as a guide to the options to be considered when assessing BPEO. The waste hierarchy seeks to encourage the adoption of sustainable waste management options, the most sustainable options generally being nearer the top of the hierarchy:

- Reduction
- Re-use
- Recovery (including energy recovery, recycling and composting)
- Disposal without recovery (landfill, incineration without recovery)

4.14 The National Waste Strategy sets targets which encourage movement of waste management up the waste hierarchy. It has to be recognised, however, that, because of the long term contracts which some local authorities have entered into with the private sector for the management of municipal waste, the flexibility to change direction without incurring penalty or renegotiation is often limited. Waste disposal contracts typically involve long lead-in times for their preparation; require significant investment and long pay-back periods; often involve contractually committed minimum quantities; and often seek to reduce waste volumes through the use of energy from waste or other processing plants. This may constrain the application of BPEO, and may limit planning decisions for alternative waste treatment options higher up the waste hierarchy.

SP 4A

IN PREPARING THEIR WASTE MANAGEMENT STRATEGIES, RECYCLING PLANS, AND WASTE LOCAL PLANS/ UDPS, LOCAL AUTHORITIES ARE ENCOURAGED TO APPLY THE PRINCIPLES OF LIFE CYCLE ASSESSMENT TO ENSURE THAT THE FULL RANGE OF ENVIRONMENTAL AS WELL AS OTHER COSTS AND BENEFITS HAVE BEEN TAKEN INTO ACCOUNT. REFERENCE SHOULD BE MADE TO THE GUIDANCE FROM THE ENVIRONMENT AGENCY IN CARRYING OUT THESE ASSESSMENTS.

SP 4B

INDUSTRY AND COMMERCE, AND THE WASTE MANAGEMENT INDUSTRY, ARE SIMILARLY ENCOURAGED TO APPLY LCA WHEN MAKING DECISIONS ON THE MANAGEMENT OF THEIR OWN WASTE, AND WHEN SUBMITTING PROPOSALS FOR THE DEVELOPMENT OF NEW WASTE MANAGEMENT FACILITIES.

SP 4C

WPAs, WCAs AND WDAs IN THE REGION SHOULD APPLY THE WASTE HIERARCHY FLEXIBLY, BUT (SUBJECT TO THE OUTCOME OF AN ASSESSMENT OF BPEO) THE GENERAL AIM SHOULD BE THE PROGRESSIVE MOVEMENT OF WASTE MANAGEMENT UP THE HIERARCHY AND AN OVERALL REDUCTION IN THE RELIANCE ON LANDFILL. IT IS NEVERTHELESS ACCEPTED THAT DISPOSAL TO LANDFILL WILL CONTINUE TO BE THE BPEO FOR SOME TYPES OF WASTE, ALBEIT WITHIN THE MORE TIGHTLY PRESCRIBED FRAMEWORK PROPOSED BY THE LANDFILL DIRECTIVE AND INTEGRATED POLLUTION PREVENTION AND CONTROL REQUIREMENTS.

SP 5

Waste Minimisation

4.15 The Government has confirmed the strong emphasis it wishes to give to waste minimisation. It has signalled an intention to make creative use of economic incentives including the landfill tax to encourage waste minimisation and more sustainable ways of managing waste. The Regional Strategy will need to make assumptions about the effectiveness of the Government's fiscal and legislative measures, including the Landfill Tax and Landfill Directive, and the initiatives to be taken in the region to minimise waste and encourage reuse of materials and products, in order to make projections of future waste arisings.

4.16 Trend data are not available for the main waste streams in the Region, so it is not possible to say with any certainty whether the total quantity of wastes arising in the West Midlands is increasing, reducing, or remaining stable.

4.17 The relationship between economic growth, employment change and waste generation is far from clear. Projections for the Region produced by the Institute for Employment Research suggest that service sector employment may grow by about 230,000 between 1996 and 2006; this may be offset by a reduction of about 60,000 jobs in primary/ utility and manufacturing industries.

4.18 In the past, waste generated by industry and commerce has been seen as something of a 'barometer' for the health of the economy. This is a relationship which needs to be broken if we are to succeed in achieving a more sustainable approach to waste.

4.19 Whilst industry and commerce are increasingly aware of the 'bottom line' imperatives for waste minimisation and reuse, the sheer quantities of the wastes involved in the region mean that continued support needs to be given to the Region's business community to help to reduce their costs, improve their competitiveness and environmental performance, and reduce the need for waste treatment and landfill in the region. It is particularly important to focus on Small and Medium Sized Enterprises (SMEs), which make up a large proportion of the region's industry, and which often do not have the in-house resources and expertise to analyse and improve their own environmental management performance.

4.20 Data on municipal wastes suggest that, whilst the picture varies across the Region, quantities are increasing by as much as 3-5% each year. Not only is more waste generated by each household, but the number of households in the Region continues to increase. Projections indicate that the Region's population will increase by about 130,000 people between 1996 and 2011, and the number of households is projected to grow by over 200,000. The SWMA calculates that, taking into account population projections and assuming a 3% pa growth in waste per head, the region's MSW production would increase to 3.7 mt by 2010, 4 mt by 2013, and 4.9 mt by 2020 - a 75% increase on present levels. Public education and minimisation initiatives are vital if this rate of growth is to be reduced. This is all the more vital in view of the requirements of the Landfill Directive.

SP 5A

PRIORITY SHOULD BE GIVEN AT REGIONAL LEVEL AS WELL AS BY INDIVIDUAL AUTHORITIES AND OTHER STAKEHOLDERS, TO INITIATIVES AND FACILITIES WHICH WILL ENCOURAGE AND PROMOTE WASTE REDUCTION AND THE REUSE OF MATERIALS AND PRODUCTS ACROSS ALL SECTORS IN THE WEST MIDLANDS.

SP 5B

IN PARTICULAR INITIATIVES AT REGIONAL AND LOCAL LEVEL TO PROMOTE WASTE MINIMISATION IN THE BUSINESS COMMUNITY SHOULD

- MAKE FULL USE OF THE ESTABLISHED ENVIRONMENT BUSINESS NETWORKS AND THE 'ENVIROBIZ' WEB SITE, AS WELL AS RECENTLY ESTABLISHED 'SWAP' NETWORKS AND BUSINESS LINK CONTACTS WITH INDIVIDUAL FIRMS;
- TARGET SPECIFIC SECTORS INCLUDING THE CONSTRUCTION AND DEMOLITION INDUSTRY; AND
- ENGAGE SMEs FOR EXAMPLE THROUGH BUSINESS PARK INITIATIVES. INITIATIVES MAY INCLUDE PROVIDING ADVICE AND GUIDANCE, AWARD SCHEMES, ENCOURAGING COLLECTIVE APPROACHES, DEVELOPING DEMONSTRATION PROJECTS, AND ENCOURAGING TAKE-UP OF ENVIRONMENTAL AUDITS AND THE ADOPTION OF ENVIRONMENTAL MANAGEMENT SYSTEMS.

SP 5C

ALL LOCAL AUTHORITIES SHOULD GIVE ACTIVE CONSIDERATION TO INITIATING AND SUPPORTING LOCAL CAMPAIGNS TO INFORM HOUSEHOLDS OF THE COSTS AND OTHER IMPLICATIONS OF DISPOSING OF WASTE, AND ENCOURAGING AND HELPING TO PROVIDE OPPORTUNITIES TO MINIMISE WASTE; LOCAL AGENDA 21 ACTION PLANS PROVIDE ONE OPPORTUNITY TO DO THIS.

SP 5D

WITHIN THE REGION, CONSIDERATION SHOULD BE GIVEN TO A SURVEY OF EXISTING PRACTICE IN HOUSEHOLD WASTE MINIMISATION, AND TO DEVISING METHODS OF DISSEMINATING GOOD PRACTICE AND COORDINATING ACTIVITY.

SP 6

Recycling and Composting

4.21 Government measures including the Producer Responsibility Obligations (Packaging Waste) Regulations 1997, and the Landfill Tax, create an incentive to invest in measures to recycle and recover wastes. The EC Landfill Directive includes a ban on the practice of co-disposal (mixing hazardous and non-hazardous wastes in landfill sites), and on the amounts of biodegradable waste that are landfilled. It is likely that the costs of disposing of hazardous and biodegradable waste that has not been pre-treated direct to landfill are therefore likely to increase substantially. In the longer term, therefore, pre-treatment is likely to become attractive to producers of hazardous waste in order to reduce costs of disposal, and this will create opportunities for developing new technologies and facilities, as well as a further impetus to minimise waste and increase recycling.

4.22 The National Waste Strategy target is to reduce industrial and commercial waste that is disposed of to landfill to 85% of 1998 levels, by 2005. For this to be achieved, industry and commerce will need to identify further scope for reusing and recycling waste.

4.23 To recycle or compost 25% of household waste by the year 2005 (the National Waste Strategy target) would mean increasing the amount of material recycled in the Region from 0.2 mt in 1998 to 0.7 mt by 2006 (assuming 3% pa growth in waste collected). By 2011, the 30% target would require some 1.2 mt to be recycled. By 2016, the requirement would be about 1.5 mt; and by 2021, this would have increased to 1.7 mt. Achievement of these targets will require a substantial increase in the provision of facilities for recycling and composting – an indication of the additional capacity that may be required in the Region is given in section 5.

4.24 The disincentives to household waste recycling and composting include the relatively high costs of waste separation and collection compared with other methods of management, the shortage of public sector resources for investment in capital equipment; the uncertainties of the market for recycled material, and the lack of awareness amongst the public. It will be essential for WCAs and WDAs to work closely together to identify the measures to be taken to promote recycling and composting. Conversely, there are examples within the Region and elsewhere which demonstrate the pre-requisites for successful initiatives. These include

- informing and involving residents, for example through Local Agenda 21 activity;
- providing facilities which are convenient and easy to use;
- developing partnerships between local authorities and the private sector to secure investment;
- using new technology to establish 'swap' networks and exchange information on best practice;
- using long term contracts to stabilise the market for the recycled materials.

SP 6A

WASTE MANAGEMENT PLANS, RECYCLING PLANS AND DEVELOPMENT PLANS IN THE REGION SHOULD AIM TO ACHIEVE A HOUSEHOLD WASTE RECYCLING/ COMPOSTING RATE OF 25% BY 2005; 30% BY 2010; AND 33% BY 2015.

SP 6B

SUBJECT TO PROXIMITY AND BPEO CONSIDERATIONS, LOCAL AUTHORITIES SHOULD WORK CLOSELY TOGETHER, AND CREATE STRONGER LINKS WITH INDUSTRY AND COMMERCE AND THE WASTE MANAGEMENT INDUSTRY, TO EXPLORE OPPORTUNITIES FOR ACHIEVING ECONOMIES OF SCALE IN THE PROVISION OF RECYCLING AND TREATMENT FACILITIES AND ESTABLISHING CONTACT BETWEEN WASTE PURCHASERS AND SUPPLIERS. TO ACHIEVE THIS, FULL USE SHOULD BE MADE OF THE ESTABLISHED LINKS WITH INDUSTRY REFERRED TO IN SP5B.

SP 6C

LOCAL AUTHORITIES AND OTHER REGIONAL STAKEHOLDERS SHOULD CONSIDER THE DEVELOPMENT OF JOINT PURCHASING STRATEGIES THAT PROMOTE THE USE OF RECYCLED MATERIALS IN THEIR ORGANISATIONS. LOCAL AUTHORITIES SHOULD ENSURE THAT MAXIMUM USE IS MADE OF RECYCLED MATERIALS IN THEIR OWN CONTRACTS.

SP 6D

ACTING INDIVIDUALLY OR COLLECTIVELY, LOCAL AUTHORITIES SHOULD ESTABLISH ADVICE SERVICES, AND EDUCATION AND PUBLICITY CAMPAIGNS, TO PROMOTE HOUSEHOLD RECYCLING AND COMPOSTING, PARTICULARLY THROUGH LOCAL AGENDA 21 STRATEGIES AND ACTION PLANS.

SP 6E

IN THEIR DEVELOPMENT PLANS, LPAs SHOULD INCLUDE POLICIES AND PROPOSALS TO

- MAXIMISE THE RE-USE OF EXISTING BUILDINGS AND ENSURE THAT NEW BUILDINGS ARE DESIGNED AND CONSTRUCTED TO MAXIMISE THEIR LIFESPAN;
- ENCOURAGE MAXIMUM USE OF RECYCLED MATERIALS IN DEVELOPMENT AND REDEVELOPMENT PROPOSALS, AND MINIMISE THE USE OF RAW MATERIALS AND GENERATION OF WASTE DURING DEVELOPMENT;
- REQUIRE MAJOR DEVELOPMENTS TO PROVIDE FOR IN-HOUSE OR ON-SITE RECYCLING AND TREATMENT OF WASTES;
- GUIDE THE LOCATION AND SITING OF WASTE TREATMENT AND RECYCLING FACILITIES TO APPROPRIATE LOCATIONS, HAVING REGARD TO THE PROXIMITY PRINCIPLE AS WELL AS ENVIRONMENTAL AND AMENITY CONSIDERATIONS;
- WHERE POSSIBLE INCLUDE SITE SPECIFIC PROPOSALS FOR NEW MATERIALS RECYCLING FACILITIES AND WASTE TRANSFER FACILITIES;
- REQUIRE THE SUBMISSION OF A WASTE AUDIT FOR MAJOR DEVELOPMENT PROPOSALS.

SP 6F

LOCAL AUTHORITIES SHOULD GIVE ACTIVE CONSIDERATION TO THE USE OF RECYCLING CREDITS TO ENCOURAGE COMMUNITY RECYCLING SCHEMES.

SP 6G

AT BOTH REGIONAL AND LOCAL LEVELS, LOCAL AUTHORITIES AND THE WASTE MANAGEMENT INDUSTRY SHOULD GIVE FAVOURABLE CONSIDERATION TO PROPOSALS TO USE LANDFILL TAX CREDITS TO INCREASE THE AMOUNT OF RECYCLING WITHIN THE REGION.

SP 7

Incineration with Energy Recovery

4.25 The National Strategy target of recovering value from municipal waste would require a total capacity of waste treatment facilities in the Region of about 1.9 mt pa by 2021, assuming a 3% pa growth rate in waste collected. This is in addition to the estimated requirement for 1.7 mt capacity for recycling and composting. It should be noted that value can be recovered from waste by recycling, composting, other forms of material recovery such as anaerobic digestion, as well as energy recovery.

4.26 Capacity is available in the metropolitan area and North Staffordshire for incineration with energy recovery of about 1 mt pa. The incinerator capacity created in the metropolitan area and Stoke on Trent has almost doubled the capacity to burn municipal waste and thus reduce the amount of household waste that needs to be landfilled. Recycling bottom ash has the potential to reduce the residue going to landfill even further. All of the existing incinerators recycle around 2-3% of the MSW received as ferrous metals. The recycling of the majority of the remaining ash as secondary aggregate is under development, partly through 'buy recycled' strategies among local authorities and partly through private sector partnerships. A number of highway authorities are specifying a secondary aggregate content in their maintenance contracts. In Birmingham, one third of the ash was recycled last year (35,000 tonnes); it is expected that by 2010, all the ash (other than fly ash) will be recycled in this way (though it should be noted that the Government's present position is that recycling of incinerator residue does not count towards the statutory recycling targets).

4.27 Section 5 provides an indication of the possible scale of additional facilities that may be required in the Region in order to meet the National Waste Strategy targets for municipal waste.

4.28 An analysis by the Environment Agency suggests that about 46% of industrial waste and 62% of commercial wastes generated in the West Midlands County area could be physically suitable for incineration.

4.29 It is possible that, as the costs of landfill rise in response to increases in the Landfill Tax and the introduction of the provisions of the Landfill Directive, and possibly increases in the costs of transport, incineration with energy recovery will become a financially more attractive option throughout the region for household and other waste streams. It is also possible that, as a result of the significantly changed climate for waste management created by the National Waste Strategy, technological advances will provide the scope for new solutions to the need to recover value from waste. These factors, together with environmental considerations, will need to be taken into account when decisions are taken locally through Municipal Waste Management Plans as to how to achieve the targets for recovering value from municipal waste.

SP 7A

AUTHORITIES SHOULD PLAN TO RECOVER VALUE FROM AT LEAST 40% OF MUNICIPAL WASTE BY 2005; 45% BY 2010; AND 67% BY 2015.

SP 7B

IN CONSIDERING PROPOSALS FOR ADDITIONAL INCINERATION WITH ENERGY RECOVERY CAPACITY, AUTHORITIES SHOULD APPLY BPEO PRINCIPLES, AND PARTICULARLY SHOULD GIVE CAREFUL CONSIDERATION TO THE RELATIVE COSTS, BENEFITS AND PRACTICALITIES OF THE BALANCE BETWEEN INCINERATION AND RECYCLING.

SP 8

Landfill

4.30 Across the region as a whole, for industrial, commercial and municipal wastes, it is estimated that there will be a cumulative requirement for landfill void capacity of 90.5 m tonnes by 2016, and 115 m tonnes by 2021. This assumes that the targets for diversion of waste from landfill are achieved. This requirement compares with an estimated capacity at 1998/99 in sites that are licensed to accept non-inert wastes of 48.5 m tonnes and a further potential capacity in sites with planning permission to accept these wastes, but not yet licensed, of 38 m tonnes. This assessment only takes into account open gate sites that would accept household, industrial and commercial waste and co-disposal of waste. It assumes a 1:1 ratio of tonnes: cubic metres, and assumes that 30% of available capacity is used for engineering purposes

4.31 The SWMA has estimated that the Region has an 8.6 years capacity at licensed sites for biodegradable wastes at 1998/99 input rates. In making this estimate, it was assumed that approximately 40% of available void capacity will be occupied by engineering work in site construction, daily cover and capping. In addition, an assumption has been made that waste inputs will have an average placed density of 0.83 tonnes per m³ of capacity. Techniques are available, and have been accepted for use on sites licensed by the Environment Agency, which significantly reduce the need for imported material for site construction, daily cover and capping. This has the effect of significantly increasing the percentage of void space that is available for waste disposal. Further, the placed density used is at the lower end of the density achieved in practice. This is as a result of the compaction of waste by plant used on site and also natural settlement caused by the mass of overlying material and biodegradation of the organic component. On some sites receiving industrial and commercial wastes, placed densities as high as 1.3 tonnes/m³ are achieved. As a result of the above, it is considered that the life span of the remaining void capacity is somewhat longer than that suggested by the Environment Agency. (See also section 5 and Appendix.)

4.32 The geographical distribution of sites in general provides good coverage for all parts of the region in close proximity to the areas where waste is generated in large quantities. The future availability of sites that are yet to be licensed should in general provide a good continuity of supply

over the longer term. There may however be a shortage of available capacity to meet local needs in the Shropshire and Herefordshire areas.

4.33 With regard to construction and demolition wastes, based on the figures for the amount of this waste that was landfilled in 1998/9, there could be a cumulative requirement to 2021 of 28.7 m tonnes. Remaining licensed capacity for inert only wastes in 1998/99 totalled 13.5 m cubic metres (open gate and restricted user sites). In addition, a further 19 m cubic metres capacity could become available through sites with planning permission to receive inert waste for restoration purposes. One of the effects of the Landfill Tax has been to encourage more inert waste to be recycled as secondary aggregate, utilised on building sites and for it to be used for landscaping and other purposes that are exempt from the tax. This might be expected to reduce the amount and proportion of the demand for licensed landfill capacity from inert waste. There is a significant number of sand and gravel sites that are falling behind their agreed restoration programme because they are unable to attract inert fill in the required quantities.

4.34 Most of the landfill capacity is in large sites of over 1 m cu m capacity, but there are a number of smaller sites. Whilst some large waste disposal companies are only willing to operate sites of over 1,000,000 cubic metres there are others who find smaller sites commercially viable and attractive for their purposes. In the north Staffordshire area in particular there are many 'in house' landfill sites. These are a legacy from the tradition of each pottery having its own site at the rear of the factory in which to tip its own waste. Whilst new consents of this nature are unlikely to be granted, the existing operations fulfil a market requirement and if these companies were not to dispose of their own waste it would add to the demand on current commercial sites. The impact of the Landfill Tax has been to make many manufacturing companies more aware of the cost of waste disposal and to encourage waste minimisation and recycling. This should prolong the life of both 'in house' and commercial waste disposal sites.

4.35 It is therefore concluded that there is no shortage of sites able to take inert waste, either at present, or in the medium term, across the region as a whole. The real challenge may be to find the quantities of inert waste to fulfil the restoration obligations. This may come about as a result of the changes to the Landfill Tax which came into effect in October, 1999. This is an aspect that will require further work by the Technical Group.

4.36 It is also concluded that there is no shortage of voidspace capacity, certainly in the medium term (10-15 years) future, to meet the need for non inert waste landfill capacity. The Technical Group will, however need to focus future work on monitoring the trend in the need for and depletion of both inert and non-inert site capacity. Again, this is returned to in Section 5.

4.37 There is therefore no present general need to identify additional landfill capacity to meet the Region's needs. Possible exceptions are in Shropshire and Herefordshire, where there may prove to be a shortage of landfill capacity to meet local needs in the longer term. The role of properly engineered landfill operations, especially where coupled with heat and power recovery, is nevertheless recognised. If the Region is to move towards more sustainable waste management, it will be important to maintain a tight control over the release of further landfill sites: an oversupply might act as a disincentive to recycling and other forms of more sustainable waste management. This is particularly important in view of the concerns regarding the availability of inert material to secure the reclamation of permitted mineral sites. The proposed policy is therefore to place an embargo on further landfill proposals within the next 10 years, except where additional capacity is needed to meet proven local needs, and/ or where landfill is necessary to facilitate the regeneration of despoiled land or mineral workings. Further details are provided in Section 5 and in the Appendices to this report.

SP 8A

ALL WDAs, WCAs, and WPAs SHOULD PLAN ON THE BASIS OF A REDUCTION OF THE AMOUNT OF INDUSTRIAL AND COMMERCIAL WASTE SENT TO LANDFILL TO 85% OF 1998 LEVELS BY 2005.

SP 8B

THE ROLE OF PROPERLY ENGINEERED LANDFILL, PARTICULARLY WHERE RECLAMATION OF MINERAL VOIDS IS REQUIRED AND CONSISTENT WITH THE LAND USE PLANNING STRATEGY FOR THE PARTICULAR LOCATION, IS ACKNOWLEDGED.

WASTE PLANNING AUTHORITIES SHOULD PLACE AN EMBARGO ON FURTHER LANDFILL PROPOSALS, EXCEPT WHERE ADDITIONAL CAPACITY IS NEEDED TO MEET PROVEN LOCAL NEEDS, AND/ OR WHERE LANDFILL IS NECESSARY TO FACILITATE THE REGENERATION OF DESPOILED LAND OR MINERAL WORKINGS. THE DEPLETION OF LANDFILL CAPACITY WILL BE MONITORED ANNUALLY, AND THE NEED FOR FURTHER CAPACITY WILL BE REVIEWED IN 2005 AT THE LATEST.

SP 8C

THE IMPLICATIONS FOR WASTE DISPOSAL, AND THE POTENTIAL FOR ENERGY RECOVERY, SHOULD BE CAREFULLY ASSESSED BY MINERALS PLANNING AUTHORITIES WHEN CONSIDERING PROPOSALS FOR MINERAL EXTRACTION.

SP 8D

PROPOSALS FOR LANDFILL SHOULD ALWAYS BE ACCOMPANIED BY A RIGOROUS ASSESSMENT OF THE POTENTIAL FOR RECOVERING ENERGY FROM LANDFILL GAS.

SP 9

Data Collection and Monitoring

4.38 It is vital that the Region's stakeholders commit to collecting relevant data on a consistent and regular basis to assess the progress made towards more sustainable waste management. The Regional Waste Planning Technical Group has identified the indicators to be tracked, and the data that are essential to enable effective monitoring of progress in the Region towards more sustainable waste management.

4.39 The monitoring process will be co-ordinated by the Regional Waste Planning Technical Group, which will produce an annual report on progress, to fit with the data collection cycle. The outcome of this process will demonstrate the need for review of the Strategy, which should in any case be reviewed and rolled forward every 5 years.

SP 9A

ALL STAKEHOLDERS IN THE REGION SHOULD PARTICIPATE IN THE CONTINUING MONITORING OF WASTE ARISING AND PATTERNS OF WASTE MANAGEMENT IN THE REGION. THE WEST MIDLANDS LOCAL GOVERNMENT ASSOCIATION, THE ENVIRONMENT AGENCY AND REPRESENTATIVES OF THE ENVIRONMENTAL SERVICES ASSOCIATION SHOULD GIVE FAVOURABLE CONSIDERATION TO MEETING THE RESOURCE IMPLICATIONS OF THESE REQUIREMENTS.

SP 9B

THE WEST MIDLANDS REGIONAL WASTE PLANNING TECHNICAL GROUP WILL COORDINATE THE COLLECTION, ANALYSIS AND PRESENTATION OF MONITORING DATA, AND WILL PREPARE AN ANNUAL STATEMENT ON PROGRESS IN THE REGION AGAINST THE AIMS, OBJECTIVES AND TARGETS OF THE REGIONAL STRATEGY, IDENTIFYING THE NEED FOR REVIEW OF THE STRATEGY.

SP9C

THE KEY INDICATORS TO BE MONITORED ANNUALLY AT REGIONAL AND SUB-REGIONAL LEVEL, WILL BE

- THE PERCENTAGE CHANGE IN THE AMOUNT OF MUNICIPAL WASTE COLLECTED PER YEAR.
- THE PROPORTION OF HOUSEHOLD WASTE THAT IS RECYCLED OR COMPOSTED.
- THE PROPORTION OF MUNICIPAL WASTE FROM WHICH VALUE IS RECOVERED.
- THE AMOUNT OF INDUSTRIAL/ COMMERCIAL WASTE THAT IS LANDFILLED.
- THE DEPLETION OF LANDFILL VOID CAPACITY BY CATEGORY.
- THE PROVISION OF ADDITIONAL CAPACITY FOR RECYCLING, COMPOSTING AND RECOVERING VALUE FROM MUNICIPAL WASTE.

SP 9D

THE REGIONAL STRATEGY WILL BE REVIEWED AT LEAST EVERY 5 YEARS, AND MORE FREQUENTLY IF MONITORING DEMONSTRATES A NEED.

5. CONSIDERATION OF WASTE MANAGEMENT OPTIONS FOR THE REGION

5.1 The Environment Agency has provided an indicative assessment of the future requirement for municipal waste management facilities in the West Midlands Region. The SWMA uses National Waste Strategy targets and assumptions about the projected rate of increase in municipal waste collected to develop three scenarios through which to illustrate the implications of broad strategic choices for the Region.

5.2 In summary, this assessment takes the form of a base case plus two broad options:

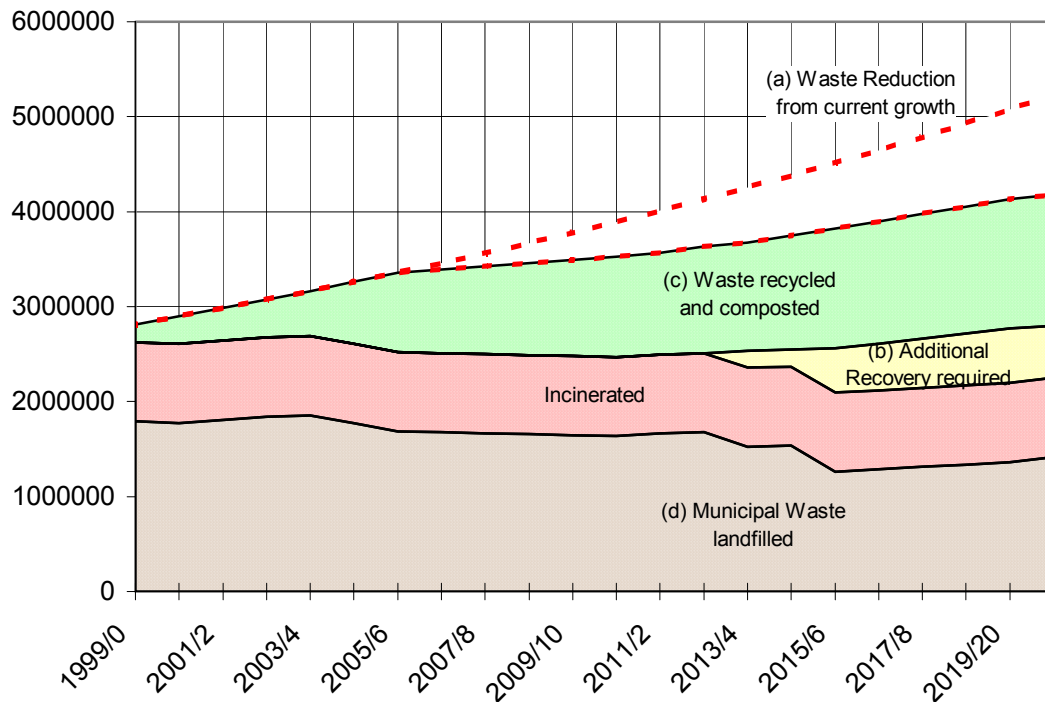
1. A continuation of the present pattern of waste management (the '*base case*') would involve a recycling/ composting rate of about 7%, incineration of some 17%, and landfill at 76%. This might be expected to lead to a requirement for between 49 – 67 million cubic metres of landfill capacity, and a requirement for a further 1 or 2 MRFs/ composting plants each with a capacity of 50 kte per annum. No additional incineration or treatment capacity is assumed between 2000 and 2020. This scenario would fail to meet landfill diversion and recycling targets.
2. An *energy recovery option*, which assumes that by 2020 landfill is reduced to 28%, recycling achieves 19%, and incineration manages 54% of waste collected. This scenario would require between 37 – 42 million cubic metres of landfill capacity, between 3 and 6 additional incinerators each with a capacity of 300 kte per annum, and between 6 and 9 MRFs each with a capacity of 50 kte per annum over the 20 year period. The Landfill Directive targets would be met, as would the energy recovery target, but the recycling rate would be 19% by 2020.
3. A *recycling option*, which assumes that by 2020 landfill is reduced to 25%, incineration achieves 33%, recycling deals with 34% and composting a further 8%. This scenario would require between 32 – 38 million cubic metres of landfill, between 1 and 3 additional incinerators of 300 kte per annum, 18 – 29 MRFs (at 50 kte per annum), and 13 – 20 additional composting plants each with a capacity of 20 kte per annum, over the 20 year period. This scenario would meet both the Landfill Directive and recycling targets.

5.3 The Regional Waste Planning Group's own technical work has broadly confirmed these requirements. Taking similar assumptions to the Agency's, and applying the targets set out in the National Waste Strategy, a broad indication of the needs for municipal waste recycling/ composting and recovery facilities has been produced. **This assessment has been prepared to illustrate the broad scale of needs, and the implications of meeting them. It is not to be taken as prescriptive in terms of the actual facilities to be developed within each sub-region: this is a matter which is properly left to land use development plans and waste management strategies.**

5.4 The following chart indicates diagrammatically the implications for the Region as a whole of meeting the targets set by the Landfill Directive and the National Waste Strategy, for municipal waste. It shows

- the effect of an assumed 3% per annum increase in the amount of waste collected (ie the 'waste reduction from current growth' element), which if not reduced will convert into an additional need for recycling/ composting and/ or recovery capacity, sharpening the focus on the need for effective waste minimisation initiatives both regionally and locally – see (a) on chart;
- the need for additional recovery capacity in the period from 2011 onwards - see (b) on chart;
- the need for continuing and large scale increases in the recycling and composting infrastructure of the Region, throughout the 20 year period - see (c) on chart; and
- a steady reduction in the amount of waste which is landfilled – see (d) on chart.

5.5 The Appendix provides similar graphs for each of the sub-regions.



5.6 The following table indicates the additional capacity and number of additional facilities that may be required to meet the targets, assuming a 3% pa growth waste collected, in the Region as a whole, and in each sub-region, over the 20 year period. It shows that,

- To meet recycling/ composting targets, by 2021 an additional 30 facilities with an average capacity of 50,000 tonnes pa could be required in the Region (in practice, the size of units will vary according to local circumstances, and many including most composting facilities will be much smaller); over half of these would be to meet metropolitan area needs.
- To meet the additional targets for recovery, a further 3-4 energy from waste plants, or about 22 MRFs (average capacity 50,000 tonnes pa), or a combination of these, would be required by 2021.

5.7 It will be in accordance with the strategic principles set out in this strategy that these facilities are located as close as possible to the origin of the wastes. It is however accepted that it may not be possible to meet all the needs of a WPA within that WPA's area. Where necessary, and in accordance with the principles of proximity and best practical environmental option, local authorities should seek agreement with neighbouring authorities to make provision in their plans to meet these needs.

**West Midlands Region:
Municipal Waste Management Facilities Required to 2021**

Sub Region	Recycling & Composting		Recovery – <u>either</u> EfW <u>or</u> MRF		
	Additional capacity required by 2021 (annual throughput capacity, '000 tonnes)	Equivalent number of facilities @ 50,000 tonnes pa capacity	Additional capacity required by 2021 (annual throughput capacity, '000 tonnes)	Equivalent number of EfW facilities required @ 300,000 tonnes pa	Equivalent number of MRFs required at 50,000 tonnes pa
Herefordshire	38	0.5	45		1
Metropolitan area	781	16	382	1	8
Shropshire, Telford & Wrekin	136	2.5	155	0.5	3
Staffordshire, Stoke on Trent	284	5.5	187	0.5	4
Warwickshire	151	3	173	0.5	3
Worcestershire	134	2.5	164	0.5	3
West Midlands Region	1,524	30	1,106	3 - 4	22

o An assessment has also been made of the relationship between existing and potential (ie with planning permission but not licensed) landfill void capacity and the requirement for landfill for industrial, commercial and municipal wastes over the period, assuming that the National Waste Strategy targets are met. It has been assumed in this assessment that

- targets for diversion of municipal waste away from landfill are achieved;
- the requirement to attain a reduction of industrial and commercial waste going to landfill to 85% of 1998 levels is achieved by 2005, and that level is held constant thereafter;
- 65% of the voidspace will be available for the wastes, the remainder being taken up by engineering materials;
- a ratio of 1 tonne to 1 cubic metre.

Overall, it is felt that this represents a conservative assessment of available capacity.

5.9 Compared with a total cumulative requirement over the period to 2021 of 115 million tonnes, there is a supply of 48.6 million tonnes capacity in licensed sites, and a further 38.4 million tonnes capacity in sites with planning permission for restoration using these wastes but not yet licensed. As the more detailed tables in the Appendix show, this supply is broadly sufficient to meet regional needs to 2015, though there are local deficiencies in Herefordshire, and in Shropshire and Telford & The Wrekin; and that the Metropolitan area will continue to be dependent to a considerable extent on surrounding shire areas. Beyond 2015 there is an overall deficit.

5.10 The Technical Group considers that a policy of constraining additional landfill except where clear local deficiency exists is justified over the next 10 years, but recognises that it will be crucially important to closely monitor voidspace depletion rates and if necessary adjust the strategy in light of findings.

**West Midlands Region:
Landfill Void Capacity at 1998/99 and Cumulative Requirement to 2021**

Sub Region	Landfill Void Capacity in 1998/99 '000 tonnes (assuming ratio of 1cu m :1 tonne)			Cumulative Landfill Void capacity requirement '000 tonnes
	Licensed to accept inert/ non-inert wastes	Not licensed but with planning permission to accept inert/ non- inert wastes	Total potential capacity	for industrial, commercial and municipal wastes
Herefordshire	65	0	65	3,044
Metropolitan area	8,177	11,798	19,975	48,340
Shropshire, Telford & Wrekin	4,837	276	5,113	12,152
Staffordshire, Stoke on Trent	13,275	7,784	21,059	25,847
Warwickshire	15,155	12,025	27,180	14,268
Worcestershire	7,121	6,500	13,621	11,648
West Midlands Region	48,630	38,383	87,013	115,299

5.11 Regarding construction and demolition wastes, an annual requirement for landfill of 1.4 million tonnes has been assumed from the figures for 1998/99. Projecting this forward would give a cumulative requirement of 28.7 million tonnes by 2021. The available licensed landfill capacity for non-biodegradable waste in 1999 was 13.5 million tonnes (assuming a 1:1 ratio of tonnes: cubic metres). In addition, there was a capacity of 18.9 million tonnes in sites with planning permission providing for restoration using inert-only wastes. This assessment assumes that inert construction and demolition waste is disposed of at sites only accepting non-biodegradable wastes and that the requirement for material for engineering at mixed waste and co-disposal sites is met from inert commercial and industrial waste disposed of at these sites. Government policy is to increase the beneficial re-use and recycling of inert construction and demolition wastes as to offset the need to extract primary aggregates as well as to minimise waste. For these reasons, this assessment is considered to be a conservative indication of availability in relation to demand.

5.12 Whatever the balance or mix of municipal waste management facilities which best meets the strategic principles identified in this Strategy within each sub-region, there is a need for substantial additional investment across the whole Region during the next 20 years. Indicative costs for the provision of incinerator plant, MRFs and composting facilities suggest a capital investment requirement of £350m - £400m in the Region during this period.

5.13 If targets are to be achieved, decisions and investment are needed quickly. The Appendix provides details of the timescales within which the additional capacity for municipal waste management is needed to come on stream. Recycling targets require a substantial increase in available capacity to be in place within the next 5-10 years – across the Region as a whole, a trebling by 2005/06 and a 5-fold increase by 2010/11. The need for additional recovery capacity is more marked in the second half of the period, though more urgent needs occur outside of the metropolitan area and Staffordshire/ Stoke on Trent.