

# **APPENDICES**

## **ASSUMPTIONS: MUNICIPAL WASTE**

- Municipal Waste Arising (3% compound growth assumed)
- Biodegradable Waste Arising (Assumes 62% of municipal waste is biodegradable)
- Non Biodegradable Waste Arising (assumed to be remaining 38%)
- Waste composted (actual data where available for start year, followed by incremental increase at 0.5% to reach 50% of recycling targets by ??, assumed to be 100% biodegradable)
- Waste recycled (actual data where available for start year, followed by incremental increase at 0.5% to reach 50% of recycling targets by ??, assumed to be 50% biodegradable)
- Waste recycled and composted (sum of the above)
- Recycling rate (waste recycled and composted as a % of municipal waste arising, in later years target recycling rates based on performance identified in Municipal Waste Management Strategies Guidance, Table A-2)
- Biodegradable residual for recovery & landfill (biodegradable waste arising less waste composted and 50% of waste recycled)
- Non-biodegradable residual for recovery & landfill (non biodegradable waste less 50% of the waste recycled)
- Landfill Directive limit on biodegradable landfill (Base figure assumed for 1995 derived from actual municipal waste arisings for 1995 (where available) or calculated assuming compound 3% growth in municipal waste arisings from 1995 to 1998/9)
- Biodegradable residual needing recovery (biodegradable residual for recovery & landfill less the landfill directive limit on biodegradable municipal waste)
- Max landfill & recycling (waste recycled and composted + non-biodegradable waste for recovery & landfill + landfill directive limit on biodegradable waste)
- Incinerated (current performance projected without change)
- Biodegradable Waste Incinerated (assumed to be 56% of waste incinerated)
- Non Biodegradable Waste Incinerated (assumed to be 44% of waste incinerated)
- Recovery Rate (waste recycled + waste incinerated + additional recovery required, as a % of municipal waste arising)
- Target Recovery Rate (as set out in national policy guidance)
- Additional Recovery required (biodegradable waste requiring recovery less biodegradable waste incinerated)
- Municipal Waste landfilled (municipal waste arising, less waste recycled, composted and incinerated + additional recovery capacity required)
- Cumulative landfill void capacity required (sum of annual landfill capacity requirement over the period)

**ASSUMPTIONS: COMMERCIAL & INDUSTRIAL WASTE**

- Commercial & Industrial Waste Arising 1998/99 (taken from SWMA, Table 2.4)
- Waste Arising: Inert (taken from SWMA, Table 2.4)
- Waste Arising: Degradable (taken from SWMA, Table 2.4, assumed to be total arising less inert waste arising)
- Disposal (taken from SWMA, Table 2.5, assumed to be land disposal + 90% of unrecorded waste + a proportion of the waste transferred consistent with the overall proportion disposed / recovered )
- Recovery (taken from SWMA, Table 2.4, projection increases this figure to allow for reduction in landfill rates to meet target)
- Landfill Target (85% of commercial & industrial waste landfilled in 1998/9)
- Annual Capacity Required: Total Landfill (as required to meet targets)
- Cumulative Capacity Required: Landfill (sum of annual landfill capacity requirement over the period)
- Void Capacity Available: Co-Disposal (taken from SWMA, Table 4.3, Inert capacity excluded to allow for disposal of construction & demolition waste)
- Void Surplus / Shortfall (co-disposal void capacity available, less cumulative capacity requirement, NB: does not include municipal waste void requirement)
- Annual Capacity Required: Recovery (as per recovery above)
- Annual Treatment Capacity Available (taken from SWMA, Annex 4, Table 4)
- Treatment Capacity Shortfall (recovery capacity available less annual capacity required)

\* 60% of inert Commercial & Industrial waste is landfilled in the region, this proportion has been applied pro-rata to inert Commercial & Industrial waste arising in the metropolitan area  
 ^ All waste treatment facilities and all waste types

(3% growth rate from 1999/00)

Year
Municipal Waste landfilled
Incinerated
Additional Recovery required
Waste recycled and composted

Municipal Waste				
Sub-Region	Recycling & Composting: Annual Throughput Capacity Existing in 1998/99 <sup>1</sup> ('000 tonnes)	Recycling & Composting: Annual Throughput Capacity Required 2005/6 ('000 tonnes)	Recycling & Composting: Annual Throughput Capacity Required 2010/11 ('000 tonnes)	Recycling & Composting: Annual Throughput Capacity Required 2015/16 ('000 tonnes)
Herefordshire	6	18	30	30
Metropolitan Area	64	296	572	720
Shropshire, Telford & Wrekin	14	61	102	130
Staffordshire, Stoke-on-Trent	80	177	246	310
Warwickshire	21	75	113	140
Worcestershire	25	71	107	130
<b>Total</b>	<b>210</b>	<b>698</b>	<b>1,170</b>	<b>1,480</b>

Municipal Waste				
Sub-Region	Recovery: Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	Recovery: Annual Throughput Capacity Required 2005/06 ('000 tonnes)	Recovery: Annual Throughput Capacity Required 2010/11 ('000 tonnes)	Recovery: Annual Throughput Capacity Required 2015/16 ('000 tonnes)
Herefordshire	0	16	15	30
Metropolitan Area	638	638	638	750
Shropshire, Telford & Wrekin	0	56	51	130
Staffordshire, Stoke-on-Trent	196	196	196	320
Warwickshire	0	55	57	140
Worcestershire	0	52	54	140
<b>Total</b>	<b>834</b>	<b>1,013</b>	<b>1,011</b>	<b>1,530</b>

All Waste						
Sub-Region	Landfill: Permitted Void Capacity Existing in 1998/99 ('000 tonnes) (ratio 1:1)	Landfill: Void Capacity with PP in 1998/99 ('000 tonnes) (ratio 1:1)	Landfill: Total Potential Void Capacity ('000 tonnes) (ratio 1:1)	Landfill: Cumulative Void Capacity Required 2005/06 ('000 tonnes)	Landfill: Cumulative Void Capacity Required 2010/11 ('000 tonnes)	Landfill: Cumulative Void Capacity Required 2015/16 ('000 tonnes)
Herefordshire	65	0	65	1,166	1,782	2,100
Metropolitan Area	8,177	11,798	19,975	17,549	27,677	34,000
Shropshire, Telford & Wrekin	4,837	276	5,113	4,613	7,099	8,800
Staffordshire, Stoke-on-Trent	13,275	7,784	21,059	9,437	14,955	18,500
Warwickshire	15,155	12,025	27,180	5,458	8,423	10,500
Worcestershire	7,121	6,500	13,621	4,438	6,837	8,500
West Midlands	48,630	38,383	87,013	42,661	66,773	83,000

Nominally sufficient void capacity to last until early 2015

<sup>1</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands  
Prepared By: Adrian Cooper (Shropshire County Council)

18/10/2006



**Herefordshire**

## Recycling &amp; Composting:

Annual Throughput Capacity Existing in 1998/99 <sup>2</sup> ('000 tonnes)	6
Annual Throughput Capacity Required 2005/6 ('000 tonnes)	18
Additional capacity required by 2005/6 ('000 tonnes)	12
Equivalent number of facilities (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	30
Additional capacity required by 2010/11 ('000 tonnes)	24
Equivalent number of facilities (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	38
Additional capacity required by 2015/16 ('000 tonnes)	32
Equivalent number of facilities (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	44
Additional capacity required by 2020/21 ('000 tonnes)	38
Equivalent number of facilities (@ 50,000 t/yr)	

## Recovery:

Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	0
Annual Throughput Capacity Required 2005/06 ('000 tonnes)	16
Additional capacity required by 2005/6 ('000 tonnes)	16
Equivalent number of Efw facilities (@ 200,000 t/yr)	
Equivalent number of MRF's (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	15
Additional capacity required by 2010/11 ('000 tonnes)	15
Equivalent number of facilities (@ 200,000 t/yr)	
Equivalent number of MRF's (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	39
Additional capacity required by 2015/16 ('000 tonnes)	39
Equivalent number of facilities (@ 200,000 t/yr)	
Equivalent number of MRF's (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	45
Additional capacity required by 2020/21 ('000 tonnes)	45
Equivalent number of facilities (@ 200,000 t/yr)	
Equivalent number of MRF's (@ 50,000 t/yr)	

<sup>2</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands

**Metropolitan Area**

## Recycling &amp; Composting:

Annual Throughput Capacity Existing in 1998/99 <sup>3</sup> ('000 tonnes)	64
Annual Throughput Capacity Required 2005/6 ('000 tonnes)	296
Additional capacity required by 2005/6 ('000 tonnes)	232
Equivalent number of facilities (@ 50,000 t/yr)	5
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	572
Additional capacity required by 2010/11 ('000 tonnes)	508
Equivalent number of facilities (@ 50,000 t/yr)	10
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	723
Additional capacity required by 2015/16 ('000 tonnes)	659
Equivalent number of facilities (@ 50,000 t/yr)	13
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	845
Additional capacity required by 2020/21 ('000 tonnes)	781
Equivalent number of facilities (@ 50,000 t/yr)	16

## Recovery:

Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	638
Annual Throughput Capacity Required 2005/06 ('000 tonnes)	638
Additional capacity required by 2005/6 ('000 tonnes)	0
Equivalent number of facilities (@ 200,000 t/yr)	0
Equivalent number of MRF's (@ 50,000 t/yr)	0
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	638
Additional capacity required by 2010/11 ('000 tonnes)	0
Equivalent number of facilities (@ 200,000 t/yr)	0
Equivalent number of MRF's (@ 50,000 t/yr)	0
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	751
Additional capacity required by 2015/16 ('000 tonnes)	113
Equivalent number of facilities (@ 200,000 t/yr)	0.5
Equivalent number of MRF's (@ 50,000 t/yr)	2
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	1,020
Additional capacity required by 2020/21 ('000 tonnes)	382
Equivalent number of facilities (@ 200,000 t/yr)	2
Equivalent number of MRF's (@ 50,000 t/yr)	8

<sup>3</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands

**Shropshire, Telford & Wrekin**

## Recycling &amp; Composting:

Annual Throughput Capacity Existing in 1998/99 <sup>4</sup> ('000 tonnes)	14
Annual Throughput Capacity Required 2005/6 ('000 tonnes)	61
Additional capacity required by 2005/6 ('000 tonnes)	47
Equivalent number of facilities (@ 50,000 t/yr)	1
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	102
Additional capacity required by 2010/11 ('000 tonnes)	88
Equivalent number of facilities (@ 50,000 t/yr)	2
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	130
Additional capacity required by 2015/16 ('000 tonnes)	116
Equivalent number of facilities (@ 50,000 t/yr)	2
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	150
Additional capacity required by 2020/21 ('000 tonnes)	136
Equivalent number of facilities (@ 50,000 t/yr)	3

## Recovery:

Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	0
Annual Throughput Capacity Required 2005/06 ('000 tonnes)	56
Additional capacity required by 2005/6 ('000 tonnes)	56
Equivalent number of facilities (@ 250,000 t/yr)	
Equivalent number of MRF's (@ 50,000 t/yr)	
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	51
Additional capacity required by 2010/11 ('000 tonnes)	51
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	134
Additional capacity required by 2015/16 ('000 tonnes)	134
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	155
Additional capacity required by 2020/21 ('000 tonnes)	155
Equivalent number of facilities (@ 250,000 t/yr)	

<sup>4</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands



**Staffordshire & Stoke-on-Trent**

## Recycling &amp; Composting:

Annual Throughput Capacity Existing in 1998/99 <sup>5</sup> ('000 tonnes)	80
Annual Throughput Capacity Required 2005/6 ('000 tonnes)	177
Additional capacity required by 2005/6 ('000 tonnes)	97
Equivalent number of facilities (@ 25,000 t/yr)	4
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	246
Additional capacity required by 2010/11 ('000 tonnes)	166
Equivalent number of facilities (@ 25,000 t/yr)	6.5
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	314
Additional capacity required by 2015/16 ('000 tonnes)	234
Equivalent number of facilities (@ 25,000 t/yr)	9.5
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	364
Additional capacity required by 2020/21 ('000 tonnes)	284
Equivalent number of facilities (@ 25,000 t/yr)	11.5

## Recovery:

Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	196
Annual Throughput Capacity Required 2005/06 ('000 tonnes)	196
Additional capacity required by 2005/6 ('000 tonnes)	0
Equivalent number of facilities (@ 250,000 t/yr)	0
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	196
Additional capacity required by 2010/11 ('000 tonnes)	0
Equivalent number of facilities (@ 250,000 t/yr)	0
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	323
Additional capacity required by 2015/16 ('000 tonnes)	127
Equivalent number of facilities (@ 250,000 t/yr)	0.5
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	383
Additional capacity required by 2020/21 ('000 tonnes)	187
Equivalent number of facilities (@ 250,000 t/yr)	1

<sup>5</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands

**Warwickshire**

## Recycling &amp; Composting:

Annual Throughput Capacity Existing in 1998/99 <sup>6</sup> ('000 tonnes)	21
Annual Throughput Capacity Required 2005/6 ('000 tonnes)	75
Additional capacity required by 2005/6 ('000 tonnes)	54
Equivalent number of facilities (@ 25,000 t/yr)	2
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	113
Additional capacity required by 2010/11 ('000 tonnes)	92
Equivalent number of facilities (@ 25,000 t/yr)	4
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	144
Additional capacity required by 2015/16 ('000 tonnes)	123
Equivalent number of facilities (@ 25,000 t/yr)	5
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	172
Additional capacity required by 2020/21 ('000 tonnes)	151
Equivalent number of facilities (@ 25,000 t/yr)	6

## Recovery:

Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	0
Annual Throughput Capacity Required 2005/06 ('000 tonnes)	55
Additional capacity required by 2005/6 ('000 tonnes)	55
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	57
Additional capacity required by 2010/11 ('000 tonnes)	57
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	149
Additional capacity required by 2015/16 ('000 tonnes)	149
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	173
Additional capacity required by 2020/21 ('000 tonnes)	173
Equivalent number of facilities (@ 250,000 t/yr)	

<sup>6</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands

**Worcestershire**

## Recycling &amp; Composting:

Annual Throughput Capacity Existing in 1998/99 <sup>7</sup> ('000 tonnes)	25
Annual Throughput Capacity Required 2005/6 ('000 tonnes)	71
Additional capacity required by 2005/6 ('000 tonnes)	46
Equivalent number of facilities (@ 25,000 t/yr)	2
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	107
Additional capacity required by 2010/11 ('000 tonnes)	82
Equivalent number of facilities (@ 25,000 t/yr)	3
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	137
Additional capacity required by 2015/16 ('000 tonnes)	112
Equivalent number of facilities (@ 25,000 t/yr)	4.5
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	159
Additional capacity required by 2020/21 ('000 tonnes)	134
Equivalent number of facilities (@ 25,000 t/yr)	5.5

## Recovery:

Annual Throughput Capacity Existing in 1998/99 ('000 tonnes)	0
Annual Throughput Capacity Required 2005/06 ('000 tonnes)	52
Additional capacity required by 2005/6 ('000 tonnes)	52
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2010/11 ('000 tonnes)	54
Additional capacity required by 2010/11 ('000 tonnes)	54
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2015/16 ('000 tonnes)	141
Additional capacity required by 2015/16 ('000 tonnes)	141
Equivalent number of facilities (@ 250,000 t/yr)	
Annual Throughput Capacity Required 2020/21 ('000 tonnes)	164
Additional capacity required by 2020/21 ('000 tonnes)	164
Equivalent number of facilities (@ 250,000 t/yr)	

<sup>7</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands

**Total**

## Recycling &amp; Composting:

	(‘000 tonnes)
Annual Throughput Capacity Existing in 1998/99 <sup>8</sup> (baseline)	210
Annual Throughput Capacity Required 2005/6	698
Additional capacity required by 2005/6	488
Additional recycling capacity required by 2005/6 (50%)	244
Equivalent number of MRF’s (@ 50,000 t/yr)	5
Additional composting capacity required by 2005/6 (50%)	244
Equivalent number of composting facilities (@ 20,000 t/yr)	12
Annual Throughput Capacity Required 2010/11	1,170
Additional capacity required by 2010/11	960
Additional recycling capacity required by 2005/6 (50%)	480
Equivalent number of MRF’s (@ 50,000 t/yr)	10
Additional composting capacity required by 2005/6 (50%)	480
Equivalent number of composting facilities (@ 20,000 t/yr)	24
Annual Throughput Capacity Required 2015/16	1,486
Additional capacity required by 2015/16	1,276
Additional recycling capacity required by 2005/6 (50%)	638
Equivalent number of MRF’s (@ 50,000 t/yr)	13
Additional composting capacity required by 2005/6 (50%)	638
Equivalent number of composting facilities (@ 20,000 t/yr)	32
Annual Throughput Capacity Required 2020/21	1,734
Additional capacity required by 2020/21	1,524
Additional recycling capacity required by 2005/6 (50%)	762
Equivalent number of MRF’s (@ 50,000 t/yr)	15
Additional composting capacity required by 2005/6 (50%)	762
Equivalent number of composting facilities (@ 20,000 t/yr)	38

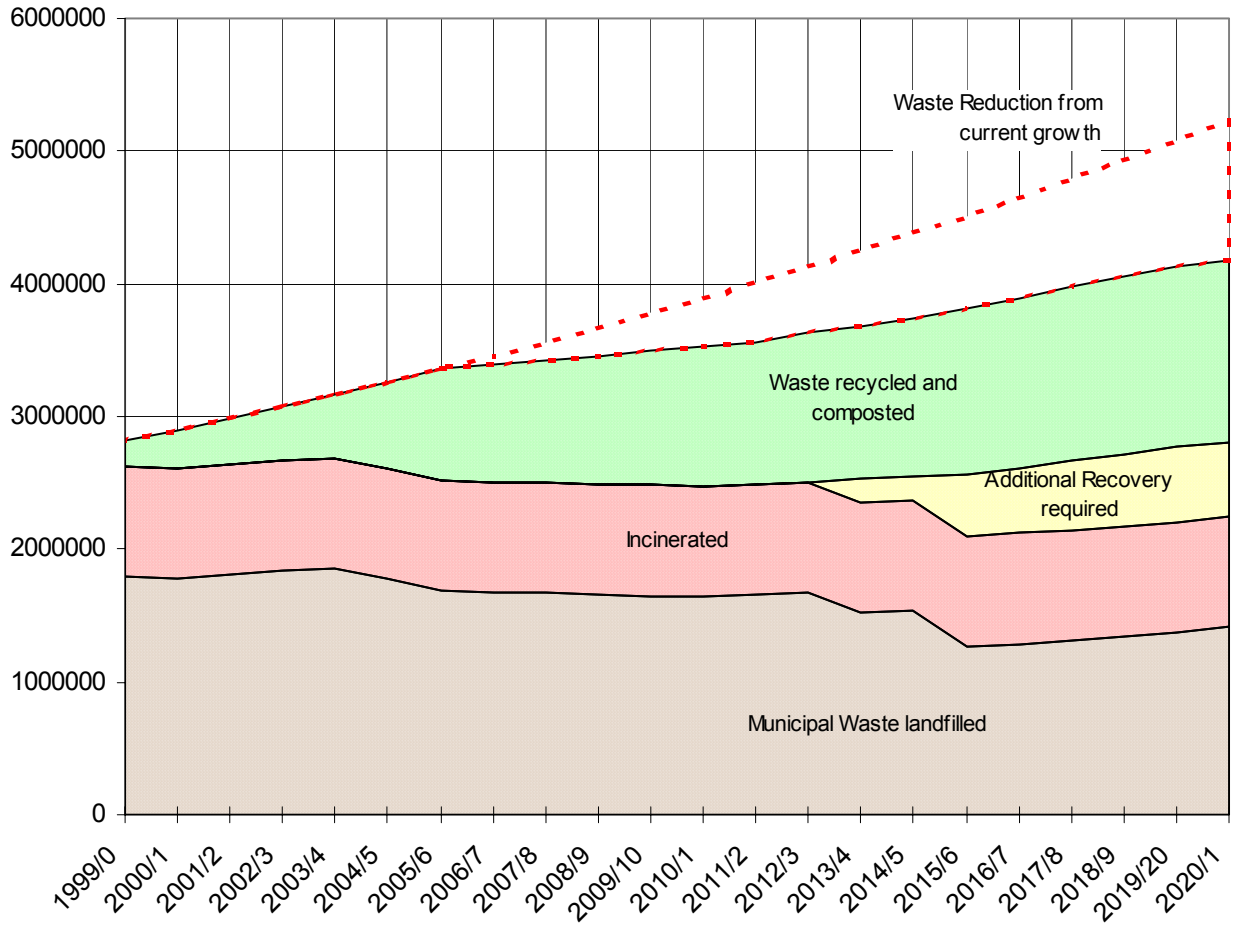
<sup>8</sup> Based on recycling & composting performance actual tonnage where available or as indicated in Table 2.1 of the SWMA for the West Midlands

## Recovery:

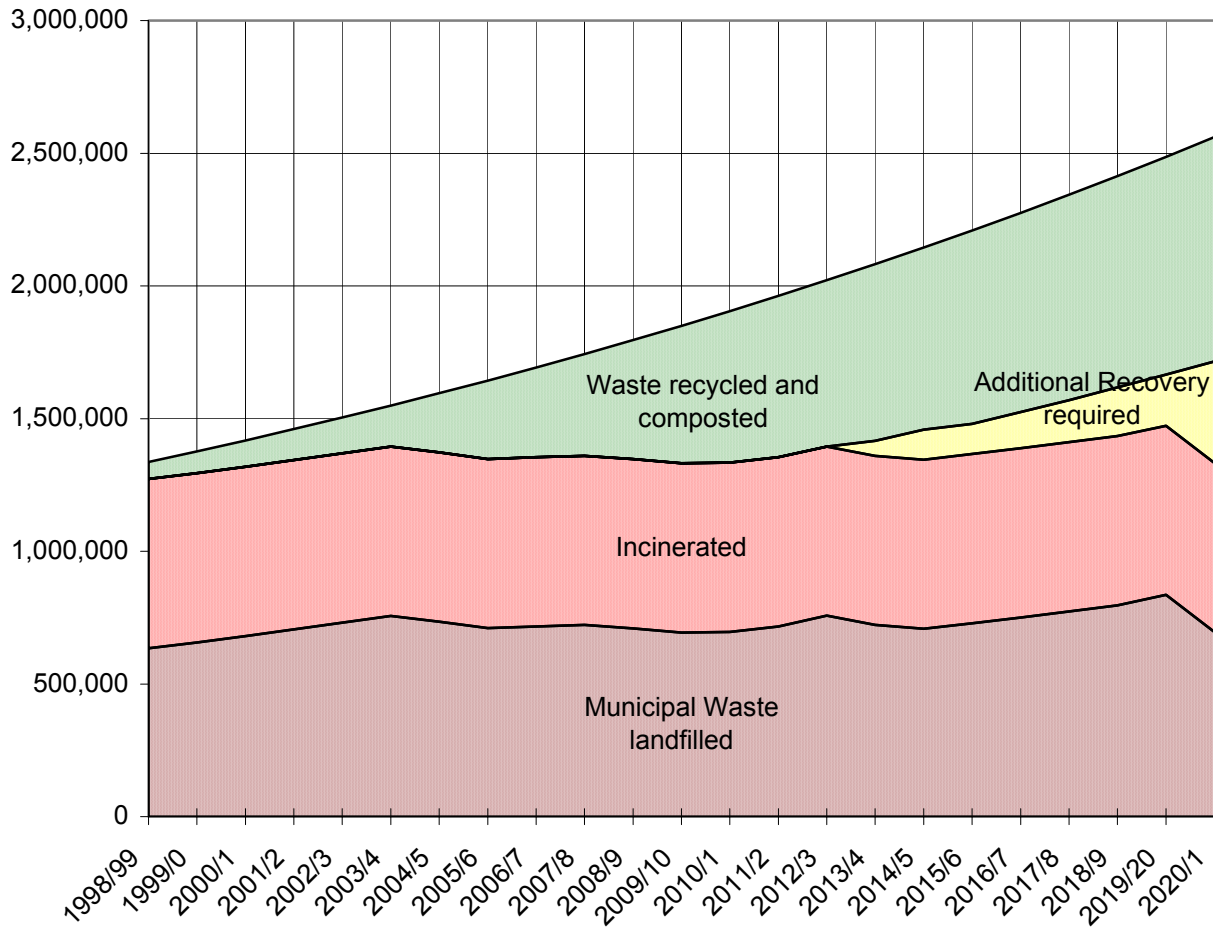
	('000 tonnes)
Annual Throughput Capacity Existing in 1998/99	834
Annual Throughput Capacity Required 2005/06	1,013
Additional capacity required by 2005/6	179
Equivalent number of EfW plants (@ 200,000 t/yr)	1
Equivalent number of MRF's (@ 50,000 t/yr) (50%)	2
Equivalent number of composting facilities (@ 20,000 t/yr) (50%)	4
Annual Throughput Capacity Required 2010/11	1,011
Additional capacity required by 2010/11	177
Equivalent number of EfW plants (@ 200,000 t/yr)	1
Equivalent number of MRF's (@ 50,000 t/yr) (50%)	2
Equivalent number of composting facilities (@ 20,000 t/yr) (50%)	4
Annual Throughput Capacity Required 2015/16	1,537
Additional capacity required by 2015/16	703
Equivalent number of EfW plants (@ 200,000 t/yr)	4
Equivalent number of MRF's (@ 50,000 t/yr) (50%)	7
Equivalent number of composting facilities (@ 20,000 t/yr) (50%)	18
Annual Throughput Capacity Required 2020/21	1,940
Additional capacity required by 2020/21 ('000 tonnes)	1,106
Equivalent number of EfW plants (@ 200,000 t/yr)	6
Equivalent number of MRF's (@ 50,000 t/yr) (50%)	11
Equivalent number of composting facilities (@ 20,000 t/yr) (50%)	28



WEST MIDLANDS REGION

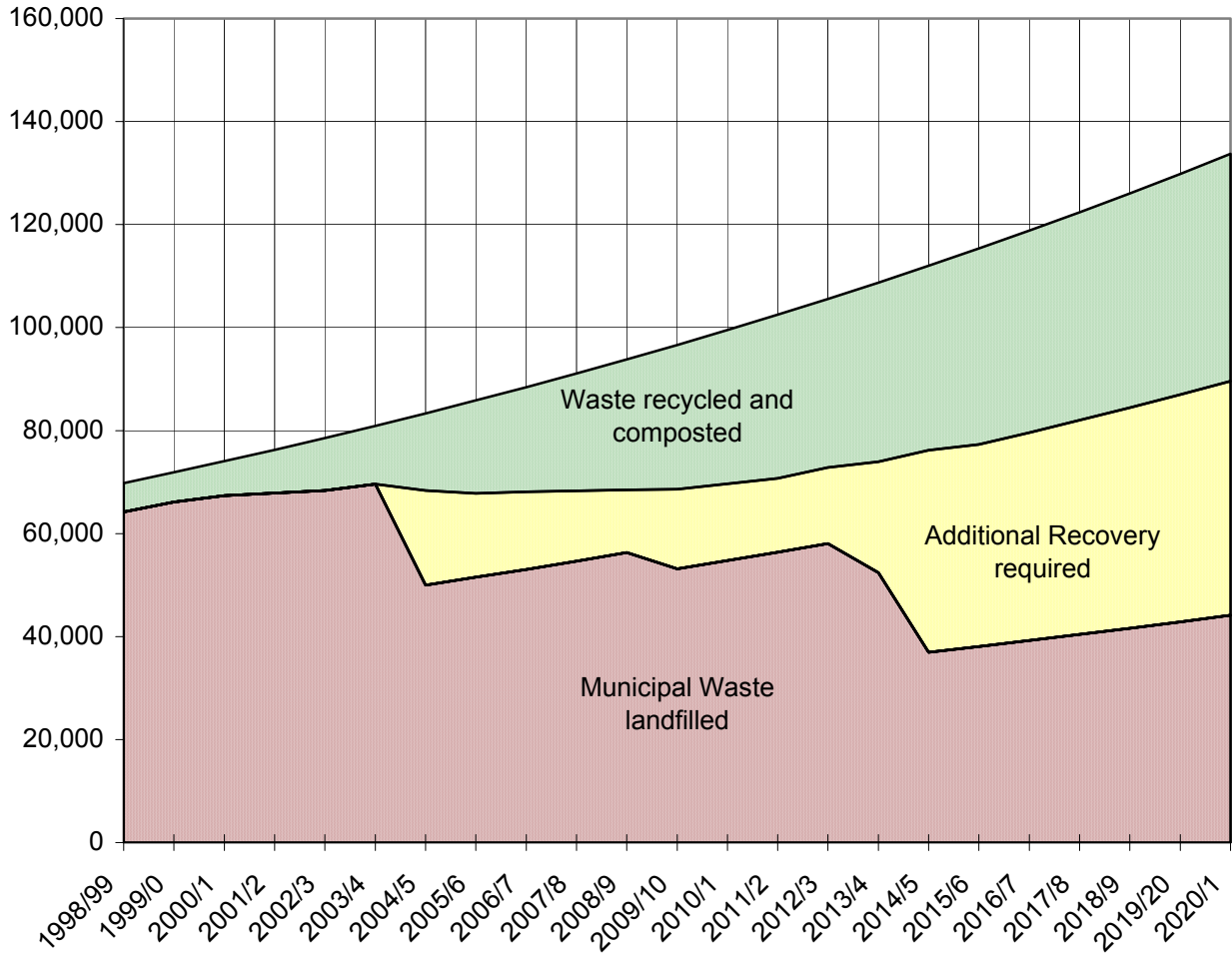


METROPOLITAN AREA

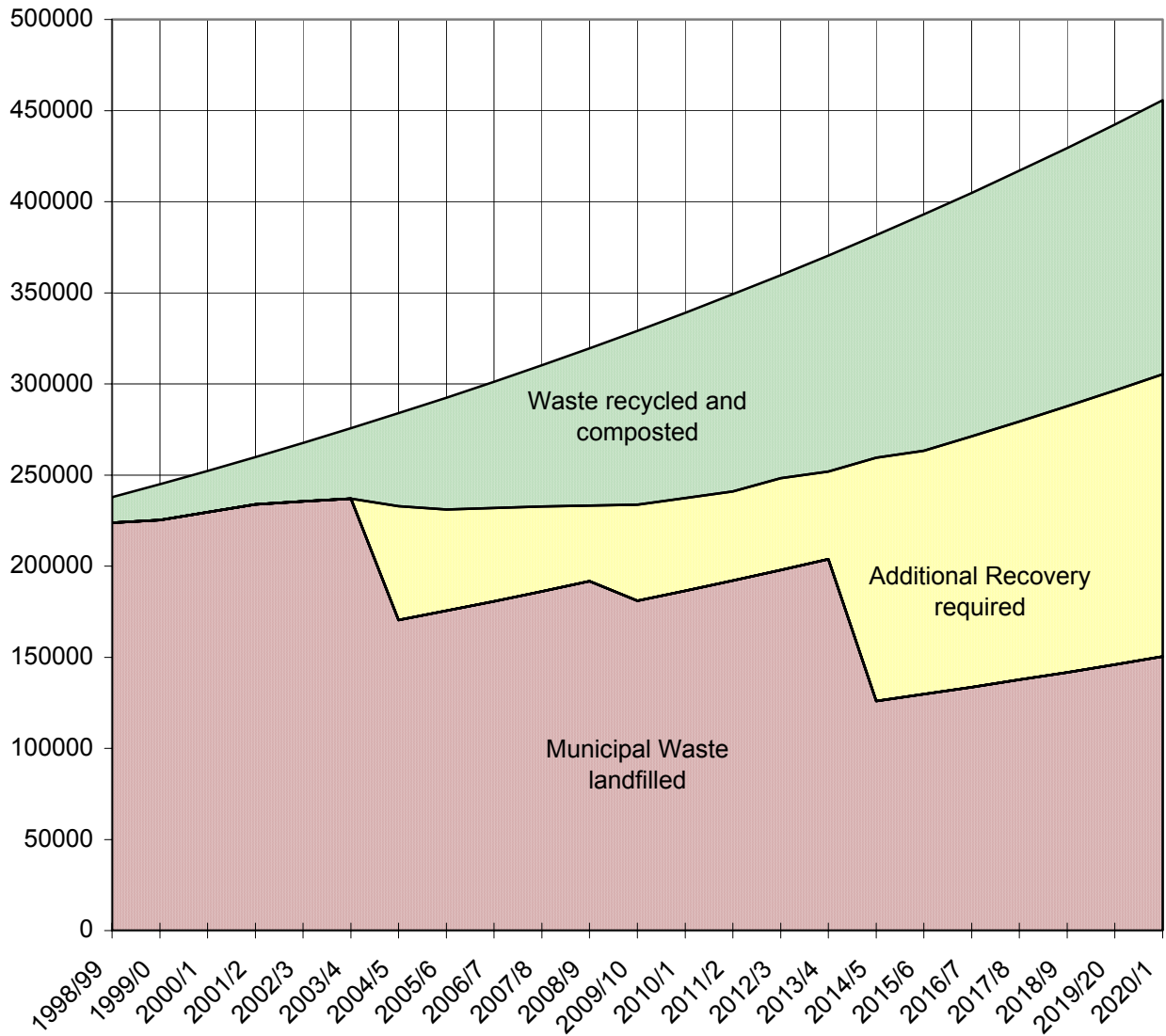




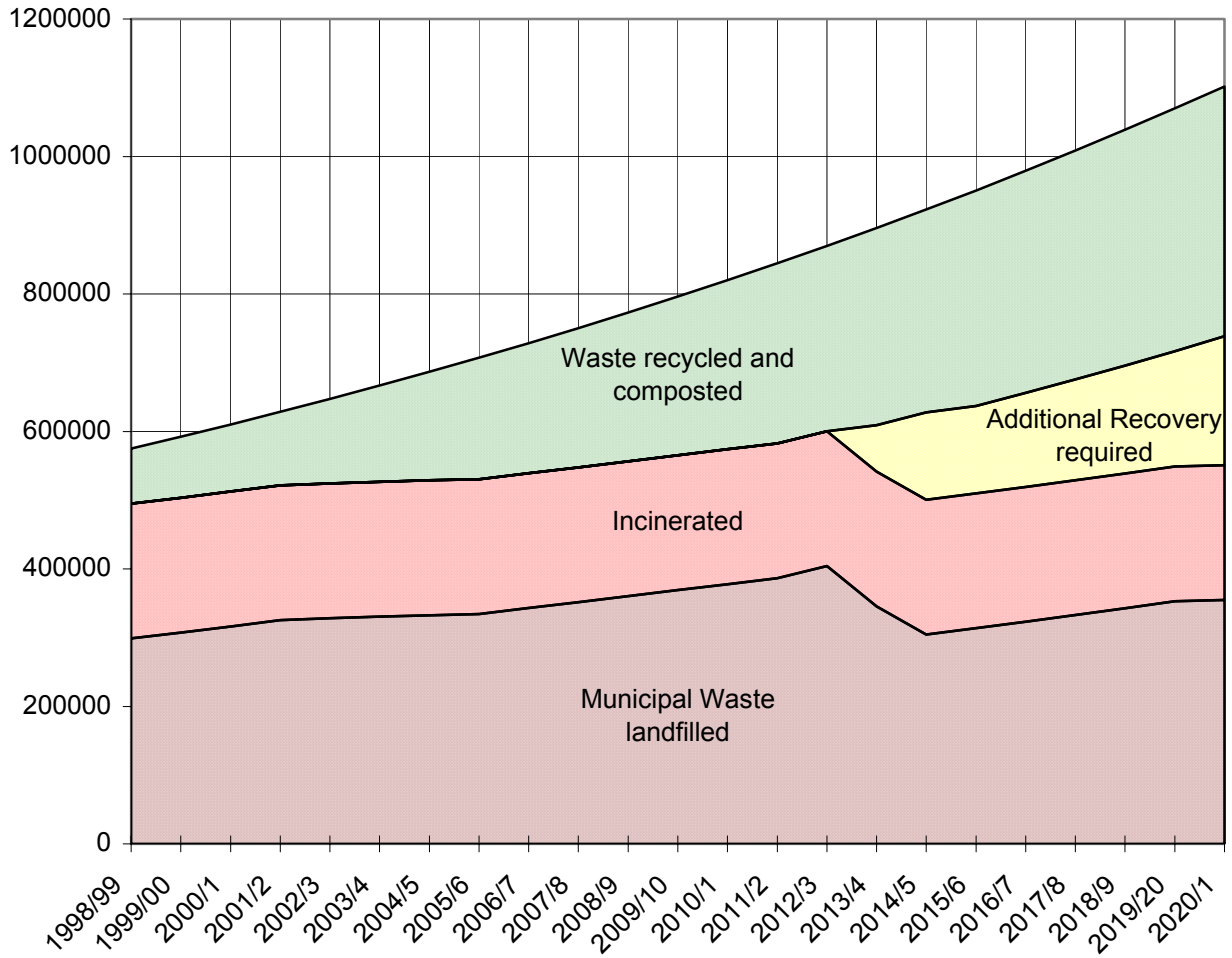
HEREFORDSHIRE



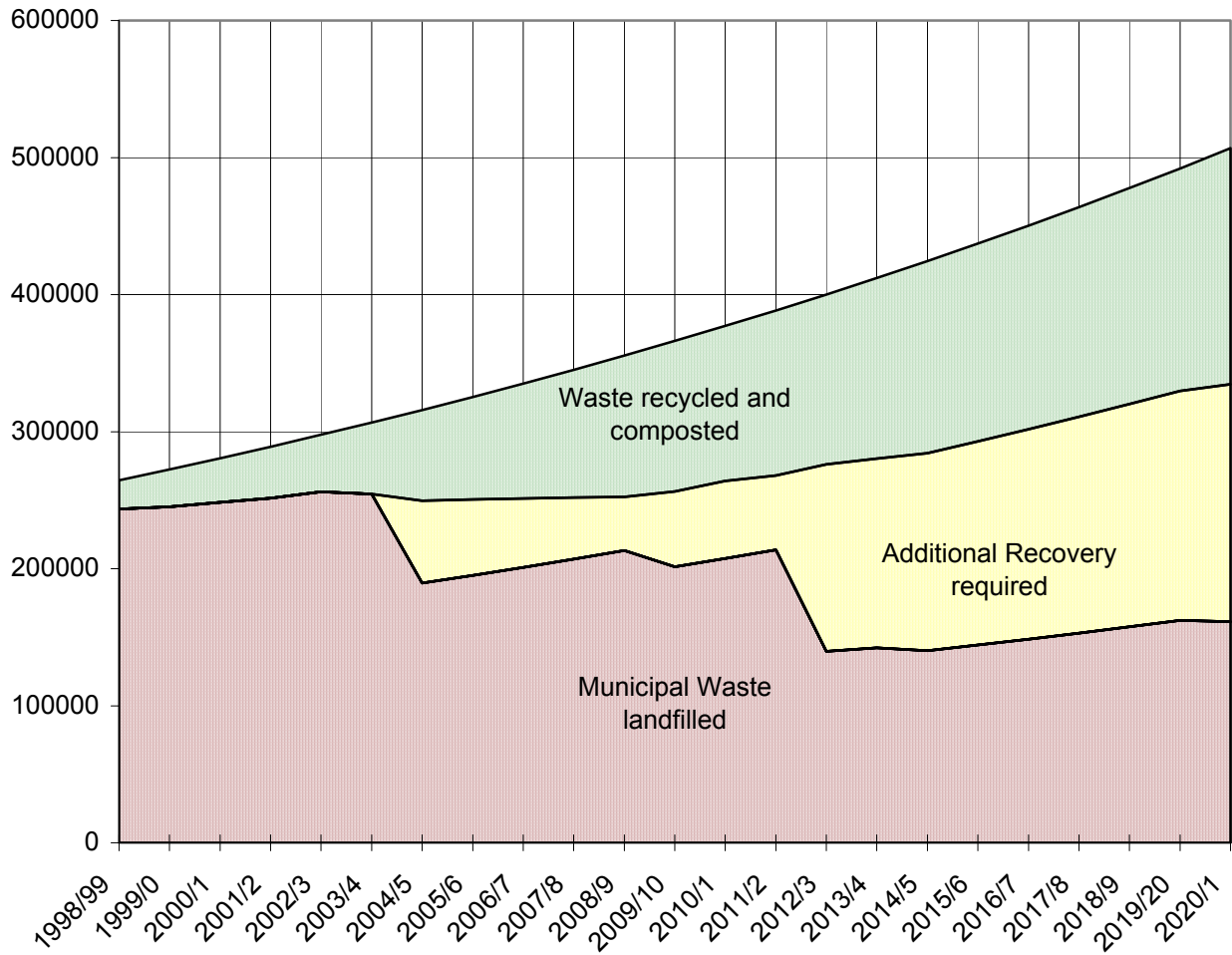
SHROPSHIRE, TELFORD & THE WREKIN



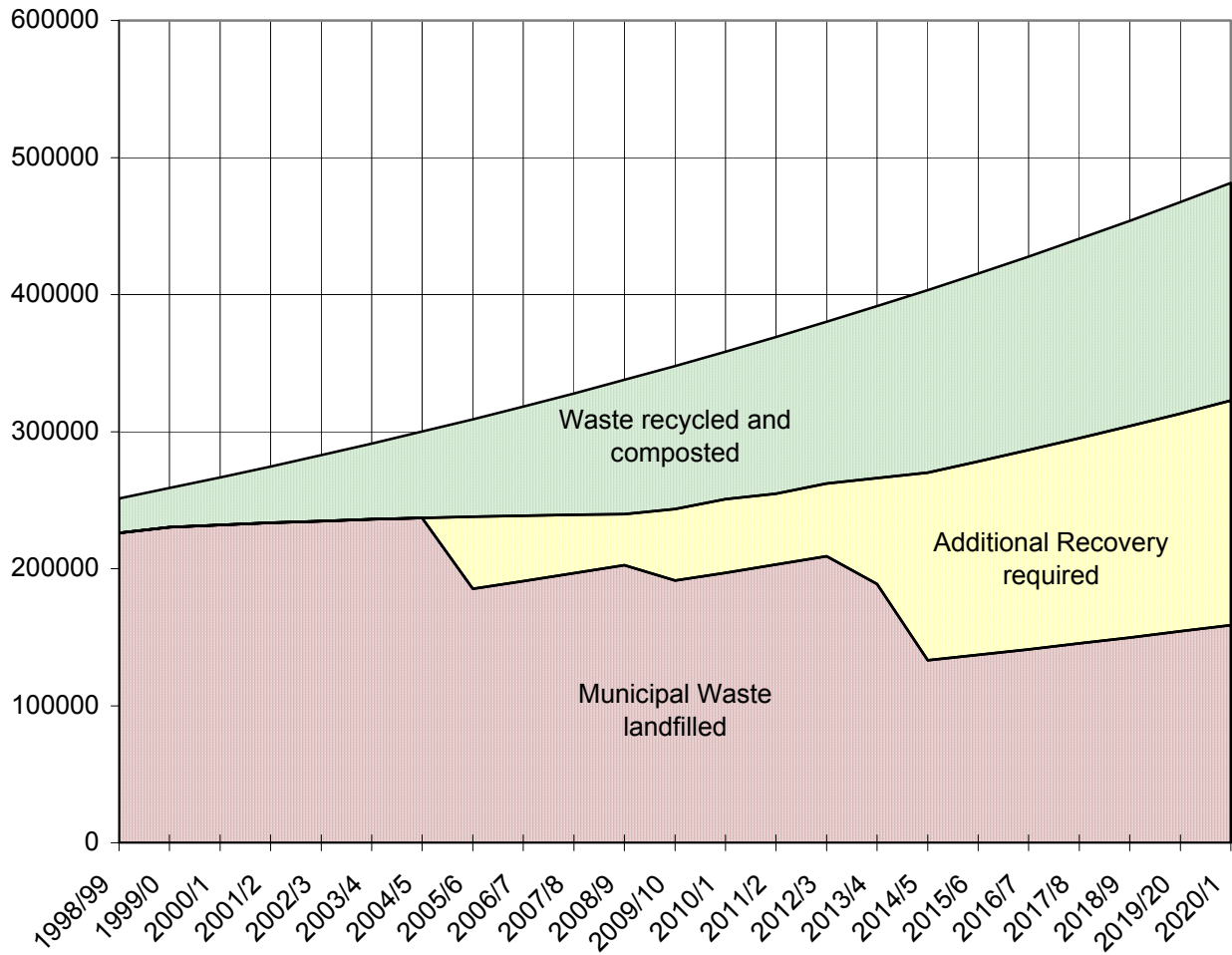
STAFFORDSHIRE, STOKE ON TRENT



WARWICKSHIRE



WORCESTERSHIRE





## **APPENDIX**

### **GLOSSARY OF TERMS**

NB need to review in light of SWMA glossary

#### **Agenda 21**

At the Earth Summit in Rio de Janeiro in 1992 a number of international agreements were signed including Agenda 21. It is intended to be "*a comprehensive programme of action needed throughout the world to achieve a sustainable pattern of development for the next century*". Agenda 21 is also intended to raise awareness of environmental issues and highlight the fact that we all have a responsibility to achieve more sustainable development. The signatories to Agenda 21 agreed to draw up national action plans, and "*local authorities would then work with their communities, through a process of consultation and consensus, to produce Local Agenda 21 programmes*".

#### **Aggregates**

Sand, gravel or crushed rock used by the construction industry.

#### **Best Practicable Environmental Option (BPEO)**

Defined by the Royal Commission on Environmental Pollution as "*the outcome of a systematic consultative and decision making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits or least damage to the environment, as a whole, at acceptable cost, in the long term as well as in the short term.*"

#### **Biodegradable**

Capable of being broken down by plants and animals.

#### **Clinical waste**

Health care waste that is infectious or could cause harm in some other way.

#### **Co-disposal landfill**

Landfill sites that are licensed to receive municipal solid waste or similar biodegradable wastes and a restricted range of industrial waste. Co-disposal will cease under the Landfill Directive.

#### **Commercial Waste**

Waste arising from premises used wholly or mainly for trade or business (including sports, recreation, or entertainment), but excluding household and industrial wastes. It includes waste from shops, offices, air and seaports, bus and rail stations, clubs, societies, courts, government departments, local authorities, markets and fairs.

#### **Composting**

A waste treatment process which involves sorting out and conditioning the organic fraction of waste and subjecting it to the natural action of micro-organisms. The product is a compost-like soil conditioner. The term refers to household waste (including garden and kitchen waste from householders and park waste from local authorities) and to industrial and commercial wastes. Composting can be undertaken with garden/park waste only (in this case it is referred to as 'green waste composting' or 'garden waste composting').

#### **Construction and demolition waste**

Waste arising from construction, repair, maintenance and demolition of buildings and structures; mostly brick, concrete, hardcore, subsoil and topsoil., but also timber, metal, plastics and occasionally special waste material.

**Controlled waste (waste)**

Refers to household/municipal, industrial and commercial waste. For a precise definition see the Waste Management Licensing Regulations 1994.

**Development Plan**

The 'development plan' includes Structure Plans, Unitary Plans Minerals Local Plans, Waste Local Plans, and District-wide Local Plans. Planning decisions are required to be determined in accordance with the policies contained in the 'development plan' unless material considerations indicate otherwise. Conversely planning applications which do not accord with the plan, should not be allowed unless material considerations justify granting a planning permission. (Planning Policy Guidance 1 'General Policy and Principles' (PPG 1) and the Planning and Compensation Act 1991, Section 54A).

**Disposal**

The final stage of managing waste, preferably in a controlled and sustainable manner. The most common techniques are landfill and incineration.

**Energy from waste**

(EfW) A waste treatment process involving the *incineration* of waste. The resulting heat is used to make steam from which electricity is generated and fed into the National Grid. It is also possible to provide district heating. Significant emission control equipment would be provided at such a plant to minimise pollution.

**Environment Agency**

The principal environmental regulator in England and Wales. The Environment Agency was formed in April 1996, and inherited the responsibilities of the former Waste Regulation Authorities, Her Majesty's Inspectorate of Pollution and the National Rivers Authority.

**Exempt facility**

A waste recovery operation registered with but not licensed by the Environment Agency.

**Hazardous waste**

Defined by the EU as the most harmful wastes to people and the environment.

**Household Waste**

Waste arising from domestic properties or caravans, and sleeping accommodation in educational establishments, hospitals, and residential or nursing homes. It also includes waste arising from local authority efforts to keep roads and other public areas clean and free from litter.

**Incineration**

The process of combusting waste under controlled conditions, usually with heat and power recovery, when it is termed *Energy from Waste*.

**Industrial Waste**

Waste arising from any factory, or premises used in connection with public transport, public utilities, or postal or telecommunication services. Includes laboratory, clinical (Excluding domestic), and construction and demolition waste. Other sources include imported waste from outside the UK, sewage waste which has been taken from sewage works but not deposited for agricultural purposes and most clinical waste.

**Inert Waste**

Wastes which either do not degrade or degrade very slowly (e.g. clay, concrete, sand). Largely originates from demolition and construction works.



### **Integrated waste management**

Consideration of all wastes produced in an area and the methods for their management, either alone or in combination.

### **Landfill Gas**

Mixture of gases generated in *landfill sites* by the anaerobic decomposition of active waste.

### **Landfill site**

The controlled deposit of waste to land.

Reference to landfill in this document may also refer to land raising.

Landfill generally involves the infilling of voids following mineral extraction, whereas land raising, which is less common, involves the deposit of waste above ground, e.g. in naturally occurring depressions or as part of reclamation schemes.

### **Landfill capacity**

See 'Permitted landfill capacity' below.

### **Landfill Tax**

The Landfill Tax, introduced on 1st October 1996, imposed a charge for the deposit of 'active' and 'inactive' waste at licensed landfill sites. Infilling at mineral sites with inactive waste is exempt from the tax.

### **Life cycle assessment (LCA)**

The systematic identification and evaluation of all the environmental benefits and disbenefits that result directly or indirectly from a product or function throughout its entire life from extraction of raw materials to eventual disposal and assimilation into the environment.

### **Materials Recovery Facility (MRF)**

A waste processing technology which sorts recyclable waste into its constituent streams (e.g. paper, plastics and cans), and bulks it for transport to a *reprocessing* facility. The process involves conveyor belts, magnets, manual sorting and bailing.

### **Municipal Solid Waste (MSW)**

Includes wastes collected by the WCA, such as household waste, that arising from local authority maintenance work, and waste arising from some commercial establishments.

### **Municipal Waste Management Strategy**

These should be prepared jointly by WCAs and WDAs, based on local needs and circumstances, reflecting an integrated approach to waste management and employing a range of waste management options. The Government intends to make the preparation of these Strategies mandatory.

### **Open-gate landfill**

A landfill run as a commercial operation that receives waste from many waste producers.

### **Packaging Waste Regulations and the Packaging Directive**

Under the EC Directive on Packaging and Packaging Waste, at least 50% of the UK's packaging waste must be reused through recycling and other recovery methods by the year 2001. The legislation implementing the Directive is the Producer Responsibility Obligations (Packaging Waste) Regulations 1997. The Regulations aim to ensure that the real environmental costs of producing, using and disposing of packaging fall directly on those who produce or use it. The targets will be reviewed in 2000 and further targets set for the next 5 years.

**Permitted landfill capacity**

The area and void within which there is planning permission to deposit waste material.

The landfill capacity is normally the result of mineral extraction.

In some cases the landfill capacity may not yet exist or is being formed as mineral extraction takes place and extraction is not sufficiently advanced to allow progressive landfill to take place.

**Proximity principle**

Waste should be disposed of, or otherwise managed, as close as practicable to the point at which it is generated.

**Recovery**

The recovery of value from a waste stream either in the form of raw materials or energy.

**Recycling**

Re-processing waste into raw material or product.

**Recycling credit**

Payment by the WDA to the WCA to account for the disposal saving incurred in recycling of waste. Available to some community groups, businesses and organisations who ‘collect’ household waste for recycling.

**Regional Planning Guidance**

Strategic land use and transportation guidance at the regional level, issued by the Government to local planning authorities, and to be followed in preparing statutory Development Plans. RPG11, issued in revised form in April 1998, provides the current guidance for the West Midlands Region.

**Regional self-sufficiency**

Most of the waste should be treated or disposed of within the region in which it is produced. WPAs are asked to make adequate provision in their development plans for any waste management facilities which may be needed to meet an appropriate share of the regional requirements based on the advice of the Regional Planning Conference.

**Restricted user landfill**

Sites within ownership of the waste producer or restricted to specific users.

**Re-use**

The use of materials for its original or another purpose, without any re-processing.

**Special Waste**

Any waste that has one or more of 14 hazardous properties.

**Sustainable Development**

Defined by the Department of the Environment, Transport and the Regions as *ensuring a better quality of life for everyone, now and for generations to come*, and meeting four objectives at the same time:

- social progress which recognises the needs of everyone
- effective protection of the environment
- prudent use of natural resources
- maintenance of high and stable levels of economic growth and employment

**Sustainable waste management**

Using material resources efficiently to cut down on the amount of waste produced, and dealing with the waste that is produced in a way that contributes to the economic, social and environmental goals of sustainable development.

**Transfer Station**

Facility at which collected waste is placed in large vehicles for transport to waste management facilities (such as landfill). They are used in order to cut down on transport costs and impacts. They usually entail covered buildings and lifting equipment.

**Treatment**

Physical, chemical or biological processing of waste to reduce its harmfulness or volume and to facilitate its recovery or disposal.

**Unitary Authority**

Councils which provide the entire range of local government services, replacing the two tier system of County and District Councils.

**Void space**

Unused capacity at a landfill site.

**Waste**

Waste is defined as any substance or object that the producer or the person in possession of it discards or intends or is required to discard. (see also controlled waste).

**Waste Collection Authority (WCA)**

Metropolitan and Unitary Authorities, and in two tier authorities the district councils carry out the function of waste collection. WCAs also have a duty to prepare and publicise waste recycling plans and strategies.

**Waste disposal site**

See landfill site

**Waste Disposal Authority (WDA)**

Metropolitan and Unitary Authorities, and in two tier authorities the county councils are responsible for the safe disposal of all waste arisings in a particular geographical area.

**Waste hierarchy**

In accordance with the principles of sustainable waste management, the first priority is to reduce the production of waste, after reduction comes re-use, then waste recovery (including materials recycling, composting and energy recovery - but no preference should be given to any of the recovery options as this will be determined by the Best Practicable Environmental Option for a particular waste stream. More likely an integrated approach will be the preferred practice). Finally at the bottom of the hierarchy, comes waste disposal.

**Waste Local Plan (WLP)**

The preparation of Waste Local Plans is a requirement of the Planning and Compensation Act 1991 (the Act) which amends the Town and Country Planning Act 1990. Section 38 of the Act defines a 'waste local plan' as a plan containing waste policies. 'Waste policies' are defined in the Act as detailed policies in respect of the development which involves the depositing of refuse or waste materials other than mineral waste.

**Waste Minimisation**

An activity to avoid the production of waste. It requires individuals and companies to examine their current practices or production techniques to see whether changes may be introduced which will reduce the amount of waste produced. It is applicable to both and public and business.

**Waste Planning Authority (WPA)**

County Councils and Unitary Authorities are WPAS. They are responsible for planning control over waste management. They are also responsible for ensuring that there is an adequate planning framework to facilitate the establishment by the industry of appropriate waste management facilities, and to balance this provision with the need to protect the environment.

**Waste Treatment Facility**

Waste treatment facilities include materials recycling facilities, waste transfer stations, civic amenity sites, recycling depots, composting sites, scrapyards and incinerators.

**West Midlands Local Government Association**

The Association is made up of representatives of all the local authorities within the West Midlands Region.

**West Midlands Regional Waste Planning Technical Group**

Government advice recommends the establishment of Regional Technical Advisory Bodies to provide advice on the options and strategies for dealing with the waste that will need to be managed within each region. The West Midlands Regional Waste Planning Technical Group, made up of officers from the WPAS, the Environment Agency, and representatives from WCAs and the waste industry was set up to provide advice to the West Midlands LGA. The Technical Group is currently preparing the Regional Waste Planning Strategy.