

SURREY LOCAL
GOVERNMENT ASSOCIATION

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Voice for Surrey

Surrey Local Government Association

Joint Municipal Waste Management Strategy

August 2006

Surrey Local Government Association

Joint Municipal Waste Management Strategy

Consultation

A Consultation Draft version of the Joint Municipal Waste Management Strategy (JMWMS) was issued in May 2006 and was designed to canvass the views of Surrey's residents, key stakeholders and the 12 waste authorities. The results of this consultation have been considered in the production of this final document. Supplementary report SR-8 summarises the consultation process (see section 5.4 of this document).

Further information on waste management in Surrey is available from www.surreywaste.info

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Contents

Consultation	i
Acknowledgements	i
Published by	i
1. Introduction	1
1.1 Objectives of the Strategy	1
1.2 Background	1
Municipal Waste	1
What is the SLGA?	2
The Previous Strategy 2003	2
1.3 Roles and Responsibilities	2
Borough and District Councils	2
Surrey County Council	3
The Environment Agency	3
The Waste Industry	3
The Business Sector	4
The Public	4
2. The Challenge Ahead	5
2.1 Current Waste Generation	5
Waste Composition	5
2.2 Future Waste Growth	6
2.3 Drivers for Change	6
3. Meeting the Challenge	8
3.1 Working Together - Partnership Working	8
3.2 Waste Awareness and Minimisation	9
The Waste Hierarchy	9
Waste Awareness	9
Waste Minimisation	11
Re-use	13
Home Composting	14
3.3 Waste Collection, Recycling and Composting	14
Recycling and Composting Performance	14
District and Borough Collection Schemes	15



	Additional Collection Services	18
	Recycling Facilities	18
	Composting Facilities	18
	Civic Amenity Sites (Community Recycling Centres)	19
3.4	Residual Waste Treatment	20
	The Need for Waste Treatment	20
	Technology Review	21
	The County Council Action Plan	21
	Summary	22
3.5	Landfill	23
3.6	Commercial Waste	24
3.7	Other Municipal Wastes	25
3.8	Hazardous and Clinical Waste	25
4.	Assessing the Strategy	26
4.1	Introduction	26
4.2	Methodology	26
4.3	Results	27
5.	The Way Forward	32
5.1	Ongoing Review and Monitoring	32
5.2	Summary Policies and Actions	32
5.3	Action Plans	32
5.4	Further information	33

Appendix A Joint Municipal Waste Management Strategy – Policies and Actions

Appendix B Glossary of Terms

Appendix C Residual Waste Treatment Technologies



1. Introduction

1.1 Objectives of the Strategy

This Joint Municipal Waste Management Strategy (JMWMS) has been produced by the Surrey Local Government Association (SLGA). It constitutes a 20 year plan for the future of waste management in the County, covering the period running from 2006 until the year 2026.

The strategy presents a forward looking vision towards a more sustainable future for Surrey, consistent with the vision statement set out below.

Vision Statement

To provide Surrey with a forward-looking strategy for a more sustainable future. The vision is for a County in which resources are used and managed efficiently so that by 2026:

- the amount of waste produced will be minimised;
- the overwhelming majority of materials will be re-used, recycled or have value recovered from them; and
- the environment will be protected and enhanced for future generations.

1.2 Background

Municipal Waste

The primary focus of this Strategy is the management of municipal waste, as defined below. This is the waste which the authorities comprising the SLGA control and will continue to manage for the foreseeable future.

The Municipal Waste collected in Surrey comprises:

- ▶ Household waste collected directly from residents' households (residual waste, dry recyclables, organic waste, bulky waste and clinical waste);
- ▶ Household waste delivered to bring sites and Community Recycling Centres by residents (excluding soil and rubble);
- ▶ Other household waste collected by a waste collection authority for example, schools waste or waste from a charity; street sweepings and litter collected by local authorities;
- ▶ Commercial and industrial waste collected by the District and Borough councils; and
- ▶ Soil and rubble delivered to the Community Recycling Centres.

Local authorities have been set clear objectives and targets by central Government in relation to the management of municipal waste.

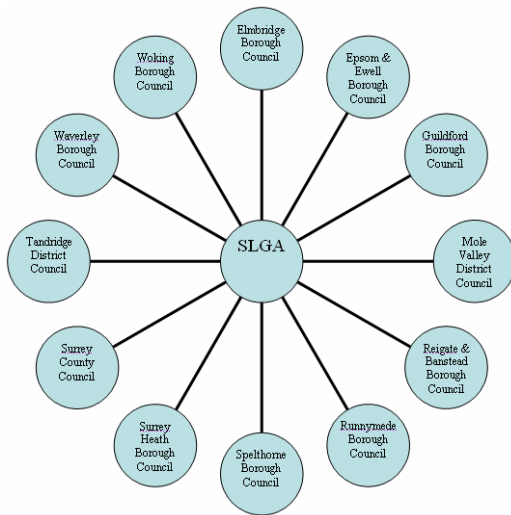


These requirements exert a significant influence in finding the most appropriate way forward for Surrey.

What is the SLGA?

The Surrey Local Government Association (SLGA) represents the 12 local authorities of Surrey: the County Council and the 11 Borough and District Councils.

The SLGA provides a forum in which the individual authorities can work in partnership to improve services in Surrey. It also acts as a voice for Surrey in dealing with Government bodies and agencies at regional, national and European levels.



The Previous Strategy 2003

In September 2003, the document *'Towards an Integrated Waste Management Strategy for Surrey'* was developed on behalf of the SLGA and issued for public consultation. It aimed to create co-ordinated waste management arrangements that would achieve the targets set by central Government at that time.

To take account of new objectives, changing targets and further

Government guidance, a new and revised joint strategy is required.

This version builds on the previous strategy where appropriate and represents a Joint Municipal Waste Management Strategy produced on behalf of the SLGA.

1.3 Roles and Responsibilities

Progress towards the delivery of JMWMS targets and objectives established in this document will require a collaborative contribution by Borough and District Councils (the Waste Collection Authorities WCAs) and the County Council (the Waste Disposal Authority - WDA). It is therefore important to understand the roles and responsibilities of each authority.

Borough and District Councils

There are 11 Borough and District Councils in Surrey responsible for the collection and removal of household wastes (Waste Collection Authorities). These WCAs are also responsible for the delivery of recycling and composting schemes based on the separation of suitable materials within the household waste stream. This is usually achieved through 'kerbside' or 'back door' waste collection schemes that operate in conjunction with the normal waste collection and are supplemented through the provision of convenient recycling facilities in places such as supermarkets, shopping centres and car parks. The residual waste collected is passed to the County Council for disposal. The waste collected for recycling can either be passed to the County Council or can be sent directly to recycling facilities for reprocessing, such as a paper mill.



Surrey County Council

The County Council has two distinct roles with regard to municipal waste. Firstly, it is the Waste Disposal Authority (WDA) for Surrey. This entails arranging for the acceptance of municipal waste collected by District and Borough Councils and the provision of facilities for its subsequent treatment and disposal. The County Council also provides Civic Amenity sites for residents to deliver household waste that is not otherwise collected by the WCAs. Recycling and disposal of wastes from these sites is also the responsibility of the WDA. These will be named Community Recycling Centres (CRCs) once they are upgraded by SCC as described on page 20.

The County Council is also the Waste Planning Authority for Surrey. This role involves the identification and allocation of land that is suitable for the development of waste management facilities. The process involves the production of a Waste Local Plan. The Planning Authority is also responsible for the determination of planning applications for new waste facilities within Surrey.

The Environment Agency

The Environment Agency is responsible for the regulation of waste facilities in England and Wales. This is achieved through a system of consents, licences and permits that must be applied for by the waste facility operator.

Before a waste facility can begin operations it will usually need both a planning permission and either an Integrated Pollution Prevention and Control (IPPC) permit or waste management licence.

The Waste Industry

The private sector waste management industry is a major provider of waste services nationally. This is achieved through gaining waste management contracts with local authorities or by developing facilities for use by industrial and commercial waste producers.



In September 1999, Surrey County Council entered into a contract with Surrey Waste Management Ltd (SWM) to provide waste management services for a period of 25 years. SWM is a wholly owned subsidiary of SITA (UK) one of the largest waste management companies operating in the UK.

The contract requires SWM to operate the 15 Community Recycling Centres (CRCs) and three waste transfer stations within the County. SWM is also contracted to provide treatment and disposal facilities to deal with the municipal waste delivered by the 11 Borough and District Councils and collected by the Community Recycling Centres within Surrey.

At Leatherhead and Guildford, facilities with large bays have been constructed by SWM to provide local points where Surrey District and Borough Councils can deliver recyclable materials collected from householders and recycling banks. A third facility has also been constructed at Shepperton which includes equipment to separate mixed recyclable materials.

Mole Valley District Council has signed a contract with Grundon Waste Management Ltd. to build and operate



a Materials Recycling Facility (MRF) at Leatherhead.

The Business Sector

The business sector within Surrey generates a large portion of the total waste arising within the County. Local businesses can therefore greatly contribute to the evolution of waste management in the county by improving their management of natural resources.

There are a variety of business support programmes that have been introduced to improve design and production processes, increase the recyclability of new products, and enhance the recycling of otherwise unwanted wastes. Manufacturers also have the opportunity to incorporate recycled materials into their product lines and to help inform customer choice by using 'green labelling'.

The Public

The general public and local community have an important role to play in waste minimisation and recycling. This influence can be exerted through exercising choice over the products they consume, participating in re-use and recycling initiatives and reducing the quantity of waste that they produce for disposal.



2. The Challenge Ahead

2.1 Current Waste Generation

Before changes can be made, the starting point needs to be understood, together with the issues and constraints this raises for the future.

Waste management practices are varied throughout Surrey both in terms of what levels of recycling are being achieved and how these levels are being achieved. A summary of waste arisings by type can be seen in Table 2.1.

In 2004/5 624,000 tonnes of municipal waste was generated in Surrey. The extensive recycling schemes across the County were successful in recycling and composting 24% of household waste. The remaining 76% was sent for disposal to landfill in Surrey and other Counties.

In the same year the 11 Waste Collection Authorities (WCAs) recycled or composted an average of 21% of the waste they collected (ranging from 14 to 27%), and performance continues to rise. Details of each individual authority's waste arisings can be found in the separate Action Plans (Report SR-6).

The Waste Disposal Authority recycled or composted 33% of the waste arriving at Civic Amenity Sites (CA Sites). The performance of individual sites was variable, ranging between 16% and 55%.

Table 2.1 Total Municipal Waste Arisings 2004/05

Waste Types	Tonnage
Household Collected:	
Recycling, Composting & Re-use (kerbside and bring banks)	86,194
Residual	318,576
Commercial/trade	29,039
Street cleanings	16,146
Fly tipping	1,978
Civic Amenity Sites:	
Recycling, Composting & Re-use	55,666
Rubble	5,605
Residual	110,873
TOTAL	624,077

Waste Composition

Waste composition is an important factor in determining what levels of recycling and composting can be achieved. Recycling can only take place on waste materials that are actually recyclable. Thus the recycling systems should reflect the materials that are present in the waste stream and that might easily be separated. The availability of markets must also be reflected in the choices that are made.

An analysis of household waste composition in Surrey was conducted during 2002/03. This detailed the materials that were present in the household waste stream including wastes collected by boroughs/districts, wastes taken to Civic Amenity Sites and street sweepings.



The key results of this are shown as countywide composition of all Surrey’s household waste in Figures 2.1 and 2.2.

Figure 2.1 Household Waste Composition

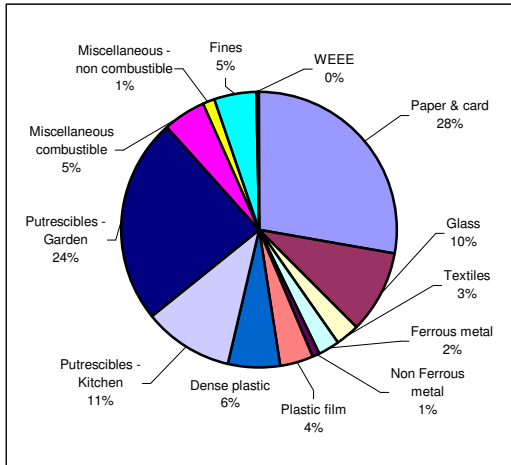
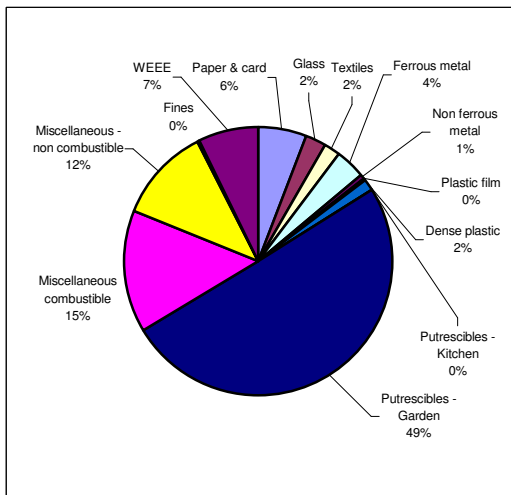


Figure 2.2 CA Waste Composition



2.2 Future Waste Growth

Waste growth is a key factor that needs to be addressed as part of this Strategy.

Over the last 10 years Surrey’s household waste has grown in excess of 2% per annum on average, but with large fluctuations year on year. The more waste there is, the greater the number and/or size of facilities required to manage it. This is particularly apparent with the rate at which landfill sites are being filled.

There are always uncertainties in how much waste will be produced in the future, and past trends are difficult to rely upon.

In building reasonable assumptions for waste growth on which a forward looking strategy can be based, a balance needs to be struck between the potential risk of overestimating future waste arisings (which could lead to excess facility capacity) and being over optimistic about low growth rates. The latter could potentially lead to insufficient capacity for managing all municipal waste arisings.

This Strategy is based upon reducing rates of waste growth per person, placing reduction and minimisation at the centre of future waste management provision. This will not happen by itself and a number of targets and actions are set out within this Strategy.

2.3 Drivers for Change

There are many pressing reasons for continuing to improve the way waste is managed in Surrey.

Continuing to send over two-thirds of municipal waste to landfill is not sustainable, either in terms of the environmental impact or cost (which falls on the tax payer). The reliance on landfill represents a huge waste of natural resources that could be re-



used, recycled or composted or used to produce energy. The rapid filling of landfill sites also means that Surrey needs alternative waste facilities to deal with its waste.

Policies set out in European and national waste legislation have a direct impact on the approach to waste management taken by local authorities in the UK. Supplementary Paper SR-2 describes in more detail the key current and proposed legislation and policies that need to be considered when making future decisions regarding the management of municipal waste arising in Surrey. These include:

- ▶ **Landfill Directive:** requires an increasing amount of biodegradable municipal waste to be either pre-treated (to reduce its biodegradability) or managed by methods other than landfill. There are likely to be heavy penalties for councils failing to meet Government targets.
- ▶ **National and Regional Waste Strategies:** require decisions on waste management systems to be based around issues such as sustainability and proximity as well as detailing a number of actions and mechanisms that will move waste management up the 'waste hierarchy', encouraging re-use, composting and recycling.
- ▶ **Recycling and composting targets:** statutory Best Value performance standards for recycling and composting are set for each authority (currently at 30% for 2005/6 for Surrey as a whole). In the longer term municipal recycling and composting targets for the whole region have been set as follows:

2010 40%

2015 50%

2020 55%

2025 60%

- ▶ **Recovery Targets:** municipal recovery targets to divert waste from landfill have been set for the region equivalent to:

2010 52% recovered

2015 74% recovered

2029 83% recovered

2025 84% recovered

- ▶ **Producer responsibility:** requires more recycling and recovery of waste materials from specific types of goods (such as packaging), with the responsibility placed on the producer to achieve the improvements.
- ▶ **Landfill Tax:** the tax on active waste taken to landfill will rise by at least £3 per tonne each year to a level of £35 per tonne by about 2011/2012, giving a large incentive to use alternative waste management methods.



3. Meeting the Challenge

3.1 Working Together - Partnership Working

Policy 1

We will work in partnership with each other and other stakeholders in order to promote sustainable waste and resources management in Surrey, and support regional policies for net self-sufficiency.

This strategy seeks to enhance the partnership and levels of joint working between the Waste Collection Authorities and Waste Disposal Authority, to ensure that collection and waste management systems are complementary, and publicised in the most effective way.

There may be some potential for partnership working between the SLGA authorities, whether on a small scale such as sharing vehicles, or taking the bigger step towards joint procurement of services in the long-term. The partners will therefore explore avenues for increased joint working between authorities, and further investigation is required to agree the best way to potentially improve operating efficiencies.

A move towards more sustainable waste management will require additional resources to be invested in capital and revenue budgets. This will

require all authorities to identify new funds. There are also a number of significant external funding opportunities that can be exploited for the development of sustainable waste management options, for example funding from DEFRA and WRAP.

The community can provide valuable waste management activities, particularly for the re-use of waste materials. These can complement the activities of local authorities and the waste industry, if properly co-ordinated. Community groups can often target niche markets at a local level which are otherwise difficult to access.

We recognise that the County of Surrey should aim to be self-sufficient in terms of managing the waste generated within its boundaries. We also realise however that there will be some import and export of waste near the boundary of the County as residents and businesses use facilities which are most convenient to them.

Actions

- ▶ We will plan for net self-sufficiency for dealing with waste in Surrey, through the provision of waste management capacity equivalent to the amount of municipal waste arisings.
- ▶ We will identify mechanisms for the implementation and monitoring of the Joint Municipal Waste Management Strategy.
- ▶ We will investigate mechanisms and opportunities for joint working between the authorities.



- ▶ We will seek partnerships with the community and waste industry, and consider existing initiatives.
- ▶ We will seek joint opportunities for external funding to implement the objectives of the Joint Municipal Waste Management Strategy, and review financial arrangements among the partners.

3.2 Waste Awareness and Minimisation

Policy 2

We will work in partnership to develop and deliver a coordinated waste education and awareness programme, which focuses on all aspects of sustainable waste management, in line with the priorities of the waste hierarchy

Policy 3

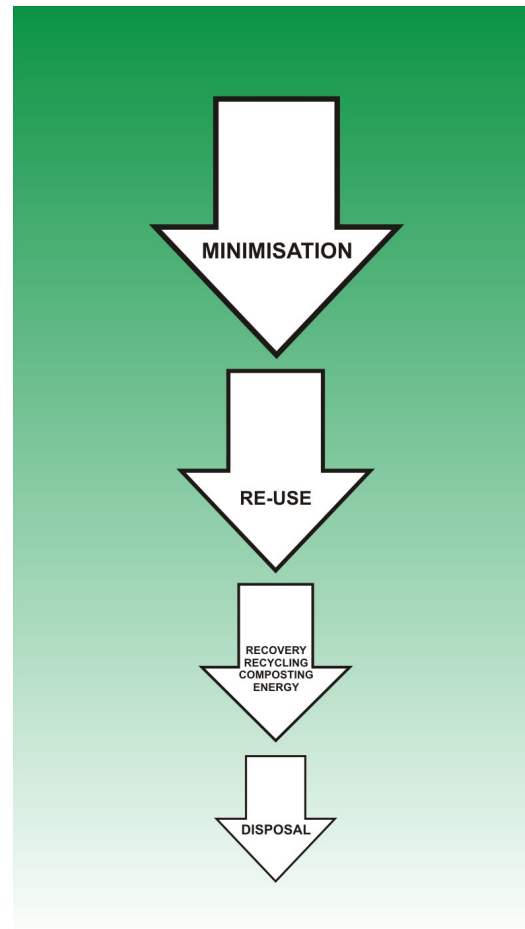
We will vigorously pursue the minimisation of waste to achieve a growth rate below current levels, through common public messages, lobbying retailers and enforcement activities.

The Waste Hierarchy

The Surrey authorities have adopted the Waste Hierarchy as outlined in the National Waste Strategy 2000; this promotes the reduction and recovery of value from waste prior to ultimate disposal.

The stages of the waste hierarchy are described by Figure 3.1 below.

Figure 3.1 The Waste Hierarchy



Action

- ▶ We recognise waste minimisation as the first stage of the waste hierarchy and will emphasise the need to reduce waste at source both domestically and commercially.

Waste Awareness

Public attitudes and behaviour towards waste influence the quantity of household waste that is produced. Therefore, an important step towards achieving a waste management approach led by waste minimisation is to raise public awareness of waste and



to encourage the public to fully adopt sustainable waste behaviours.

The public can prevent large quantities of waste from entering the municipal waste stream, for example by changing shopping habits, re-using materials and home composting. This reduces the amount of material which requires further management. This is a message which will be introduced early in the implementation of this JMWMS and reinforced by ongoing awareness campaigns. In particular awareness should differentiate between avoiding materials from entering the waste stream and the sustainable management of those which do enter.

Raised public awareness of waste can also greatly improve the performance of recycling and re-use schemes, and as a result help to divert large quantities of waste from final disposal. It can also help reduce instances of littering and environmental crime.

National and local governments use a variety of communication activities and initiatives to raise public waste awareness. These activities include:

- ▶ The provision of information about the local services that can be used to recycle, compost and re-use materials that would otherwise be disposed of to landfill; and,
- ▶ The provision of general waste facts and figures outlining the importance of adopting more sustainable lifestyles.
- ▶ Increasing the public's understanding of the available and emerging technologies required to deal with their residual waste.

The Surrey authorities recognise that coordinating with national campaigns, and promoting all waste related

activities under a common logo for Surrey, could lead to more effective awareness campaigns. This will prevent the public from being inundated by literature and confusing the messages in the process.

Action

- ▶ We will work towards promoting our waste related activities under an overarching message/logo, and participate in relevant national campaigns.

Raising waste issues in schools is recognised as being vitally important to the overall success of waste awareness over the long term. Schoolchildren can be educated in the importance of waste issues so that environmental considerations become second nature to them. It is also recognised that school children convey the waste awareness lessons that they learn at school to their parents, and often influence the way waste is treated at home.

Action

- ▶ We will encourage all schools to educate children in waste minimisation, collection and treatment issues and help them deliver co-ordinated education campaigns.

The Surrey authorities recognise that their own working practices can have a significant effect upon the amount of waste generated by their organisations and the way in which it is managed. Significant procedures already exist which encourage the prudent use of sustainable resources, the minimisation of waste and the



recycling of appropriate materials. These procedures will be reinforced and improved by each authority, in order to demonstrate best practice.

Action

- ▶ We will demonstrate our commitment to resources management by our corporate actions and procurement processes, in particular the use of sustainable and environmental products and materials.

Waste Minimisation

Minimising the quantity of waste entering the municipal waste stream is the first stage of the waste hierarchy and is vital, as this stage reduces the amount of waste which requires management.

Recent European and national legislation has placed importance on the use of waste minimisation and re-use activities for the achievement of sustainable waste management. The Waste Hierarchy prioritises the prevention and re-use of waste and states that disposal of waste to landfill without energy recovery is the least preferred option.

‘Waste minimisation’ is the term used to describe activities that aim to reduce the amount of waste that is generated. ‘Re-use’ is the term used to describe activities that make use, for the second or more time, of a product for the same purpose.

The Surrey authorities have set themselves a target to achieve zero waste growth per head of the population by 2010. This means that the total municipal waste will increase only if the population increases. In the

longer term if we can de-couple waste growth from economic growth then the total waste arisings could even start to reduce.

Action

- ▶ We will aim to achieve an average zero waste growth per head of population by 2010, and seek to de-couple waste growth from economic growth, with total municipal waste arisings growing only in line with increased population.

Significant reductions in municipal waste streams can be achieved through waste minimisation and re-use initiatives. Local authorities can play a greater role in encouraging waste minimisation and re-use. The local authorities in Surrey are currently promoting home composting, mail preference service, re-usable nappies, community re-use schemes, environmentally responsible business and sustainable shopping initiatives.

Other best practice initiatives currently deployed in the UK and Europe could be introduced to reduce waste. For example, bin size restrictions, with the aim to:

- ▶ Reduce waste collection and treatment/disposal costs;
- ▶ Reduce the size and/or number of waste management facilities needed in the future; and,
- ▶ Avoid the environmental impacts of materials extraction and use.

Additional funding and the expansion of existing waste minimisation and re-use initiatives in Surrey may enable local authorities to achieve further



reductions in the quantity of waste generated in the County.

In addition, the Surrey authorities will aim to divert illegally placed commercial waste from the domestic waste stream, forcing the producer to take responsibility.

Actions

- ▶ We will coordinate with appropriate authorities to enforce the exclusion of commercial waste from the household waste stream, and champion the principle that “the polluter should pay” in relation to creating and managing waste. At the same time we will support the minimisation and recycling of commercial waste.
- ▶ We will encourage the public to change their purchasing and consuming habits.

Shopping

It is recognised that waste can be minimised at source by the public in its purchasing choices. The public can be encouraged to purchase items which are packaged with the least packaging materials, or to turn down carrier bags when offered.

Waste-aware shopping campaigns encourage the public to think about reducing the waste that will arise from products they purchase.

The JMWMS consultation established that many Surrey residents understand that changing shopping habits can reduce the domestic waste stream. Concern was raised, however, that producers and retailers limit the possibilities for the public to buy goods in reduced packaging. As described in

Supplementary Paper SR-7, better design of retail packaging would help the efforts of Surrey shoppers.

Local authorities in Surrey plan to build on the relationships with Surrey’s large retailers and host joint initiatives on packaging reduction, plastics recycling and sustainable shopping.

Junk Mail

‘No Junk Mail’ promotions encourage members of the public to prevent businesses putting unwanted newspapers, magazines, pamphlets, brochures etc. through their letter boxes. Key methods are to encourage residents to register on the national Mailing Preference Service (MPS) and to put ‘No Junk Mail’ stickers on their letter boxes.

Nappies

Re-usable nappy initiatives can be deployed to encourage parents to favour re-usable instead of disposable nappies. Re-usable nappy promotion initiatives include:

- ▶ Making information about re-usable nappies available to parents when they are choosing which nappies to use;
- ▶ Making information available for dissemination by healthcare professionals, nurseries, toddler groups and other points of contact for parents;
- ▶ Giving out samples of re-useable nappies to new mothers;
- ▶ Subsidising re-usable nappies;
- ▶ Working with high street retailers to improve the retail visibility of re-usable nappies; and,
- ▶ Raising the profile of existing re-usable nappy businesses and



schemes and supporting the development of others.

Re-use

Items which are regularly disposed of by some Surrey residents can be useful to other sections of the community.

Re-use is encouraged in Surrey as it prevents some items from entering the waste stream. It is also recognised that residents who re-use items will be less likely to purchase new items, which would subsequently become waste.

Many schemes already exist among the Surrey authorities and more are planned. This will attempt to further divert materials from entering the waste stream.

Re-use in the Home

Re-use in the home initiatives encourage householders to use products beyond their original purpose or for an entirely new use. Re-use activities include:

- ▶ Re-using containers e.g. jam jars to store other household items;
- ▶ Re-using newspapers e.g. as a base for pet bedding;
- ▶ Use of carrier bags as bin liners;
- ▶ Using lunch boxes rather than plastic wrapping;
- ▶ Using rechargeable batteries and a battery charger; and
- ▶ Repairing activities e.g. using fabric to repair clothing.

Community Re-use

Community re-use initiatives encourage householders to take unwanted products to charity shops, local businesses (e.g. television repair shops) or neighbours to enable them to

be used beyond their original purpose or for an entirely new use.

Other re-use initiatives that local authorities plan to continue to implement in Surrey include:

- ▶ Junk Swap days, where goods can be brought by residents to a centralised area e.g. local park and given free for others, or collected for centralised refurbishment and re-use;
- ▶ Re-use Week campaigns, where a week every year is dedicated to promoting local re-use activities;
- ▶ Children's Scrapstore projects, where uncontaminated waste generated by businesses (e.g. furniture and IT equipment) is given for use in schools;
- ▶ Food Share projects, where food that is approaching its use-by date in shops is donated to homeless organisations or other groups in need;
- ▶ Further investigation into a large scale re-use facility, to re-use items from the Community Recycling Centres; and
- ▶ The use of the Surrey based internet site where residents can offer any unwanted items from their home or business to others who may have use for them. There are a number of national internet based auction sites where individuals can sell unwanted items or buy items that they have a use for.



(www.swapitsurrey.org)



Actions

- ▶ We will support and encourage re-use events and centres to enable goods and materials to be re-used, repaired and exchanged.
- ▶ We will strengthen partnerships with community and volunteer groups that support waste minimisation and re-use.

Home Composting

Home composting promotion initiatives can be used to encourage residents to compost their garden and raw vegetable waste and divert these organic materials from the household residual waste stream. This diverts compostable waste from the household waste stream and ultimately from landfill, whilst benefiting residents' gardens and reducing the environmental and financial costs of landfill disposal.

Home composting promotion initiatives include:

- ▶ The sale and promotion of subsidised home compost bins, digesters and wormeries;
- ▶ Implementation of public composting awareness schemes informing the public what can be composted through literature, events, 'master composters' and websites; and
- ▶ The provision of advice and support for all households engaging in home composting, via support materials and dedicated helplines.

The Surrey authorities recognise the need to provide and promote home composting as an alternative to disposal.

Action

- ▶ We will promote home composting as well as kerbside organic collections.

3.3 Waste Collection, Recycling and Composting

The Waste Collection Authorities in Surrey are responsible for the collection of both residual and recyclable and compostable household waste from residents. The residual fraction is collected and disposed of whilst recyclable and compostable materials are collected and sent for onward processing.

Systems are designed to complement each other in order to maximise recycling and composting.

Recycling and Composting Performance

Policy 4

We will commit significant efforts and resources to achieve and exceed overall household recycling and composting targets of 40% by the year 2010 and 50% by 2015, and aspire to reach a long term target of 60% recycling and composting by 2025.

The waste minimisation, publicity and recycling and composting measures described in this Strategy are designed to achieve very high targets, (particularly when these are compared to the rate of 24% recycling and composting for Surrey achieved in 2004/05). The new targets meet those suggested in the regional waste strategy for the south-east of England,



and will remain the minimum targets of the partners, regardless of changing national goals. The partner Surrey authorities aspire to achieve a long-term target of 60% recycling and composting by 2025, through the introduction and improvement of recycling and composting services.

There is also a need for new markets to be developed for the materials collected for recycling and composting. Some materials will require regional or national facilities to be built, but it is not directly within the scope of individual authorities to further the development of such facilities. However efforts will be made to monitor changes in market outlets and to develop local markets.

further detail in Supplementary Paper SR-4.

The 11 authorities in Surrey regularly assess, consult and decide upon the most appropriate and best value collection options available to them. This results in a wide range of collection schemes being deployed by the authorities, each tailored to the specific collection environment of the authority.

Table 3.3.2 (overleaf) shows the core frontline systems which the Collection Authorities deploy. Some of the systems are very similar in their operation or share some similarities, whether it be by using similar containers or by collecting similar materials. The collection systems will evolve over time as schemes are changed by the authorities in line with achieving diversion targets.

- Actions**
- ▶ We will develop kerbside and bring site collection systems to achieve or exceed recycling and composting rates of 40% by the year 2010 and 45% by 2015, regardless of any lower national targets.
 - ▶ We will collect a wide range of recyclable materials, consistent with market quality standards, and will look to maximise the value of collected materials by seeking joint agreements with market outlets.
 - ▶ The partners will meet regularly to review progress towards achieving recycling and composting targets.

- Action**
- ▶ We will liaise with our partners before introducing or changing kerbside collection systems.

District and Borough Collection Schemes

There are many ways to collect household waste, as described in

Research carried out by independent consultants (as described further in Supplementary Report SR-4) has highlighted a variety of options for the future of collection schemes in Surrey. Whilst theoretical, this research does identify the materials which could be targeted by districts in order to achieve and exceed recycling and re-use targets.

For those Authorities currently collecting mixed dry-recyclables that are sorted at the kerbside, it has been calculated that the most likely scenario for long-term success is to continue this method on a weekly basis, with the possible addition of a



chargeable garden waste service fortnightly and weekly kitchen waste collections free of charge.

For those authorities currently collecting dry-recyclables that are sorted at the kerbside, it has been calculated that the most likely scenario for long-term success is to continue this method on a weekly basis, with the possible addition of a chargeable garden waste service fortnightly and weekly kitchen waste collections free of charge.

In summary the research concludes that the probable optimum option for all Surrey Collection Authorities includes chargeable garden waste collections on a fortnightly basis and free kitchen waste collections weekly. Whilst methods for collecting these materials have been assumed, it will almost certainly be the case that Districts can implement unique schemes which complement current council policies, the views of the public and the systems already in place. These considerations will enable collection decisions to be made on the basis of both performance and public acceptability.

Action

- ▶ We will develop systems to collect both garden waste and kitchen waste from householders by the year 2010.

Public consultation raised the desire for local authorities to collect a wider range of recyclable materials, particularly plastics. Improved collection of plastics may require significant operational changes to collection systems and work on market development.

The provision of alternate weekly collections (AWC) to replace weekly household residual collections is a measure which around 100 authorities in England are currently adopting. AWC refers to any scheme that collects one type of material on one week (week 1) and a different type of material on the following week (week 2).

Alternate weekly collections have been proved to encourage recycling and waste minimisation at the kerbside. By restricting both the frequency and capacity of residual waste collections, recycling has been promoted as the core function of the kerbside collection service. This is a useful way to help achieve higher recycling levels and therefore meet statutory targets.

Action

- ▶ We will investigate by the end of 2007 how to reduce the volume of residual wastes collected from each household through alternate weekly collections, bin size restrictions or other suitable means.



Table 3.3.2 Summary of Surrey Collection Schemes

Authority	Refuse Scheme	Dry-recyclables Scheme	Organics Collection?	Organics Scheme	Alternate weekly collections (yes/no)
Elmbridge	Wheeled Bin	Wheeled Bin & Box	Garden Only	Re-useable Sack	N
Epsom & Ewell	Wheeled Bin	Box and Bag (55L box and 35L bag for newspaper)	No	n/a	N
Guildford	Sack	Box	Garden Only	Reusable Sack	N
Mole Valley	Wheeled Bin	Wheeled Bin	Garden Only	Sack	Y
Reigate & Banstead	Wheeled Bin	Box	Garden Only	Sack	N
Runnymede	Wheeled Bin	Box	Garden Only	Reusable Sack	N
Spelthorne	Sack	Box & Bag	Garden Only	Sack (bio)	N
Surrey Heath	Sack	Loose (Supermarket Sack)	Garden Only	Sack	N
Tandridge	Resident choice (except wheeled bin)	Box & Bag	No	n/a	N
Waverley	Wheeled Bin	Lidded Box, Netted Box & Basket	Garden Only	Reusable Sack (2 or 4 on request)	Y
Woking	Wheeled Bin	Sack or Bin	Garden Only	Sack	Y



In order for the Surrey authorities to target the most significant materials in the waste stream, it is recognised that studies will need to be undertaken to identify the changing composition of the waste stream during the life of this Strategy. This will require monitoring of the residual waste stream, recycling stream and municipal wastes collected through the community recycling centres for example.

Action

- ▶ We will monitor waste arisings and composition in order to inform waste minimisation schemes and future targets.

Additional Collection Services

All of the District Councils in Surrey offer residents the facility to have bulky household waste items collected directly from their properties. However, collection methods differ between authorities as does the cost charged to the public. All districts require residents to pay for the collection of bulky household waste, with the amount and charging mechanism varying between authorities.

Some bulky items collected by the districts are currently recycled, but further investigation is required on a district-by-district basis to enhance opportunities for re-use or recycling (e.g. items such as furniture can often be recycled by appropriate organisations).

Bulky household waste collections are discussed in more detail in Supplementary Report SR-4.

Action

- ▶ We will investigate and support options for maximising the re-use and diversion of bulky items from disposal.

Authorities will soon be required to separately collect Waste Electrical and Electronic Equipment (WEEE) to achieve specific recovery and recycling targets. This is likely to be facilitated through the Community Recycling Centres.

Recycling Facilities

The collection of dry-recyclable materials is recognised as a key contributor to landfill diversion in Surrey. Authorities will provide and continually improve the range of materials collected and the systems by which this is undertaken. In order for these materials to be processed, facilities will be required with a capacity large enough to satisfy the demands of this Strategy. The design and performance of these facilities will depend in part on the methods of collection and source segregation that WCAs plan to operate.

Action

- ▶ The Waste Disposal Authority will provide appropriate facilities for sorting or bulking of dry recyclables by the year 2010.

Composting Facilities

The collection of both garden and kitchen waste is recognised as an important advancement in Surrey with authorities being required to collect these materials in order to achieve long-term recycling and landfill



diversion targets. Currently there are insufficient facilities in Surrey to treat all of the collected green waste that is potentially available from the Districts, and there are no facilities which can accept kitchen waste.

The WDA recognises the need for advanced composting facilities, including those for the collection of kitchen waste, and is therefore committed to providing these. In the meantime, the WDA will explore the possibility of working with the WCAs to provide interim arrangements for garden and kitchen waste.

Action

▶ The Waste Disposal Authority will provide appropriate facilities for composting organic wastes by the year 2010, and will explore the potential for out-of-county composting as an interim method.

Schemes such as those mentioned in ‘District and Borough Collection Schemes’ (page 18) should improve the contribution that home composting makes to the overall diversion performance of the authorities in Surrey.

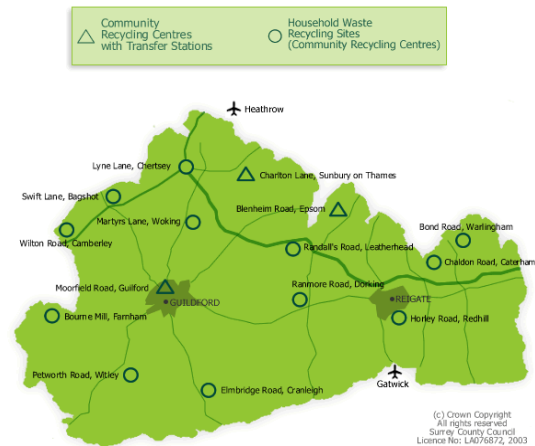
Civic Amenity Sites (Community Recycling Centres)

Surrey County Council currently operates 15 Civic Amenity Sites across the County.

In 2004/5, some 172,000 tonnes (or approximately 28%) of municipal waste was collected at Civic Amenity Sites, with about 2.7 million visits made by members of the public. About 33% of the material was recycled or

composted. The performance of individual sites was variable, ranging between 16% and 55%. The recycling rate of 33% compares with a national average of 40%. The best performing sites in the country achieve a rate in excess of 60%.

During the implementation of this JMWMS the Civic Amenity Sites will be upgraded and re-branded as Community Recycling Centres, and new sites may be provided. These changes are required to recycle a higher proportion of the municipal waste in Surrey, and ultimately achieve the landfill diversion targets set by this Strategy.



The upgrading of the Civic Amenity Sites to Community Recycling Centres will be supported by publicity about opening times and the materials that can be received by the sites.

Action

▶ The Waste Disposal Authority will improve the Civic Amenity Site network, with the aim to achieve or exceed diversion rates of 60% by the year 2015.



3.4 Residual Waste Treatment

Policy 5

We will adhere to the waste hierarchy, with residual waste treatment preferred to landfill. Recovery and disposal facilities will be delivered to ensure compliance with the Landfill Directive. We will restrict the use of landfill to less than 26% of arisings by the year 2015 and less than 16% by 2025.

The Need for Waste Treatment

An alternative approach to the management of municipal waste is needed in Surrey. This is being driven by sustainability and legislative requirements that seek to avoid waste being produced, encourage recycling and composting, treat the biodegradable fraction (under the Landfill Directive), and recover value from the waste stream prior to final landfill. The regional targets are to divert the majority of waste away from landfill. Restricting the use of landfill to only deal with less than 16% of arisings by 2025 will mean a massive shift from the 76% that was landfilled in 2005. If this were applied to current arisings it would equate to a reduction from 474,000 tonnes sent to landfill down to 100,000 tonnes, including any rejects from treatment processes.

High recycling and composting rates alone are unlikely to meet long term targets for diverting waste from landfill, and further treatment of the residual fraction will still be required. To meet longer term sustainability objectives will therefore require the introduction of new waste processing and treatment technologies into Surrey at one or a number of sites, and

careful consideration of the transport impacts.

The principal technological solutions currently being examined within the UK are based around either Mechanical Biological Treatment (MBT) or around Energy from Waste (EfW) systems. Some systems combine both, or may make use of newer technologies such as autoclaves or in-vessel composters.

The MBT-based systems focus around extracting some further materials for recycling, and then sending the stabilised residues either directly to landfill or for burning as a Secondary Recovered Fuel (SRF). Energy from Waste technologies convert waste into heat energy, to generate electricity and/or district heating. They include both Energy from Waste via incineration, anaerobic digestion with gas capture, and Advanced Thermal Treatments such as pyrolysis and gasification.

The sizing and role of any treatment technologies has to be carefully considered, so that they do not restrict the possibility of meeting the regional recycling and composting goal of 60%. This would mean that no more than 40% of waste arisings should be sent to a residual waste treatment by 2025. However, any failure to achieve 60% recycling and composting would lead to more waste being sent to landfill, representing a waste of natural resources and higher costs. This underlines the need to firstly minimise the amount of waste being created, and then dramatically improve the performance of the recycling and organic waste collection services and the Civic Amenity Sites network.



Technology Review

A supplementary report has been produced to examine the relative performance of eight options to deal with residual waste, using a range of technical, sustainability and cost indicators (SR-5 Residual Waste Treatment). The options analysed were:

- ▶ All residuals to landfill;
- ▶ Mechanical Biological Treatment to stabilise waste prior to landfill;
- ▶ Mechanical Biological Treatment to generate Secondary Recovered Fuel for third party facilities’;
- ▶ Mechanical Biological Treatment to generate Secondary Recovered Fuel to take to a dedicated energy recovery facility;
- ▶ Anaerobic Digestion with gas capture and production of Secondary Recovered Fuel to take to a dedicated energy recovery facility;
- ▶ Autoclave and production of Secondary Recovered Fuel to take to a dedicated energy recovery facility;
- ▶ Energy from Waste; and
- ▶ Advanced Thermal Treatment with some pre-sorting.

A short description of each technology is provided in Appendix C.

In terms of the comparative environmental performance, the supplementary report confirms that those options that combine higher levels of recycling with further systems to meet and exceed the critical Landfill Directive targets, and which therefore have a better overall impact than continuing to send all residual wastes to landfill. Options which

continue to rely on landfill do not meet landfill diversion targets.

The financial modelling clearly illustrates that in spite of the uncertainties in predicting future waste management costs from 2010 until 2030, the costs will rise substantially over that period. This increase in cost will be driven mainly by the implementation of new treatment systems and the underlying growth in waste. The costs of doing nothing will be much higher however, and therefore investing now to change the way waste is managed will not only avoid damage to the environment, but also save money in the future.

The relative performance of each of the remaining options may be subject to change in the future, as more information becomes available on newer technologies.

The County Council Action Plan

Surrey Waste Management holds a 25 year contract with Surrey County Council which commenced in September 1999.

In order to meet its recovery targets and move away from the reliance on landfill, SWM submitted planning applications to build two Energy from Waste facilities in Surrey at Copyhold Works, Redhill and Clockhouse Brickworks (Capel) near Dorking. These were determined in December 2001. The Copyhold application was refused and the Capel application was subsequently withdrawn.

The County Council has since explored a number of other candidate technologies with SWM, and has published a Draft Action Plan (see Supplementary Report SR-7 for detailed information). This has looked



carefully at which technologies are able to provide a guaranteed long term alternative to landfill. Two candidate technology mixes were identified as most viable:

- ▶ Option 1. Mechanical Biological Treatment with a dedicated Energy from Waste Facility to take the output; and
- ▶ Option 2. Energy from Waste via incineration

The County Council assessment of these options was that Option 1 yields little additional recycling benefit, with potentially higher levels of transport required due to double handling of wastes, and an increased requirement for land when taken in comparison to Option 2. The cost modelling assessment of these two candidate solutions also indicates a significant cost difference. In terms of recycling performance, the County Council believes that investment in MBT is not cost effective when compared to focussing on investment in improving Civic Amenity Sites and recycling and composting collection services.

In the light of their analysis, Energy from Waste recovery via incineration was recommended by County officers to form the WDA's Draft Action Plan for submission into the JMWMS process. The recommended capacity is a total of 270,000 tonnes per annum across two sites. Research was carried out (which considered transport, costs and viability) into the most appropriate number of Energy from Waste facilities. This concluded that providing more than two sites had relatively fewer transport advantages and significant cost disadvantages.

Any new waste treatment facilities will need to obtain new planning permission from Surrey County

Council, and also an Integrated Pollution Prevention and Control (IPPC) permit from the Environment Agency. As part of this process, applicants must undertake a detailed Environmental Impact Assessment to test the suitability of the site and the technology, and also prove that they are using the "Best Available Techniques" for preventing or reducing emissions and the impact on the environment as a whole.

The expansion of the recycling and composting infrastructure and the facilities for treating residual waste, will create employment opportunities in the County. Skilled workers will be required to build, operate and manage these facilities.

Summary

There are a variety of views amongst the partner authorities of the SLGA about what should be done with residual wastes; some waste authorities currently regard Energy from Waste recovery via incineration as a desirable method of treatment, whilst others do not and prefer other technologies such as advanced thermal treatment or anaerobic digestion with gas capture.

A Consultation Draft version of the JMWMS was issued in May 2006 and was designed to canvass the views of Surrey's residents, key stakeholders and the 12 waste authorities in Surrey on the contents of the JMWMS. The results of this consultation have been considered in the production of this final document. Supplementary report SR-8 summarises the consultation process (see section 5.4 of this document).



Actions

- ▶ As an interim method until facilities within Surrey are available, the Waste Disposal Authority will explore the potential for securing out-of-county treatment capacity to reduce reliance on landfill and comply with the Landfill Directive.
- ▶ The Waste Disposal Authority will explore the need for new waste transfer stations to minimise the haulage impacts of transporting municipal waste.
- ▶ Where there is no reasonable prospect that waste can be recycled or composted, the Waste Disposal Authority will develop new treatment facilities, including those to increase materials recovery and recover energy from waste; some waste authorities currently regard Energy from Waste recovery via incineration as a desirable method of treatment, whilst others do not and prefer other technologies such as advanced thermal treatment or anaerobic digestion with gas capture.

3.5 Landfill

The vast majority of existing waste management capacity in Surrey is at landfill sites. This reiterates the fact that most of Surrey's waste, be it household or industrial and commercial, currently goes to landfill for disposal.

Modern engineered landfill sites are designed to prevent pollution incidents and maximise capture of the gases emitted by decomposing waste.

At present, landfill is generally the lowest cost option for waste disposal in the UK. However this disposal route is increasingly diminishing for a range of reasons:

- ▶ Legislative requirements for the diversion or pre-treatment of waste (e.g. targets for reducing biological municipal waste to landfill);
- ▶ Reduction in available void space as current rates of landfill outstrip rates at which additional void space receives planning permission; and
- ▶ Increasing costs due to reduction in void space, more onerous environmental standards for managing and restoring sites, and the landfill tax escalator.

The draft *Surrey Waste Plan* (Surrey County Council, June 2006) indicates that there may be shortfall in landfill void from 2007 onwards, with more residual waste being created than can be landfilled. At the time of publication the preparatory studies had been unable to identify preferred sites for possible new landfills. This shortage of landfill void is likely to add to the pressures to find alternative ways to deal with residual waste from both householders and local businesses.

The Landfill Tax is added onto the normal cost of landfill disposal, and is an incentive for councils and businesses to use more sustainable waste management techniques. It cost the Surrey taxpayers nearly £7 million in 2004/05, and the rate is set to



steadily increase to about £35 per tonne (currently £21 2006/07). In the long-term it will act to make landfill one of the most expensive options for managing our waste.

The cost of the 'status quo', where current rates of disposal continue, is therefore unsustainable, not only from a legislative and environmental perspective, but also in terms of affordability.

3.6 Commercial Waste

It is in the interests of local authorities to reduce the amount of waste produced by businesses in their collection area as it is an element of the total material sent to landfill, even though this reduces the amount of commercial waste custom that may be realised by the authorities.

The Surrey Authorities recognise the benefit of investing time and resources in the reduction of commercial waste arisings through publicity and awareness campaigns, focussed on local waste producers. Support is also required from national government which can have an influence, and ultimately impose mandatory restrictions, on commercial waste producers, especially national chains.

Of concern to local authorities is the illicit disposal of commercial waste in the domestic waste stream. This is a particular problem for authorities which collect commercial waste comingled with domestic waste, as these streams are often hard to differentiate.

This domestically presented commercial waste can be reduced by stronger enforcement programmes, using the powers of the EPA 1990 and

coordination with the Environmental Health departments of the authorities. Awareness and publicity campaigning can also reduce this as businesses are informed of the legality, and ultimate fines, for placing commercial waste in the domestic waste stream.

A composition study of commercial waste arisings conducted by Entec UK Ltd indicated that as much as 50% of businesses' waste for a large unitary authority could be recycled, with most of this being paper and cardboard. It would therefore appear to be beneficial to provide recycling services to commercial premises, charged at a rate to encourage recycling as an alternative to disposal.

Many businesses also dispose of equipment, furniture and other items whilst they are still useable or in a restorable condition, largely due to the purchase of new or more up to date equipment. Authorities could encourage re-use schemes from local businesses or even help to facilitate the setting up of re-use centres to divert items from the commercial waste collection system.

Local authorities recognise that they are not the only organisations able to create waste management facilities. The waste management industry and community sector organisations will also provide facilities and infrastructure and these organisations must be engaged with in delivering this Strategy.



Action

- ▶ We will investigate opportunities to recycle commercial waste collected by authorities, and to lobby the manufacturing/retail sector and national Government, in particular to tackle the issue of retail packaging.

- ▶ Raising awareness among the public, specifically targeting litter bin waste.

Whilst contributing a relatively small component of the overall municipal waste stream, it is recognised that the diversion of these wastes could contribute to the overall performance of the Authorities.

3.7 Other Municipal Wastes

The Surrey authorities are also responsible for the provision of other services which contribute to the total waste stream, including street sweeping and litter bins and collecting fly-tipped wastes and household clinical waste.

The provision of these services contributes a relatively low tonnage to the overall waste stream compared with other municipal wastes.

These services are constantly reviewed by the authorities to look at the feasibility of alternative treatment options.

Authorities across the UK have trialled and implemented schemes for dealing with litter and litter bin waste in a more sustainable way. Schemes which could be adopted by the Surrey authorities include:

- ▶ The provision of specially designed litter bins for the segregation of recyclable materials;
- ▶ The extraction of recyclable materials from the co-mingled litter stream. The County Council holds composition study data for street sweepings and litter bin waste. This could be used to target specific materials in these waste streams; and

3.8 Hazardous and Clinical Waste

Some of the Surrey authorities collect clinical waste from residents. Those authorities which provide clinical waste collection services undertake regular reviews both in terms of operation and cost, and make alterations as required. A major review of these established systems has therefore not been carried out for this Strategy.

The same is the case for those authorities which collect hazardous waste (generally at the Civic Amenity Sites), where particular emphasis is placed on ensuring compliance with changing legislation.



4. Assessing the Strategy

4.1 Introduction

Sustainability Appraisal (SA) is a tool for appraising plans and policies to ensure they reflect sustainable development objectives (i.e. social, environmental and economic factors). The aim is to take account of the ways in which future waste development might affect the economy, environment and communities of Surrey.

The Sustainability Appraisal follows a series of stages in parallel with the preparation of the Surrey JMWMS.

A significant amount of work has already been carried out for the Sustainability Appraisal of the draft *Surrey Waste Plan* (which focuses on land-use issues). During the appraisal process this work has been built upon, to avoid unnecessary duplication, and to integrate the Strategy with the Surrey Waste Plan.

In the future Surrey County Council may wish to adopt this Strategy as a Supplementary Planning Document within the Surrey Waste Development Framework. It would then be an important (material) consideration in determining planning applications. In order for this to be a future option, the Sustainability Appraisal has been carried out to fulfil a number of statutory requirements that require Sustainability Appraisals and Strategic

Environmental Assessments for certain plans and programmes.

Two Sustainability Appraisal reports have been produced by an independent consultancy, and are available on the web-site www.surreywaste.info.

- ▶ **Scoping Report:** The scoping stage includes setting the context and objectives, establishing the environmental, economic and social baseline and deciding on the scope of the appraisal. The information contained in the scoping report is used to inform the final Sustainability Report. It was sent to a range of consultees to check its consistency with statutory requirements.
- ▶ **Sustainability Report:** This document reports on the detailed assessment of the likely significant effects of the JMWMS's emerging policies and alternative options. It also summarises how the appraisal was undertaken and makes recommendations on mitigation and monitoring measures. It incorporates an Environmental Report as required by the European Directives.

4.2 Methodology

17 key Sustainability Objectives were selected to test how this strategy might affect the future sustainability of Surrey:

- ▶ O1: To safeguard the population's health;
- ▶ O2: To ensure equal access to services for all sections of the community in Surrey;



- ▶ O3: To reduce environmental crime (littering & fly tipping);
- ▶ O4: To increase the opportunities for the community to participate in and contribute to waste management decisions;
- ▶ O5: Making the best use of previously developed land and existing buildings; reducing land contamination and safeguarding soil quality and quantity;
- ▶ O6: To ensure air quality continues to improve;
- ▶ O7: Reducing emissions of greenhouse gases;
- ▶ O8: To conserve and enhance the biodiversity of Surrey;
- ▶ O9: To protect and, where appropriate, enhance local distinctiveness, the public realm and buildings and sites of historic interest;
- ▶ O10: To reduce road congestion and pollution levels by improving travel choice, and reducing the need for travel by car/lorry;
- ▶ O11: To reduce the global, social and environmental impact of consumption of resources by using sustainably and locally produced goods;
- ▶ O12: To reduce waste generation and disposal, and to achieve the sustainable management of waste;
- ▶ O13: To maintain and improve the quality of water resource management in Surrey and encourage sustainable water use;
- ▶ O14: To promote efficient use of energy and the use and generation of renewable energy;

- ▶ O15: To maintain sustainable levels of economic growth and a balanced and diverse economy;
- ▶ O16: To match jobs with the economically active workforce; and
- ▶ O17: To support facilities offering education, skills and lifelong learning in the community to meet local employment needs and encourage sustainable waste management.

The main policies and actions proposed in this Strategy (summarised in Appendix A), together with the eight options for residual waste treatment were then appraised against each objective in turn.

4.3 Results

The assessment of the JMWMS policies and actions shows that they perform reasonably well against the sustainability appraisal objectives. A number of 'no relationship' or 'uncertain' scores were identified due to the strategic nature of the policies and the fact that at this stage there is insufficient site or proposal specific information to merit a measurable score.

The detailed appraisal of the eight options for residual waste treatment (section 3.4, and report SR-5) has shown that all but one, the 'do nothing' landfill approach, display potential for meeting the key Landfill Directive targets up until 2026. The sustainability assessment indicated there is no clear preferred option. Separate technical and cost appraisals found wider differences.

The policies and actions brought forward to implement the JMWMS are not technology dependent, and the



assessment did not assume any one choice of residual treatment.

No explicit long-term negative relationships were identified during the appraisal, and the policies (summarised in Table 4.3.1) clearly perform well against eight identified receptors, as shown in Table 4.3.2 (p29).

In the shorter term the continued use of landfill scored a negative score in terms of amenity impacts and transportation.

The SA has methodically assessed the policy impacts and given a number of recommendations towards ensuring more effective and sustainable outcomes. The SLGA has considered these and outlined its response, indicating where changes to this draft have been made.

The SA recommended changes which could be made to the content and wording of policies to make them more robust. These changes have either been made in this Strategy, or appropriate responses have been offered in the SA document.

Overall, it is considered that the JMWMS provides a robust framework from which to progress sustainable waste management within the County.



Table 4.3.1 Key Strategic Policies

Policy 1	We will work in partnership with each other and other stakeholders in order to promote sustainable waste and resources management in Surrey, and support regional policies for net self-sufficiency
Policy 2	We will work in partnership to develop and deliver a co-ordinated waste education and awareness programme, which focuses on all aspects of sustainable waste management, in line with the priorities of the waste hierarchy
Policy 3	We will vigorously pursue the minimisation of waste to achieve a growth rate below current levels, through common public messages, lobbying retailers and enforcement
Policy 4	We will commit significant efforts and resources to achieve and exceed household recycling and composting targets of 40% by the year 2010 and 50% by 2015, and aspire to reach a long term target of 60% recycling and composting by 2025
Policy 5	We will adhere to the waste hierarchy, with residual waste treatment preferred to landfill. Recovery and disposal facilities will be delivered to ensure compliance with the Landfill Directive. We will restrict the use of landfill to 26% of arisings by the year 2015 and 16% by 2025

Table 4.3.2 Summary of Significant Policy Effects*

Air	The aim of self-sufficiency in Policy 1 will reduce the long term need for haulage of waste out of county, with resulting savings on vehicle emissions. Policies 2 and 3 are positive as they promote waste minimisation, and with less waste to be disposed there will be a reduction in total emissions from waste management facilities. For Policy 5 the effect is dependent on the type of technology which will be selected for residual waste treatment and where it will be sited. This level of detail is not set out in the strategy. Effects on local air quality will, however, be mitigated through planning and environmental controls.
Landscape and Soil	The majority of the policies within the JMWMS have little relationship with the objectives relating to landscape and soil. Policy 4 could have a localised benefit on soil quality through the promotion of composting; this would also reduce the requirement for peat. The effects of all types of facilities from the implementation of policies 4 and 5 on the local landscape will need to be carefully considered as part of any planning applications.



Biodiversity (Fauna and Flora)	Biodiversity can be affected by building on sensitive sites or increased road usage. From Policies 1, 3 and 4 it is clear that there is a need for more recycling, composting and treatment facilities in Surrey to manage its own waste arisings. However for Policy 5 the effects will be dependent on the location of new waste treatment facilities. This is not specified in the strategy however will be addressed through the <i>Surrey Waste Plan</i> . In addition these issues will need to be addressed in the Environmental Statement that is required for all major developments.
Climatic factors	Policy 1 promotes sustainable waste management, which seeks to reduce the reliance on landfill and therefore a reduction in greenhouse gas production. Policies 2, 3 and 4 will have a positive effect on climate factors as they encourage reduction, recycling and composting. This will result in less waste being sent to landfill and a reduced energy effect from producing and transporting virgin materials. There effects relating to Policy 5 are uncertain as this is dependent on the type of technology which will be used in the treatment of waste. If processes that would allow energy to be recovered in the form of electricity and/or heat were to be implemented, this would offset the need for fossil-fuel power stations, a major greenhouse gas producer.
Cultural heritage including architectural and archaeological heritage	Effects on cultural heritage were appraised to be uncertain in policies 1, 4 and 5. The move towards self-sufficiency will require new waste facilities for Surrey to become self-sufficient, but the effects on cultural heritage are dependent on the location of new waste treatment facilities. Construction on previously developed land (brownfield sites) generally reduces the chances of disturbing cultural heritage. Any significant effects would be mitigated planning controls.
Human health	The health benefits of policies 1, 2 and 3 are similar as for air issues, with less waste requiring transport and management and therefore less amenity impacts. In relation to Policy 5 potential odour, dust and noise effects are dependent on what type of technology will be selected for the treatment of waste and where such a facility will be located. This level of detail is not specified in the strategy. However any significant health effects would need to be mitigated through planning and environmental permitting controls.
Material assets	Material assets cover a wide range of provisions including natural resources and also features of the built environment. Effects on the built environment have already been assessed against the 'cultural heritage' objective which shows that the effects are uncertain for policies 1, 4 and 5. Waste reduction, recycling and composting will reduce the demand for raw materials, and save on natural resources. None of the policies have any clear



relationship with the objective relating to water resources, although facilities will need to show how they re-use process water and prevent pollution instances.

Population Population covers a wide range of effects on people. This includes effects on the natural and built environment and health. Issues of health and the natural and built environment are summarised above and are not considered here again. Policies 2 and 3 have a positive effect on providing equal access to services for all sections of the community as they are underpinned by actions to expand collection services and common and co-ordinated campaigns. Whether partnership working in Policy 1 will enable improved and equal access to services will largely depend on how the actions are carried out, and these factors need to be regularly considered.

Economy The effect of Policy 1 is positive, as the emphasis placed on partnership working between local authorities and with the private sector and community should encourage the development of the local economy. By encouraging waste minimisation and education initiatives Policies 4 and 5 should have a positive effect on employment opportunities. Policy 4 has a positive effect on the economy through the promotion of recycling and composting and therefore the opportunities for new facilities, new technology developments and developing markets for recycled materials. The effect of Policy 5 is will depend on the nature of the residual treatment facilities selected.

* List of receptors derived from the European SEA Directive Annex 1 (f),



5. The Way Forward

5.1 Ongoing Review and Monitoring

This Strategy covers the period up to 2026, and it is certain that there will be changes which mean it has to be regularly updated.

Government guidance indicates that this Strategy should be fully reviewed at least every five years. We will also review the Strategy at other times, for example if there are major changes in local government structures or important new legislation is published.

It is also important that we report on progress made and obstacles encountered in implementing this Strategy. We will therefore publish an annual report, which will include a plan of action for the year ahead.

As part of the implementation of this strategy we are also committed to looking at partnership working, as outlined in Chapter 3. This will mean that each partner is clear about their role in implementing this Strategy, and the timetables for when actions need to be completed.

Actions

- ▶ We will compile and review an annual report on progress made and obstacles encountered, and publish a plan of action for the year ahead.
- ▶ The Strategy will be reviewed in the light of any future local government reorganisation.

5.2 Summary Policies and Actions

The policies and actions proposed in this Strategy are all summarised in Appendix A.

These seek to address the key challenges facing Surrey over the next 20 years, and will lead to significant changes in the way our municipal waste is managed.

5.3 Action Plans

This Strategy adopts a more flexible 'action plan' approach to municipal wastes management. These are intended to set out the more detailed operational plans for improving performance towards the targets set by this Strategy.

The current Action Plans for your specific council, and the County as a whole, can be found in Supplementary Reports SR-6 and SR-7. A number of new Action Plans will be developed over the coming years in order to implement the various policies and actions set out in this Strategy. These will include interim performance indicators and risk assessments as appropriate.



Each Action Plan will be updated regularly so that it is an active document. A corrections list is incorporated into each document to enable each partner to list their ongoing alterations to each plan.

5.4 Further information

A number of supplementary reports have been produced which provide more detailed information on particular options and issues summarised in this Strategy. These reports are listed below and are available from the website www.surreywaste.info.

SR-1 Waste Growth: This presents Entec's professional opinion on the possible future growth rates for municipal waste in the County of Surrey.

SR-2 Legislation and Policy Overview: This provides an overview of the current and proposed legislation that governs the waste management industry in the UK and may influence future strategic waste management decisions in the County of Surrey.

SR-3 Waste Minimisation and Awareness: This summarises the factors that influence waste minimisation in the UK. It discusses a variety of waste minimisation and awareness initiatives that could be used to increase public waste awareness and reduce municipal waste arisings in the County of Surrey.

SR-4 Municipal Waste Collection: This provides an introduction to the systems and methods which can be used to collect municipal waste.

Modelling WCA Collection Systems Costs, Performance and Outputs: This

is research undertaken by Eunomia, and discussed further in SR-4.

SR-5 Residual Waste Treatment: This presents the results of the identification and assessment of eight options that could be used to treat future municipal residual waste arisings in the Surrey.

SR-6 Waste Collection Authorities' Action Plans: This presents the Waste Action Plan for each Waste Collection Authority in Surrey (the District and Borough Councils). It sets out their specific approaches to waste collection during the next few years.

SR-7 Waste Disposal Authority Action Plan: This presents the Action Plan for the County Council as Waste Disposal Authority. It sets out their specific approach to promoting waste minimisation, supporting the waste collection authorities, upgrading the CA Sites, and developing new waste treatment facilities.

SR-8 Consultation Report: This records the public consultation process held in July 2006.

There are many other sources of information about waste and resources management. These range from very technical reports through to packs aimed at primary schools.

Various contact details for other organisations are available on the website (www.surreywaste.info), or by contacting the SLGA using the details at the front of this document. The SLGA does not necessarily endorse all the views expressed by other parties.



Appendix A

Joint Municipal Waste Management Strategy – Policies and Actions

Overall Vision
<p>The vision is to provide Surrey with a forward-looking strategy for a more sustainable future in which resources are used and managed efficiently so that by 2026:</p> <p>the amount of waste produced will be minimised;</p> <p>the overwhelming majority of materials will be re-used, recycled or have value recovered from them; and</p> <p>the environment will be protected and enhanced for future generations.</p>

Policy	Actions (Numbers are for reference only)
<p>Policy 1</p> <p>We will work in partnership with each other and other stakeholders in order to promote sustainable waste and resources management in Surrey, and support regional policies for net self-sufficiency.</p>	<p>A1 We will plan for net self-sufficiency for dealing with waste in Surrey, through the provision of waste management capacity equivalent to the amount of municipal waste arisings.</p>
	<p>A2 We will identify mechanisms for the implementation and monitoring of the Joint Municipal Waste Management Strategy.</p>
	<p>A3 We will investigate mechanisms and opportunities for joint working between the authorities.</p>
	<p>A4 We will seek partnerships with the community and waste industry, and consider existing initiatives.</p>
	<p>A5 We will seek joint opportunities for external funding to implement the objectives of the Joint Municipal Waste Management Strategy, and review financial arrangement among the partners.</p>
	<p>A6 We will compile and review an annual report on progress made and obstacles encountered, and publish a plan of action for the year ahead.</p>
	<p>A7 The Strategy will be reviewed in the light of any</p>



Policy	Actions (Numbers are for reference only)
	future local government reorganisation.
<p>Policy 2</p> <p>We will work in partnership to develop and deliver a co-ordinated waste education and awareness programme, which focuses on all aspects of sustainable waste management, in line with the priorities of the waste hierarchy</p>	<p>A8 We will work towards promoting our waste related activities under an overarching message/logo, and participate in relevant national campaigns.</p> <p>A9 We will encourage all schools to educate children in waste minimisation, collection and treatment issues and help them deliver co-ordinated education campaigns.</p>
	A10 We will demonstrate our commitment to resources management by our corporate actions and procurement processes, in particular the use of sustainable and environmental products and materials.
<p>Policy 3</p> <p>We will vigorously pursue the minimisation of waste to achieve a growth rate below current levels, through common public messages, lobbying retailers and enforcement activities.</p>	<p>A11 We recognise waste minimisation as the first stage of the waste hierarchy and will emphasise the need to reduce waste at source both domestically and commercially.</p> <p>A12 We will aim to achieve an average zero waste growth per head of population by 2010, and seek to decouple waste growth from economic growth, with total municipal waste arisings growing only in line with increased population.</p> <p>A13 We will coordinate with appropriate authorities to enforce the exclusion of commercial waste from the household waste stream, and champion the principle that “the polluter should pay” in relation to creating and managing waste. At the same time we will support the minimisation and recycling of commercial waste.</p> <p>A14 We will encourage the public to change their purchasing and consuming habits.</p> <p>A15 We will support and encourage re-use events and centres to enable goods and materials to be re-used, repaired and exchanged.</p> <p>A16 We will strengthen partnerships with community and volunteer groups that support waste minimisation and re-use.</p> <p>A17 We will promote home composting as well as</p>



Policy	Actions (Numbers are for reference only)
	<p>kerbside organic collections.</p> <p>A18 We will develop kerbside and bring site collection systems to achieve or exceed recycling and composting rates of 40% by the year 2010 and 45% by 2015, regardless of any lower national targets.</p>
<p>Policy 4</p> <p>We will commit significant efforts and resources to achieve and exceed household recycling and composting targets of 40% by the year 2010 and 50% by 2015, and aspire to reach a long term target of 60% recycling and composting by 2025</p>	<p>A19 We will collect a wide range of recyclable materials, consistent with market quality standards, and will look to maximise the value of collected materials by seeking joint agreements with market outlets.</p> <p>A20 The partners will meet regularly to review progress towards achieving recycling and composting targets.</p> <p>A21 We will liaise with our partners before introducing or changing kerbside collection systems.</p> <p>A22 We will develop systems to collect both garden waste and kitchen waste from householders by the year 2010.</p> <p>A23 We will investigate by the end of 2007 how to reduce the volume of residual wastes collected from each household through alternate weekly collections, bin size restrictions or other suitable means.</p> <p>A24 We will monitor waste arisings and composition in order to inform waste minimisation schemes and future targets.</p> <p>A25 We will investigate and support options for maximising the re-use and diversion of bulky items from disposal.</p> <p>A26 We will investigate opportunities to recycle commercial waste collected by authorities, and to lobby the manufacturing/retail sector and national Government, in particular to tackle the issue of retail packaging.</p> <p>A27 The Waste Disposal Authority will provide appropriate facilities for sorting or bulking of dry recyclables by the year 2010.</p> <p>A28 The Waste Disposal Authority will provide appropriate facilities for composting organic wastes by the year 2010, and will explore the potential for out-of-</p>



Policy	Actions (Numbers are for reference only)
	<p>county composting as an interim method.</p> <p>A29 The Waste Disposal Authority will improve the Civic Amenity Site network, with the aim to achieve or exceed diversion rates of 60% by the year 2015.</p>
<p>Policy 5</p> <p>We will adhere to the waste hierarchy, with residual waste treatment preferred to landfill. Recovery and disposal facilities will be delivered to ensure compliance with the Landfill Directive. We will restrict the use of landfill to less than 26% of arisings by the year 2015 and less than 16% by 2025.</p>	<p>A30 As an interim method until facilities within Surrey are available, the Waste Disposal Authority will explore the potential for securing out-of-county treatment capacity to reduce reliance on landfill and comply with the Landfill Directive.</p> <p>A31 The Waste Disposal Authority will explore the need for new waste transfer stations to minimise the haulage impacts of transporting municipal waste.</p> <p>A32 Where there is no reasonable prospect that waste can be recycled or composted, the Waste Disposal Authority will develop new treatment facilities, including those to increase materials recovery and recover energy from waste; some waste authorities currently regard Energy from Waste recovery via incineration as a desirable method of treatment, whilst others do not and prefer other technologies such as advanced thermal treatment or anaerobic digestion with gas capture.</p>



Appendix B

Glossary of Terms

Term	Description
Best Value	The duty on local authorities to deliver effective, economic and efficient services and seek continuous improvement in the quality and standard of their service provision.
Biodegradable Waste	This is waste that is able to decompose through the action of bacteria or other microbes, including materials such as paper, food waste and garden waste.
Bring site	A bring site or bring bank is a localised collection point for recyclables such as glass, paper, cans, etc.
Bulky waste	Waste is considered 'bulky' if it weighs more than 25kg or any item that does not fit into the householder's bin; or if no container is provided, a cylindrical receptacle of 750mm in diameter and 1m high.
Central composting	Large-scale schemes which turn kitchen and garden waste from households into compost and which may also accept green park waste.
Civic Amenity Site (CA)/Community Recycling Centres (CRC)	Sites operated by either the Waste Disposal Authority (under the Environmental Protection Act 1990) or the local waste authority (under the Refuse Disposal (Amenity) Act 1978) where residents within a specified area can dispose of their household waste, in particularly bulky waste, free of charge.
Clinical waste	Clinical waste is generated by medical, nursing, dental, veterinary, pharmaceutical, etc and may present a risk of infection.
Commercial waste	Commercial waste arises from premises used for trade, business, sport, recreation or entertainment, but excluding municipal and industrial waste.
Composting	The degradation of organic wastes in the presence of oxygen to produce a fertiliser or soil conditioner. This can either be an enclosed process (in-vessel) or operated as an



Term	Description
	'open windrow' process.
Dry recyclables	Materials such as paper, textiles and cans that can be collected through kerbside schemes or bring banks.
The Environment Agency (England and Wales)	The Environment Agency for England was formed by the Environment Act 1995 to regulate emissions of and pollutants to air, land and water. The Agency's main role in the management of waste is through its regulatory activities to protect the environment and human health.
Fly-tipping	The illegal deposit of waste on land.
Gasification	Gasification is the process whereby Carbon based wastes are heated in the presence of air or steam to produce a solid, low in carbon and a gas. The technology is based on the reforming process that used to produce 'town gas' from coal in the early 1900s.
Green waste	Vegetation and plant waste from household gardens and public parks and gardens.
Hazardous waste	Defined in the Landfill Regulations as any waste defined in Article 1 (4) of Directive 91/689/EEC on hazardous waste.
Household waste	Waste from domestic properties including waste from CRCs, material collected for recycling and composting, plus waste from educational establishments, nursing and residential homes and street cleansing waste.
Incineration	This is the controlled burning of waste, either to reduce its volume or its toxicity, whose current emission standards are very high. Ash residues can either be recycled or landfilled.
Kerbside collection	Any regular collection of recyclables from private households and from commercial or industrial premises. It excludes collection services requested on demand.
Landfill sites	Landfills are areas of land in which waste is deposited, which often consist of disused quarries. In areas where there are limited, or no ready-made voids, the waste is deposited above ground and the landscape is contoured. This is known as land raising.



Term	Description
Material Reclamation Facility (MRF)	A transfer station for the storage and segregation of recyclable materials. Also sometimes known as a Materials Recycling Facility or Materials Recovery Facility.
Minimisation 'reduction' (or	Minimisation can be accomplished through reviewing the production processes so as to optimise utilisation of raw (and secondary) materials and recirculation processes. This may lower disposal costs and the usage for raw materials and energy. Also householders can reduce waste by reusing products and buying goods with reduced packaging.
Municipal waste	This includes all waste under the control of local authorities or agents acting on their behalf. It includes all household waste, street litter, waste delivered to council recycling points, municipal parks and garden wastes, council office waste, civic amenity site waste, and some commercial waste from shops and smaller trading estates where local authority waste collection agreements are in place.
Polluter Pays	Polluter Pays is about producers and others involved in the distribution and sale of goods taking greater responsibility for recovery of those goods at the end of the product's life.
Proximity Principle	Dealing with waste as near as practicable to its place of production.
Putrescible	Organic material with a tendency to decay, e.g. kitchen waste.
Pyrolysis	During Pyrolysis organic waste is heated in the absence of air to produce a mixture of gaseous and/or liquid fuels and a solid, inert residue (mainly carbon).
Recycling	Recycling involves the reprocessing of waste material, either into the same product or a different one. Many non-hazardous wastes such as paper, glass, cardboard, plastics and scrap metals can be recycled.
Recovery	Recovery is defined in Waste Strategy 2000 (see SR-2) as meaning obtaining value from waste through re-use; recycling; composting; other means of material recovery (such as anaerobic digestion); or energy recovery.
Reduction	See 'minimisation'.



Term	Description
Renewables Obligation Order Certificates (ROCs)	These are certificates issued when electricity is generated from renewable sources. Under the Renewables Obligation Order Certificates (ROCs) 2002, only plants that generate electricity from biomass will be eligible although the biomass may be waste.
Re-use	The commercial sector can re-use products a number of times, such as re-usable packaging. Householders can buy refillable containers, or re-use plastic bags. Re-use contributes to sustainable development and can save raw materials, energy and transport costs.
Separate collection	Kerbside schemes where recyclables are collected separately to the ordinary household waste collection - by a different vehicle/part of the vehicle or at a different time.
Sustainable development	Development which meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development, as defined by UK Government [DEFRA. Securing the Future: delivering UK sustainable development strategy, March 2005], is the integration of social, economic and environmental objectives.
Sustainable waste management	Using material resources efficiently, to cut down on the amount of waste we produce. Where waste is generated, dealing with it in a way that actively contributes to the economic, social and environmental goals of sustainable development.
Treatment	This involves the chemical or biological processing of certain types of waste to render them harmless, to reduce their volume before landfilling, or to recycle certain materials.
Unitary Authority	A local authority which has the responsibilities of both the Waste Collection and Waste Disposal Authorities.
Waste arisings	This is the amount of waste produced in a given area during a given period of time.
Waste Hierarchy	The Waste Hierarchy, introduced by the EU Waste Framework Directive, is an abstract framework that prioritises the options for waste management. It represents a sliding scale starting with the most sustainable option (reduction) and ending with the least sustainable option



Term	Description
	<p>(disposal):</p> <ul style="list-style-type: none">• reduction;• re-use;• recovery (i.e. recycling, composting and energy recovery); and• disposal.
Waste management industry	This comprises businesses and not-for-profit organisations carrying out the collection, treatment and disposal of waste.



Appendix C

Residual Waste Treatment Technologies

<p>Mechanical Biological Treatment</p>	<p>Mechanical Biological Treatment (MBT) is a general term for treatment systems consisting of a mechanical sorting system with an adjacent biological treatment facility. Systems can vary in terms of the degree of mechanical sorting and the type of biological process applied. Consequently the materials sorted from the waste and the end products of the process can vary depending on the separation process employed. MBT is predominantly a volume-reducing process recovering recyclable materials from municipal waste and biologically treating the biodegradable component of the waste. Biological processes in use can be aerobic (composting or drying) or anaerobic (digestion) and produce a variety of end-products including stabilised biodegradable material, Secondary Recovered Fuel (SRF) - also termed Refuse Derived Fuel, as well as some recyclable materials.</p> <p>Example: Several local authority contracts have been awarded recently for treatment options which include Mechanical Biological Treatment (MBT). Shanks have recently attained planning permission for an MBT plant in East London, using technology from Sistema Ecodeco, an Italian company. The majority of operational MBT plants are located in Europe and North America.</p>
<p>Anaerobic Digestion with gas capture</p>	<p>Anaerobic Digestion (commonly referred to as AD or methanisation) is the process by which the biodegradable fraction of municipal waste is broken down to create biogas and a stabilised sludge or 'compost'. The gas can be used as a fuel for electricity or a combined heat and power generator. This has the added advantage of being able to feed heat and power back into what can be a high-energy consumption process (for example when a pasteurisation stage is required).</p> <p>AD generally requires some form of mechanical processing (such as sorting and shredding) of 'as received' residual waste prior to treatment, thereby driving up capital and operating costs. A compost-like fraction is produced, and is typically sent to landfill as a more stabilised waste stream. Most plants to date also produce a Secondary Recovered Fuel (SRF), comprising the undigested paper and plastics, which can be sent for additional energy recovery. Typically, therefore AD in combination with mechanical pre-treatment provides similar outputs to Mechanical Biological Treatment (MBT).</p> <p>Example: Anaerobic digestion has been successfully used for many years to treat sewage sludge and can also be used to treat municipal</p>



	<p>waste, usually in combination with sewage sludge. There are some pilot projects operating in the UK, mainly processing farm wastes or co-digesting MSW with sewage sludge. Leicester City Council's contractor, Biffa, has constructed a £7 million anaerobic digester with a capacity of 40,000 tonnes per annum (tpa) for composting the organic waste left in the residual fraction. The company had no difficulty in obtaining planning permission for the plant.</p>
Autoclaving	<p>Autoclaving (AC) is the process of sterilisation via a pressurised, high-temperature steam process. It is sometimes called Mechanical Heat Treatment (MHT). This helps sanitise and reduce residual MSW to a 'fibre' like material, with metals, plastics and glass partially cleaned for extraction as recyclables, but may melt some plastics making these more difficult to recycle. It is understood that a number of development projects and joint ventures are being created to generate useful markets for the fibre. At the moment the main expected use is as a Secondary Recovered Fuel (SRF). Typically, therefore AC in combination with mechanical treatment provides similar outputs to Mechanical Biological Treatment (MBT) processes.</p> <p>Examples: Estech and Sterecycle currently operate pilot scale Autoclaves. There was also a 25,000tpa pilot plant in South Wales operated for 3 years but has now closed. In Australia the SWERF system from Brightstar utilised an autoclave in advance of a gasification system.</p>
Energy from Waste via incineration	<p>Energy from Waste (EfW) via incineration is commonly taken to mean the processing of MSW by means of conventional combustion with no or minimal pre-processing of the residual waste stream, although is used for a range of technologies.</p> <p>A number of different types of furnace are possible - the three principal types being grate-based combustion, kilns and fluidised beds. These processes convert about 25% of the input mass into a bottom ash and 3% of the input mass into Air Pollution Control residues (APC), with some added treatment agents. The bottom ash from EfW via incineration is usually suitable for construction uses, with most new facilities having dedicated processing plants. If there are no markets then it has to be sent to landfill as an inert waste. The APC stream needs to be treated (often solidified) and is sent to hazardous landfill.</p>
	<p>Example: There are numerous EfW via incineration facilities around the country, including many commissioned in recent years, or under construction (e.g. SELCHP, Portsmouth, Isle of Man, Cleveland, Chineham in Hampshire). A rotating kiln incinerator was opened in 2005 in north Lincolnshire and processes 80,000tpa of municipal waste. A fluidised bed facility of approximately 500,000tpa is under construction at Allington in Kent and is due to be operational later in</p>



	2006.
Advanced Thermal Treatment	<p>Advanced Thermal Treatment (ATT) describes those technologies in which the various sub-processes that occur within conventional combustion are separated spatially, often with the intent of achieving a greater degree of control of the overall combustion process.</p> <p>Use of advanced thermal treatments generally requires the pre-treatment of “raw MSW” into a more homogenous feedstock. This will generally require the removal of over-size items, removal of non-combustible material and size reduction to an appropriate size for the particular technology.</p> <p>Pyrolysis produces a char (solid residue) rich waste material which represents at least 40% by weight of the incoming waste stream and either has to be combusted in another process or sent to landfill. Certain pyrolysis and gasification processes have been developed to produce a vitrified residue which is said to have a wider range of possible applications than bottom ash.</p> <p>Gasification converts the bulk of the waste’s carbon-containing material into gases by heating it in the controlled presence of oxygen. The products from this process form low to medium heating value fuel gases together with tars, char and ash. These products are ultimately dependent on the type of reactor as well as the waste, but most systems produce a raw gas suitable for direct firing in kilns or boilers.</p> <p>Some suppliers of advanced thermal technologies promote the concept that they can extract the gasifier product gas and use it as a feedstock for processes producing materials such as hydrogen, methanol or ammonia. Whilst this is commonplace in the petro-chemical industry where the feedstock (crude oil) is homogenous, it is not yet a proven concept on waste pyrolysis-gasification processes.</p> <p>Example: Compact Power has a combined Pyrolysis and Gasification plant in Avonmouth which can handle 6000tpa of clinical waste, and has had limited testing with municipal waste. Novera/Enerkem have applied to build a 80,000tpa fluidised bed gasification facility in Dagenham under the DEFRA demonstrator programme, and Energos for a potential facility on the Isle of Wight.</p>

