APPENDIX A

London Borough of Southwark

Waste Management Strategy 2003 - 2021

Executive Summary

The London Borough of Southwark is a unitary authority, responsible for the collection, treatment and final disposal of all municipal waste within its area. The strategy approaches its strategic goals in three discrete phases: the short (2003/04 – 2005/06), the medium (2007-10) and the long (2011-2021) term.

In total, the Council handled 134,060 tonnes of municipal waste in 2002/ 2003. A total of 107,775 tonnes of household waste was collected. Of this 4% was recycled/ composted, 25% was recovered in SELCHP and 71% was transferred to landfill.

The challenges that Southwark faces:

- pressure from the European Union (EU) and the UK Government means that reliance on landfill cannot continue at its current level
- new legislation to deal with (e.g. the Household Recycling Bill, the Waste and Emissions Trading Bill, the Animal By-Products Regulations, etc)
- more waste must be recycled, composted and diverted from landfill in order to meet statutory targets
- waste arisings are increasing year on year, and the costs of waste management are rising
- the problem of disposing of waste for London is becoming particularly acute with limited landfill space beyond 2007
- doing nothing is not an option.

As a response, the Strategy outlines the following targets that the Council has committed to meet:

Year	**Recycling/Composting Level Household Waste**	**Recovery of value Level Municipal Solid Waste**
2003/04	10%	35%
2004/05	14%	37.5%
2005/06	18%	40%
2010/11	30%	45%
2015/16	40%	67%
2020/21	50%	75%

In meeting all its goals, the Council has adopted the following sustainable policy

'Southwark Council has an ultimate goal of being socially, economically and ecologically sustainable. To this end, we aim to ensure the responsible and ethical management of all our activities. This policy covers the entirety of the environmental impacts that Southwark either directly causes, or can influence in the provision of it's Waste Management Services and activities. We ensure that our social, environmental, sustainable and economic principles are integral to our management procedures and practised consistently throughout our operations.

Specifically, Southwark Council is committed to ensuring that wastes arising in Southwark is managed in a way that minimises the impact on the environment, engages with and supports community involvement and the local economy, and minimises the need to transport wastes and materials. This will be achieved by dealing with wastes locally and in a sustainable manner, encouraging innovation and seeking the involvement of all stakeholders to assist in reducing the rate of growth of waste.'

Within this overarching philosophy, the specific, strategic approach to the management of waste is based on the following principles:

- to reduce total waste arising through the promotion of waste minimisation;
- to recover value from waste materials that would otherwise be disposed of in landfill; and
- to minimise the social, environmental and financial impacts of waste management.

In addition to these challenging principles, the Council has set waste reduction as a primary aim:

- to limit the growth in Municipal Solid Waste arisings to below 3% by 2005/ 2006 and settle at 2% per year by 2010.

In order to remain flexible to an ever-changing future, the strategy is a live document that will be subject to regular review and updating. Reviews will be completed annually in line with fundamental reviews undertaken every 5 years. Each review will assess the progress against targets, the effectiveness of specific initiatives, options for modification and the introduction of new systems.

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1. Background

1.1 Southwark

Southwark is an inner London Borough covering approximately 2876 hectares. It shares borders with the London Borough of Lambeth to the west and the London Borough of Lewisham to the east. Crystal Palace forms the most southern tip of the Borough, where the London boroughs of Lewisham, Lambeth, Croydon and Bromley all meet with Southwark. The River Thames forms the northern border of the Borough with crossings to Tower Hamlets and the City of London.

1.1.1 Population

The 2001 census recorded a population for Southwark of 244,861. Currently, this is predicted to rise by a further 27,000 by 2021 to 272,000 (Figure 1.1).

Figure 1.1: Population trends 1991 - 2021

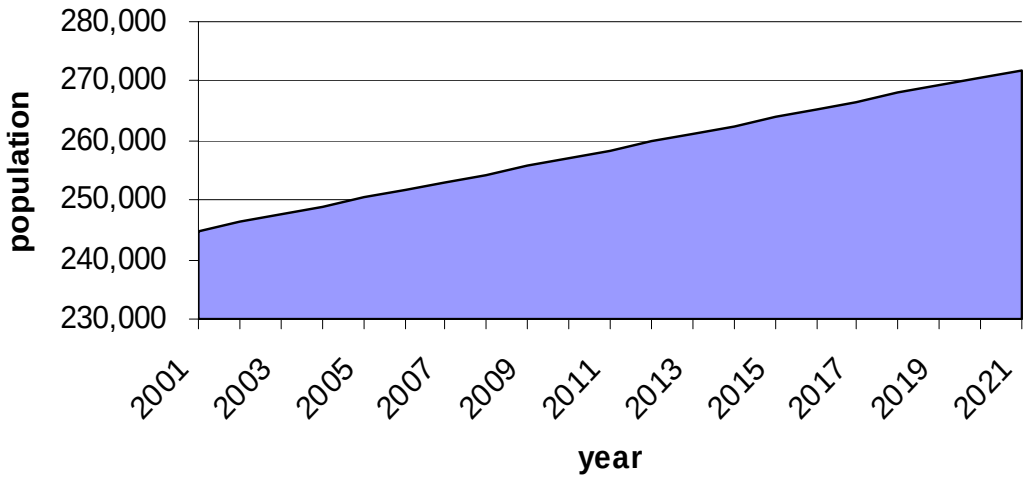


Table 1.1, below, provides the population change by ward. Between 1996 and 2001 the wards that experienced significant increases were Abbey, Cathedral and Chaucer in the north west of the Borough, and Dockyard and Rotherhithe in the north east. The highest increase was experienced in Friary (18%), while the neighbouring ward of Liddle had the highest decrease (19%). Changes at this level are not expected to continue but increases are projected for Abbey and Friary and at lower levels for other wards.

Besides the resident population, there is a substantial influx of daytime visitors to the Borough (eg business employees and tourists). To service this population, there has been escalation in the hospitality sector (e.g. a proliferation of food outlets, fast food takeaways and hotels) over the past decade. This has been particularly evident in the regeneration of the north of the Borough.

Table 1.1: Projected population change by ward 1996 - 2011 (%)

	1996-2001	2001-2006	2006-2011
Abbey	14	10	6
Alleyn	-3	3	3
Barset	3	6	5
Bellenden	-5	0	1
Bricklayers	1	0	1
Browning	4	3	4
Brunswick	1	3	4
Burgess	6	6	5
Cathedral	16	4	1
Chaucer	19	5	4
College	-3	0	1
Consort	6	6	6
Dockyard	19	1	0
Faraday	2	3	4
Friary	18	7	7
Liddle	-19	1	7
Lyndhurst	6	2	2
Newington	-3	1	2
Riverside	9	4	0
Rotherhithe	10	4	4
Ruskin	-1	2	3
Rye	0	2	3
St Giles	1	1	2
The Lane	4	5	4
Waverley	7	5	5

1.1.2 Housing

The number of households has risen since the last census from 104,684 in 1991 to 114,700 in 2001. However, owner occupancy of housing remains relatively low and is currently estimated to be in the region of 30%. Of the remaining housing, Southwark Council owns almost 70% with the rest split between private landlords and housing associations. It is estimated that 61% of housing in the Borough is purpose-built, multi-occupancy dwellings, including high rise blocks, medium rise slab blocks and mansion buildings. The majority of these buildings have shared refuse disposal systems using a resident fed chute.

At present a number of major regeneration programmes based within the Borough are replacing traditional high-density housing estates with lower density housing types. It is, therefore, expected that the housing split within the Borough will change significantly over the coming years.

1.1.3 Development areas

The Unitary Development Plan (UDP) for Southwark has identified opportunity areas where major changes are possible and desirable to help meet London's strategic objectives. Two areas are identified that require special policies.

Elephant and Castle will undergo major redevelopment in the coming years to take advantage of its important position as a transport interchange on the southern boundary of central London. It will also be one of the main areas for population growth and services to the population - especially higher education. The retail centre at the Elephant and Castle may expand significantly so that its position in the hierarchy of town centres in London changes from being a 'district centre' to a 'major centre'.

London Bridge contains a number of development opportunities of London-wide strategic significance. Sensitive intensification rather than brownfield renewal will be the greatest source of development capacity across a number of relatively small sites.

In addition to the two opportunity areas, the UDP identifies a number of major centres for development:

- Bankside and Borough
- Bermondsey Spa
- Camberwell Green
- Downtown
- Lordship Lane and Dog Kennel Hill
- Old Kent Road
- Peckham
- Surrey Quays and Canada Water
- Walworth Road and East Street

Major improvements in transport infrastructure in Southwark (e.g. Jubilee Line, London Tram, Thameslink 2000, East London Line Extension) will also have an impact on development by attracting investment and providing better access from other parts of the Borough. These and other regeneration factors provide the context for further development in the Borough and all have implications for waste management.

1.1.4 What does this mean for Southwark?

Recent trends such as the continuing requirement for new housing stock demonstrate that the pull of London in terms of population growth is still immense. The current deputy prime minister and home secretary have both announced large housing development plans for the South East to cope with the housing demand of people coming to the region in search of employment.

Increasing numbers of people and economic activity will result in the creation of additional municipal waste. This is a problem exacerbated by the current trend for fewer people inhabiting a single

household. It is widely recognised that waste production per household is a more profound impacting factor on waste generation than waste produced per head. The tendency, therefore, for fewer people to occupy a single household and the planned increase in housing will undoubtedly increase waste arisings in Southwark.

1.2 Legislative Framework

Waste management legislation has changed considerably over the last 20 years and is set to continue altering with implications for all stakeholders.. Increasingly legislation is based on the precautionary principal and prevention, which manifest themselves in the waste hierarchy, duty of care and producer responsibility.

In terms of legislation, consideration must be given to the following:

- Legislation already affecting waste management
- Legislation passed at the European level but not on UK statute books.
- Legislation under development at the EU level

1.2.1 Background and current position

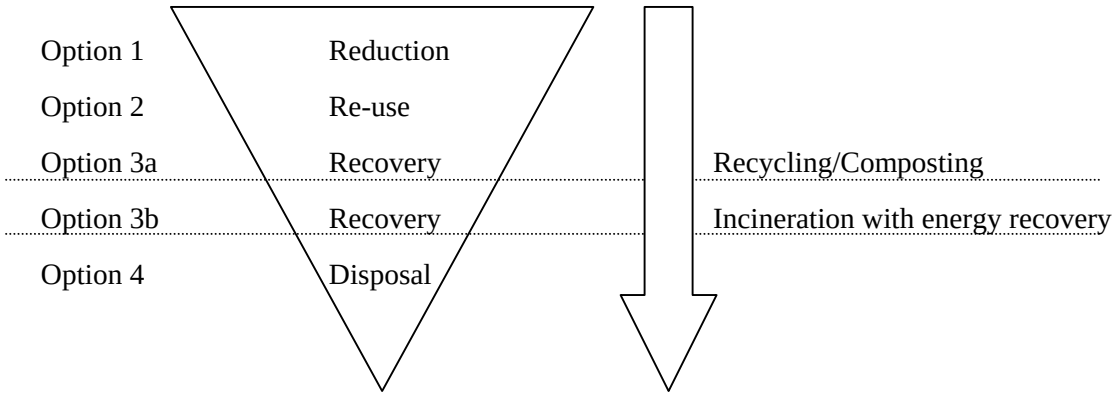
This strategy is written within the land-use policy framework for waste taking into account:

- the 'waste hierarchy', the 'proximity principle' and the Best Practical Environmental Option (BPEO), that the planning authority must take into account when preparing development plans;
- the framework developed in the recent Mayor London's Waste Strategy; and
- general principles of environmental protection and consideration of impact on amenity in specific waste planning applications.

This strategy sets out policies and aspirational targets with regard to the management of Southwark's waste well into the future, for which provision will have to be made. As such, it is written in the context of the UDP, the recycling plan (revised 2000), Best Value requirements and planning policy guidance as set out in Planning Policy Guidance Note 10 *Planning and Waste Management* (PPG10).

The Waste Hierarchy

Southwark adopts the principal of the waste hierarchy as outlined in Waste Strategy 2000, placing most emphasis on minimisation, followed by re-use, recycling, recovery and landfill as a last resort.



Proximity Principle

This states that material should be handled, treated and disposed of as near as possible to source as laid out in Waste Strategy 2000. The Council fully adopts this principle.

Appendix 1

Current Legislation	Summary
The Framework Directive on Waste 96/350/EEC	Provides a legal framework for the management, treatment and disposal of waste. Members States are to drawn up a national waste management plan through designated national authorities. The waste management plan should identify the wastes to be recovered or disposed of, the technical requirements for recovery or disposal, the special arrangements for specific types of waste and suitable disposal sites or installations.
Environmental Protection Act 1990	Section 52 of the Environmental Protection Act (1990) states that the Waste Collection Authorities have a duty to provide a number of services, for • the collection of household waste; • the collection of commercial/industrial waste when requested; • the development of a recycling plan; and • street cleansing. The Act specifically excludes local authorities from charging for the collection of household waste contained in the provided receptacle. 'Reasonable' charges may be made, however, for collection of non-household or excess waste. Waste Disposal Authorities have the duty to provide facilities for the disposal of waste collected by the Collection Authorities and locations where householders can bring waste for disposal. Southwark, as a Unitary Authority, acts as both the collection and disposal authority.
The Controlled Waste Regulations 1992	These Regulations provide for certain descriptions of waste to be treated as household waste for the purposes of the EPA (1990) and where charges may be levied for the collection of certain types of household waste.
Local Government Act 1999	The Local Government Act 1999 introduced Best Value in England, requiring that local authorities provide services to the community, which are considered to be of Best Value. The core of Best Value is the 4 C's: challenge, compare, consult and compete. The 4 C's require authorities to: • challenge why and how a service is being provided; involves local authorities conducting appraisals of each service • compare with others' performance (including organisations in the private and voluntary sectors) across a range of different indicators, taking account of the views of both service users and potential suppliers; • consult, involves authorities consulting with local tax payers, service users and the wider business community in the setting of new performance targets; and • authorities need to embrace full competition as a means of securing efficient and effective services. Section 6 of the 1999 Act requires a best value authority to prepare a best value performance plan for each financial year, while Section 5 requires authorities to conduct best value reviews of these functions. The Best Value Service Delivery Indicators reflect the national interest in the delivery of local services. These indicators are designed to enable comparisons to be made between the performance of different authorities, including different types of authorities, and within an authority over time. There are a number of Best Value Performance Indicators (BVPIs) related to the waste management service supplied by the local authority. BVPIs are subject to change on an annual basis.
Waste Minimisation Act 1998	This Act provides for the authority to undertake and funding of any action which is intended to minimise the production of waste and is relevant to both collection and disposal authorities alike.

Duty of Care Waste Transfer Licence (1992)	Under the Environmental Protection Act 1990, a Duty of Care licence is imposed on persons who produce, import, carry, keep, treat or dispose of controlled waste. The Duty of Care licence aims to: Prevent the escape of waste. Ensure that waste is only transferred to an authorised person or to a person for authorised transport purposes. Ensure that a written description of the waste is attached to the waste when transferred. Prevent persons disposing, treating or storing controlled waste that is likely to cause environmental pollution or affect human health.
Hazardous Waste Directive 91/689/EEC amended by 94/31/EC	The purpose of the directive is to control the management of hazardous waste in EU member states. The directive defines and lists "waste" and "hazardous" waste. A system of permits and registration requirements are created for those handling and disposing of waste. Member states are required to produce management plans for hazardous waste, either as an individual plan or part of a framework. The hazardous waste management plans are made public. The amendment to the Directive (94/31/EC) updated the lists of hazardous wastes. The majority is currently enacted through Special Waste Regulations 1996 (SI 1996/972). The remainder will be enacted following a second DEFRA consultation on Revised Special Waste Regulations expected 2002/3.
Integrated Pollution Prevention and Control (IPPC) Directive 96/61/EC	The IPPC directive replaced the IPC (Integrated Pollution Control) system from the end of October 1999. The directive lays down measures designed to prevent, or where that is not practicable, reduce emissions to air land and water from these activities, including measures concerning waste.
Pollution Prevention and Control Act 1999	Follows Waste Directive 96/350/EC and tightens the Environmental Protection Act 1990. The emphasis of the directive is on improving the environment by requiring industry to use 'Best Available Techniques' (BAT) for pollution prevention.
The Pollution Prevention and Control (England and Wales) (Amendment) Regulations 2000	The directive came into force on 1 April 2000 to implement a European Commission Directive on Integrated Pollution Prevention and Control (IPPC).
Landfill Directive 1999/31/EC	The directive aims to reduce the quantity of waste entering landfill. The directive implements a complete ban on certain hazardous wastes, liquid wastes and tyres entering landfill. Landfill sites are to be classed into three categories: hazardous, non-hazardous and inert. Under the directive, waste entering the landfill will be treated and the co-disposal of waste to be phased out. The directive also sets reduction targets for the amount of biodegradable waste sent to landfill.
Landfill Tax (Finance Act 1996)	This is a tax on the disposal of waste whereby a levy is added to the cost of disposal to landfill. The costs are passed through the waste management chain and the landfill operator pays the levy to HM Custom and Exercise.
Special Waste (Amendment) (England and Wales) Regulations 2001	The regulations apply to any operator who collects, transports or recovers special waste. Special waste must not be mixed into different categories or mixed with non special waste. The regulations apply unless activities are authorised by a waste management licence or the waste management activity is exempt from licensing. Operators of waste management facilities who make a deposit of special waste in or on land must record the location of each deposit. Where liquid wastes are discharged directly into underground strata only a written statement of the quantity and composition of the waste and the date of its disposal is recorded.
Waste Management Licensing Regulations 1994 (S1 1994/1056)	The regulations implement Waste Directive (91/56/EEC) and update the licensing and monitoring systems for waste disposal on land, under the Environmental Protection Act 1990. The main objective of the waste management licensing system is to ensure that waste management facilities do not pose a serious risk to the environment, human health or detriment to the amenities of the locality.

1.2.2 Other Waste Legislation

In addition to being responsible for managing all household and trade waste collected, the Council deals with a number of specialist waste streams, some of which are produced by the householder. These wastes may be subject to different legislation, or require special treatment and disposal. Waste Streams, which are considered to be 'Special', 'Hazardous' or subject to specific legislation are outlined below:

Abandoned Vehicles

The reduction in the value of scrap metal and the used car market has contributed to an increase in the number of vehicles abandoned on road sides, lay-bys and waste ground. These will be covered by:

EC Directive on End of Life Vehicles (2000/53/EC)

Under the terms of the End-of-Life Vehicles (ELVs) Directive, producers will have to ensure 85% recovery and 80% recycling of their vehicles by weight by January 1, 2006, although vehicles made before 1980 have lower targets of 75% recovery and 70% recycling. By 2015, recovery rates will have to be 95% and recycling rates at 85% for all vehicles.

The UK is still working on the implementation of the EU directive on ELVs following the publication of the government's consultation paper on options for the period up to 2006. While the Directive will not have any impact on the Council's functions, there may be implications with regard to collection methods and disposal points utilised in the near future and their cost.

Hazardous and Clinical Wastes

Certain components of the municipal waste stream have hazardous properties and require specialist handling. Southwark already manages certain hazardous wastes (clinical, motor oil, vehicle and domestic batteries) as part of its current services.

The Hazardous Waste Directive, European Waste Catalogue (EWC) and Hazardous Waste List, stipulate new policies that should have come into effect in member states at the start of 2002. However, the appropriate UK enacting legislation — the Special Waste Regulations (SWRs) — are not due to be changed to incorporate the EU requirements until late 2003 at the earliest. Many items, which were formerly not considered hazardous, will in future be considered as such, for example much electrical equipment, and fluorescent tubes. The Hazardous Waste Regulations (HWR) will replace the Special Waste Regulations. Specific materials dealt with separately will include:

Batteries

With a view to encouraging higher recycling of household batteries across the EU, the European Commission is proposing to amend its legislation on battery recycling to require the separate collection and recycling of all types of batteries in the EU, and the reduction of cadmium in nickel-cadmium batteries.

The proposed amendment to the Directive aims to harmonise the member states and sets high recovery targets. In doing so, the Directive aims to reduce the quantities of post consumer batteries entering the waste stream. Under the new proposal, targets have been set to collect 75% by weight of all spent consumer batteries and 95% of spent industrial and automotive batteries. Batteries containing mercury will be banned immediately and those containing more than 5ppm of cadmium by weight will be banned from 2008. The Batteries Directive poses a significant challenge to the UK as there are no operational collections for mixed domestic

batteries at present. The Government is currently funding research into the cost implications of recycling household batteries in the UK

Refrigerators

The EEC Ozone Depleting Substances Regulations came in force from 1st January 2002, which requires all CFCs and HCFCs to be removed from refrigeration equipment before such appliances are recycled or disposed of. Whilst the CFCs in the liquid refrigerant are already collected, these Regulations also require the HCFCs in the insulation foam to be extracted which requires substantial processing of redundant fridges and freezers. In addition, as a result of the legislation, fridges and freezers will also be classified as special/hazardous waste as a consequence of containing CFCs.

Equipment which Contains Low Volumes of PCB's

Electrical equipment such as radios and washing machines sold before 1986 may contain small quantities of polychlorinated biphenyls (PCBs). PCBs are usually contained in electrical capacitors and can cause environmental damage if buried in landfill sites.

European Directive 96/59/EC on the Disposal of Polychlorinated Biphenyls (PCBs) and Polychlorinated Terphenyls (PCTs) requires that where practicable, PCB containing equipment which is contained within another piece of equipment shall be removed and collected separately when the latter equipment is taken out of use, recycled or disposed of. The PCB containing equipment will need to be treated as special waste.

Waste Electrical and Electronic Equipment

The European Waste Electrical and Electronic Equipment (WEEE) Directive became European law in February 2003, setting collection, recycling and recovery targets for all types of electrical products. It applies to a large range of equipment from refrigerators, to toasters to telephones.

The Directives must be implemented in European Member states by August 2004. Collection, treatment and financing systems for WEEE must be in place by September 2005 and the first collection and treatment targets are to be attained by December 2006.

Key points of the new legislation include:

- A compulsory household collection target of 4 kg, by 2006, with a new target for 2008.
- Compulsory producer responsibility for the management of consumer WEEE waste.
- Producers able to use collective or individual financing schemes.
- Banning of heavy metals and toxic flame-retardants from July 2006.
- Measures to minimise the disposal of WEEE by consumers as mixed municipal waste.
- Producers banned from preventing re-use or recycling of products with "clever chips".
- Costs of treating historical waste shared proportionately between current producers.
- Up-front financial guarantees by producers to guard against costs from orphan WEEE.

Local authorities are likely to have to provide purpose built containers at Reuse and Recycling sites to avoid damaging products that may be reused as well as offering a kerbside collection service

Kitchen Waste (Animal By-Products)

The recently adopted Animal By-Product Regulations have opened the way for the collection and composting of kitchen wastes. This presents a significant proportion of the waste stream, which can be separately treated and recovered. However, the Regulations will only allow this under certain circumstances.

1.2.3 Proposed New Legislation

The legislation detailed below does not constitute an exhaustive list of all proposed new legislation. It does however highlight those that will have the most impact on the Authority and therefore need to be considered when determining future waste services.

Household Recycling Act 2003

The Household Recycling Act will have a profound effect on recycling and the way that material is sourced in the UK. The Bill will require all Councils to collect at least two recyclables at source from 2011. Currently it is thought only around 50% of Councils offer any sort of source segregated collection service.

For Southwark, this will mean either the introduction of recyclable collection, separate from residual collection, by January 2011, unless "comparable alternative arrangements" are available, or the cost is considered to be "unreasonably high".

Biowaste Directive

The Biowaste Directive is currently a working document in its second draft. It has been in this state since 12th February 2001 and there is currently no timetable for its adoption into either EU or UK law. However, it is considered by many to be a viable potential Directive and should at least be noted in this strategy.

This fledgling Directive could see:

- The separate collection of biowaste and residual waste in urban areas of greater than 100,000 inhabitants within 2 years of adoption; and
- The separate collection of biowaste and residual waste in urban areas of greater than 2,000 inhabitants within 5 years of adoption.

In addition the proposal for a Directive would include measures to encourage home composting, community composting and on-site treatment of biowaste arisings in compost and biogasplants (anaerobic digestion).

However, this is a working paper and even if taken up as a proposed Directive at the time of writing this Strategy, it is unlikely that it would pass through the EU procedures to become law before 2006. Furthermore, there would be a period while this was enacted in the UK. For this reason if it is adopted it is unlikely to have any effect before 2008/09, by which time it may have little impact on the 2010 LFD biowaste diversion target.

Waste and Emissions Trading (WET) Bill

The Bill implements a commitment in the White Paper "Waste Strategy 2000: England and Wales" to introduce tradable allowances for local authorities to restrict the amount of biodegradable municipal waste sent to landfills.

In doing so it obligates the UK government to allocate allowances to waste disposal authorities authorising a waste disposal authority to send to landfills, in the year for which the allowance is allocated, the amount of biodegradable municipal waste covered by the allowance.

The Bill also creates the structure by which these allowances may be banked or traded by authorities to both allow poorly performing authorities to meet targets and also reward those that have made successful extra efforts. It achieves this by permitting waste disposal authorities to transfer allowances, whether by trade or otherwise. However, If a waste disposal authority breaches its duty to landfill within its own allowance, it will be subject to a penalty. If a waste disposal authority breaches this duty in a target year and the UK as a whole exceeds its target, the waste disposal authority will also be liable to a supplementary penalty.

1.3 Waste Management - The Challenge

The London Borough of Southwark is a unitary authority and is responsible for collection, treatment and final disposal of all municipal waste within its area. The current waste disposal contract with WRG will be extended until 2004, in order for the council to consult on and implement this strategy. Similarly, the waste collection contract with Southwark Internal Services, and the contracts for recycling collections have all been extended. The Council expects to tender for collection, disposal and recycling services as a unified contract in 2003/2004.

The challenges that Southwark face are:

- levels of recycling that are not keeping pace with changes in waste arisings
- limited landfill space for London authorities beyond 2007
- more value must be recovered from waste through recycling, composting or used in energy recovery schemes
- ambitious targets for London contained in the Mayors strategy
- new legislation requiring increasing segregation of waste
- unsustainable increase in waste arisings
- rising costs of waste management services
- pressure from the European Union (EU) and UK Government to reduce reliance on landfill
- statutory targets for recycling and treatment of waste, beyond current levels
- doing nothing is not an option.

1.3.1 Waste Arisings in Southwark

Current Household Waste Arisings

In 2002/03, 107,772 tonnes of household waste was produced in Southwark, of which 4,459 tonnes was recycled or composted, generating a recycling/composting rate of approximately 4.1%.

Table 1.2: Household Waste Arisings in 2002/03

Household Waste Category	2002/03 Tonnage
Collection round (bin) waste	73,634
Street sweepings & Litter	16,462
Special household collection (bulky)	10,667
Reuse and Recycling residual waste	1,383
Reuse and Recycling recycling	135
Reuse and Recycling composting	15
Household Clinical	120
Kerbside recyclables	1,599
Bank Recyclables	2,710
Schools Wastes	1,047
TOTAL 2002/03 Household Waste	**107,772**

Municipal Waste Arisings

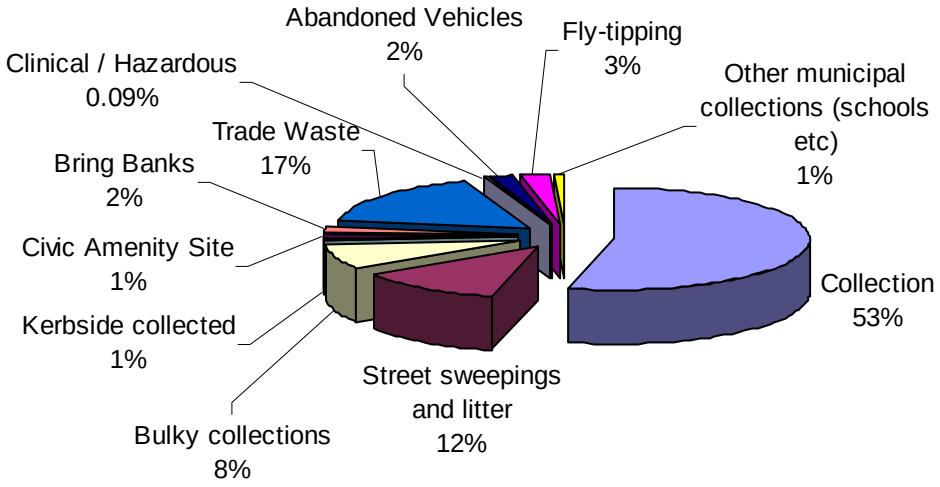
In 2002/03, 136,878 tonnes of municipal waste was generated in Southwark, 79% of which is made up of household waste. The majority of the non-household waste that the Council manages comprises co-mingled trade waste, hardcore and rubble, and trade waste which is collected at the Reuse and Recycling site at Manor Place Depot. The recovery of abandoned vehicles also contributes to the municipal waste arisings in Southwark.

Table 1.3: Municipal Waste Arisings 2002/03

Non-Household Waste	2002/03 Tonnage
Reuse and Recycling Hardcore / rubble	30
Trade waste	747
Co-mingled trade waste	22,000
Reuse and Recycling Specials	2
Fly tipping	3,509
Abandoned vehicles	2818 *(1)*
Non-Household Waste Subtotal	**29,106**
Household Waste Subtotal	**107,772**
Municipal Waste (Household waste + Non-household waste)	**136,878**

(1) (CIPFA guidance 1 abandoned vehicle = 1 tonne)

Figure 1.2: Breakdown of Muncipal Waste Arisings in Southwark



1.3.2 Waste Composition

Southwark has undertaken extensive research, in order to understand better the waste that it must deal with. As a result of this, figures 1.3 and 1.4 below summarise the compositional make up of household collected waste from both high and low rise properties:

Figure 1.3: Chart showing the compositional split of material collected from high rise properties

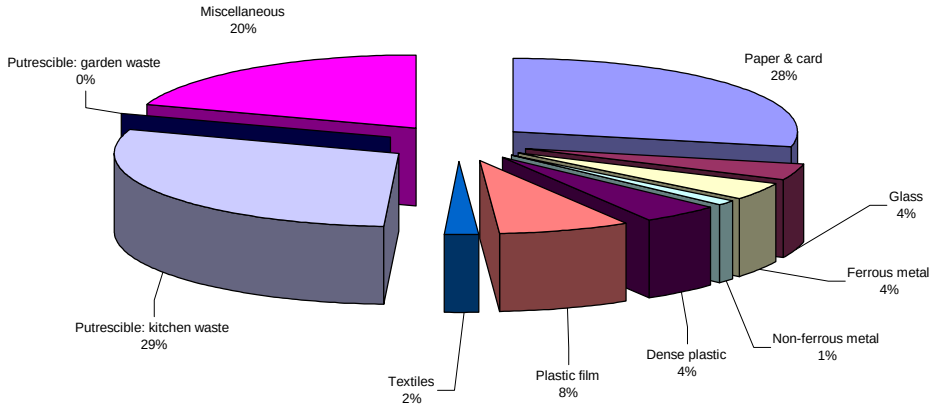
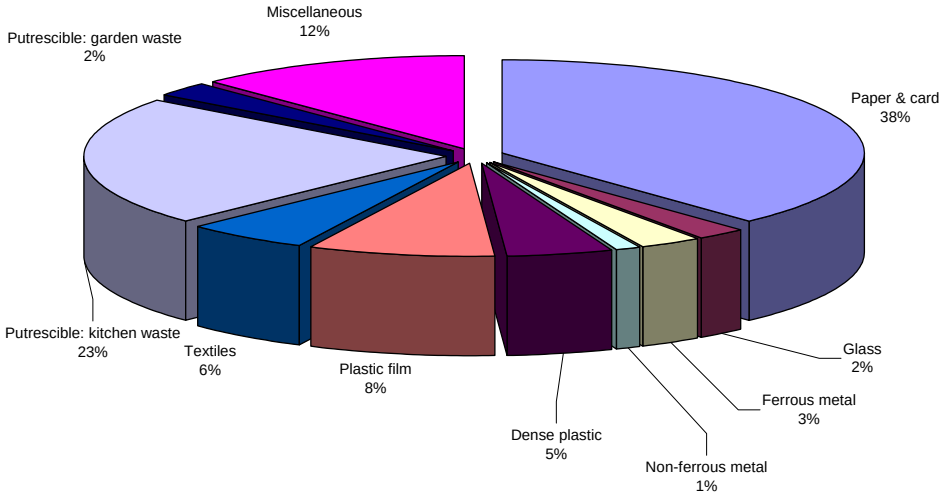


Figure 1.4: Chart showing the compositional split of material collected from low rise properties



Assuming that approximately 50% of miscellaneous and textiles are biodegradable, the fraction requiring diversion under the Landfill Directive is 68% of the total amount of waste produced.

1.4 Waste Management in Southwark

1.4.1 Collection

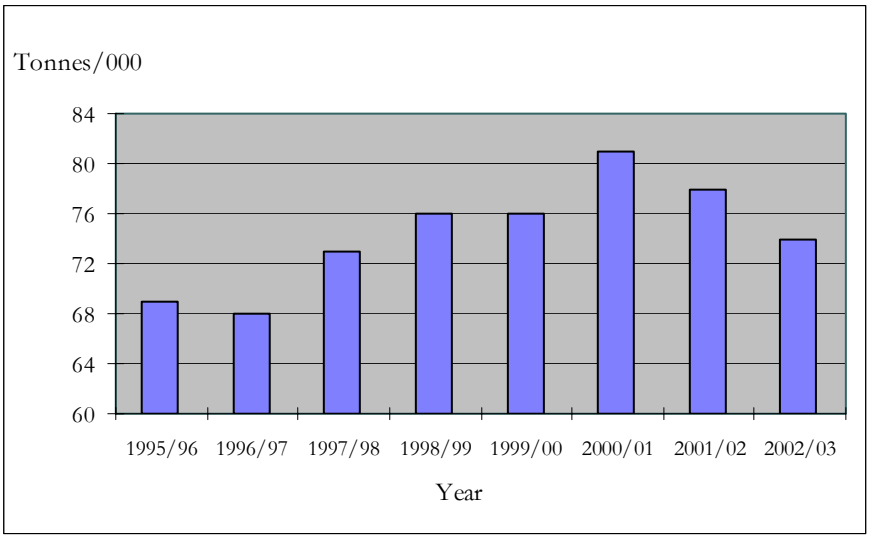
The collection of domestic and trade waste is undertaken by Southwark Refuse and Recycling Service, the Council's DSO.

The services provided as part of the waste collection contract are as follows:

- collection of household waste from all domestic properties. Waste is collected from the curtilege of properties and any receptacle utilised returned to the same place
- collection of trade waste from premises that have an agreement with the Council
- collection of the contents of commercial waste containers used by the Council
- provision of bulky waste collection services from households
- collection of household clinical waste for incineration
- provision and servicing of skips.

Figure 1.5 shows collection trends from 1995-2003 taken from annual municipal waste returns.

Figure 1.5: Waste collection 1995-2003

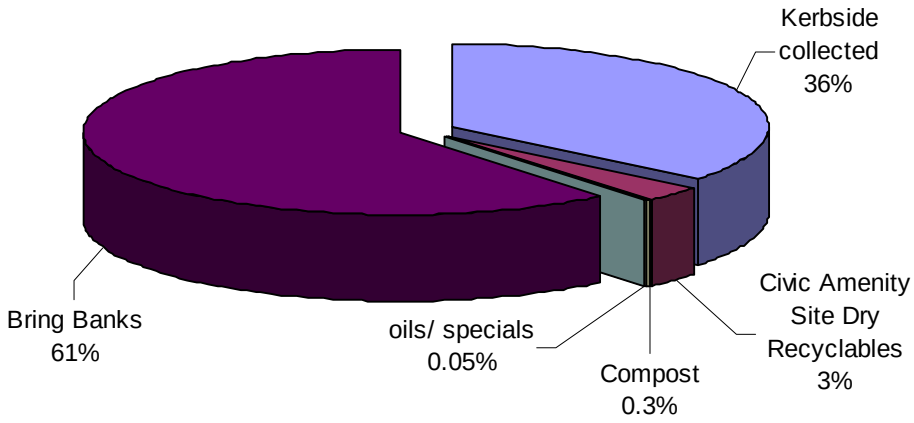


Source: CIPFA/DEFRA returns 1995-2003

1.4.2 Recycling & Composting

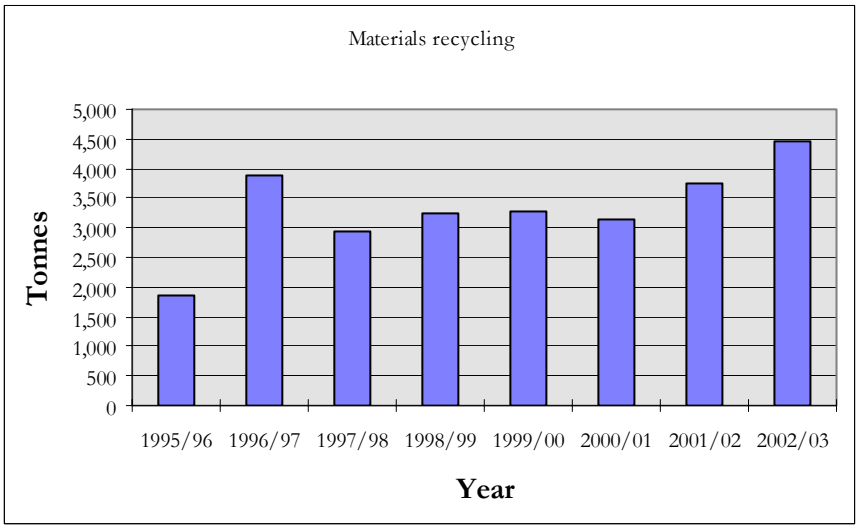
The current system for the collection and recycling of waste is based around a combination of bring sites, a Reuse and Recycling site and the operation of door to door recycling services. For the bulk of the recyclable materials collected, residents are encouraged to separate waste recyclable materials and deposit these at one of the 66 mini recycling sites, or at Manor Place Depot Reuse and Recycling site.

Figure 1.6: Illustration of the source of recycled and composted material in Southwark



The recycling banks for paper and card, glass, mixed cans and textiles are managed by Community Recycling In Southwark Project (CRISP) on behalf of the Council. The bank coverage is reasonably comprehensive, providing a bank within approximately 1km per household. In 2002/ 2003, 2,710 tonnes of materials were collected.

Figure 1.7: Trends in recycling 1995 –2003



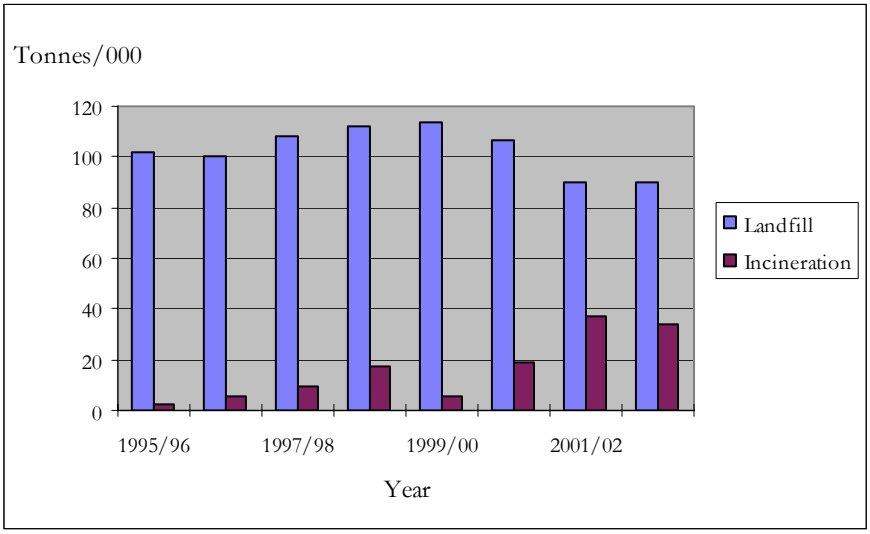
Since 1995, the Council has also operated a kerbside collection service for recyclables. Initially launched as a trial, the service collected glass, cans, paper and textiles on a fortnightly basis. The scheme was simplified to collect waste paper only from around 7000 households. In July 2002, the Council extended this service to approximately 47,000 properties and intends to eventually cover all kerbside properties. A collection scheme is also operated throughout the Borough on an appointment basis for fridges and freezers.

The household recycling/composting rate for Southwark was 4.1% for 2002/03.. This compares with a national average of 9.4% and rates in other London boroughs of 8.9% (Lambeth), 5.5% (Lewisham), 14.1% (Bromley), 15.4% (Croydon) and 20.5% (Bexley) for 2001/02 as reported by the Office of the Deputy Prime Minister.

1.4.3 Treatment & Disposal

In 2002/03 Southwark sent 33,738 tonnes to SELCHP for thermal treatment and energy recovery. Southwark currently recovers around three times the national average for energy recovery and benefits from the proximity of the SELCHP facility.

Figure 1.8: Waste disposal 1995-2003



However in 2002/03, landfill was still the main form of managing municipal waste, with the majority of wastes going to the Aveley and Okendon sites (Table 1.5). This trend is unlikely to change in the future without Southwark owning or having access to capacity at new treatment and recycling facilities.

Table 1.5: Disposal route for waste in Southwark, 2002-03

facility	type of waste	tonnages	%
Aveley landfill	mixed MSW	89,680	71

Corporation of London[1]	mixed MSW	2707	2
Cringle Dock[1]	household	14	0.01
Edmonton incinerator	-	0	0
Okendon landfill	mixed MSW	0	0
Rainham landfill	mixed MSW	0	0
SELCHP incinerator	household / commercial	33,738	27
Smugglers Way[1]	gully waste[2]	137	0.1

Notes: 1. These are waste transfer stations and landfill will be the final destination
2. Gully waste refers to street sweepings and street cleansing

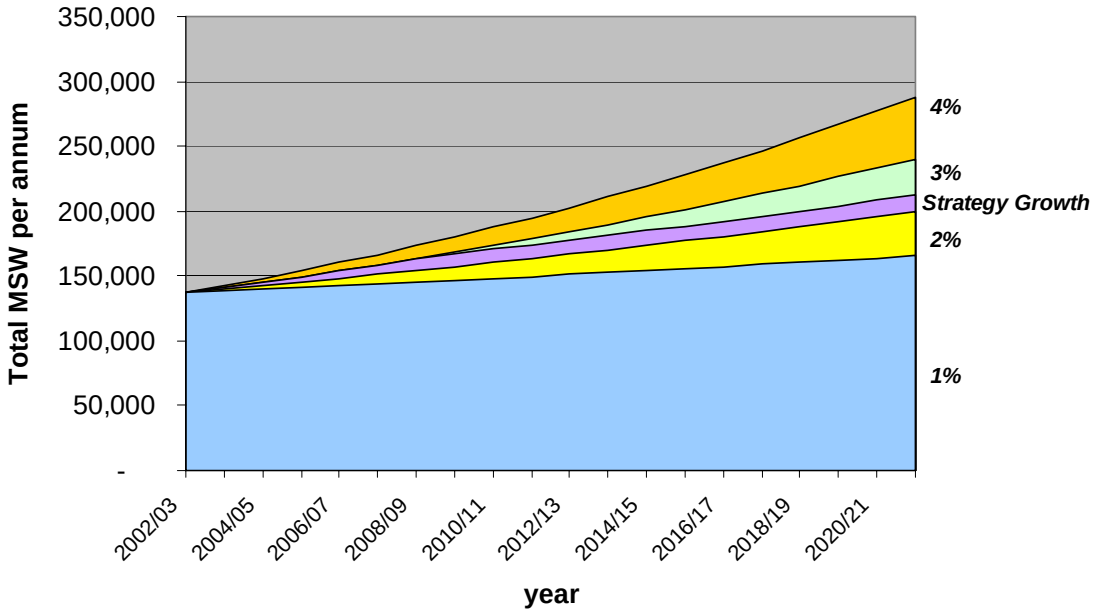
1.5 Waste Growth

A major issue facing the Council is the continued growth in waste. This is a national phenomenon that is even more acute in London as a whole.

In planning for the future, it is necessary to make some assumptions about what is likely to happen with the growth in waste arisings. All the indications (see historic growth figures for Southwark) are that the amount of waste in Southwark will continue to grow and, without any intervention, Southwark will double its waste arisings by 2020. At the same time, costs per tonne of waste will rise as new facilities and new treatments are needed to meet targets. Nationally, the government is projecting an annual growth rate of 3%, based on the recent historical trend. In reality, changes in waste arisings are not so uniform and while in one year no growth may occur, arisings may be double the national average in another, making planning for a given year difficult. For this reason future growth is averaged across the time frame for this Strategy.

The amount that waste will grow each year has a significant impact on planning and the cost of waste management options. Figure 1.9 highlights the possible range of total municipal arisings figures that may be expected across a number of growth scenarios (1%, 2%, 3% and 4%).

Figure 1.9: Illustration of possible waste growth scenarios and the aspirational growth scenario for Southwark



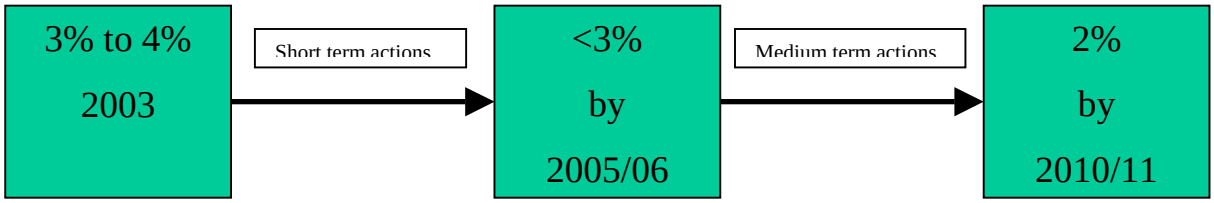
The foremost action of waste management, according to the waste hierarchy (see Section 1.3.1) is to minimise the production of waste at source. The Council has therefore set reducing waste growth as a priority in its strategy. In the short term this is unlikely to yield an actual decrease in the amount of waste produced but be represented by a decrease in the growth rate. Additionally, the specific socio-demographic and economic factors affecting waste production (see Section 1.1) mean that it is unlikely Southwark will make large inroads into reducing waste arisings in the short to medium term. However, in real terms, due to population growth

(estimated to be an additional 27,000 residents by 2021), the actual rate of waste growth per head of population will be decreasing.

The use of chutes to collect the majority of waste arisings and the proliferation of high rise accommodation limits the actions the council can take to stem the growth in Southwark's waste. For example, where in other areas of the UK, authorities may limit bin size and move to biweekly collection, this is unrealistic and unlikely to have any effect where residents are simply able to push full bags down a shute.

The overall trend in waste arisings in Southwark over the last five to six years has been an increase in excess of 4% per year. However, the increase over the past two years has been nearer 2%, providing an average figure of between 3% and 4%, much closer to the expected (national) average.

For the purposes of making strategic decisions about waste management in Southwark an aspirational target for waste growth has been made. This projection is broadly in line with that laid out in the Mayor of London's Strategy (2003) and is illustrated in figure 1.9. It is expected that short term actions to prevent further seepage of unregulated commercial waste into the waste stream and better control of trade use at the Manor Place depot can lower the growth rate to below 3% by 2005/06. In the longer term, the Council will pursue overarching education campaigns in order to make people more aware of the impacts they have. In doing so a slow decline to 2% is expected settling at this figure by 2010. In summary the Council expects:



Assuming this growth profile occurs will still mean that waste arisings will grow significantly in Southwark throughout the timeframe of this strategy but below the levels predicted by the 3% growth assumption in Waste Strategy 2000. Figure 1.9 above shows that by 2021 Southwark will be producing ***216,400*** tonnes of municipal solid waste based on its adopted growth targets.

1.6 Targets

1.6.1 National targets

The EC Landfill Directive (99/31) sets mandatory targets for the reduction of biodegradable municipal waste sent to landfill. The UK national targets are:

DIVERSION FROM LANDFILL

- by 2010 to reduce biodegradable waste landfilled to 75% of that produced in 1995
- by 2013 to reduce biodegradable waste landfilled to 50% of that produced in 1995
- by 2020 to reduce biodegradable waste landfilled to 35% of that produced in 1995.

To comply with the Landfill Directive, the Government has established national targets for the recovery of municipal waste. These national targets are supported by statutory performance standards for household recycling / composting, and tradable permits for local authorities to restrict the amount of biodegradable municipal waste going to landfill.

The Waste Strategy published by DEFRA in 2000 proposes a set of non-statutory, aspirational targets for the whole of the UK:

RECYCLING

- to recycle or compost at least 25% of household waste by 2005
- to recycle or compost at least 30% of household waste by 2010
- to recycle or compost at least 33% of household waste by 2015

RECOVERY

- to recover value from 40% of municipal waste by 2005
- to recover value from 45% of municipal waste by 2010
- to recover value from 67% of municipal waste by 2015.

1.6.2 Targets for Southwark

In order to meet the aspirational targets set out in Waste Strategy 2000, the Government has set statutory performance standards for household waste recycling and composting for 2003-4 and 2005-6 (Table 1.6). These targets apply to specific Best Value indicators. Standards are based on the recycling rates calculated from returns to the 1998-99 Municipal Waste Survey.

Table 1.6: Statutory Recycling targets, Southwark

1998 - 99 recycling rate %	2003 –04 standard %	2005-06 standard %
3.6	10	18

Source: DEFRA 2001 Guidance on Municipal Waste Management Strategies

In addition to the statutory targets outlined in table 1.6, the Council has set targets for the recycling of household waste and the recovery of value from Municipal Waste for the period of the strategy, 2003- 2021 as set out in table 1.7.

Table 1.7: Southwark's recycling and recovery targets

Year	Recycling/Composting Target Household Waste	Recovery of value Target Municipal Solid Waste
2003/04	10%	35%
2004/05	14%	37.5%
2005/06	18%	40%
2010/11	30%	45%
2015/16	40%	67%
2020/21	50%	75%

To meet these targets, major improvements will have to be made in recycling performance. A near three-fold increase is required to meet the minimum standards for 2003-04, based on 2002/03's performance. Whatever system is put in place will then have to prove capable of achieving a recycling rate of 18% by 2005-6. To take Southwark beyond these minimum requirements needs a step change in performance and radical measures. A phased approach is therefore proposed:

Short Term: up to 2005/06	establish policies and introduce new recycling and education systems to meet the immediate Best Value statutory performance standard.
Medium Term: 2007 – 2010	expansion of recycling services to all residents of the Borough and the introduction of an integrated facility to manage both recyclables and to recover further value from the residual waste stream.
Long Term: 2011 – 2021	Ongoing consolidation, review and upgrading of systems to be meet the needs of a changing market and waste stream, coupled with further education and minimisation schemes.

Chapter 2 of this strategy establishes the policies and plans adopted by the Council, while Chapter 3 details how the Council will deliver these aspirations in the short, medium and long term.

1.7 Financial Implications

Figure 1.10: Graph outlining potential future cost of landfill if current practices continue

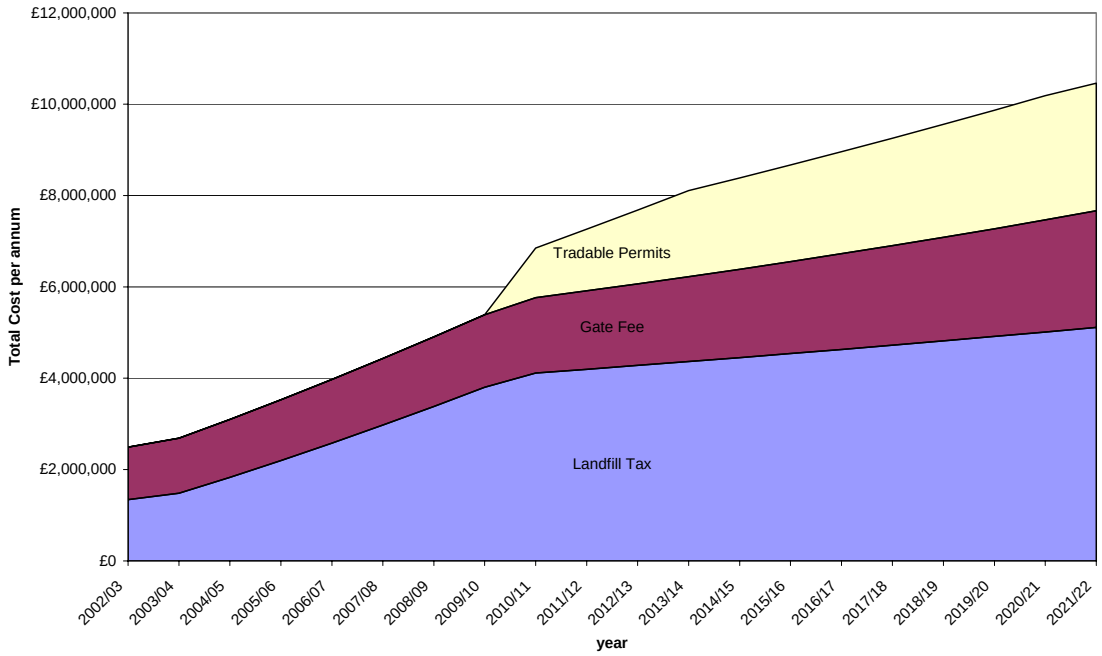


Figure 1.10 shows three distinct elements – Tradable Permits, Gate Fee and Landfill Tax. For the purposes of financial implications, Fig 1.10 assumes a fixed gate fee, which takes account of growth in arisings as outlined in previous sections.

1.7.1 Tradable landfill permits

Article 5(2) of the EC Landfill Directive1 requires the UK to reduce the amount of biodegradable municipal waste (BMW) it sends to landfill. The Waste and Emissions Trading Bill (EWTB) which is currently being considered by Parliament provides the framework for a Landfill Allowance Trading Scheme designed to implement Article 5(2) of the Landfill Directive and the apportionment of UK landfill targets to each country of the UK.

Proposals outlined in the recent Consultation paper[1] issued by DEFRA in August 2003 indicates that allowances will convey the right for a Waste Disposal Authority (WDA) to landfill a certain amount of BMW in a specified scheme year. Each allowance will be allocated to a specific WDA for a specific year. A WDA will only be able to use its own allowances unless it trades with another WDA and will only be able to use its allowances in the year for which they are allocated unless it banks or borrows.

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[1] *LANDFILL ALLOWANCE TRADING SCHEME CONSULTATION 29 August 2003 Department for Environment Food and Rural Affairs*

The level of cost at which tradable landfill permits will be set is uncertain at this time and is likely to be influenced by prevailing market forces. For the purposes of the Options Scoping and evaluation process a sum of £35.00 / tonne has been assumed for all waste BMW that has been landfilled above Southwark's projected allowances. This is equivalent to landfill tax and landfill gate fees prevailing in 2003.

The financial impacts of the introduction of the landfill Tradable permits are shown in figure 1.10 assuming no significant increase in the rate of recycling or recovery. Tradable permit costs projected to cost in the region of £1 m per annum in 2010 and then to £2.6 m in 2020 if the £35 / tonne figure is assumed. Should the Tradable permits prove to be more costly, for instance at £100 tonne then the costs in 2010 would equate to £2.9m rising to £7.5 m in 2020.

1.7.2 Landfill Tax

Landfill tax was imposed in October 1996 at a rate of £7 per tonne. The tax is a specifically targeted levy on the disposal of wastes in landfill sites throughout the UK. It has two main objectives:

- To ensure, as far as practicable, that the cost of landfill properly reflects the impact which it has upon the environment;
- To help ensure that targets for more sustainable waste management in the UK are achieved.

The current rate of landfill tax is £14 per tonne in 2003-04 and is due to rise to £15 per tonne in 2004-05. The rate will subsequently be increased by £3 to £18 per tonne in 2005-06 and by at least £3 per tonne each year thereafter, on the way to a medium- to long-term rate of £35 per tonne. Such increases will further increase the cost of landfill and introduce financial risks for landfill orientated waste management solutions over the medium and long term.

At 3% growth, landfill tax costs will increase from approximately £ 1.5 million in 2003/04 rising to £4.1m in 2010/11 and to £5m in 2020/21.

The financial impacts of the increase in landfill Tax are shown in figure 1.10.

1.7.3 Regulatory Uncertainty

There are several pieces of legislation and regulation e.g. WEEE Directive, yet to be fully defined in terms of potential financial impact on Southwark's waste management services.

Costings in Figure 1.10 do not take account of regulatory uncertainty. However, such costs will need to be accounted for in overall funding regimes for future environmental services.

Gap Analysis

This document is intended to provide strategic direction for the next 20 years and against this objective a gap analysis has been completed. The gap analysis simply illustrates the difference between current performance and what needs to be done in order to meet the Government's and the Council's own expectations. This analysis is split into three main performance indicators (recycling, recovery and landfill diversion).

1.7.4 Recycling

Southwark has been set stretching targets by the Government of 18% recycling by 2005/06, more than four times its current rate. However, the Council's own expectations reach even further, to 50% recycling by 2020. Figure 1.11, illustrates the likely gap between Southwark's current performance and the extra tonnage needing to be recycled **each year**, firstly to reach BVPI Statutory Performance Standards and secondly the Council's own targets:

Figure 1.11: Illustrating the likely gap between current performance and future targets.

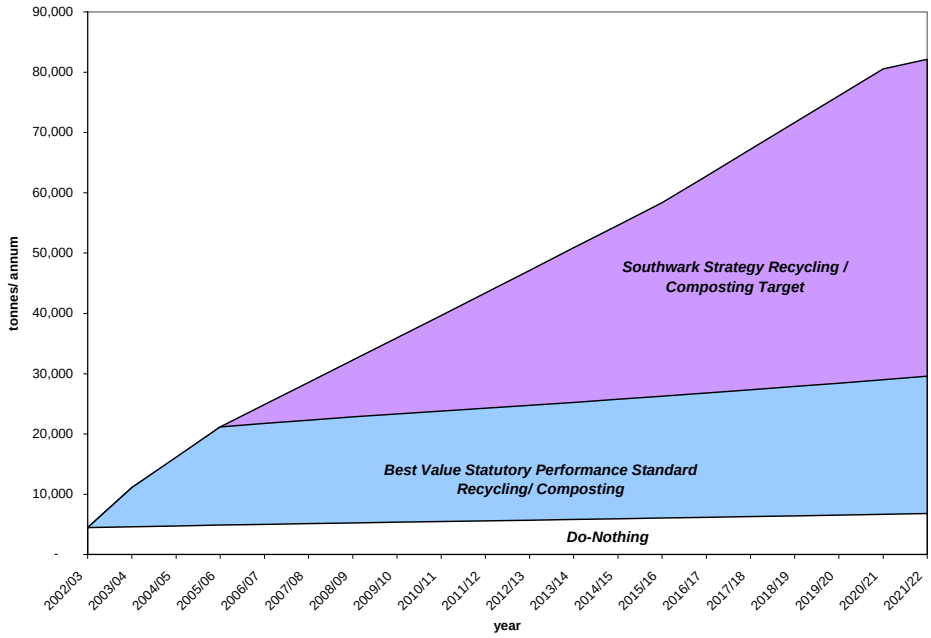

Table 1.8: Tonnages required to meet Southwark's various recycling commitments

	2003/04	2004/05	2005/06	2010/11	2015/16	2020/21
Do-nothing (tpa)	4,595	4,731	4,868	5,470	6,039	6,668
Best Value SPS Targets (tpa)	11,101	16,134	21,167	23,786	26,261	28,994
Southwark Waste Strategy Targets (tpa)	11,101	15,999	21,167	39,643	58,358	80,540

1.7.5 Recovery

There are currently no statutory targets for recovery of value in the UK. However, Waste Strategy 2000 includes aspirational targets and each Council must report, under BVPI 82(c), the percentage of waste sent for energy recovery. To incorporate these, Southwark have set stretch targets for the recovery of value, reaching 75% in 2020.

Figure 1.12 and Table 1.9, below shows the likely gap between future targets and Southwark continuing to send the same proportion of waste for recycling/ composting and energy recovery as is current practice.

Figure 1.12: Illustrating the likely gap between current recovery performance and that needed to meet Southwark targets

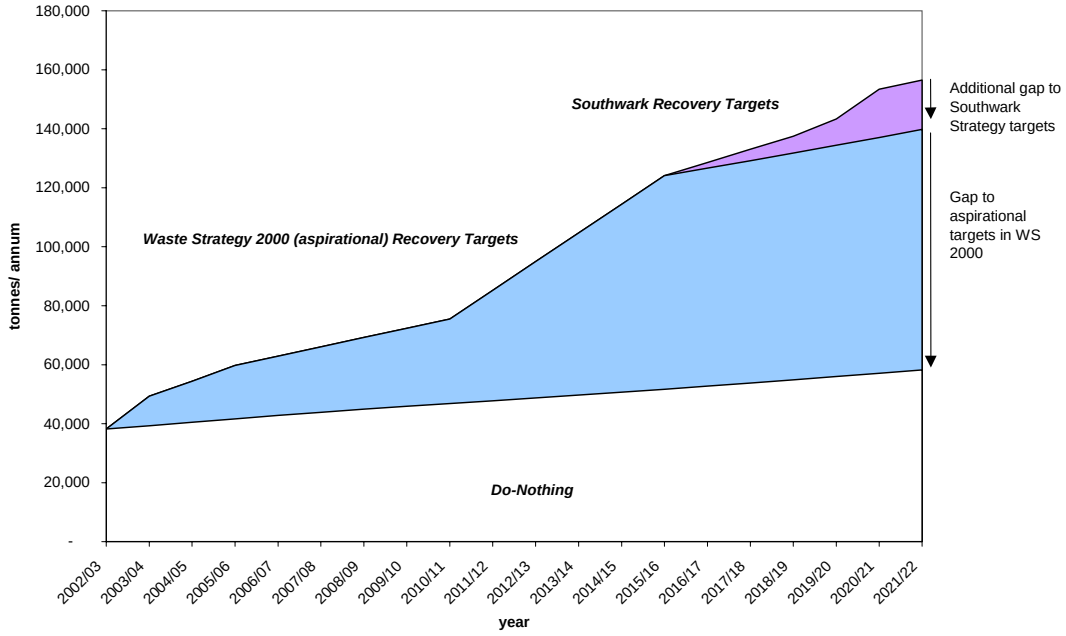

Table 1.9: Tonnages required to meet Southwark's various waste recovery commitments

	2003/04	2004/05	2005/06	2010/11	2015/16	2020/21
Do-nothing (tpa)	39,346	40,506	41,681	46,836	51,711	57,093
WS 2000 Targets (tpa)	48,329	53,308	58,511	73,967	121,590	134,246
Southwark Waste Strategy Targets (tpa)	48,329	53,308	58,511	73,967	121,590	150,275

1.7.6 Biodegradeable Municipal Waste Diversion (Landfill Directive)

Probably the most significant targets for the UK are those laid down in the Landfill Directive for diversion of the biodegradeable proportion of the municipal waste stream. The means by which these targets are liable to be enforced is through the proposed Waste Emissions and Trading Bill (see Section 1.2.3). Figure 1.13 and Table 1.10 highlight the challenge that faces Southwark, showing the gap between current performance, which can be considered better than average, and what is needed in order for the Council not to purchase future landfill allowance permits.

Figure 1.13: Highlighting the gap between BMW tonnes to landfill if current practice continues against what Southwark will be allowed to landfill

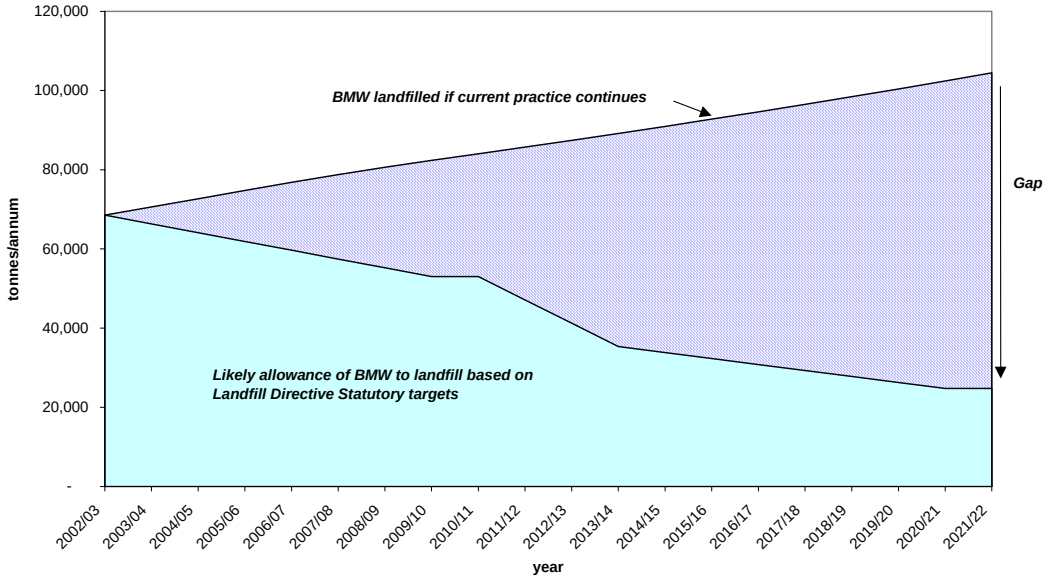

Table 1.10: Tonnages required to meet Southwark's various waste recovery commitments

	2003/04	2004/05	2005/06	2010/11	2015/16	2020/21
Do-nothing – BMW to landfill (tpa)	39,346	40,506	41,681	46,836	51,711	57,093
Landfill Directive Allowance to landfill (tpa)	48,329	53,308	58,511	73,967	121,590	150,275

1.8 Key Players and Partnerships

Southwark Council is a unitary authority and therefore has the responsibility for the collection of household waste as well as its disposal. As Southwark Council has this total responsibility for waste services, co-ordination and integration of contracts and service provision can be easily achieved ensuring recycling targets can be met within the overall waste strategy. There are a number of key players and partnership opportunities that the Council will take account of in implementing the strategy.

1.8.1 The Mayor's waste strategy

The Mayor of London's Strategy has recently been published and as such provides regional strategic direction for Southwark. This provides Southwark with more specific guidance as to how, as part of London, it can help achieve the goals of the region as a whole, in addition to more targeted aims, specific to Southwark's locality. The following is a summary of the main aims and recommendations from the strategy and the likely implications on Southwark:

Targets

- The Mayor intends to exceed the recycling and composting targets for household waste set by the Government, and as far as possible achieve the recovery targets for municipal waste through waste reduction, reuse, recycling and composting.
- The Mayor supports the proposal to set recycling targets of municipal waste for London of 50% by 2010 and 60% by 2015.
- The Mayor aims to limit waste growth to 3.5% by 2006 reducing to 2% thereafter until 2020, with a waste minimisation programme for London

Implications:

- Southwark will require substantial capital investment for developing the necessary waste management infrastructure to achieve recycling and composting targets. The waste growth profile will require an extensive waste education and awareness programme.

Contracts

- The Mayor will use the power of direction to enforce the consideration of Best Practicable Environmental Option in waste contracts.
- The Mayor will work with waste authorities on new contracts, and seek agreement to amend existing contracts, to ensure options as high up the waste hierarchy are implemented.
- Waste authorities are required to thoroughly explore all partnership and co-operative working opportunities to ensure Best Value is adopted.
- The Mayor will require authorities to include contract conditions and specifications that: reflect the Mayor's proposals and targets; enable future flexibility to continue to develop sustainable waste management; maintain and increase the use of rail and water transport; reflect best practice through the tailoring of contract conditions and specifications.
- In considering new contracts involving conventional incineration of municipal waste, the Mayor will seek to ensure that: waste is subjected to pre-treatment to remove as much recyclable material as is practical before the residual waste is incinerated; flexibility is

maintained in order to allow movement up the waste hierarchy; there will be no guaranteed minimum tonnage contracts; state of the art emission systems; combined heat and power technologies are used.

Implications:

- Southwark is required to inform the Mayor of its intention to procure a new integrated contract at the earliest opportunity.
- To meet the Mayor's requirements Southwark's future contracts will need to be tailored to reflect the Mayor's targets and proposals and contain mechanisms to encourage the achievement of targets. The contract will need to remain flexible to enable changes in sustainable waste management to be incorporated.
- Southwark must explore all opportunities for partnership with other local authorities.
- Southwark's contract strategy will need to reflect the Mayor's proposals in relation to conventional waste incineration.

Reuse

- The Mayor clearly identifies reuse as a target - focusing on furniture and nappy washing schemes but also identifying Reuse and Recycling site waste: wood, household items, rubble and other materials, furniture.

Implications:

- Southwark will need to consider all opportunities to promote initiatives that focus on the reuse of materials.

Recycling

- Waste authorities must provide all street level households with a kerbside collection of at least three materials, one of which should be paper, by September 2004.
- On estates or in multi-occupancy properties there must be a minimum of one recycling site per 500 households collecting at least three materials, one of which should be paper, by September 2004.
- All CA sites to be rebranded as reuse and recycling centres and have facilities for the separation of reusable items.
- Free access to reuse and recycling centres to residents of neighbouring boroughs.

Implications:

- Southwark's kerbside paper collection service will need to be expanded to collect a minimum of three materials, and coverage must be increased to all street level properties.
- Maximising recycling facilities on estates and multi-occupancy properties and maximising the facilities for reuse on the CA Site will be critical to Southwark's strategy.

Composting

- Low cost compost bins must be made available to all households with gardens by September 2004.
- The Major will seek to identify land for central composting in the Unitary Development Plans. Central composting facilities will need to be developed to complement home composting and community composting schemes.
- All Reuse and Recycling Centres must accept segregated green waste for composting by the end of 2004.
- All authorities must prepare a fully costed feasibility study for the borough-wide collection of separated kitchen vegetable and green garden waste by September 2004.
- Parks and markets waste should be composted.
- Authorities must encourage householders to use waste-derived compost by providing opportunities for them to purchase waste–derived compost.

Implications:

- The Manor Place Reuse and Recycling Site will need to provide facilities for the collection of green waste, and make the waste-derived compost available for purchase by the public.
- Southwark will be required to prepare a feasibility study on the collection of kitchen vegetable and green garden waste by September 2004.
- Composting of parks and markets waste will need to be considered by Southwark.

Recovery & Residual Waste Treatment

- The Mayor will support the development of new and emerging advanced conversion technologies for waste treatment (e.g. anaerobic digestion, gasification, pyrolysis) in preference to any increase in conventional incineration capacity.
- The Mayor will support the development of new waste treatment methods such as Mechanical Biological Treatment and the production of biofuels to be used in London.
- The Mayor will encourage the development of anaerobic digestion which treats segregated biodegradable waste and produces a digestate suitable for agriculture and horticulture use. The Mayor will seek to get anaerobic digestion classified as recycling.
- There must be pre-treatment to remove as much recyclable material as possible before the residue is incinerated. Existing incinerator capacity will be orientated towards non-recyclable residual waste.

Implications:

- Southwark must consider new and emerging technologies such as Mechanical Biological Treatment and anaerobic digestion in addition to new and emerging advanced conversion technologies.
- Edmonton and SELCHP will need to explore the opportunities for establishing CHP to supply heat to the local area.
- Additional pre-treatment will be required prior to waste being incinerated.
- Conventional incineration will not count towards recovery targets.

Waste disposal

- The Mayor will seek to persuade the Government for a change in legislation to change the default levy system to a tonnage-based levy for the statutory joint waste disposal authorities.
- The Mayor proposes the best way to achieve sustainable waste management in London is for waste disposal to be under the control of a single authority. The Mayor will review this position when considering London's progress towards the 2005/6 targets.
- WDA's should seek to trade landfill allowances within London in the first instance to ensure London meets its allocation. The Mayor proposes acting as a broker.

Implications:

- This default levy will not affect Southwark directly as it is a unitary authority but it shows that the Mayor is clearly identifying penalties for low-performing authorities.
- A single WDA would remove much of the Council's flexibility in the decision-making on disposal.

Supporting new markets and procurement

- All LAs should have 'Buy recycled' policy for procurement as this will stimulate the markets for recycling.

Implications:

- Southwark has signed up to the Mayor's Green Procurement Code.

Other

- A London-wide Hazardous Household Waste Collection Service should be delivered through consistent contract arrangements in all London Boroughs.
- Reuse and Recycling Centres should provide facilities for the collection of hazardous household waste.
- Authorities should consider financial incentives and rebate systems for increasing recycling rates and participation levels
- Achievement of Capital Standard for street cleansing, reducing environmental crime (flytipping).

Implications:

- Southwark should considering joining the National HHW Forum as this provides guidance on the management of HHW and the implications of new legislation
- Southwark may wish to consider incentives to increase participation once the recycling schemes have been expanded.
- The Council needs to assess options to reduce fly-tipping.

1.8.2 Other London Boroughs

In many cases the provision of recycling and waste minimisation services are only feasible if operated on a regional basis. The economies of scale, both environmental and economic, when

authorities combine resources or share knowledge will often result in better service provision, or the provision of a service that would otherwise have not been possible. The Council will explore options for co-operation with other boroughs.

Cross-borough partnerships extend to the need for effective opportunities for information exchange; this allows Southwark to learn lessons from the experiences of others. To achieve this Southwark Council officers regularly attend the meetings of the London Recycling Officer Group, London Waste Action Capital Challenge Programmes and Association of London Cleansing Officers.

Southwark Council is committed to working in partnership with neighbouring authorities in the development and the provision of all recycling and waste minimisation services whenever it is possible to do so; and to ensure that the lessons and experiences of others are used in the development of recycling operations within Southwark. However, in terms of developing joint waste disposal arrangements, neighbouring Boroughs are constrained by existing sub-regional disposal frameworks and long term contractual commitments.

1.8.3 Waste planners

As a unitary authority Southwark Council is responsible for setting planning policy for the Borough and dealing with all planning applications. Southwark's planning policy is contained within the Unitary Development Plan (UDP). One of the general aims of the UDP is to *'provide a distribution of.... environmental services throughout the Borough which relate to the needs of workers and residents'*.

The UDP will be subject to review and consultation during late 2002 early 2003, part of which will include the implicit inclusion of strategies relating to waste management, including recycling and composting. Details of this review will be included in later versions of this strategy.

Current policy is that planning conditions relating to the provision of recycling and composting facilities are made for all new residential and non-residential properties, where it is deemed suitable and feasible within the constraints of current markets and location in the context of the Best Practical Environmental Option (BPEO.)

The UDP is written within the context of the Southwark Council's air quality strategy and transport policy and Special Planning Guidances (eg waste and transport). Any new development will need to take account of waste management requirements and include the cost of waste management facilities in building plans and planning consent.

1.8.4 Environment Agency

The Environment Agency took over the role of monitoring and ensuring compliance with waste regulation within London from the London Waste Regulation Authority in 1996. Manor Place Waste Transfer Station is subject to regular monitoring visits by the Environment Agency to ensure compliance with the site licence and waste carriers licensing conditions.

1.8.5 Community sector

Southwark Council will seek to develop and support initiatives to ensure greater community involvement in the design and delivery of its waste management strategy.

The value that community sector organisations can bring to the issue of sustainable waste management is widely recognised by government in its own waste strategy.

There are significant funding opportunities for community based sustainable waste management projects - eg landfill tax credits, DEFRA (the recycling and waste minimisation fund includes an allocation for community initiatives), New Opportunities Fund (SEED programme and Transforming Communities). In addition, there is funding through programmes such as the Neighbourhood Renewal Fund, SRB6 and European funding streams that are appropriate for some waste initiatives that assist in tackling other social issues such as employment and training, community empowerment.

There is an increasing focus on community involvement and neighbourhood work at local government level (eg development of local strategic partnerships, community plans, neighbourhood renewal etc). The Local Government Act introduced the concept of the 'Power of well-being' that allows local authorities to engage in activities and develop joint ventures with outside organisations, which enhance the social, economic and environmental well-being of their localities. Community based waste management initiatives can provide local authorities with practical examples of meeting these needs. For example, a furniture reuse/refurbishment project meets the social needs of people on low income by providing affordable furniture and appliances, economic needs by creating training and employment opportunities and environmental needs by reducing waste disposal.

At a national level, there is also an increasing interest in the added value that social economy organisations bring to the delivery of public sector services. There is a new social economy unit at the DTI whose remit is to identify the role that the sector can play and the barriers that currently limit the growth of social economy organisations.

It is widely recognised that the way to increase public participation in waste reduction, reuse and recycling schemes is through engaging the public at a community level. Research has demonstrated that information, advice and examples of good practice given by local community organisations, friends and neighbours were significant in encouraging better waste management practices by householders. The work of The Recycling Consortium through its Community Waste Action project has demonstrated that there are a significant number of community sector organisations that are able and interested in becoming involved in sustainable waste management initiatives.

1.8.6 Private Sector

The need to meet increasingly stretching statutory and non-statutory targets for the recycling, composting, recovery and diversion of waste will inevitably mean a shift in the way it is managed. To succeed in this new challenge will require new methods of viewing waste and dealing with it and capacity, both technically and financially, to achieve may lie beyond the Councils' current abilities.

For this reason it will be necessary to include the following private sector partners:

Consultants (technical, legal and financial):

The procurement of future services will become increasingly complicated. Where once new facilities meant landfill and these were funded from the Council's or company's own balance sheet, technically more advanced *treatment* facilities will be needed, requiring far more investment, beyond the reach of any councils' or company's financial capacity.

To test the robustness and assure that capacity exists for Southwark well into the future, the Council will need to independently assess each solution to ensure the right answer is reached at an affordable price that represents Best Value

Technology Providers

Some of the technologies that may be needed to fulfil Southwark's legal responsibilities are only very recent additions to the UK market. However, the development of these technologies, processes and systems has been going on in countries like Austria for the past 15 years. As such it will be important to transfer this knowledge to the UK. To some extent this has been achieved: by forward thinking companies investing in their own research and development; by shrewd businesses investing in licenses to build and operate technologies; and by large companies buying smaller European technology companies in order to offer their systems to the UK market.

Southwark will, either through a waste management company or directly, have to partner with these companies in order to deliver the aspirations of this strategy.

Waste Management Companies

The funding required to meet local, UK and European targets is considered to be beyond the affordability of most councils and Southwark is no different. Southwark will need, therefore, to encourage investment in the area from the private sector. The most likely source of this is through large waste management companies. These companies have the financial and resource capacity to offer Southwark the solution it needs.

Southwark will therefore seek to partner the private sector through procurement of a long term integrated contract, offering the contractor the long term guarantees it needs to provide the necessary investment in infrastructure.

2. Policies and Plans

ENVIRONMENTAL POLICY

"Southwark Council has an ultimate goal of being socially, economically and ecologically sustainable. To this end, we aim to ensure the responsible and ethical management of all our activities. This policy covers the entirety of the environmental impacts that Southwark either directly causes, or can influence in the provision of it's Waste Management Services and activities. We ensure that our social, environmental, sustainable and economic principles are integral to our management procedures and practised consistently throughout our operations.

Specifically, Southwark Council is committed to ensuring that wastes arising in Southwark is managed in a way that minimises the impact on the environment, engages with and supports community involvement and the local economy, and minimises the need to transport wastes and materials. This will be achieved by dealing with wastes locally and in a sustainable manner, encouraging innovation and seeking the involvement of all stakeholders to assist in reducing the rate of growth of waste."

2.1 Targets

As a minimum Southwark Council will meet the following targets:

2.1.1 Recycling & Recovery

These targets incorporate Southwark's requirements under the Best Value Statutory Performance Standards for 2003/04 and 2005/06, the aspirational targets for recovery in Waste strategy 2000 and all those laid out in the Mayor of London's Strategy:

Table 2.1: Southwark Strategy Targets

Year	Recycling/Composting Target Household Waste	Recovery of value Target Municipal Solid Waste
2003/04	10%	35%
2004/05	14%	37.5%
2005/06	18%	40%
2010/11	30%	45%
2015/16	40%	67%
2020/21	50%	75%

2.1.2 Landfill Directive

Southwark will:

- by 2010 reduce the biodegradable waste landfilled to 75% of that produced in 1995
- by 2013 reduce the biodegradable waste landfilled to 50% of that produced in 1995
- by 2020 reduce the biodegradable waste landfilled to 35% of that produced in 1995.

2.2 Plans and Policies

The Council's strategic policies address the major themes underpinning Southwark's commitment to sustainable waste management.

2.2.1 Vision

Policy 1 Southwark Council will strive to provide an efficient, sustainable and cost-effective operation for the collection and management of all controlled waste arising within the Borough through its continued commitment to the principles of sustainable development, Best Value and the waste hierarchy.

Policy 2 Southwark supports the concept of regional self-sufficiency and the proximity principle in respect of waste management facilities and wastes produced within the borough.

2.2.2 Waste Education and Awareness

Policy 3 Southwark will develop and deliver a waste education, awareness and reduction programme, focusing on all aspects of sustainable waste management e.g. waste minimisation, reuse, recycling and composting, and treatment.

Policy 4 Southwark will investigate opportunities to work in partnership with neighbouring authorities in delivering joint programmes of waste awareness, education, promotion and publicity.

2.2.3 Waste Minimisation and Reuse

Policy 5 The Council will seek to reduce the rate of household waste growth to below 3% by 2006 and to 2% thereafter.

Policy 6 Southwark will encourage and strengthen partnerships with the community and voluntary sectors and investigate opportunities for external funding to generate community based waste minimisation and recycling/composting initiatives.

Policy 7 The Council will undertake regular waste analyses of:

- Reuse and Recycling Facilities

- Bring Banks Facilities
- Household Collections
- Other collections (e.g. bulky, commercial, etc.)

This will be in order to provide baseline data in order to measure the effectiveness of waste minimisation initiatives.

Policy 8 The Council will continue to promote home composting and will make available subsidised home composting bins to all households with gardens and schools.

Policy 9 Southwark will seek to implement initiatives that maximise the reuse of goods and materials before they enter the waste stream. The Council will seek to forge partnerships with community groups and charities in the implementation of such initiatives.

Policy 10 The Council will investigate opportunities for maximising the diversion of bulky household materials collected through the Council's bulky collection service for reuse by those in need in the community.

2.2.4 Recycling & Composting

Policy 11 Southwark will increase the amount of household waste that it collects for recycling and composting.

Policy 12 Southwark will seek to redistribute and consolidate the existing bring bank facilities to ensure that the optimum coverage is achieved and the sites represent best practice. The Council has a target:

"To increase the number of bring bank facilities to 350 by 2005/06."

Policy 13 The Council will actively encourage educational establishments to establish and make use of recycling facilities on-site.

Policy 14 In the short term Southwark will expand the kerbside recycling service to all street level properties in the borough.

Policy 15 (a) Southwark will expand the kerbside service to collect *a minimum of two materials* from the kerbside recycling service provided to street level properties *in the short term* and increase this to *three materials in the medium to long term*.

Policy 15 (b) Southwark will introduce a recycling collection scheme for all non-street level properties to ensure universal participation in recycling.

Policy 16 Southwark will continue to review the range of materials collected through the existing kerbside collection systems, bring sites and the Council's Waste and Recycling Centre and introduce additional materials where appropriate.

Policy 17 Southwark Council will make full use of the powers given to them in the Waste Minimisation Act.

Policy 18 The Council will investigate the use of financial incentives to encourage waste minimisation and participation in recycling and composting, and implement such incentives where appropriate.

Policy 19 Southwark will investigate the potential to recycle street cleansing wastes.

2.2.5 Waste and Recycling Centres

Policy 20 Southwark will seek to increase the recycling rate achieved on the Council's CA Site in line with Best Practice.

Policy 21 Review the site layout at the Manor Place CA Site, and provide a full range of facilities for recycling and composting.

Policy 22 Continue to publicise the recycling facilities at the Manor Place Site and actively promote residents to deliver their green waste to the site for the purpose of composting.

Policy 23 Southwark will actively seek to minimise the amount of non-household waste being deposited at the site from commercial vehicles.

2.2.6 Residual Household Waste Collection

Policy 24 The Council will examine operational and financial mechanisms to encourage the reduction in residual waste.

Policy 25 Southwark will continue to seek ways of minimising the amount of unpaid commercial waste entering the household waste stream.

2.2.7 Commercial Waste Collection

Policy 26 Southwark will review the options for the future delivery of the commercial waste service and will develop a strategic business plan.

Policy 27 Southwark will investigate the opportunities to recycle collected commercial waste, and implement schemes as appropriate.

2.2.8 Waste Treatment & Disposal

Policy 28 Southwark will encourage the treatment of waste at the highest level of the waste hierarchy as is economically practicable.

Policy 28a Southwark will seek to use new and emerging technologies, prior to considering use of incineration, subject to economic viability.

Policy 29 Southwark will seek to maximise the diversion of biodegradable waste from landfill disposal.

2.2.9 Getting Southwark's House in Order

Policy 30 Southwark is committed to its Green Procurement Policies and the Mayor's Green Procurement Code. The Council will explore practical opportunities for specifying and purchasing products made from recycled materials.

Policy 31 Southwark will establish a programme of waste minimisation, re-use, recycling of waste materials in respect of its own functions and the services it provides.

2.2.10 Enforcement

Policy 32 Southwark will seek to use it's statutory powers to the full in order to ensure abuse of civic facilities and services is minimised.

Policy 33 Southwark will seek to use it's statutory powers to the full in order to minimise and where possible prevent the illegal deposit of waste (fly-tipping) within the Council boundaries.

3. Bridging the Gap

3.1 Short Term Actions

3.1.1 What can we do?

Southwark has stretching targets to meet in the short term, culminating in a target of 18% recycling/ composting by 2005/06. To achieve this level of performance, Southwark will need to more than triple its current efforts and gain access to capacity at recycling facilities to deal with volume of material it must collect. In the short term the Council will seek to achieve its statutory recycling rates of 10% in 2003/04 and 18% in 2005/06. Below are the steps that have been taken or are planned in order to seek to achieve our current targets.

- Roll out of Recycling Services – Blue Box

By offering convenient recycling services to more people, the amount of materials collected is almost certain to rise. By offering more people another option to the black bin, Southwark will improve it's own recycling rate whilst reducing dependency on landfill. In July 2002, the Council's blue box paper recycling scheme was rolled out to approximately 50,000 street dwellings. The scheme is to be extended to include glass and cans in February 2004.

- Estates and Bring Recycling

Two hundred new Estate Based Recycling Sites are being introduced at a density of 1 per 350 dwellings. In addition, the borough's existing sixty-six street bring sites have been reviewed and improved.

- Developing the Infrastructure

A former swimming baths on the site of the current waste transfer station (Manor Place Depot) is being renovated to become a bulking facility for materials collected through recycling activities in the borough.

In 2002/03 recycling at the Manor Place Depot Reuse and Recycling site was less than 20%. The Council has improved this figure to over 50% through refurbishment and redesign of the existing site to provide a major reuse and recycling centre for the borough. This has included measures to encourage people to use the segregated drop off areas rather than the residual disposal points and a greater range of segregated material services.

- Schools Recycling

Paper recycling through our blue box scheme has been introduced into over 75% of schools in the Borough with complete coverage expected during 2003/04.

- Organic Waste

A pilot scheme for the collection of garden waste was undertaken in summer 2003 and it is intended to run a seasonal borough wide service from April 2004. Parks and gardens waste is being diverted through Manor Place Depot and sent for reprocessing.

A subsidised home composting scheme is in place for all residents.

It is proposed to build an anaerobic digestion plant for kitchen waste within one of the Boroughs parks.

- Education and Community Interaction

  "Southwark Slimes" – a short video featuring a family who don't recycle has been produced – it aims to highlight why people should recycle and what Southwark is doing to encourage participation in recycling initiatives from all sections of the community.

  The post of Education and Promotions Officer (Funded from Landfill Tax Credits) has been created within a new Sustainable Waste Team. This team will take forward the Council's recycling and waste minimisation education programme.

  A bespoke publicity campaign is planned for January 2004. The campaign will focus on why, what and how to recycle and will use different types of media to get the message across including, bus backs, tube stations and videos running on buses through the borough.

- Street Cleaning waste and bulky household waste

Bulky materials contribute a significant proportion of Southwark's waste stream, the majority of which are landfilled. A significant proportion of this is recoverable, either through re-use schemes or dismantling and recovery of materials. Southwark will seek to maximise the recovery of this waste stream through re-use schemes and the recovery of materials at Manor Place Depot. In doing so Southwark will share knowledge and benchmark with other authorities, which have completed similar programmes.

Bulky household waste collected from estates is currently being separated at Manor Place Depot as a trial with a view to ensuring all recyclable materials may be extracted prior to disposal. Street cleaners have been given reusable sacks to collect cans and bottles during their operations.

- **Providing Infrastructure for the Medium to Long Term**

The actions identified may reach short term recycling targets but they will ultimately fail to meet Southwark's own stretch targets of 50% recycling and do not address the treatment and diversion requirements of the Landfill Directive. To do so will require significant capital investment and high ongoing operational costs. To be able to invest and afford these services, the Council will need to consider entering into a long term partnership. To this end the Council will review the costs and affordability of medium/ long term options and look at the options for procuring long term contracts in order to encourage investment.

3.1.2 Contract Strategy

Several contractual options are available to the council as a unitary authority. The following scenarios have been considered:

1. One contract for each facility, for example, a contract for each MRF and composting facility.

2. Separate contracts for each element of service provision: one contract for refuse collection, one contract for recycling systems, one contract for treatment and one contract for landfill.

3. One single integrated contract, which includes all the key elements of service provision.

In weighing up the risks and benefits of the above and to ensure the Council is able to provide sustainable environmental services in the long term, it has been identified that there is a need for an integrated contract, which levers in external finance to provide a waste management facility within the Borough.

Two procurement options are available to achieve this – a Private Finance Initiative or a Public Private Partnership.

- **Integrated contract with private sector (PPP)**

A PPP contract will allow Southwark to lever in external private sector finance to build a new waste management facility, whilst retaining ownership of targets and strategic direction. In letting a PPP contract, Southwark would be able to transfer much of the responsibility for meeting targets and the performance of the contract to a single contractor. It would also allow Southwark to develop an output specification, allowing the contractor to specify how it will be delivered. This method should encourage innovation, with contractors offering different solutions the council may not have otherwise considered.

Whilst this may seem attractive there is one major disadvantage, the council would be in a long term contract, which may not be as flexible as a number of medium term contracts. It is therefore vital that if this route is chosen the council carefully considers the solutions proposed and includes an element of regular reviews and flexibility in the contract.

- **Integrated contract with financial assistance (PFI)**

It has already been established that Southwark will require the provision of a major capital facility to process waste in order to meet long-term targets. In addition to levering in private sector finance as under PPP, PFI provides credit support from the Government for the revenue payments to the contractor. The PFI waste contract is basically the same as under traditional contracts, the contractor agrees to take the waste and deal with it to an agreed specification in return for a charge (gate fee per tonne) for an agreed period relating to the investment required.

While this may seem attractive, approval of PFI credits from DEFRA is a long and complex process, and there is no guarantee of being successful. In addition, PFI brings much closer contract scrutiny, and higher performance requirements.

For Southwark, the key test as to whether to proceed with a PFI contract will be either the identification of very significant affordability issues or very ambitious recycling plans.

Expert advice suggests that because Southwark is a unitary London Borough, with a considerable proportion of high / medium rise dwellings, coupled with stretched recycling and recovery targets, it is considered likely that an application to DEFRA would be successful. The PFI route would offer a significant funding opportunity that PPP on its own does not offer.

3.2 Medium Term Actions

3.2.1 What are the Options?

A number of potential solutions to the problems faced by Southwark can be delivered through the procurement of a PFI or PPP contract. These range from do-nothing and hoping the problem goes away, to the use of high-tech facilities and state of the art collection and sorting systems. Some of these will obviously fail to meet the targets set by Southwark, some will meet them, while others will exceed them. It is important that Southwark chooses a solution, which meets the targets set, is both flexible and robust and is at an affordable price.

The following options have been selected from reviewing what Councils elsewhere have been procuring, what is being offered currently by the market and what is considered to be innovative ways of solving Southwark's waste problem. A summary is provided below; however full details are contained within Annex 1 of this Strategy.

Table 3.1: Description of Options

Option No.	**Key Elements**
Option 1 ***"Do-nothing"***	• Continuation of existing kerbside scheme • Continuation of existing bring bank scheme • All residual waste sent to landfill or waste to energy plant
Option 2	• Continuation of existing kerbside paper collection • ***Increase*** number of ***bring sites to 350*** • All residual waste sent to ***landfill*** • Garden waste collected from street properties composted in a ***windrow*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 3	• Continuation of existing kerbside paper collection • ***Increase*** number of ***bring sites to 350*** • All residual waste sent to ***landfill*** • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 4	• ***Kerbside collection*** expanded to include all dry recyclables • Increase number of ***bring sites*** to 350

	• Material collected at kerbside sent to ***clean MRF*** • All ***residual waste sent to landfill*** • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 5	• ***Kerbside collection*** expanded to include ***all dry recyclables*** • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • All residual waste sent to ***dirty MRF*** and the residuals to ***landfill*** • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 6	• ***Kerbside collection*** expanded to include ***all dry recyclables*** from street and medium/high rise properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • All ***residual waste sent to landfill*** • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 7	• ***Kerbside collection*** expanded to include ***all recyclables*** from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • Medium/high rise properties issued with ***survival bags*** • All residual waste sent to ***Separation Plant***. • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.

Option 8	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • Medium/high rise properties issued with ***survival bags*** • All residual waste sent to the ***separation plant*** • Recovery and recycling of ***bulky and fly-tipped waste maximised*** • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 9	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • Medium/high rise properties issued with ***survival bags*** • Recovery and recycling of bulky and fly-tipped waste maximised. • All residual waste sent to a ***Mechanical Biological Treatment*** plant • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 9(a)	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • Medium/high rise properties issued with ***survival bags*** • Recovery and recycling of bulky and fly-tipped waste maximised • All residual waste sent to a ***Mechanical Biological Treatment*** plant with outputs to ***Existing Energy from Waste*** plant

	• Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 10	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • Medium/high rise properties issued with ***survival bags*** • Recovery and recycling of bulky and fly-tipped waste maximised. • All residual waste sent to an ***Energy from Waste*** plant • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 10(a)	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF*** • Medium/high rise properties issued with ***survival bags*** • Recovery and recycling of bulky and fly-tipped waste maximised. • All residual waste sent to ***Existing Energy from Waste*** plant. • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 11	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350 • Material collected at kerbside sent to ***clean MRF***

	• Medium/high rise properties issued with ***survival bags*** • Recovery and recycling of bulky and fly-tipped waste maximised. • All residual waste sent to a ***Anaerobic Digestion*** plant • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant*** • Intensive ***education and waste minimisation*** programme introduced and education facility built.
Option 12	• ***Kerbside collection*** expanded to include all recyclables from street properties. • Increase number of ***bring sites*** to 350. • Material collected at kerbside sent to ***clean MRF***. • Medium/high rise properties issued with ***survival bags***. • Recovery and recycling of bulky and fly-tipped waste maximised. • All residual waste sent to a ***Gasification*** / ***Pyrolysis*** plant. • Putrescible kitchen and garden waste collected from street properties composted in an ***in-vessel composter***. • Waste from medium/high rise properties sent to ***separation plant***. • Intensive ***education and waste minimisation*** programme introduced and education facility built.

3.2.2 Evaluation

Each of these options carry technical and financial risks, which the Council has assessed in order to determine which options best suit Southwark's position. To this end the following criteria were applied, and each option scored accordingly to provide a "Top Four":

1. Does it meet Southwark's Policies and Targets? – comparison with aims and targets in section 2.
2. Public acceptability? – based on recent precedent and surveys, what are people more likely to accept (for example, residents are known to often reject the idea of building new incinerators near them).
3. Financial Performance? – in terms of outline capital and operating costs, how do the options compare with one another.
4. Environmental Impacts? – what are the environmental impacts of each option in terms of emission, quality of life and resources use. With all waste management options the hierarchical approach was taken with landfill scoring worst.
5. Does it provide a universal service? – simply, does the option offer a service to all residents of the council?

The initial options appraisal process was intended as a scoping exercise that examined the likely performance of combinations of services and technologies in terms of recycling, recovery and landfill diversion requirements but also in terms of estimating potential costs. These performance and financial estimates were based on either industry standards prevailing at this time or indicative information gathered from service and technology suppliers and relevant research where available.

Figure 3.1: Evaluation Matrix of the 15 Options for Southwark

SOUTHWARK WASTE MANAGEMENT - STRATEGIC OPTIONS APPRAISAL

	Evaluation Criteria	Weighting	Unweighted Scoring 1	2	3	4	5	6	7	8	9	9a	10	10a	11	12
a	Does it meet Southwark's Policies and Targets?	20%	1	2	2	2	2	3	3	4	7	8	8	7	8	7
b	Public acceptability?	20%	5	7	7	7	6	7	8	8	8	6	4	5	8	6
c	Financial Performance?	20%	5	3	3	4	3	4	1	2	1	2	5	8	1	1
d	Environmental Impacts?	20%	2	3	4	5	5	5	5	6	9	10	7	8	9	8
e	Does it provide a universal service (i.e. to all Southwark residents)?	20%	0	2	2	4	4	5	5	7	7	7	7	7	7	7
		100%	13	17	18	22	20	24	22	27	32	33	31	35	33	29

0 - Fails to meet all criteria
1 - Partially meets criteria
2 - Partially meets criteria
3 - Partially meets criteria
4 - Meets criteria (within -5%)
5 - Meets criteria
6 - Meets criteria (within +5%)
7 - Exceeds criteria
8 - Exceeds criteria
9 - Exceeds criteria
10 - Exceeds criteria

3.2.3 The "Top " Performing Options

From the options scoped in the above exercise the following scored highest:

OPTION	DESCRIPTION
Option 10(a)	• Maximised recycling, with in-vessel composting of kitchen and garden waste. Survival bags for medium/ high rise properties, with all residual waste being sent for recovery in an existing waste to energy plant.
Option 11	• Maximised recycling, with in-vessel composting of kitchen and garden waste. Survival bags for medium/ high rise properties, with all residual waste being sent to an anaerobic digestion plant to recover additional material with landfill of all residuals.
Option 9(a)	• Maximised recycling, with in-vessel composting of kitchen and garden waste. Survival bags for medium/ high rise properties, with all residual waste being sent to an MBT plant to recover additional material followed by recovery in an existing waste to energy plant.
Option 9	• Maximised recycling, with in-vessel composting of kitchen and garden waste. Survival bags for medium/ high rise properties, with all residual waste being sent to an MBT plant to recover additional material followed by landfill of residual fractions

The overall purpose of this stage is to look at a wider range of solutions (14) and seek to identify the most likely to meet the specific needs of Southwark before a more in depth evaluation is undertaken.

It is intended to take the above four options and option 1 ("do-nothing") and review both service and financial performance in more detail in order to establish the best option for Southwark. A key component of this assessment will be a full BPEO assessment (Section 3.3)

3.3 BPEO assessment

The main purpose of this appraisal is to provide rational information on which the main environmental impacts associated with each of the selected options could be examined and considered for the purpose of BPEO determination[2].

> *'A BPEO is the outcome of a systematic and consultative decision making procedure, which emphasises the protection of the environment and the conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits or the least damage to the environment as a whole, at an acceptable cost, in the long term as well as the short term.'*

3.3.1 WISARD Assessment

An analysis of the environmental impacts arising from each of the disposal options was carried out using WISARD (Waste Integrated Systems and Assessment for Recovery and Disposal), a life-cycle assessment (LCA) tool developed by the Environment Agency to assist Local Authorities with their assessments. The model evaluates the environmental burdens and impacts of waste management operations.

Within WISARD a user develops various waste scenarios, utilising the compositional data from surveys (Section 1) and the calculated waste arisings and flows (Section 1.3).

WISARD utilises the "avoided burden" methodology for calculating environmental burdens. For example, for recycling activities, credits are given by calculating the energy and raw materials associated with the production of that product had the recycling not been performed. Credits are also assigned to those options that generate power, as this energy production is off-set against the requirement for fossil fuels (primarily coal for electricity generation).

WISARD has been used to assess the environmental burden against the following impacts typically regarded as significant with regard to waste management practices:

- Global Warming Impacts;
- Air Acidification;
- Natural Resource Use;
- Dioxins.

Global Warming Impacts

The global warming potential of a waste management system is dominated by the generation of carbon dioxide and methane emissions. Methane is a much more potent greenhouse gas compared to carbon dioxide and consequently is a significant consideration in waste management options (in general terms, landfill gas comprises between 40-65% methane). Thus,

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[2] Royal Commission on Environmental Pollution: 12th Report: Best Practicable Environmental Option (1988). HMSO London Feb. 1988. ISBN 0-0-103102-5

the global warming potential of each scenario is linked to the methane emissions, which is dependant upon the amount of biodegradable waste disposed of to landfill.

Acidification

The four main gases that contribute to acidification include: sulphur dioxide (SO_2), nitrogen oxides (NO_x), hydrogen chloride (HCL) and hydrogen fluoride (HF). Where the global warming potentials indicate global warming effects as CO_2 equivalents, the acidification potential indicates acidification effects as SO_2 equivalents. In WISARD the acidification potentials have also been calculated assuming that where there is a net energy recovery, emissions have been offset against the avoided acid gases generated from the coal fired power.

Depletion of non-renewable resources

Our world has a finite supply of resources in terms of minerals and fossil fuels. The rate at which these resources are consumed is important when assessing the sustainability of any activity. Recycling of metals and plastic preserves both the mineralogical value of the item, as well as its intrinsic energy content (i.e. the energy consumed in production of the material).

Energy from Waste Facilities produce electricity and heat that is assumed would otherwise be generated from a fossil fuel, thereby conserving that resource. Thus those options that can optimise recycling and energy recovery from the waste stream are the most sustainable in terms of resource use.

Dioxins and Furans

Dioxins and furans are highly toxic, being thought to be carcinogenic at low exposure levels. Their formation can arise from various industrial as well as natural activities, for example from most combustion processes (power generation, forest fires) and as by-products of many chemical processes and metal smelting, for example, steel manufacture.

As dioxins are so widespread in the environment, in many of the materials we use, handle and eat, they are consequently present in waste as it is collected and so they will be transferred to all downstream operations. Dioxins have been measured in compost, landfill gas and leachate, gases and residues from recycling, as well as the more commonly cited waste combustion gases and ashes.

The environmental impacts of dioxins are not so much dependant on the absolute emissions, but on the pathway to humans and the potential to cause harm to health. Whilst dioxins, released into the air from waste combustion sources, can affect humans from absorption through the lungs or from deposition onto the skin, the major route is from deposition onto vegetation, which is then eaten by grazing animals.

3.4 Framework for Long Term Actions

There are no definite long-term actions in this Strategy at this time. Long-term actions will only become apparent from decisions taken in terms of medium term actions. However, a framework is set out below.

3.4.1 Running and Reviewing the Service

The future costs and legislative environment for waste management is not certain and this coupled with ever changing technological solutions will mean that Southwark requires a flexible service. Southwark will review, on an annual basis, its contracts to ensure that they meet all legislative requirements and to ensure any commitment made does not preclude the achievement of statutory or aspirational goals, to include value for money, recycling, composting and diversion of materials and environmental impact. This shall be achieved through market testing and benchmarking with other local authorities.

3.4.2 Strategy Review Process

New legislation is likely to be brought in and existing legislation is likely to be altered and/ or superseded. As such this strategy will remain a dynamic document, being reviewed every year in the context of a significant 5 year review. As part of the 5 year review, the Council will undertake market testing and benchmarking to ensure that the targets, policies and aims it has set itself are at least comparable with similar authorities. Southwark will aim to set targets and achieve above average levels of service where at all possible and stay at the forefront of waste manage practice and service performance.

4. Glossary & Acronyms

4.1 Acronyms

- ABPR : Animal By-Products Regulations
- AD : Anaerobic Digestion
- ALCO : Association of London Cleansing Officers
- AR : Accredited Reprocessor
- ASSURE : Association for Sustainable Use and Recovery of Resources
- AV : Abandoned Vehicle / s
- BAT : Best Available Technique
- BMW : Biodegradable Municipal Waste
- BOO : Build Own Operate
- BPEO : Best Practicable Environmental Option
- BPPO : Best Practicable Planning Option
- BVPI : Best Value Performance Indicator
- BVPP : Best Value Performance Plan
- CA : Reuse and Recycling (site)
- 4 C's : Challenge, Compare, Consult, Compete
- C&D : Construction & Demolition (e.g. C&D waste)
- CFC : Chlorofluorocarbon
- CHP : Combined Heat and Power
- CIPFA : Chartered Institute of Public Finance and Accountancy
- CIWM : Chartered Institution of Wastes Management
- CWR : Controlled Waste Regulations (1992)
- DBFO: Design Build Finance Operate
- DEFRA : Department for Environment, Food and Rural Affairs
- DSO : Direct Service Organisation
- DTI : Department of Trade and Industry
- DTLR : Department for Transport, Local Government & the Regions

- EA : Environment Agency
- EB : Environmental Body
- EFW : Energy from Waste
- ELV : End of Life Vehicle
- EPA : Environmental Protection Act (1990)
- ESA : Environmental Services Association
- EWC : European Waste Catalogue
- HDPE : High Density Polyethylene
- HHW : Household Hazardous Waste
- HSE : Health & Safety Executive
- HW : Household Waste
- HWD : Hazardous Waste Directive (91/689/EEC)
- HWRC : Household Waste Recycling Centre
- IPC : Integrated Pollution Control
- IPP : Integrated Product Policy
- IPPC : Integrated Pollution Prevention and Control
- IVC : In Vessel Composting
- LA : Local Authority
- LAPC : Local Air Pollution Control
- LARAC : Local Authority Recycling Advisory Committee
- LCA : Life Cycle Analysis / Assessment
- LDPE : Low Density Polyethylene
- LGA : Local Government Association
- LTCS : Landfill Tax Credit Scheme
- LFD : Landfill Directive
- LFG : Landfill Gas
- MBT : Mechanical ~ Biological Treatment (systems)
- MRF : Materials Recovery Facility
- MCDA : Multi Criteria Decision Analysis
- MSW : Municipal Solid Waste
- NAWDO : National Association of Waste Disposal Officers

- NHHWF : National Household Hazardous Waste Forum
- NWAI : National Waste Awareness Initiative
- ODS : Ozone Depleting Substance (e.g. refrigerants)
- PCB : Polychlorinated Biphenyl (s)
- PET : Polyethylene Terephthalate
- PFI : Private Finance Initiative
- PIU : Performance and Innovation Unit
- PP : Proximity Principle
- PPC : Pollution Prevention and Control (concerning Regulations 2000)
- PPE : Personal Protective Equipment
- PPG : Planning Policy Guidance note (e.g. PPG 10 for waste management)
- PPP : Public Private Partnership
- PR : Producer Responsibility
- PRN : Packaging Recovery Note
- PS : Polystyrene
- PSA : Public Service Agreement
- PVC : Polyvinyl chloride
- RCV : Refuse Collection Vehicle
- RDF : Refuse Derived Fuel
- REMADE : Recycled Market Development
- SWENs : Special Waste Explanatory Notes
- UA: Unitary Authority
- UDP : Unitary Development Plan
- WAMITAB : Waste Management Industry Training & Advisory Board
- WCA : Waste Collection Authority
- WDA : Waste Disposal Authority
- WEEE : Waste Electrical and Electronic Equipment
- WFD : Waste Framework Directive
- WISARD : Waste Integrated Systems Assessment for Recovery and Disposal
- WLP : Waste Local Plan
- WML : Waste Management Licence

- WRAP : Waste and Resources Action Programme

4.2 Glossary

Aggregates – sand and gravel and crushed rock used by the construction industry.

Anaerobic digestion – a process where biodegradable material is encouraged to break down in the absence of oxygen. Material is placed into an enclosed vessel and in controlled conditions the waste breaks down into *digestate* and *biogas*.

Basel Convention – the 1989 United Nations Basel Convention on the control of transboundary movements of hazardous wastes and their disposal provides a framework for a global system of controls on international movements of hazardous and certain other wastes.

Best Practicable Environmental Option (BPEO) – a BPEO is the outcome of a systematic and consultative decision-making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits or the least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term.

Best Value – places a duty on local authorities to deliver services (including waste collection and waste disposal management) to clear standards – covering both cost and quality – by the most effective, economic and efficient means available.

Biological Treatment - Any biological process that changes the properties of waste (e.g. *anaerobic digestion, composting*). Biological treatment includes *landspreading* activities that are *licensed*.

Bring (drop-off) Recycling - Recycling schemes where the public bring material for recycling to centralised collection points (e.g. bottle and can banks) at *Reuse and Recycling* sites, supermarket car parks and similar locations.

Central composting – large-scale schemes which handle kitchen and garden waste from households and which may also accept suitable waste from parks and gardens.

Reuse and Recycling waste – a sub-group of household waste, normally delivered by the public direct to sites provided by the local authority. Consists generally of bulky items such as beds, cookers and garden waste as well as recyclables.

Clinical waste – waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practices, which may present risks of infection.

Combined Heat and Power – a highly fuel efficient technology which produces electricity and heat from a single facility.

Commercial waste – waste arising from premises which are used wholly or mainly for trade, business, sport, recreation or entertainment, excluding municipal and industrial waste.

Community sector – including charities, campaign organisations and not-for-profit companies.

Composting – an aerobic, biological process in which organic wastes, such as garden and kitchen waste are converted into a stable granular material which can be applied to land to improve soil structure and enrich the nutrient content of the soil.

Construction and demolition waste – arises from the construction, repair, maintenance and demolition of buildings and structures. It mostly includes brick, concrete, hardcore, subsoil and

topsoil, but it can also contain quantities of timber, metal, plastics and (occasionally) special (hazardous) waste materials.

Controlled waste – comprised of household, industrial, commercial and clinical waste which require a waste management licence for treatment, transfer or disposal. The main exempted categories comprise mine, quarry and farm wastes. Radioactive and explosive wastes are controlled by other legislation and procedures .

Duty of Care – applies to anyone who imports, produces, carries, keeps, treats or disposes of waste. Everyone subject to the duty of care has a legal obligation to comply with it and there are severe penalties for failing to do so. The Duty of Care does not apply to waste collection from households.

EC Directive – a European Community legal instruction, which is binding on all Member States, but must be implemented through the legislation of national governments within a prescribed timescale

Energy recovery from waste – includes a number of established and emerging technologies, though most energy recovery is through incineration technologies. Many wastes are combustible, with relatively high calorific values – this energy can be recovered through (for instance) incineration with electricity generation.

Environment Agency – established in April 1996, combining the functions of former local waste regulation authorities, the National Rivers Authority and Her Majesty's Inspectorate of Pollution. Intended to promote a more integrated approach to waste management and consistency in waste regulation. The Agency also conducts national surveys of waste arisings and waste facilities.

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.

Hazardous waste – see special waste

Home composting – compost can be made at home using a traditional compost heap, a purpose designed container, or a wormery.

Household waste – this includes waste from household collection rounds, waste from services such as street sweepings, bulky waste collection, litter collection, hazardous household waste collection and separate garden waste collection, waste from Reuse and Recycling sites and wastes separately collected for recycling or composting through bring or drop-off schemes, kerbside schemes and at Reuse and Recycling sites.

In-vessel composting - composting in an enclosed vessel or drum with a controlled internal environment, mechanical mixing, and aeration.

Incineration – is the controlled burning of waste, either to reduce its volume, or its toxicity. Energy recovery from incineration can be made by utilising the calorific value of paper, plastic, etc to produce heat or power. Current flue-gas emission standards are very high. Ash residues still tend to be disposed of to landfill.

Industrial waste – waste from any factory and from any premises occupied by an industry.

Inert waste – waste which, when deposited into a waste disposal site, does not undergo any significant physical, chemical or biological transformations and which complies with the criteria set out in Annex III of the EC Directive on the Landfill of Waste

Integrated waste management – involves a number of key elements, including: recognising each step in the waste management process as part of a whole; involving all key players in the decision-making process; and utilising a mixture of waste management options within the locally determined sustainable waste management system.

Integrated Planning Pollution and Control (IPPC) – is designed to prevent or, where that is not possible, to reduce pollution from a range of industrial and other installations, including some waste management facilities, by means of integrated permitting processes based on the application of *best available techniques.*

Kerbside collection – any regular collection of recyclables from premises, including collections from commercial or industrial premises as well as from households. Excludes collection services delivered on demand

Land use planning – the Town and Country Planning system regulates the development and use of land in the public interest, and has an important role to play in achieving sustainable waste management.

Landfill sites – are areas of land in which waste is deposited. Landfill sites are often located in disused quarries or mines. In areas where there are limited, or no ready-made voids, the practice of *landraising* is sometimes carried out, where some or all of the waste is deposited above ground, and the landscape is contoured.

Landspreading – is the spreading of certain types of waste onto agricultural land for soil conditioning purposes. Sewage sludge and wastes from the food, brewery and paper pulp industries can be used for this purpose.

Licensed site – a waste disposal or treatment facility which is licensed under the Environmental Protection Act for that function.

Life cycle assessment – can provide a basis for making strategic decisions on the ways in which particular wastes in a given set of circumstances can be most effectively managed, in line with the principles of Best Practicable Environmental Option, the waste hierarchy and the proximity principle.

Materials Recovery Facility - A Materials Recycling (or Reclamation) Facility or MRF is a facility where waste is received and materials which can be recycled are separated from residual waste. There are 2 main types of MRF, Clean MRF and Dirty MRF.

(Clean) Materials Recovery Facility – accepts co-mingled recyclables, such as that which may be collected on a kerbside collection. The materials are separated into individual waste streams. This can be done manually - operatives ‘pick’ the recyclable material as it passes on a conveyor, or automatically – a variety of magnets, eddy separators and optical sensors automatically separate the mixed recyclable materials.

(Dirty) Materials Recovery Facility – accepts raw refuse, such as that collected on standard refuse rounds, and removes some recyclable items from the waste. The fact that the waste has not been ‘source separated’ as in a clean MRF means that the recyclable material is often contaminated and picking it from the mixed waste is a difficult process.

Mechanical/ Biological Treatment (MBT) - is an overarching term referring to a number of processes that treat residual waste before disposal. The aim of MBT is to minimise the environmental impacts of end disposal and to gain some further value from the waste through the recovery of materials and, in some cases, energy.

The possible permutations of MBT treatment are numerous. The main technologies are based on either "splitting" or "stabilisation". In "splitting", a derived fraction of material is treated biologically. In "stabilisation" the entire waste is subjected to biological treatment with subsequent splitting of the mass of stabilised material to produce compostable/ recyclable material, refuse derived fuel (RDF) and residues for landfilling.

Minimisation – see reduction

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

Planning Policy Guidance Notes (PPGs) and Mineral Planning Guidance Notes (MPGs) – Government Policy Statements on a variety of planning issues, including waste planning issues, to be taken as material considerations, where relevant, in deciding planning applications

Producer responsibility – is about producers and others involved in the distribution and sale of goods taking greater responsibility for those goods at the end of the products life.

Proximity principle – suggests that waste should generally be disposed of as near to its place of production as possible

Recycling – involves the reprocessing of wastes, either into the same product or a different one. Many non-hazardous industrial wastes such as paper, glass, cardboard, plastics and scrap metals can be recycled. Special wastes such as solvents can also be recycled by specialist companies, or by in-house equipment.

Reduction – achieving as much waste reduction as possible is a priority action. Reduction can be accomplished within a manufacturing process involving the review of production processes to optimise utilisation of raw (and secondary) materials and recirculation processes. It can be cost effective, both in terms of lower disposal costs, reduced demand for raw materials and energy costs. It can be carried out by householders through actions such as home composting, re-using products and buying goods with reduced packaging.

Re-use – can be practiced by the commercial sector with the use of products designed to be used a number of times, such as re-usable packaging. Householders can purchase products that use refillable containers, or re-use plastic bags. The processes contribute to sustainable development and can save raw materials, energy and transport costs.

Self-sufficiency – dealing with wastes within the region or country where they arise

Separate collection – kerbside schemes where materials for recycling are collected either by a different vehicle or at a different time to the ordinary household waste collection

Special waste – is defined by the Control of Pollution (Special Wastes) Regulations 1980 as any controlled waste that contains any of the substances listed in Schedule 1 to the Regulations, or is dangerous to life, or has a combustion flashpoint of 21°C or less, or is a medical product as defined by the Medicines Act 1968.

Survival Bags - a collection system allowing dry recyclables to be collected in distinctive, coloured, stronger sacks, which are transported and compacted along with residual waste. The 'survival bags' are subsequently separated from the refuse sacks at a separation plant. This system is particularly suited to collections from medium and high rise buildings where waste is disposed of in communal bins.

Sustainable development – development which is sustainable is that which can meet the needs of the present without compromising the ability of future generations to meet their own needs

Sustainable waste management – means using material resources efficiently, to cut down on the amount of waste we produce. And where waste is generated, dealing with it in a way that actively contributes to the economic, social and environmental goals of sustainable development

Treatment – involves the chemical or biological processing of certain types of waste for the purposes of rendering them harmless, reducing volumes before landfilling, or recycling certain wastes

Unitary Authority – a local authority which has the responsibilities of both Waste Collection and Waste Disposal Authorities

Waste – is the wide ranging term encompassing most unwanted materials and is defined by the Environmental Protection Act 1990. Waste includes any scrap material, effluent or unwanted surplus substance or article which requires to be disposed of because it is broken, worn out, contaminated or otherwise spoiled. Explosives and radioactive wastes are excluded

Waste arisings – the amount of waste generated in a given locality over a given period of time

Waste Collection Authority – a local authority charged with the collection of waste from each household in its area on a regular basis. Can also collect, if requested, commercial and industrial wastes from the private sector

Waste Disposal Authority – a local authority charged with providing disposal sites to which it directs the Waste Collection Authorities for the disposal of their controlled waste, and with providing Reuse and Recycling facilities

Waste hierarchy – suggests that: the most effective environmental solution may often be to reduce the amount of waste generated – *reduction*; where further reduction is not practicable, products and materials can sometimes be used again, either for the same or a different purpose – *re-use*; failing that, value should be recovered from waste, through *recycling*, *composting* or *energy recovery from waste*; only if none of the above offer an appropriate solution should waste be *disposed*

Waste management industry – the businesses (and not-for-profit organisations) involved in the collection, management and disposal of waste

Waste management licensing – licences are required by anyone who proposes to deposit, recover or dispose of waste. The licensing system is separate from, but complementary to, the land use planning system. The purpose of a licence and the conditions attached to it is to ensure that the waste operation which it authorises is carried out in a way which protects the environment and human health

Waste transfer station – a site to which waste is delivered for sorting prior to transfer to another place for recycling, treatment or disposal