Environment – Waste Group

Committee Briefing Pack

Contents:

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Waste management organisation

Surrey County Council is the statutory Waste Disposal Authority (WDA) and is responsible for:

- Disposing of the residual waste collected by district and borough councils
- Providing community recycling centres where members of the public can bring their waste and recycling
- The budget for 2013/14 is £56.5 million

Area of Spend	£m	Additional Comments
Waste Contract	45.5	Including trade waste income
Recycling Credits	9.85	Payments to district and borough councils
Waste Group	0.7	Staffing costs
Waste Reduction	0.25	Campaign materials
Closed landfill	0.2	Monitoring, maintenance and pollution control

The Waste Group is part of the Environment Service which sits within the Environment and Infrastructure Directorate. The Waste Group comprises 16 staff who are responsible for the following activities:

- Promoting waste minimisation and reuse activities
- Managing the waste contract with SITA, including the development of new waste infrastructure including the Eco Park
- Developing partnership arrangements with the Surrey Waste Partnership and SE7 group of authorities
- Managing the council's closed landfill sites

The Waste Group Manager is Richard Parkinson and the Waste Partnership and Development Team Manager is Matthew Smyth. Contact details for the Waste Management Group are set out in Annexe 1.

Waste Strategy

In June 2006, the county council, along with all Surrey authorities, adopted a Joint Municipal Waste Management Strategy (JMWMS). This strategy set out a plan for managing household waste in Surrey until 2026. An updated version was produced in 2010 called *A Plan for Waste Management* and was subsequently endorsed by SCC's Cabinet on 29 September 2010.

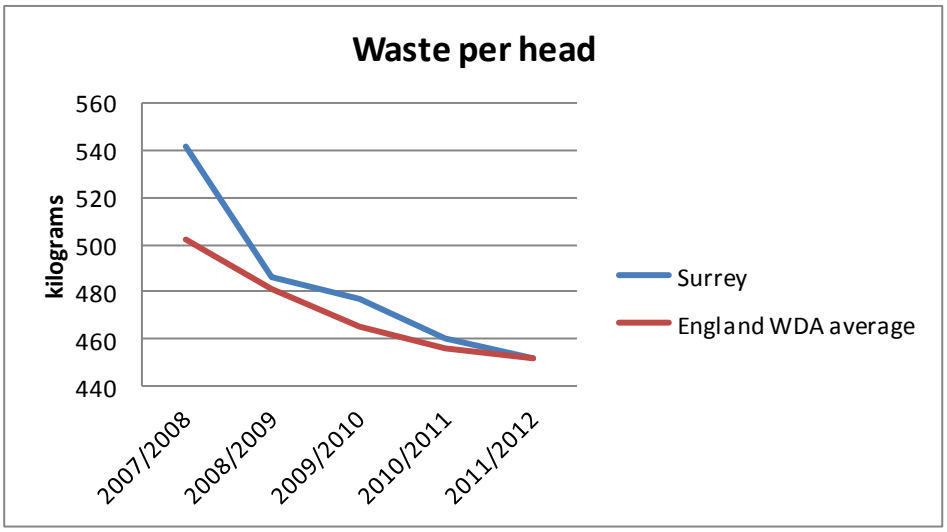
A Plan for Waste Management sets out a series of ambitious targets for Surrey's local authorities to achieve by 2014:

- A reduction in household waste of 30,000 tonnes
- All districts and boroughs collectively achieve a recycling rate of 60%
- Community recycling centres achieve a recycling rate of 70%
- An innovation gap of 7% of total waste needs to be addressed
- Zero waste to landfill by 2013

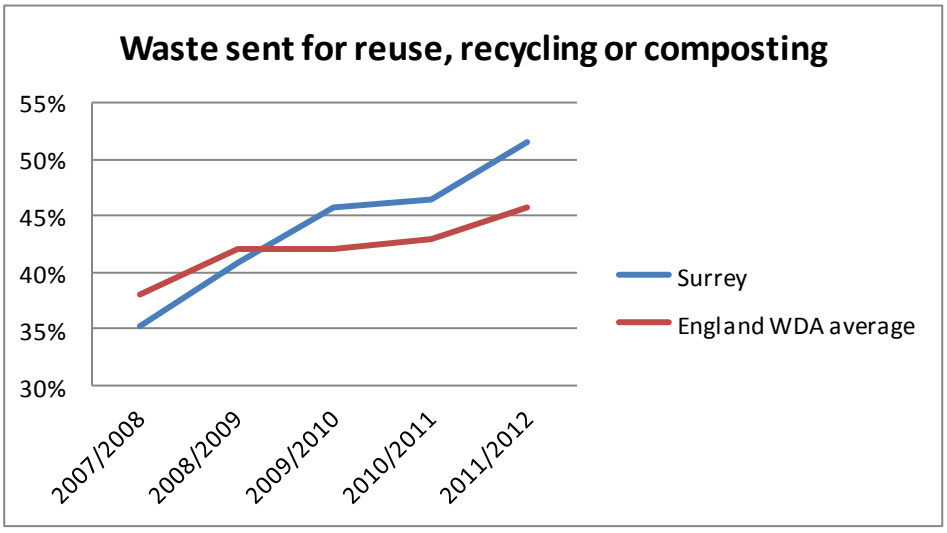
The vision for the county is to reach a 70% recycling, composting and reuse target by 2014 and to ultimately exceed this target by 2026. Meeting these targets will achieve significant financial savings and value for money for the Surrey taxpayer.

Surrey authorities have made significant performance improvements over the past five years, and the pace of improvement has been greater than the average for other waste disposal authorities in England, as shown in the graphs below.

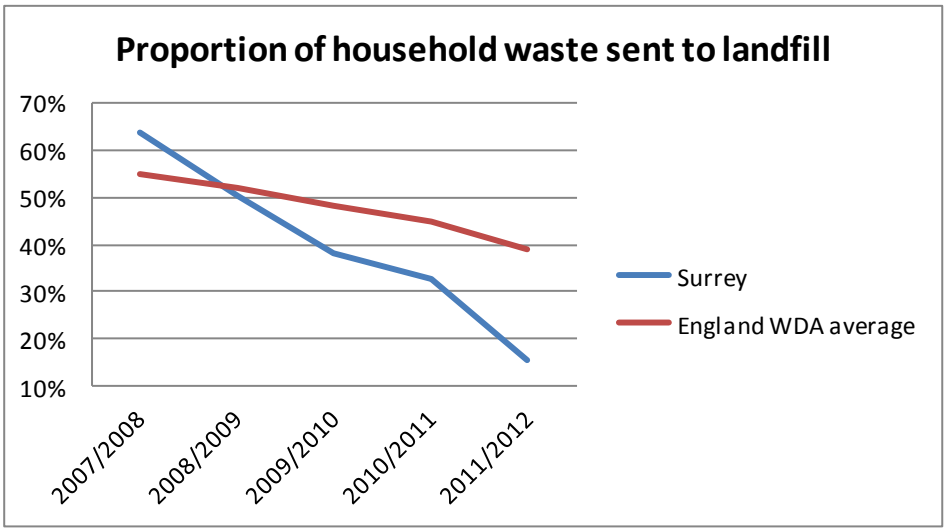
The amount of waste produced per head of population in Surrey reduced by 17% between 2007/8 and 2011/12 whilst the average for all waste disposal authorities in England only fell by 10% during the same period.



The proportion of waste Surrey sends for reuse, recycling and composting (commonly referred to as 'recycling rate') has increased from 35% in 2007/8 to 51.5% in 2011/12.



The graph below shows that the proportion of waste Surrey sends to landfill has dropped rapidly over the last few years, and has fallen much more quickly than most waste disposal authorities.



Partnership working has been a key element in achieving the rapid pace of improvement in Surrey. A wide range of initiatives have taken place over the past few years including:

- Recycling performance improvement through changes in kerbside collection systems, including collection of a wider range of materials for recycling. Surrey is the first county where all districts and boroughs collect food.

- A number of joint contracting and purchasing arrangements have been introduced including green waste processing and the purchase of fuel.

- Various behaviour change initiatives have been promoted county-wide including home composting and Love Food Hate Waste.

- Strengthening the relationship between local authorities and the Surrey Reuse Network (SRN) which enables more reusable material to be diverted from residual waste. This has included the SRN taking over the operation of the bulky waste collection service for one authority.

The Surrey Waste Partnership continues to develop and work over the next few years is set to deliver further performance improvement and efficiency savings. Surrey County Council is now looking to deliver further improvement by working at a regional level through the South East 7 (SE7). Taking a joint approach to managing waste across the SE7 area is dependent upon a collective approach to waste management across the two tiers of local government.

In March 2012 SE7 Leaders and Chief Executives endorsed the development of an SE7 collective approach. A strategic blueprint is being developed that will steer the SE7 towards becoming a regional waste business that supplies commodities and fuel to the market and delivers substantial financial benefits for the SE7 taxpayer. In June 2013 SE7 Leaders will consider the investment required to achieve this vision.

Waste contract with SITA

In 1999, Surrey County Council awarded a 25 year contract to SITA to develop and operate waste management infrastructure in Surrey. The contract is supported by approximately £8 million per year of Waste Infrastructure Grant (formerly PFI credits) from the government.

SITA currently operate fifteen community recycling centres and four waste transfer stations on behalf of Surrey County Council and make arrangements for the recycling, treatment or disposal of all waste arising from these facilities. As part of the contracting arrangements, SITA also provide the capital investment required to develop waste management infrastructure.

Current Issues

A) *Development of an Eco Park at Charlton Lane, Shepperton*

The Plan for Waste Management identified the opportunity for the Waste Disposal Authority to develop a facility to deal with both residual waste and food waste at Charlton Lane in Shepperton.

In October 2010, the council's waste management contractor, SITA Surrey submitted a planning application to develop an 'Eco Park' at the existing waste transfer station operated by SITA Surrey at Charlton Lane in Shepperton. Planning consent was granted in March 2012 and an Environmental Permit for the operation of the site was issued by the Environment Agency in October 2012.

The Eco Park will comprise the following components:

- A facility to treat 55,000 tonnes per year of residual waste using gasification technology.
- An anaerobic digestion plant to treat 40,000 tonnes per year of food waste.
- A facility to receive and bulk recyclable materials for onward transfer.
- Further improvements to the existing community recycling centre including a reuse centre.
- A visitor and education centre.

The gasification facility and anaerobic digestion plant together with some photo-voltaic cells will produce over 5 MW of electricity which is enough to power thousands of homes

Over the past year SITA Surrey has been working to fulfil the conditions attached to the planning consent and to select a building contractor for the Eco Park.

The supplier of the original gasification technology ceased trading in 2012 and therefore SITA Surrey has had to find an alternative supplier.

Following a review of gasification technology suppliers in the market and a tendering process, SITA Surrey has selected a new contractor to build the Eco Park and to supply the gasification and anaerobic digestion process technology.

The external design of the buildings will remain largely the same however there will be changes to the equipment within the gasification building to reflect the new supplier's gasification process and also some minor changes to the layout of the anaerobic digestion plant.

As a consequence of these changes, SITA Surrey will need to make some changes to the planning permission and environmental permit and be submitting applications for these in summer 2013.

The Eco Park's planning permission also included diverting a footpath running around the site to enable the development of the anaerobic digestion buildings. Surrey County Council subsequently issued an order to divert this footpath which received objections. These objections were heard at a public inquiry in early April and as at May 2013, SITA Surrey are awaiting the planning inspector's report from this inquiry to decide how to proceed with the footpath diversion.

B) Development of other waste management infrastructure in Surrey

The Plan for Waste Management also includes a programme to enhance and update the existing network of community recycling centres and transfer stations which are operated by SITA Surrey.

In 2007, SITA Surrey commenced a programme to redevelop a number of the community recycling centres with the purpose of improving access for members of the public and increasing recycling.

Since that date, SITA Surrey have redeveloped the following community recycling centres:

- Blenheim Road, Epsom
- Lyne Lane, Chertsey
- Martyrs Lane, Woking
- Horley Road, Earlswood
- Petworth Road Witley
- Randalls Road, Leatherhead*
- Charlton Lane, Shepperton

*The leatherhead site also includes a new waste transfer and bulking facility.

The following further developments are planned to be delivered in 2014

- Relocate and develop a new community recycling centre on the Slyfield industrial estate in Guildford and make enhancements to the existing waste transfer and bulking facility.

- Develop a new bulking facility at Earlswood in partnership with Reigate & Banstead Borough council.

Further development of waste management infrastructure may be considered as part of the SE7 materials strategy. In addition the redevelopment of other community recycling centres may be considered if suitable land can be found.

C) SE7 Materials strategy

The county council continues to seek benefits from partnership working through the Surrey Waste Partnership and SE7. Collective bargaining power and recovering greater value from material under our control will deliver further savings for the Surrey taxpayer in the coming years. This is an area that is being worked on extensively at the current time with the aim of delivering efficiencies and reduced cost of waste management over the next few years.

Annexe 1: Surrey County Council Waste Management Group

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Annexe 2 Background Paper: Waste Management Technologies

This paper has been prepared to give a brief overview of technologies and treatments that may be used to manage Surrey's waste.

Community Recycling Centre (CRC)

Community Recycling Centres (Also known as Civic Amenity sites) are facilities that are '*provided by the Waste Disposal Authority at which local residents may deposit items of household waste that are not normally collected by the weekly collection service, e.g. bulky waste items such as beds, cookers and garden waste*.'(1)

Waste Transfer Station (WTS) or Materials Bulking Facility (MBF)

A WTS or MBF is '*a site to which waste or recycling is delivered for sorting prior to transfer to another place for recycling, treatment or disposal*'.(2) Sorted and bulked up waste and recycling may also be stored at a WTS or MBF before transportation to a recycling, recovery or disposal facility.

Material Recovery Facility (MRF)

A MRF is '*a facility that sorts, grades and prepares waste fractions suitable for onward dispatch to reprocessors. 'Clean' MRFs accept materials from source separation schemes and increasingly utilise automated equipment. 'Dirty' MRFs extract recyclables from municipal solid waste.*'(3)

Recycling

'*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*'.(4)

Windrow Composting

'*Composting is 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*'.(5) For windrow composting the raw material is arranged outdoors in long narrow piles on a hard and preferably waterproof surface. The windrows are mixed and turned regularly for aeration, either by hand or mechanically.

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(1) Proposed Alterations to Regional Planning Guidance, South East – Regional Waste Management Strategy. South East England Regional Assembly. March 2004. Annex 7. p.125.
(2) Waste Strategy 2000: Part 2. DETR. May 2000. Annex D. p.199.
(3) Proposed Alterations to Regional Planning Guidance, South East – Regional Waste Management Strategy. South East England Regional Assembly. March 2004.. Annex 7. p.126.
(4) Waste Strategy 2000: Part 2. DETR. May 2000. Annex D. p.198.
(5) Waste Strategy 2000: Part 2. DETR. May 2000. Annex D. p.196.

Composting may also be undertaken within an enclosure and the process is then termed *in-vessel composting*.

Disassembly Plant

Disassembly, dismantling and subsequent remanufacturing facilities are plants in which products such as waste electrical and electronic equipment (WEEE) and end of life vehicles (ELVs) are taken apart and their different components separated for further refurbishment, recycling, reprocessing or final disposal.

Resource Park

A resource park is a grouping together of a variety of industries that can use each other's outputs as a resource. For example, a recycler producing secondary aggregates from the waste of a construction business and a solar energy company supplying electricity to all businesses in the resource park. Other small businesses that could 'feed off' de-manufacturing/reprocessing facilities may settle in their vicinity. This network may even be widened by the joining of resource providers of energy, wastewater and transport systems.

Mechanical Biological Treatment (MBT)

MBT is '*a generic name for a range of processes. In its simplest form waste is bio-stabilised followed by landfill. More complex plants provide biostabilisation followed by: material recovery, treatment, and energy recovery followed by landfilling of the residues.*'(6) MBT systems involve a combination of the mechanical sorting of materials for recycling and the biological treatment of biodegradable material in the remaining waste. Systems can be configured in a number of ways to deliver different outcomes. The aim will be to maximise the diversion of recyclable materials and to stabilise compostable materials, or to separate a refuse derived fuel (RDF). The majority of material entering an MBT facility will leave either as a 'stabilised' residue that requires landfill, or as an RDF that will require combustion in a power station, cement kiln, incinerator or other suitable facility, in order to recover energy.

Anaerobic Digestion (AD)

AD is a process '*where biodegradable material is broken down in the absence of oxygen in an enclosed vessel. The process produces a biogas (typically 65% methane, 35% carbon dioxide) and solids/liquors known as digestate which can be used as fertiliser and compost.*'(7) This process produces conditions that encourage the natural breakdown of organic matter by bacteria in the absence of air. The generated biogas can be used as a source of renewable energy to meet on-site power and process heat requirements. The produced digestate may contain valuable nutrients, and after a process of aeration and maturation, it can often be used as compost. If it is not of a suitable standard, this will require disposal to landfill.

(6) Proposed Alterations to Regional Planning Guidance, South East – Regional Waste Management Strategy. South East England Regional Assembly. March 2004.. Annex 7. p.125.

(7) Proposed Alterations to Regional Planning Guidance, South East – Regional Waste Management Strategy. South East England Regional Assembly. March 2004.. Annex 7. p.125.

Autoclaving

Autoclaving is a process, which utilises steam technology to sterilise waste into clean items suitable for recycling, biomass fibre that may be put to different uses and residual waste for landfill.(8) The process cleans metals and aids separation of plastics and heavy fractions to assist recycling. The fibre material may find use as a secondary material, particularly in building products and packaging, or may be used as a fuel for co-firing. The fibre could also be composted to use in remediation applications.

Thermal Treatment

Thermal treatment is a general term for heat-based waste treatment technologies. There are a number of energy from waste (EfW) technologies available. These methods include grate incineration, fluidised bed incineration, pyrolysis and gasification. All of these technologies are designed to generate power, and often heat, through the combustion of waste or a synthetic fuel. '*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.*'(9) Advanced thermal treatment (ATT) includes technologies such as gasification and pyrolysis. Gasification involves '*the thermal breakdown of hydrocarbons into a gas via partial oxidation under the application of heat.*'(10) Pyrolysis involves '*the thermal degradation of waste in the absence of air to produce gas, liquid and solid char fractions.*'(11)

(8) Estech Europe Ltd.

(9) Waste Strategy 2000: Part 2. DETR. May 2000. Annex D. p.197.

(10) Proposed Alterations to Regional Planning Guidance, South East – Regional Waste Management Strategy. South East England Regional Assembly. March 2004.. Annex 7. p.126.

(11) Proposed Alterations to Regional Planning Guidance, South East – Regional Waste Management Strategy. South East England Regional Assembly. March 2004.. Annex 7. p.127.