



Eco Park - Charlton Lane, Shepperton

Qualitative assessment

February 2015

Surrey County Council

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Surrey County Council

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description	Standard
1	04/02/2015	[REDACTED]	[REDACTED]	[REDACTED]	Draft report for discussion	
2	24/02/2015	[REDACTED]	[REDACTED]	[REDACTED]	Final Report	

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1 Introduction

As part of a Value for Money exercise being undertaken by Surrey County Council in respect to the development of the Charlton Lane Eco-Park, Mott MacDonald Ltd has been commissioned to undertake a qualitative benefit assessment. The aim is for this assessment to sit alongside the Value for Money report and to analyse the technical and environmental aspects of the development in conjunction with their costs.

This report concentrates on whether/how the Eco-Park meets the terms of local and regional policy documents and the non-financial impacts of the Eco-Park.

The Waste Management 'Eco Park' comprises:

- Gasification Facility;
- Anaerobic Digestion Facility;
- Community Recycling Facility;
- Recyclables Bulking Facility;
- Education / Visitor Centre and Offices;
- Other Associated Infrastructure including Infiltration Basin and Landscaping; and
- Diversion of Public Footpath 70.

1.1 Relevant policy documents

The following policy documents were reviewed:

- South East Plan
- Surrey Waste Plan (SWP) 2008
- Joint Municipal Waste Management Strategy (JMWMS)

The Secretary of State published the final version of the South East Plan (also known as the Regional Spatial Strategy for the South East) on May 6 2009. In May 2010, the Government announced its intention to abolish Regional Strategies, including the South East Plan. In February 2013, CLG published the Post Adoption Statement for the Plan to revoke the South East Plan. This was a requirement of the strategic environmental assessment process to which the Plan to Revoke the South East Plan has been subject.

The laying of The Regional Strategy for the South East (Partial Revocation) Order 2013 to formally abolish the South East Plan was published in parallel with the Post Adoption Statement and came into force on 25 March 2013. As a consequence, the South East Plan is now revoked except for Policy NRM6 which relates to new residential development close to the Thames Basin Heaths Special Protection Area.

There is, therefore, no requirement to meet the policies in the South East Plan, but as the local strategy documents refer to the plan, these are discussed for completeness.

The relevant policies have been extracted from the various documents and included as appendices. The South East Plan policies are included as Appendix A, the Surrey Waste Plan policies as Appendix B and the Joint Municipal Waste Management Strategy policies as Appendix C.



2 Project Background

The policies can be split into three major topics, although there is some cross-over between these overall topics:

- Location of facilities and improving waste management infrastructure
- Self-sufficiency
- Diversion from landfill

2.1 Location of facilities and improving waste management infrastructure

Policy W7 of the South East Regional Plan requires an appropriate mix of development opportunities to achieve targets identified elsewhere within the Regional Plan.

To achieve capacity requirements it is important to take into account the nature of the surrounding land when determining the type, size and mix of facilities required. It is recommended that for major new developments consideration is given to identifying sites for integrated resource recovery facilities and new resource parks accommodating a mix of activities where they meet environmental, technical and operational objectives.

Policy W16 of the South East Regional Plan proposes waste bulking and transfer facilities should be identified and safeguarded for the purpose. Policy W17 makes specific reference to expanding suitable sites with an existing waste management use and good transport links.

The Surrey Waste Plan sets out across several policies, the requirements for locating and safeguarding sites for waste use.

The majority of the proposed Eco Park (4.5 ha) is an allocated site in the Surrey Waste Plan (SWP 2008), under Policies WD1, WD2 and WD5; however a larger area of 7.7 ha for significant landscaping (Environmental Enhancement Area - EEA) remains outside the allocated area in the SWP.

The site was considered to be a suitable location when compared against the site key development criteria (KDC) contained in the SWP 2008, and the locational criteria in the South East Plan 2009 (SEP 2009). The site lies within the Green Belt. The Surrey Waste Plan any developer is required to demonstrate very special circumstances in accordance with the provisions of Policy CW6 (Development in the Green Belt) of the SWP 2008.

In the Planning & Regulatory Committee Report, dated 30 June 2011 officers considered that there were a number of factors, which together constitute very special circumstances that clearly outweigh the harm to the Green Belt by reason of inappropriateness and other harm, and which justify the grant of planning permission. These factors were:

- (1) the lack of alternative suitable sites in or outside of the Green Belt;
- (2) the need for the County to increase waste recycling / recovery and landfill diversion to contribute to agreed targets;
- (3) the close proximity of the site to the arisings of waste;

- (4) the characteristics and suitability of the site for the scale of waste operation proposed given the existing waste management use;
- (5) the unique benefits of co-location at Charlton Lane;
- (6) the wider environmental and economic benefits of sustainable waste management, including the need for a range of sites;
- (7) the provision of renewable energy generation capacity; and
- (8) environmental enhancement measures for adjoining land.

These factors combined were considered by the officers to demonstrate very special circumstances, as required by SWP 2008 Policy CW6, and clearly outweigh the harm resulting from the proposal. Therefore, the officers recommended that an exception to Green Belt policy in PPG2, the South East Plan May 2009 Policy SP5, and Spelthorne Borough Local Plan Policy GB1 should be made and planning permission be granted subject to conditions.

2.2 Self-sufficiency

The revised JMWMS states that the new approach for management of Surrey's waste is to provide recycling, composting and residual waste treatment facilities within the county for the county to be net self-sufficient to meet the requirements of Policy 1 of the JMWMS, through Action A1.

Other policies include Policies W3 and W4 of the South East Plan, which relate to Regional Self-Sufficiency and Sub-Regional Self-Sufficiency respectively. The basis of the Surrey Waste Plan relates to the provision of facilities within the county to meet the local needs, although self-sufficiency is not specifically stated in any of the Plan's policies.

Table 2.1: Summary waste treatment flow model

	Tonnes
2009/10 quantity of municipal waste	557,500
Operational solutions	(15,000)
Reduce and reuse Solutions	(15,000)
	527,500
Recycling Solutions	(369,250)
Community Recycling Centres (70%)	
District and Borough Recycling (60%)	
New Technologies (7%)	
Total recycling (70%)	
Residual waste treatment requirement	158,250
Gasification	(60,000)
Interim Energy from Waste (EfW)	(98,250)
Household waste to landfill (assumes all ash is recycled)	Nil

Action Plan A1 of the revised JMWMS states that Surrey will plan for 'net self-sufficiency' by providing waste management capacity equivalent to MSW **Page 66**. e. the aim is to be self-sufficient in terms of

managing the waste that arises within Surrey, within its boundaries, where appropriate. The table above quantifies the World Class Waste Solutions (WCWS - Action Plan for the JMWMS Officer Report to Cabinet dated 2 February 2010) plan, though it will require all WCAs to be collecting food waste in order to achieve the 70% recycling objective. If the solutions referred to and 70% recycling are achieved, there will be a need for approximately 158,250 tonnes of residual waste treatment capacity within Surrey.

At 70% recycling, the 60,000tpa capacity of the gasification plant would be taken up as follows:

Table 2.2: Source of wastes for the proposed gasifier

Source of Waste of Residual MSW	Tonnes
Elmbridge, Runnymede and Spelthorne (direct collections)	38,500
Local trade waste	8,000
Internal transfer from Charlton Lane CRC	6,250
Internal Transfer from AD	2,000
External CRC	5,250
Total	60,000

Options have also been considered should the 70% recycling target not be achieved. This would mean that greater proportions of the feedstock waste would come from the collections from the local authorities and there would be reduced amounts coming from the local trade waste and external CRC facilities.

2.3 Diversion from landfill

Following national legislative requirements, required policies and proposals put in place should contribute to the delivery of landfill diversion targets. The optimal management solution would vary according to the material resource streams, but will involve:

- i. Re-use
- ii. Recycling
- iii. Mechanical/biological processing
- iv. Thermal treatment

Priority will be given to processes higher up the waste hierarchy.

The strategy employed by Surrey Authorities for meeting and exceeding the regulatory targets for landfill diversion are expressed throughout the policy documents. These are based on delivering 70% recycling, treatment of the residual wastes and recycling value from the bi-products of the treatment processes.

2.3.1 Recycling

Policy 4 of the JMWMS is to improve recycling and composting to meet and exceed the aspirational and ambitious targets of 70%. This will be achieved through improvements to the kerbside recycling collection services provided by the constituent collection authorities of Surrey and through the provision of

Community Recycling Centres. The Community Recycling centre at the Eco Park will be retained and improved with the provision of new canopies, and minor modifications would be made to the layout and site access road. This facility is anticipated to handle approximately 25,000 tonnes of waste from the neighbouring community.

In order to achieve this target all WCAs will need to collect food waste. To enable the county to be self-sufficient, treatment of the food wastes will be undertaken in the anaerobic digestion facility at the Eco Park. This facility would treat up to 40,000 tonnes of food waste from the northern and central Boroughs of the County, converting it into methane and carbon dioxide, which is used to produce electricity (1.4MW) via the combined heat and power gas turbine engines.

The revised JMWMS, targets the provision of a series of facilities for the bulking and baling of dry recyclables at strategic locations (based around the existing waste transfer station network) across the County, to be developed alongside revised collection and source segregation schemes undertaken by the waste collection authorities. The bulking facility would comprise: 16 bulking bays, bulk storage building and a baler. The facility is anticipated to handle approximately 42,750 tpa of recyclables, 27,000 tpa would be externally delivered from elsewhere in Surrey and 15,750 tpa internally transferred from the Community Recycling Centre.

2.3.2 Recovery

The table below shows that Charlton Lane currently recovers some 35% of its waste throughput with 65% going to landfill. The proposed Eco Park development would increase the recovery to some 58%, which significantly increases the diversion from landfill, helping to meet diversion from landfill targets. The remaining 42% would be treated by way of the gasification facility, with energy recovery.

The table below also notes that within the remaining 42% there would be a residue from the Gasification process, which would include both bottom ash and fly ash (fly ash also known as Flue Gas Treatment residue – FGT). It is expected that up to 12,000tpa of bottom ash would be transferred to either:

- a) bottom ash recycling facilities within London, Kent and Essex; or
- b) disposed of at landfill, at Redhill (Surrey), Packington (Warwickshire) or Lydney (West Sussex).

However, were the bottom ash recycled the overall material recovery would increase by approximately 8%. The FGT residue would go to an appropriate hazardous landfill disposal facility.

Table 2.3: Charlton Lane – management of waste throughput (shown in tonnes per annum)

	Waste handled	Recovered	Landfilled
Existing Charlton Lane site (2009/10)	149,900	52,750 (35%)	97,150 (65%)

	Waste handled	Recovered	Disposal with energy recovery
Proposed Eco Park	143,750	83,750 (58%) (AD, RBF & CRC)	60,000 (42%) (Gasification) Residues: 12,000 and 1,800 of fly ash

The proposed gasification and AD facilities would treat residual municipal waste and food waste materials respectively that would otherwise be sent to landfill.

Whilst the gasification is viewed as disposal under the Waste Framework Directive, it nonetheless constitutes the provision for energy recovery in accordance with criterion (ii) of Policy WD5 of the SWP2008. Recyclable waste material received at the Charlton Lane CRC and RBF would be bulked up for temporary storage prior to export from the site. A proportion of the residual municipal waste that would be treated in the proposed gasification facility and all of the food waste to be treated in the proposed AD facility would be classified as biomass.

2.3.3 Materials recycled

The South East Regional Plan, Policy W8 identified that authorities should provide for a wide collection of recyclable and compostable materials as soon as possible.

Policy action A20 requires that a wide range of recyclable materials will be collected.

The Surrey County Council websites identifies the measures that should be taken by residents to manage the following materials:

- Abandoned vehicles
- Absorbent Hygiene Products (AHP)
- Aerosols
- Aluminium cans/foil
- Animal bedding and pet waste
- Appliances
- Asbestos
- Ash
- Automotive
- Batteries
- Bedding and blankets
- Beds
- Bicycles
- Birthday cards
- Biscuit tins
- DIY waste
- Doors
- Drinks cans
- Drinks cartons
- Duvets and pillows
- DVDs /CDs/videos/records
- Egg cartons (Plastic) (Cardboard)
- Egg shells
- Electrical goods, Electrical and Electronic Equipment
- End of life vehicles
- Energy-saving light bulbs
- Engine oil
- Envelopes
- Explosives
- Eye glasses
- Medicines
- Metal
- Milk bottles (Plastic) (Glass)
- Mobile phones
- Nappies
- Newspaper
- Office equipment and furniture
- Office paper
- Oil
- Organic waste
- Packaging (Plastic) (Paper) (Glass) (Metal)
- Paint
- Paper and card
- Pesticides
- Pet waste

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> ▣ Bones ▣ Books ▣ Bottles and jars ▣ Bras ▣ Brochures | <ul style="list-style-type: none"> ▣ Feminine hygiene products ▣ Fencing panel and posts ▣ Fire extinguishers ▣ Fireworks ▣ Fitted furniture (e.g. wardrobes, kitchen cupboards) ▣ Flooring ▣ Feminine hygiene products ▣ Fencing panel and posts ▣ Fire extinguishers ▣ Fireworks ▣ Fitted furniture (e.g. wardrobes, kitchen cupboards) ▣ Flooring ▣ Fluorescent light tubes ▣ Foil ▣ Food waste ▣ Foreign currency ▣ Fridge/freezers ▣ Fruit and vegetable peelings ▣ Furniture ▣ Games and toys ▣ Garden furniture (Plastic) (Metal) (Wood) ▣ Garden chemicals ▣ Garden shed | <ul style="list-style-type: none"> ▣ Plasterboard ▣ Plastics ▣ Polystyrene ▣ Printer cartridges ▣ Pyrex |
| <ul style="list-style-type: none"> ▣ Bubble wrap ▣ Building materials ▣ Bulky rigid plastics ▣ Business waste ▣ Cans ▣ Cardboard and paper | <ul style="list-style-type: none"> ▣ Flooring ▣ Fluorescent light tubes ▣ Foil ▣ Food waste ▣ Foreign currency ▣ Fridge/freezers ▣ Fruit and vegetable peelings ▣ Furniture ▣ Games and toys ▣ Garden furniture (Plastic) (Metal) (Wood) ▣ Garden chemicals ▣ Garden shed | <ul style="list-style-type: none"> ▣ Quilts ▣ Radios ▣ Rags ▣ Ragwort ▣ Razor blades ▣ Records, tapes, CDs, DVDs |
| <ul style="list-style-type: none"> ▣ Cards ▣ Carpets ▣ Carrier bags ▣ Cars ▣ Car batteries ▣ Car parts ▣ Cartons ▣ Catalogues ▣ Ceramics ▣ Cereal boxes | <ul style="list-style-type: none"> ▣ Garden waste ▣ Gas bottles ▣ Glass ▣ Glasses ▣ Greetings cards ▣ Gypsum ▣ Hangers ▣ Hardcore ▣ Hazardous waste ▣ Healthcare waste ▣ Hearing aids ▣ Household chemicals ▣ Incontinence pads ▣ Ink cartridges ▣ Japanese knotweed ▣ Jars | <ul style="list-style-type: none"> ▣ Refrigerators and freezers ▣ Scrap metal ▣ Scrap vehicles ▣ Smart phones ▣ Sharps (Clinical) (Other) ▣ Shoes ▣ Shredded paper ▣ Soil ▣ Spectacles ▣ Stamps |
| <ul style="list-style-type: none"> ▣ CDs/DVDs/videos/records ▣ Chemicals | <ul style="list-style-type: none"> ▣ Garden waste ▣ Gas bottles ▣ Glass ▣ Glasses ▣ Greetings cards ▣ Gypsum ▣ Hangers ▣ Hardcore ▣ Hazardous waste ▣ Healthcare waste ▣ Hearing aids ▣ Household chemicals ▣ Incontinence pads ▣ Ink cartridges ▣ Japanese knotweed ▣ Jars | <ul style="list-style-type: none"> ▣ Syringes ▣ Takeaway food containers (Plastic) (Foil) ▣ Telephone directories ▣ Telephones ▣ Televisions ▣ Tetra Paks ▣ Textiles ▣ Timber ▣ Toner cartridges ▣ Toys and games ▣ Tyres ▣ Underlay ▣ Unwanted mail ▣ Vegetable and fruit peelings ▣ Video and cassette tapes ▣ Waste paper ▣ Water Filters ▣ WEEE – Waste Electrical and Electronic Equipment ▣ White goods ▣ Wires ▣ Wood ▣ Wool |
| <ul style="list-style-type: none"> ▣ Children's toys ▣ China ▣ Chlorofluorocarbons(CFCs) ▣ Christmas cards ▣ Christmas trees ▣ Cling film ▣ Clinical waste ▣ Clothing ▣ Clothes hangers ▣ Coins ▣ Compost ▣ Computers ▣ Computer consumables ▣ Confidential papers ▣ Construction waste ▣ Cooking oil | <ul style="list-style-type: none"> ▣ Jigsaws ▣ Junk mail ▣ Kitchen foil ▣ Kitchen waste | |
| <ul style="list-style-type: none"> ▣ Cork ▣ Cosmetics and toiletries ▣ Crockery ▣ Curtains | | |

- | | | |
|----------------------|---------------------|------------------|
| ▫ Currency | ▫ Knives | ▫ Wrapping paper |
| ▫ Cutlery | ▫ Laptops | ▫ Xmas Trees |
| ▫ Dead animals | ▫ Leaves/leaf mulch | ▫ Yellow Pages |
| ▫ Diesel | ▫ Light bulbs | ▫ Yew Clippings |
| ▫ Directories | ▫ Magazines | ▫ Yoghurt Pots |
| ▫ Diseased plants | ▫ MDF | ▫ Zinc Batteries |
| ▫ Disposable nappies | ▫ Medical equipment | |

2.3.4 Climate change

Climate change is considered through the adoption of various policies including those that would reduce the impact from the effects of climate change, such as the strategic location of developments and those that would cut greenhouse gas emissions such as the diversion of wastes from landfill.

2.4 Summary

The development of the Eco Park has been undertaken to meet policies on a regional and local basis. It addresses key criteria relating to locating the site:

- improving the waste infrastructure
- allowing for management of wastes to be undertaken in an integrated manner whilst moving up the waste hierarchy
- providing improved self-sufficiency for managing wastes generated in the county
- reducing the quantity of waste materials delivered to landfill
- changing the biodegradable nature of the materials where landfill disposal is necessary.

3 Qualitative Benefits of the Eco Park

The Waste Strategy is based on recycling and composting as much waste as feasible, anaerobic digestion of food wastes and gasification of the residual wastes.

If achieved, the recycling and composting targets proposed would make Surrey County Council a leading authority with respect to this aspect.

All existing waste management and treatment options have a residue. It is possible to send this residual waste to landfill but there are environmental and material benefits in diverting the material to produce power and potentially useful outputs.

3.1 Innovation and Delivery

All existing waste management and treatment options have a residue. It is possible to send this residual waste to landfill but there are environmental and materials benefits in diverting the material to produce power and potentially useful outputs.

The development of the Eco-Park enables existing offtake arrangements with markets to be utilised as well as the option to use technologies that enable bottom ash materials to be recycled and diverted from landfill. This not only allows Surrey to lead the way in integrated waste management but also extracts additional benefits and added value from the contract.

3.2 Robustness of Contract

The contract that Surrey has with SITA is a mature one which has been in operation since 1999. In working with SITA, the County is contracting with one of the largest waste management contractors in Europe who has a proven track record of technology delivery. In progressing through the existing contract, the Council can progress without further procurement as the contract is already in operation.

Within the main project agreement there is an existing performance management framework which is already in operation. As part of this arrangement SITA and Surrey have signed up to the Treasury Operational Savings Initiative, which works to identify additional savings within the contracts. This has been possible due to the mature relationship between the parties and could be more difficult with a new contractor.

Business Continuity is important in waste management and having the project operating under a main contract allows for best practice processes to develop and maintain a capability to plan for and respond to incidents and business interruptions. This enables business operations to continue and ensure minimal disruptions to any operations within the contract that SITA undertakes. Business Continuity Management is a requirement enabling systems to be constantly updated and improved to meet changing client needs

and provide the foundation for monitoring and evaluating strategies and the ability to manage unexpected events.

The provision of a plant with a 25-year operational period will have a minimum of 17 years of life left at the end of the contract with SITA. This would allow Surrey to procure an Operations and Maintenance (O&M) contract for the operation of this plant together with a simpler contractual structure than the current contract to process the remaining waste that will require to be processed.

Having the Engineering Procurement Construction (EPC) contract within the existing waste management contract provides additional contractual protection to the Council. Should the option to progress a new contract be developed outside of the one currently provided by SITA there is a potential for the security of the existing contract to be lost and there would be uncertainty with respect to the new contractor and their ability to deliver.

3.3 Benefits of the Eco Park

Charlton Lane is a named site in the Surrey Waste Plan which was adopted by Surrey County Council in 2009 for the provision of Civic Amenity Sites (Policy WD1), Recycling Storage and Transfer of Waste, Materials Recovery and Processing Facility (Policy WD2) and Thermal Treatment (Policy WD5). The proposed Eco Park will use the site for waste management purposes and is therefore supported by the Surrey Waste Plan as well as the Joint Municipal Waste Management Strategy. The Eco Park uses technologies to maximise recycling in the County. The Anaerobic Digestion (AD) facility will allow food waste to be used to produce renewable power and a useable product. The digestate potentially benefits farmers and land users by producing a soil improver to approved standards (BSI PAS 110).

BSI PAS 110 covers all AD systems that accept source-segregated biowastes. It specifies:

- Controls on input materials and the management system for the process of anaerobic digestion and associated technologies
- Minimum quality of whole digestate, separated fibre and separated liquor
- Information that is required to be supplied to the digestate recipient

The digestate has proven benefits such as improved water retention and reduction in the use of inorganic fertilisers. This helps the council to achieve its vision statement which states that “by 2026 the environment will be protected and enhanced for future generations”.

The Eco Park will deliver benefits to the local economy in terms of the construction and operation of the facilities. In addition to the economic premium given during construction, the facility is predicted to bring 42 permanent jobs to Surrey. If waste is exported out of the County and no new facilities are constructed then the economic and employment benefits would be lost. Through the use of mechanical treatment and AD the requirement for residual waste treatment is minimised, as the process will provide additional recycling and composting opportunities, which will result in a smaller scale combustion technology than conventional

combustion. This ensures that the option corresponds with the waste hierarchy and minimises impacts such as the footprint of the plant required.

The AD process allows food waste to be used to produce biogas, which can be combusted to generate heat and power. The electricity can be used to power the plant and be exported to the national grid.

The bio-degradable element of waste qualifies as renewable energy and is therefore eligible for government related grants, e.g. Renewable Obligation Certificates (ROCS) or Contracts for Difference (CfDs). CfDs will gradually replace ROCS as the government incentive for this type of project, after 31st March 2017 ROCS will no longer be available to new applicants. Continuing the existing contract with SITA therefore may allow the site to be eligible for ROCS rather than CfDs. Although the level of financial support provided by CfDs would be equivalent to that provided by ROCS; as ROCS are well established and understood using this would reduce the risk associated with the novelty of a new system. There is also the potential benefit for the use of heat generated by the plant.

By treating waste in a multi-purpose Eco-Park, this provides a significant reduction in waste transportation on the final tonnage of material being transported, the haulage of material is reduced and fewer vehicles will use the road system, which is already congested within Surrey and the surrounding counties.

Development of the Eco-Park will enable Surrey to be more self-sufficient with respect to its waste management services, rather than delivering all of the residual waste to an out-of-county solution. Use of an existing out-of-county solution does not provide any new development, or the associated employment and environmental benefits.

There is a reduced tonnage of residual waste requiring treatment (approximately 60,000tpa), which means that most conventional thermal treatment technologies would be too large to economically treat Surrey's waste alone. Using gasification allows a technology which is designed to treat smaller tonnages of waste without the need to import material from surrounding authorities.

3.4 Summary

The Qualitative Assessment supports the VFM report that has been undertaken by Deloitte for an Eco-Park to be developed at Charlton Lane through a variation to the current contractual arrangement that is in place with SITA.

4 Conclusion

This Qualitative Assessment of the proposed Eco Park development discussed the technical impacts taking into consideration the relevant local and regional policy documents and the potential benefits of the technologies to be used.

The proposal submitted by SITA, clearly shows technical benefits of the Eco-Park in comparison to the current practices through treating waste within Surrey, providing employment and moving waste up the Waste Hierarchy.

Appendices

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Appendix A. South East Plan Policies

The following policies have been extracted from the South East Plan. Only policies that are relevant to the development of the Eco-Park are included.

POLICY CC2: CLIMATE CHANGE

Measures to mitigate and adapt to current and forecast effects of climate change will be implemented through application of local planning policy and other mechanisms. Behavioural change will be essential in implementing this policy and the measures identified.

In addition, and in respect of carbon dioxide emissions, regional and local authorities, agencies and others will include policies and proposals in their plans, strategies and investment programmes to help reduce the region's carbon dioxide emissions by at least 20% below 1990 levels by 2010, by at least 25% below 1990 levels by 2015 and by 80% by 2050. A target for 2026 will be developed and incorporated in the first review of the Plan.

Adaptation to risks and opportunities will be achieved through:

- (i) guiding strategic development to locations offering greater protection from impacts such as flooding, erosion, storms, water shortages and subsidence
- (ii) ensuring new and existing building stock is more resilient to climate change impacts
- (iii) incorporating sustainable drainage measures and high standards of water efficiency in new and existing building stock
- (iv) increasing flood storage capacity and developing sustainable new water resources
- (v) ensuring that opportunities and options for sustainable flood management and migration of habitats and species are actively promoted.

Mitigation, through reducing greenhouse gas emissions, will primarily be addressed through greater resource efficiency including:

- (i) improving the energy efficiency and carbon performance of new and existing buildings and influencing the behaviour of occupants
- (ii) reducing the need to travel and ensuring good accessibility to public and other sustainable modes of transport
- (iii) promoting land use that acts as carbon sinks
- (iv) encouraging development and use of renewable energy
- (v) reducing the amount of biodegradable waste landfilled.

POLICY W3: REGIONAL SELF-SUFFICIENCY

Waste authorities and waste management companies should provide management capacity equivalent to the amount of waste arising and requiring management within the region's boundaries, plus a declining amount of waste from London. Provision of capacity for rapidly increasing recycling, composting and recovery should be made reflecting the targets and requirements set out in this chapter.

POLICY W4: SUB-REGIONAL SELF-SUFFICIENCY

Waste planning authorities (WPAs) will plan for net self-sufficiency through provision for management capacity equivalent to the amount of waste arising and requiring management within their boundaries. A degree of flexibility should be used in applying the sub-regional self-sufficiency concept. Where appropriate and consistently with Policy W3, capacity should also be provided for:

- (i) waste from London
- (ii) waste from adjoining sub-regions (waste planning authority area within or adjoining the region).

WPAs should collaborate in the preparation of plans, including identifying and making provision for potential flows across the regional and sub-regional boundaries, and identifying possible sites that could be served by sustainable transport modes. Co-operation will be encouraged between county councils and unitary authorities at the sub-regional level, particularly in respect of meeting the needs of the region's strategic growth areas.

POLICY W5: TARGETS FOR DIVERSION FROM LANDFILL

A substantial increase in recovery of waste and a commensurate reduction in landfill is required in the region. (Reference is then made to specific regional targets for municipal and construction and demolition wastes).

Waste planning authorities (WPAs) should ensure that policies and proposals are in place to contribute to the delivery of these targets, and waste management companies should take them into account in their commercial decisions. The optimal management solution will vary according to the individual material resource streams and local circumstances and will usually involve one or more of the following processes:

- (i) re-use
- (ii) recycling
- (iii) mechanical and/or biological processing (to recover materials and produce compost,
- (iv) soil conditioner or inert residue)
- (v) thermal treatment (to recover energy)

Priority will be given to processes higher up this waste hierarchy.

WPAs should continue to provide sufficient landfill capacity to process residues and waste that cannot practicably be recovered.

POLICY W6: RECYCLING AND COMPOSTING

The following targets for recycling and composting should be achieved in the region:

(Specific targets are then provided for the entire region)

Waste authorities should adopt policies and proposals to assist delivery of these targets and waste management companies should take them into account in their commercial decisions.

POLICY W7: WASTE MANAGEMENT CAPACITY REQUIREMENTS

Waste planning authorities (WPAs) will provide for an appropriate mix of development opportunities to support the waste management facilities required to achieve the targets set out in this strategy. The annual rates of waste to be managed as shown in the table below provide benchmarks for the preparation of development plan documents and annual monitoring.

Waste Authority Area	Waste Type	2008-2010	2011-2015	2016-2020	2021-2025
Surrey	MSW	638	694	755	813
	C&I	830	903	982	1042

Average Tonnages to be Managed (thousand tonnes)

In bringing forward and safeguarding sites for waste management facilities, WPAs should consider the type, size and mix of facilities that will be required, taking into account:

- activities requiring largely open sites, such as aggregate recycling and open windrow composting
- activities of an industrial nature dealing with largely segregated materials and requiring enclosed premises, such as materials recovery facilities, dis-assembly and re-manufacturing plants, and reprocessing industries
- activities dealing with mixed materials requiring enclosed industrial premises, such as mechanical-biological treatment, anaerobic digestion and energy from waste facilities
- hybrid activities requiring sites with buildings and open storage areas, including re-use facilities and enclosed composting systems.

In areas of major new developments consideration should be given to identifying sites for integrated resource recovery facilities and new resource parks accommodating a mix of activities where they meet environmental, technical and operational objectives.

The figures in the above table should be used as a benchmark for the production and testing of development plan documents, but WPAs should use more recent data where this is available in order to assess and plan for capacity. Any major changes to the figures may dictate a need to reconsider the apportionment through a review of the RSS.

POLICY W8: WASTE SEPARATION

Waste collection authorities and waste management companies should provide separate collections of recyclable and compostable materials as widely and as soon as practicably possible. Householders and small and medium-sized businesses should be encouraged to separate waste for collection by such schemes through information and promotional campaigns. **Civic amenity sites should be organised to encourage separation of materials for re-use and recycling.**

POLICY W11: BIOMASS

Waste collection, planning and disposal authorities should encourage the separation of biomass waste, as defined in the Renewables Obligation, and consider its use as a fuel in biomass energy plants where this does not discourage recycling and composting.

POLICY W12: OTHER RECOVERY AND DIVERSION TECHNOLOGIES

The regional planning body, SEEDA, the Environment Agency and the regional partners will promote and encourage the development and demonstration of anaerobic digestion and advanced recovery technologies that will be expected to make a growing contribution towards the delivery of the regional targets for recovery, diversion from landfill, and renewable energy generation over the period of the Plan.

Waste development documents and municipal waste management strategies should only include energy from waste as part of an integrated approach to management. All proposed waste facilities should:

- (i) operate to the required pollution control standard
- (ii) include measures to ensure that appropriate materials are recycled, composted and recovered where this has not been carried out elsewhere.

Proposed thermal facilities should, wherever possible, aim to incorporate combined generation and distribution of heat and power.

POLICY W16: WASTE TRANSPORT INFRASTRUCTURE

Waste development documents should identify infrastructure facilities, including sites for waste transfer and bulking facilities, essential for the sustainable transport of waste materials. These sites and facilities should be safeguarded in local development documents. Policies should aim to reduce the transport and associated impacts of waste movement. Use of rail and water-borne transport with appropriate depot and wharf provision should be encouraged wherever possible, particularly for large facilities.

POLICY W17: LOCATION OF WASTE MANAGEMENT FACILITIES

Waste development documents will, in identifying locations for waste management facilities, give priority to safeguarding and expanding suitable sites with an existing waste management use and good transport

connections. The suitability of existing sites and potential new sites should be assessed on the basis of the following characteristics:

- (i) good accessibility from existing urban areas or major new or planned development
- (ii) good transport connections including, where possible, rail or water
- (iii) compatible land uses, namely:
 - o active mineral working sites
 - o previous or existing industrial land use
 - o contaminated or derelict land
 - o land adjoining sewage treatment works
 - o redundant farm buildings and their curtilages
- (iv) be capable of meeting a range of locally based environmental and amenity criteria.

Waste management facilities should not be precluded from the Green Belt. Small-scale waste management facilities for local needs should not be precluded from Areas of Outstanding Natural Beauty and National Parks where the development would not compromise the objectives of the designation.

Appendix B. Surrey Waste Plan Policies

The following policies have been extracted from the Surrey Waste Plan. Only policies that are relevant to the development of the Eco-Park are included.

The plan was adopted on 6 May 2008, but was subsequently amended by order of the High Court on 5 March 2009.

Policy CW4: Waste Management Capacity

Planning permissions will be granted to enable sufficient waste management capacity to be provided to:

- (i) manage the equivalent of the waste arising in Surrey, together with a contribution to meeting the declining landfill needs of residual wastes arising in and exported from London; and
- (ii) achieve the regional targets for recycling, composting, recovery and diversion from landfill by ensuring a range of facilities is permitted.

Policy CW5: Location of Waste Facilities

Sites will be allocated, and proposals for waste facilities on unallocated sites will be considered in accordance with the following principles:

- (i) priority will be given to industrial/ employment sites, particularly those in urban areas, and to any other suitable urban sites and then to sites close to urban areas and to sites easily accessible by the strategic road network;
- (ii) priority will be given over greenfield land to previously developed land, contaminated, derelict or disturbed land, redundant agricultural buildings and their curtilages, mineral workings and land in waste management use;
- (iii) Areas of Outstanding Natural Beauty, Areas of Great Landscape Value, and sites with or close to international and national nature conservation designations should be avoided; and
- (iv) the larger the scale of development and traffic generation, the more important is a location well served by the strategic road network or accessible by alternative means of transport.

Policy CW6: Development in the Green Belt

There will be a presumption against inappropriate waste related development in the Green Belt except in very special circumstances. Very special circumstances to justify inappropriate development of waste management facilities in the Green Belt will not exist unless the harm by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations.

The following considerations may contribute to very special circumstances:

- (i) the lack of suitable non-Green Belt sites
- (ii) the need to find locations well related to the source of waste arisings;
- (iii) the characteristics of the site; and
- (iv) the wider environmental and economic benefits of sustainable waste management, including the need for a range of sites.

Policy WD1: Civic Amenity Sites

Planning permissions for the improvement or extension of existing civic amenity sites or the provision of new sites will be granted:

- (i) on land that is, or has been used, or is allocated in a Local Plan or development plan document, or has planning permission for general industrial or storage purposes;
- (ii) at existing or proposed waste management sites, subject in the case of landfill and landraising sites or other temporary facilities, to the civic amenity use being limited to the life of the landfill, landraising or other temporary facility; and
- (iii) at the following sites:
 - Lyne Lane, Chertsey
 - Charlton Lane, Shepperton
 - Petworth Road, Witley (improvements)
 - Martyrs Lane, Woking
 - Earlswood, Redhill
 - Randalls Road, Leatherhead (extensions)

provided that the development proposed meets the key development criteria set out at the Site Boundary Maps and where very special circumstances can be demonstrated in accordance with the provisions of Policy CW6 for Development in the Green Belt.

Policy WD2: Recycling, Storage, Transfer, Materials Recovery and Processing Facilities (Excluding Thermal Treatment)

Planning permissions for development involving the recycling, storage, transfer, materials recovery and processing (including in-vessel composting but excluding thermal treatment) of waste will be granted:

- (i) on land that is, or has been used, or is allocated in a Local Plan or Development Plan Document, or has planning permission for industrial or storage purposes;
- (ii) the proposed development is at one of the following sites as shown on the Site Boundary Maps:
 - Slyfield Industrial Estate: Land to the North East
 - Charlton Lane, Shepperton
 - Copyhold Works, Redhill
 - Land at Earlswood Depot and Sewage Treatment Works, Redhill
 - Heather Farm, Horsell
 - Martyrs Lane, Woking
 - Land at Randalls Road, Leatherhead
 - Land adjacent to Trumps Farm, Longcross
 - Weylands Treatment Works, Hersham
 - Land at former airfield, Wisley
 - Lyne Lane, Chertsey: former compost site
 - Oak Leaf Farm, Horton Road, Stanwell Moor

- Reigate Road Quarry, Betchworth

provided that the development proposed meets the key development criteria and where very special circumstances can be demonstrated in accordance with the provisions of Policy CW6 for Development in the Green Belt; and

- (iii) at existing or proposed waste management sites, subject in the case of landfill and landraising sites or other temporary facilities, to the waste use being limited to the life of the landfill, landraising or other temporary facility.

Policy WD5: Thermal Treatment Facilities

Planning permissions for development involving the thermal treatment of waste will be granted provided:

- (i) the waste to be treated cannot practically and reasonably be reused, recycled or processed to recover materials;
- (ii) provision is made for energy recovery;
- (iii) the proposed development is at one of the following sites, as shown on the Site Boundary Maps:
 - Charlton Lane, Shepperton
 - Martyrs Lane, Woking
 - Land adjacent to Trumps Farm, Longcross
 - Land at former airfield, Wisley

provided the development proposed meets the key development criteria and where very special circumstances can be demonstrated in accordance with the provisions of Policy CW6 for Development in the Green Belt.

Policy DC1: Safeguarding Sites

The following sites, which may be required for waste management use will be safeguarded:

- (i) the sites named in Policies WD1, WD2 and WD5; and
- (ii) existing sites in waste use including waste water and sewage treatment works.

Policy DC3: General Considerations

Planning permissions for waste related development will be granted provided it can be demonstrated by the provision of appropriate information to support a planning application that any impacts of the development can be controlled to achieve levels that will not significantly adversely affect people, land, infrastructure and resources.

The information supporting the planning application must include, where relevant to a development proposal, assessment of the following matters and where necessary, appropriate mitigation should be identified so as to minimise or avoid any material adverse impact and compensate for any loss:

- (i) the release of polluting substances to the atmosphere or land arising from facilities and transport;
- (ii) the amount of greenhouse gases produced;
- (iii) the contamination of ground and surface water;
- (iv) the drainage of the site and adjoining land and the risk of flooding;
- (v) water consumption requirements and consideration of water management within operational plant;
- (vi) groundwater conditions and the hydrogeology of the locality;
- (vii) the visual and landscape impact of the development on the site and surrounding land including townscape;
- (viii) in the case of buildings, demonstration of high quality of design;
- (ix) adverse effects on neighbouring amenity including noise, fumes, vibration, glare, dust, litter, odour, vermin and transport impacts;
- (x) traffic generation, access and the suitability of the highway network in the vicinity, including access to and from the motorway and the primary route network;
- (xi) adverse effects on open spaces, settlements, agriculture and other rural economic activity, woodland, or existing or potential outdoor recreation uses, including Public Rights of Way;
- (xii) the loss or damage to flora and fauna and their respective habitats at the site or on adjoining land including linear or other features which facilitate the dispersal of species;
- (xiii) the loss or damage to archaeological resources or historic landscapes;
- (xiv) potential danger to aircraft from birdstrike and structures;
- (xv) scope for limiting the duration of use;
- (xvi) any health impacts; and
- (xvii) the management arrangements for residues arising from any waste management facility.

Appendix C. Joint Municipal Waste Management Strategy

The following policies and policy actions have been extracted from the Joint Municipal Waste Management Strategy.

Five policies and thirty four policy actions were identified. The five principal policies were:

- **Policy 1** - We will work in partnership with each other and other stakeholders in order to promote sustainable waste and resources management in Surrey, and support national and regional policies for carbon reduction and mitigation as well as net self-sufficiency
- **Policy 2** - We will work in partnership to develop and deliver a coordinated waste education and awareness programme, which focuses on all aspects of sustainable waste management, in line with the priorities of the waste hierarchy
- **Policy 3** - We will vigorously pursue the prevention of waste to achieve a continued reduction in residual waste, through common messages, lobbying retailers and enforcement activities
- **Policy 4** - We will commit significant efforts and resources to achieve and exceed household recycling and composting targets of 70% by 2013/14
- **Policy 5** - We will adhere to the waste hierarchy, with residual waste treatment preferred to landfill. Recovery and disposal facilities will be delivered to ensure compliance with the Landfill Directive. We will restrict the use of landfill to 0% by 2013/14

The policies relevant to the development of an Eco-Park are Policy No. 1, 4 and 5.

The specific actions under these policies are as follows:

Policy 1

- **A1** - We will plan for net self-sufficiency for dealing with waste in Surrey, through the provision of waste management capacity equivalent to the amount of municipal waste arisings
- **A2** - We will identify mechanisms for the implementation and monitoring of the Joint Municipal Waste Management Strategy
- **A3** - We will develop mechanisms and opportunities for joint working between the authorities
- **A4** - We will seek partnerships with the community and waste industry
- **A5** - We will seek joint opportunities for external funding to implement the objectives of the Joint Municipal Waste Management Strategy, and review financial arrangement among the partners
- **A6** - We will compile and review an annual report on progress made and obstacles encountered, and publish Policy Actions (Numbers are for reference only) a plan of action for the year ahead
- **A7** - The Strategy will be reviewed in the light of any future local government re-organisation

Policy 4

- **A18 - We will commit significant efforts and resources to achieve or exceed overall household recycling and composting targets of 70% by 2013/14**
- *A19 - Borough and district partners to develop affordable kerbside and bring site collection schemes designed to achieve or exceed recycling and composting rates of 60% by 2013/14*
- **A20 - We will collect a wide range of recyclable materials, consistent with the development of efficient and effective solutions considering collection, processing and materials value**
- *A21 - We will liaise with our partners before introducing or changing kerbside collection systems*
- **A22 - We will develop systems to collect both garden waste and food waste from householders by the year 2013**
- *A23 - We will continue to promote the use of alternate weekly collections and other suitable means to reduce household residual waste*
- *A24 - Wherever possible, we will seek to align collection arrangements. For example, with food waste collections that are being introduced*
- *A25 - We will investigate opportunities to recycle commercial waste collected by authorities*
- *A26 - We will monitor waste arisings and composition in order to ensure continued service improvement*
- *A27 - We will investigate and support options for maximising the re-use and landfill diversion of bulky items*
- *A28 - We will investigate opportunities to recycle commercial waste collected by authorities, and to lobby the manufacturing/retail sector and national Government, in particular to tackle the issue of retail packaging*
- **A29 - The Waste Disposal Authority will continue to provide and develop appropriate facilities for bulking and baling of dry recyclables**
- *A30 - The Waste Disposal Authority will continue to provide and develop composting capacity for garden waste by 2013/14*
- **A31 - The Waste Disposal Authority will continue to provide and develop compost and digester capacity for food waste 2013/14 with preference for anaerobic digestion**
- **A32 - The Waste Disposal Authority will improve the Community Recycling Centre provision with the aim to achieve diversion rates of at least 70% by 2013/14**

Policy 5

- **A33 - The Waste Disposal Authority will provide improved waste transfer stations and bulking facilities to reduce the haulage on transporting municipal waste. Safe, efficient and appropriate transportation is an important consideration**
- **A34 - Where there is no reasonable prospect that waste can be recycled or composted, the Waste Disposal Authority will develop new treatment facilities, including those to increase**

materials recovery and recover energy from waste; such as advanced thermal treatment for treating residual waste and anaerobic digestion with gas capture for food waste