

Surrey County Council

Surrey Waste Local Plan

Waste Needs Assessment

April 2019

Version	Description	Date published
V1	Original	14 January 2019
V1.1	<p>Amended section on C,D&E waste arisings to show method for calculating C,D&E arisings for 2017.</p> <p>Corrected the base year of Tables 30, 31, 32 from 2016 to 2017.</p> <p>Clarified wording of captions of Tables 2, 3, 29, 30, 31 and 32.</p> <p>Corrected the captions of Figures 8, 9 and 10 to indicate data is from WDI 2017.</p> <p>Corrected Table 34 to note that Homefield Sandpit is in Waverley.</p> <p>Wording in 2.3.2.6 amended for clarity.</p>	12 April 2019

Table of Contents

Contents

0. Executive Summary	6
0.1 Purpose	6
0.2 Waste Arisings	7
0.3 Waste targets and requirements	7
0.4 Future need for waste management facilities	8
0.4.1 Non-inert waste management	8
0.4.2 Inert waste management	8
1. Introduction	10
1.1 Current Policy	10
1.1.1 Waste Framework Directive (2008/98/EC)	10
1.1.2 Landfill Directive (1999/31/EC)	11
1.1.3 Circular Economy Action Plan	11
1.1.4 National Planning Policy for Waste (NPPW)	11
1.1.5 National Planning Practice Guidance	11
1.1.6 Waste Prevention Plan for England	12
1.1.7 Courtauld Agreement	12
1.1.8 Industrial Strategy	12
1.1.9 National Resources & waste strategy	12
1.1.10 Surrey Waste Local Plan 2008	13
1.1.11 Aggregate Recycling Joint Development Plan Document (ARJDPD) 2013	13
1.1.12 Joint Municipal Waste Management Strategy 2015	14
1.2 Targets	14
1.2.1 Proposed targets	14
2. Forecasting Waste Arisings	17
2.1 Local Authority Collected Waste	17
2.1.1 Guidance on calculating arisings	17
2.1.2 Methodology	17
2.1.3 Results	19
2.2 Commercial & Industrial Waste	20
2.2.1 Guidance on calculating arisings	20
2.2.2 Methodology	20
2.2.3 Results	23

2.3	Construction Demolition and Excavation Waste	23
2.3.1	Guidance on calculating arisings	23
2.3.2	Methodology.....	24
2.3.3	Results	28
2.4	Hazardous Waste.....	28
2.4.1	Guidance on calculating arisings	28
2.4.2	Methodology.....	29
2.4.3	Results	30
2.5	Other Types of Waste	31
2.5.1	Wastewater	31
2.5.2	Agricultural Waste	31
2.5.3	Anaerobic Digestion	31
2.5.4	Nuclear waste and Radioactive Waste	32
2.5.5	Mining Waste.....	33
3.	Methods of Waste Management.....	34
3.1	Local Authority Collected Waste (LACW)	34
3.1.1	Identifying methods of waste management	34
3.2	Results	34
3.3	Commercial & Industrial (C&I) Waste	35
3.3.1	Identifying methods of waste management	35
3.3.2	Results	36
3.4	Construction Demolition & Excavation Waste.....	36
3.4.1	Identifying methods of waste management	36
3.4.2	Results	37
3.5	Future Waste Management Profiles	38
4.	Capacity	41
4.1	Future Capacity	41
4.2	Future need for waste management facilities	42
4.2.1	Overall Need for waste management	42
4.2.2	Recycling and recovery capacity (excluding recovery to land)	43
4.2.3	Deposit of non-inert waste to land.....	44
4.2.4	Inert waste management facilities.....	44
5.	Appendix 1 Sources of Error.....	47
5.1	LACW	47
5.2	C&I Waste	47
5.3	C,D&E Waste	48

5.4	Hazardous Waste.....	49
6.	Appendix 2 Supporting Information	50

0. Executive Summary

0.1 Purpose

0.1.1.1 Surrey County Council in its role as the Waste Planning Authority (WPA) is preparing a new waste local plan (“the Plan”). The national Planning Practice Guidance (nPPG) states that a waste local plan should identify sufficient opportunities to meet the identified needs of an area for the management of waste.

0.1.1.2 Specifically the guidance recommends Waste Planning Authorities (WPAs) plan for the sustainable management of the following types of waste:

- Municipal/household
- Commercial/industrial
- Construction/demolition
- Low Level Radioactive
- Agricultural
- Hazardous
- Waste water

Paragraph: 013 Reference ID: 28-013-20141016

0.1.1.3 In order to identify the future needs for waste management capacity in Surrey the WPA must provide an estimate of waste generated. These values will be used to forecast arisings of waste requiring management during the plan period 2018 – 2035.

0.1.1.4 Therefore the purpose of this report is to provide a baseline estimate for the following types of waste:

- Local Authority Collected Waste (LACW)¹
- Commercial & Industrial (C&I) Waste
- Construction Demolition & Excavation (C,D&E) Waste
- Hazardous Waste
- Other Types of Waste

0.1.1.5 The report also forecasts future waste arisings in Surrey at five year intervals during the plan period. The report sets out the assumptions and methods being applied and the results.

¹ Sometimes known as municipal waste

0.1.1.6 The report also includes proposed targets for the more sustainable management of Surrey’s waste and applying these to predicted waste arisings identifies management capacity that may be needed during the plan period.

0.2 Waste Arisings

0.2.1.1 The forecast arisings for each waste stream over time are calculated using the estimated baseline values for arisings at 2017 and applying a yearly growth rate. The forecasted arisings for each waste stream are shown in Table 1.

0.2.1.2 The need for management capacity for a range of other waste streams including: wastewater, agricultural waste, healthcare waste, nuclear and low level radioactive waste and mining waste has also been assessed. It is not proposed to make express provision for these waste streams in the Plan. However, policies in the Plan will be framed to ensure that capacity may be developed for these other types of waste should the need arise.

Table 1 Summary of forecast waste arisings in Surrey by principal stream

Waste Stream	2017	2020	2025	2030	2035
Local Authority Collected Waste	536,000	540,000	549,000	557,000	566,000
Commercial & Industrial Waste	682,000	744,000	848,000	951,000	1,055,000
Construction, Demolition & Excavation Waste	2,494,000	2,494,000	2,494,000	2,494,000	2,494,000
Total	3,712,000	3,778,000	3,890,000	4,003,000	4,115,000

0.3 Waste targets and requirements

0.3.1.1 The Plan recognises the need to establish new goals for the management of waste in Surrey during the plan period. These targets are be ambitious and encourage the management of waste further up the waste hierarchy, however should also be achievable. In turn the Plan will include policies which provide for the development of the capacity to manage waste that support achievement of this goal.

0.3.1.2 At a European level the revised Waste Framework Directive (2008/98/EC) and the Landfill Directive (1999/31/EC) set targets for the diversion of waste from landfill and the adopted European Commission Circular Economy Package includes targets for transition towards a circular economy, both have been referenced in developing targets for the Plan. Other government targets such as those in the waste prevention programme for England and government strategies such as the 25 Year Environment Plan and Industrial Strategy have also been considered. Additional information such as the current waste management profiles has been used to derive some targets and requirements.

0.3.1.3 Overall, the targets seek to increase recycling² of waste. At the same time policy directions such as decreasing food waste arisings and decreasing waste sent to landfill for treatment are also considered to be targets for managing waste generated in Surrey. Waste that is not managed through recycling and is not sent to landfill is assumed to be managed through recovery³. The targets for the Plan are set out in Table 8.

0.4 Future need for waste management facilities

0.4.1 Non-inert waste management

0.4.1.1 The capacity gap for non-inert waste management including recycling, recovery and non-inert landfill in Surrey is shown in Table 2 and Table 3. There is a predicted shortfall in capacity for non-inert waste towards the end of the plan period. The result is that the Plan needs to make sure land is available for new waste management facilities to address this shortfall.

Table 2 Waste management capacity in Surrey (tonnes per annum) for recycling and other recovery (excluding aggregate recycling and recovery to land) with the negative capacity gap shown in red

Treatment Type	2017	2020	2025	2030	2035
Recycling ⁴	540,000	423,000	281,000	175,000	15,000
Anaerobic Digestion	45,000	53,000	67,000	87,000	100,000
Other Recovery	-10,000	-39,000	-92,000	-156,000	-148,000

Table 3 Waste management capacity in Surrey (tonnes) for disposal of non-inert waste to land (including landfill)⁵ with the negative capacity gap shown in red

Treatment Type	2017	2020	2025	2030	2035
Disposal to Land ⁶	6,740,000	4,653,000	927,000	-178,000	-77,000
Cumulative gap				-178,000	-255,000

0.4.2 Inert waste management

0.4.2.1 The capacity gap for inert waste management is shown in Table 3 and Table 4. This shows that while there is a shortfall in aggregate recycling capacity due to the closure of temporary recycling facilities. On the basis that capacity is available for the recovery of

² Including composting

³ This can include energy recovery or recovery to land

⁴ Including composting and transfer facilities

⁵ Based on the arisings figure for non-inert waste sent to landfill per year over the time period

⁶ Based on all major waste streams sent for disposal

waste to land e.g. to restore mineral workings the result is that overall Surrey will be able to manage non-inert waste arisings at least in the short to medium term.

Table 4 Waste management capacity in Surrey (tonnes) for C,D&E Recycling (including soil recycling) with the negative capacity gap shown in red

Treatment Type	2017	2020	2025	2030	2035
C,D&E Recycling	311,000	-14,000	-389,000	-809,000	-1,134,000

Table 5 Waste management capacity in Surrey (tonnes) for recovery of inert waste to land (including landfill)⁷ with the negative capacity gap shown in red

Treatment Type	2016	2020	2025	2030	2035
Recovery to Land ⁸	12,896,000	8,976,000	1,673,000	-2,494,000	-2,244,000
Cumulative gap				-2,494,000	-4,738,000
Capacity from Surrey Minerals Plan ⁹					5,610,000

⁷ Based on the arisings figure per year for inert landfill per year over the time period

⁸ Based on C, D & E waste arisings sent for recovery to land

⁹ Planned sites which are yet to have planning permission or which are yet to become operational

1. Introduction

1.1 Current Policy

1.1.1 Waste Framework Directive (2008/98/EC)

1.1.1.1 The Waste Framework Directive (2008/98/EC) (as amended) provides the legislative framework for the collection, transport, recovery and disposal of waste. The Waste Management Plan for England (December 2013) sets out the Government's ambition for a more sustainable approach to resource use and management.

1.1.1.2 The revised Waste Framework Directive (WFD) includes the requirement for Member States to have plans in place that promote sustainable management of waste through application of the waste hierarchy (Figure 1).

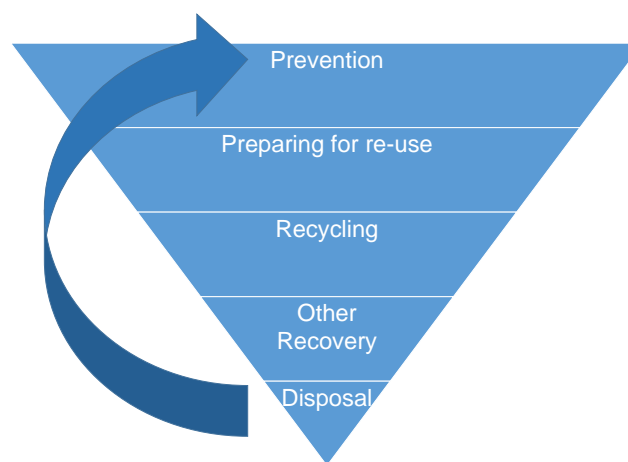


Figure 1 Waste Hierarchy

1.1.1.3 The waste hierarchy promotes the prevention of waste and, where this is not possible, requires that waste materials should be reused, recycled or recovered where possible. Disposal to landfill or using incineration without energy recovery is regarded as the option of last resort. Since the WFD made compliance with the hierarchy a legal requirement deviation from the hierarchy must be justified.

1.1.1.4 Article 16 of the WFD introduced the concepts of proximity and self-sufficiency. There is no expectation that each local planning authority should deal solely with its own waste. In addition, the ability to source waste from a range of locations/organisations helps ensure existing capacity is used effectively and efficiently.

1.1.1.5 The Directive sets targets for the reuse, recycling and recovery of certain waste streams. For household waste and construction and demolition waste these are as follows:

- By 2020, reuse or recycle 50% of all household waste produced;
- By 2020, reuse, recycle or recover 70% of construction and demolition waste (not including waste resulting from excavation).

1.1.1.6 The Waste Framework Directive is transposed into UK legislation by the Waste (England and Wales) Regulations 2011. The Waste (England and Wales) Regulations 2011 (as amended) also requires the waste management hierarchy to be complied with.

1.1.2 Landfill Directive (1999/31/EC)

1.1.2.1 The Environmental Permitting (England and Waste) Regulations 2010 (as amended) implement the requirements of the Landfill Directive (1999/31/EC). These set standards for the location, design, construction and operation of landfills. The regulations also set targets for the diversion of Biodegradable Municipal Waste (BMW) from landfill.

1.1.3 Circular Economy Action Plan

1.1.3.1 In 2016 the European Commission adopted the Circular Economy Action Plan, which includes revised legislative proposals on waste to stimulate Europe's transition towards a circular economy. Key targets in the revised Circular Economy Package include:

- Target for recycling 65% of municipal waste by 2030;
- Target for recycling 75% of packaging waste by 2030.
- Target to reduce landfill to maximum of 10% of municipal waste by 2030;

1.1.4 National Planning Policy for Waste (NPPW)

1.1.4.1 Paragraph 3 of the National Planning Policy for Waste (NPPW) states that “in preparing Local Plans, waste planning authorities should... in particular, identify the tonnages and percentages of municipal, and commercial and industrial waste requiring different types of management in their area over the period of the plan”.

1.1.5 National Planning Practice Guidance

1.1.5.1 The national Planning Practice Guidance (nPPG) states that assessment of the need for additional waste management infrastructure should be made with reference to forecasts for future waste arisings based on a baseline value.

1.1.5.2 In addition, to assess waste management needs for Local Plan making this is likely to involve:

- Understanding waste arisings from within the planning authority area, including imports and exports
- Identifying the waste management capacity gaps in total and by particular waste streams
- Forecasting the waste arisings both at the end of the period that is being planned for and interim dates
- Assessing the waste management capacity required to deal with forecast arisings at the interim dates and end of the plan period.

(Paragraph: 022 Reference ID: 28-022-20141016)

1.1.6 Waste Prevention Plan for England

- 1.1.6.1 The Defra Report 'Prevention is better than cure: the role of waste prevention in moving to a more resource efficient economy' (2013) sets out the Government's intention to reduce the amount of waste produced and the actions which should be taken. This report targets C, D & E waste as a key area of focus for waste prevention.

1.1.7 Courtauld Agreement

- 1.1.7.1 The Courtauld Commitment 2025 is a voluntary agreement to reduce food waste. The targets are calculated per head of population and include a 20% reduction in food & drink waste arising in the UK.

1.1.8 Industrial Strategy

- 1.1.8.1 The Industrial Strategy, 'Building a Britain fit for the future', sets out the government's commitment to moving towards a more circular economy. This includes by "raising productivity by using resources more efficiently, to increasing resilience by contributing to a healthier environment, and to supporting long-term growth by regenerating ... natural capital". The Industrial Strategy, clearly sets out:

- Raising the resource productivity of businesses, including through the promotion of recycling;
- Supporting the Courtauld Commitment to deliver a 20 per cent per capita reduction in food waste by 2025; and
- Strengthening policies in line with national ambitions of zero avoidable waste and a doubling of resource productivity by 2050.

1.1.9 National Resources & waste strategy

- 1.1.9.1 In December 2018, the Government published a new waste strategy for England. This strategy is particularly concerned with ensuring that society's approach to waste aligns with circular economy principles i.e. keeping resources in use as long as possible in order to extract maximum value from them.

- 1.1.9.2 The strategy has several strategic ambitions including the doubling of resource productivity and eliminating avoidable waste of all kinds by 2050. The strategy includes other targets as follows:

- 50% recycling of household waste by 2020
- 65% recycling of municipal waste by 2035 (in line with EU CE package)
- 10% (or less) of municipal waste to landfill by 2035 (in line with EU CE package)
- Eliminate all food waste to landfill by 2030

- All plastic packaging to be recyclable, reusable or compostable by 2025
- 75% recycling of packaging by 2030

1.1.9.3 These targets have been used as a basis for the targets in this needs assessment.

1.1.10 Surrey Waste Local Plan 2008

1.1.10.1 The Surrey Waste Plan (SWP) adopted in 2008 includes targets for recycling and composting based on the South East Plan which has now been revoked. Those targets were for LACW, C&I waste and C, D & E waste as follows:

Table 6 Targets provided in the South East Plan and included in the adopted SWP 2008

Year	2010	2015	2020	2025
LACW	40%	50%	55%	60%
C&I waste	50%	55%	60%	65%
C, D & E waste	50%	50%	60%	60%
All waste streams	50%	55%	60%	65%

1.1.10.2 New targets build on the targets in the adopted plan continuing to encourage the sustainable management of waste by promoting the management of waste further up the waste hierarchy.

1.1.11 Aggregate Recycling Joint Development Plan Document (ARJDPD) 2013

1.1.11.1 At a local level, Surrey has adopted targets in the ARJDPD to achieve a production rate of recycled aggregates of 0.8 million tonnes per annum (mtpa) by 2016 and 0.9 mtpa by 2026. The main source of material for recycled aggregates comes from C,D&E waste. Therefore, the WPA will continue to support the treatment of C, D & E waste for recycling.

1.1.11.2 The rate of production of recycled aggregate from C, D & E waste can vary from facility to facility. The London AWP (LAWP) stated “It is estimated from advice of operators about 50-75% [of C,D&E waste] would become an aggregate depending on capacity of the operator”¹⁰. While a study in 2005 found that the sub-regional estimate of C, D & E waste recycled by crushers and/or screens for Surrey, East Sussex, West Sussex was 45% of C, D & E waste¹¹.

¹⁰ London Aggregates Working Party, 2016, London Aggregates Monitoring Report 2014 & 2015

¹¹ Department for Communities and Local Government (DCLG), 2017, Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005 Construction, Demolition and Excavation Waste. Final Report.

1.1.11.3 For Surrey an estimate of the proportion of C, D & E waste recycled at a typical facility was calculated correlating outputs of recycled aggregates from operator returns from the Aggregates Monitoring Survey (2016) against inputs of C, D & E waste using the equation:

$$\frac{\text{Total sales for aggregate use (tonnes)}}{\text{Total C, D \& E waste received (tonnes)}} \times 100$$

1.1.11.4 The results found that the proportion of C, D & E waste that was recycled into aggregate ranged from 45% to 100%. The median value was 95% and the mean 78%. The high rate of recycling at individual sites is one of the reasons Surrey has been able to achieve targets for aggregate recycling set out in the ARJDPD.

Table 7 Amount of recycled aggregate from C, D & E waste produced at sample of CD&E processing sites in Surrey based on extrapolation from aggregates monitoring survey responses

	Min	Median	Mean	Max
% of input converted into Recycled aggregate	45%	95%	78%	100%

1.1.11.5 With respect to the waste that is not recycled and is sent for landfill, Surrey County Council also wishes to encourage the use of C,D&E waste for beneficial uses e.g. for the restoration of mineral workings. The recovery of C,D & E waste in this way will be preferred over disposal.

1.1.11.6 The targets and the need for aggregate recycling is considered to be more closely related to the supply of minerals. The need to manage C, D&E waste is an issue for the waste plan to address.

1.1.12 Joint Municipal Waste Management Strategy 2015

1.1.12.1 The Joint Municipal Waste Management Strategy (JMWMS) is the plan created by Surrey's 11 districts and boroughs as the Waste Collection Authorities (WCAs) and Surrey County Council as the Waste Disposal Authority (WDA) to manage Surrey's LACW in the best way.

1.1.12.2 The JMWMS (2015) sets targets to be achieved by 2019/20 for the management of municipal waste (referred to here as LACW) using 2013/14 as a baseline. The targets in the Surrey JMWMS include a recycling and recovery rate of 70% and a diversion rate from landfill of 100%.

1.2 Targets

1.2.1 Proposed targets

1.2.1.1 Surrey County Council recognises the need to establish new goals for the management of waste in Surrey during the plan period. The targets for the Plan are set out in Table 8.

Overall, the targets seek to increase recycling¹² of waste. At the same time policy directions such as decreasing food waste arisings and decreasing waste sent to landfill for treatment are also considered to be targets for managing waste generated in Surrey. Waste that is not managed through recycling and is not sent to landfill is assumed to be managed through recovery¹³.

Table 8 Targets for the plan period

Waste Stream	Current managed (%)	2020	2025	2030	2035
Recycling Targets (%)^{14, 15, 16}					
Local Authority Collected Waste	50%	60%	65%	70%	75%
Commercial and Industrial Waste	62%	65%	70%	70%	75%
Construction, Demolition and Excavation Waste	58%	65%	70%	75%	80%
Food Waste Targets (%)^{17, 18, 19}					
Local Authority Collected Waste	n/a	-15%	-30%	-50%	-60%
Commercial and Industrial Waste	n/a	-15%	-30%	-50%	-60%
Construction, Demolition and Excavation Waste	n/a	n/a	n/a	n/a	n/a

¹² Including composting

¹³ This can include energy recovery or recovery to land

¹⁴ Recycling targets for LACW and C&I are based on the adopted Circular Economy package. Targets are binding for UK. Targets are for proportion of waste recycled.

¹⁵ Recycling targets for C, D & E waste are based on targets in the Revised Waste Framework Directive. Targets are binding for UK. Targets are for proportion of waste recycled.

¹⁶ Recycling targets for C, D & E waste for 2025 and beyond are based on continuous improvement and ongoing commitment to reduce C, D & E waste.

¹⁷ Food waste targets are based on the Courtauld 2025 agreement's targets and the adopted Circular Economy package. Targets are non-binding. Targets are net reduction.

¹⁸ Food waste targets for 2020 are based on making progress to meeting the 30% target for 2025.

¹⁹ Food waste targets for 2035 are based on continuous improvement and ongoing commitment to reducing food waste from the 2030 target.

Disposal of Waste to Land Targets (%) ²⁰					
Local Authority Collected Waste	5%	2%	1%	1%	1%
Commercial and Industrial Waste	30%	20%	10%	5%	2%
Construction, Demolition and Excavation Waste	25%	15%	10%	5%	2%

²⁰ Residual waste targets are based on a desire that no waste will be sent for landfill, recognising the fact that some waste cannot be practicably treated in any other way and a binding landfill target to reduce landfill to maximum of 10% of municipal waste by 2030 in the adopted Circular Economy package. Targets are for proportion of waste.

2. Forecasting Waste Arisings

2.1 Local Authority Collected Waste

2.1.1 Guidance on calculating arisings

2.1.1.1 Previously the term 'Municipal Waste' was used in waste policies and nationally reported data to refer to waste collected by local authorities. Local Authority Collected Waste (LACW) is now the term used to refer to all waste collected by the local authority instead.

2.1.1.2 The national Planning Practice Guidance (nPPG) recommends that waste planning authorities forecast future household waste arisings using a 'growth profile'. The growth profile should be based on two factors:

- Household or population growth; and
- Waste arisings per household or per capita.

(Paragraph: 030 Reference ID: 28-030-20141016)

2.1.1.3 Moreover, the nPPG suggests that this growth profile be prepared through a staged process:

- Calculate arisings per head by dividing annual arisings by population or household data to establish short- and long-term average annual growth rates per household; and,
- Factor in a range of different scenarios, e.g. constant rate of growth, progressively lowering growth rates due to waste minimisation initiatives.

2.1.1.4 The final forecast can then be modelled with scenarios based on the long- and short-term rate of growth per household, together with household forecasts. (Paragraph: 031 Reference ID: 28-031-20141016).

2.1.2 Methodology

2.1.2.1 Data used in calculating waste from household arisings is in Table 9.

Table 9 Data used for calculating household waste arisings

Data Needed	Data source
Number of households	MHCLG Number of dwellings by tenure and district
Forecast new households	MHCLG 2014-based household projections
LACW	WasteDataFlow

2.1.2.2 LACW refers to all waste collected by and on behalf of Surrey County Council and its 11 districts and boroughs. The main component of this, approximately 86%, is classed as household waste with the remainder coming from other activities such as street cleaning, parks and grounds maintenance, business served by local authority collections and construction.

- 2.1.2.3 Good data is available for LACW in Surrey as this information is collected by the Waste Disposal Authority (WDA) and published in the national reporting WasteDataFlow System. A summary of this information is reported annually through the Planning Service's Annual Monitoring Report (AMR).
- 2.1.2.4 Information on the number of dwellings was collected from the Ministry of Housing, Communities and Local Government's (MHCLG) dataset for the Number of Dwellings by Tenure and district (Appendix 2). This dataset shows total stock figures using the census 2011 as a baseline, with information on subsequent changes to the dwelling stock collected annually through the Housing Flows Reconciliation form and 'joint returns' from the Greater London Authority.
- 2.1.2.5 The Office for National Statistics has recommended that the most suitable method for producing estimates of total dwelling stock at the national and regional levels is to use the census count as a baseline and project this forward using information on annual net supply of housing. The ONS also recommends that, to maintain consistency, the same methodology be used to produce estimates at the district level. The future number of households is based on 2014-based household projections in England, 2014 to 2039 published by MHCLG in July 2016 (Appendix 2).

Step 1 – Calculating Waste Arisings per household

- 2.1.2.6 Using MHCLG dwelling information and the waste arisings (tonnes) from the Waste Disposal Authority (WDA), an average tonnes per dwelling was calculated on a county-wide basis. Both datasets are available annually.
- 2.1.2.7 The total number of dwellings from the MHCLG dataset²¹ for 2017 for Surrey was used in the calculation.
- 2.1.2.8 LACW generated in Surrey in 2017/18 was 536,000 tonnes. By dividing the total LACW tonnage value by the number of households for 2016 an average waste per household was generated at 1.09 tonnes.

Step 2 – Determining growth profile

- 2.1.2.9 Using the method for calculating a growth profile outlined in the nPPG a number of growth rates were calculated based on the percent change in waste generated per household (Figure 2).

²¹ Ministry of Housing, Communities and Local Government (MHCLG) Number of Dwellings by Tenure and District Last Updated March 2018

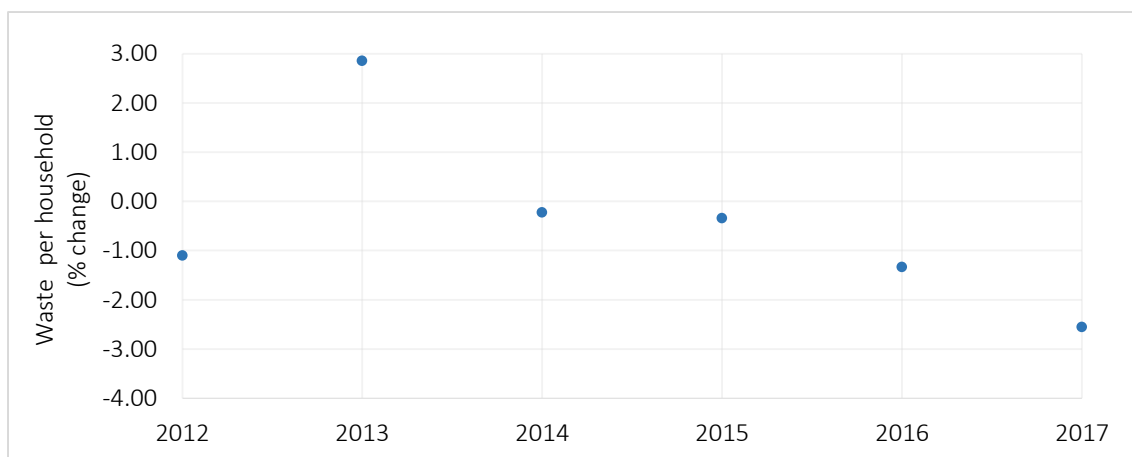


Figure 2 Annual percentage change in the waste produced per dwelling

2.1.2.10 Growth scenarios were modelled by using the baseline figure for waste arising per household for 2017/18 (1.09 tonnes per household) and the change in waste for each scenario in Table 10. The high growth value was selected as being the worst-case estimate of future arisings.

Table 10 Selected scenarios for predicting future household waste arisings in Surrey

Scenario	Growth Rate	Evidence	Waste % change
Scenario 1	No change		0.0
Scenario 2	Medium growth	Based on the median annual rate of change in waste per household	-0.3
Scenario 3	High growth	Based on the 75% annual rate of change in waste per household	0.3

2.1.2.11 These likely scenarios demonstrate only a possible range of waste arisings for evaluating the need for additional waste management capacity in Surrey. These scenarios do not cover the entire range of possible circumstances that may arise. Therefore, flexibility in the new SWLP is key to enable the plan to respond to changes in circumstances e.g. market conditions, changes in environmental regulation, accelerated housing growth.

2.1.3 Results

2.1.3.1 The growth scenarios above were modelled. The range of values arrived at was between 500,000 tonnes and 566,000 tonnes by 2035 (Figure 3). A total arising of LACW of 566,000 tonnes by 2035 was used for the purposes of assessing the need for additional waste management capacity as part of the preparation of the Plan.

2.1.3.2 These estimates are only a guide and do not represent all possible scenarios for growth or changes in waste arisings, however are a useful starting point for looking at the possible amount of capacity (and number of facilities) that may be required in the future.

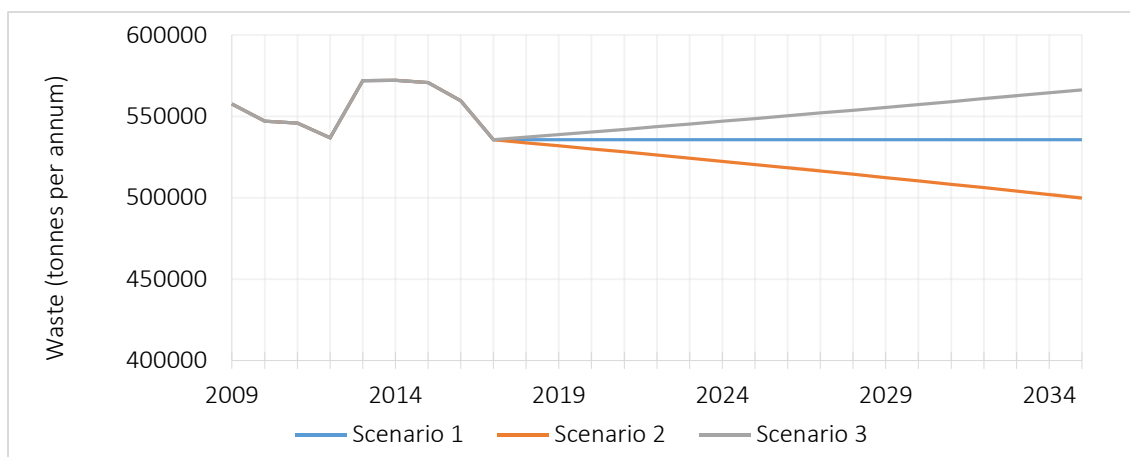


Figure 3 Range of scenarios for predicted household waste arising in Surrey 2015 to 2033 using growth profile waste generated per household

2.2 Commercial & Industrial Waste

2.2.1 Guidance on calculating arisings

2.2.1.1 A specific survey to estimate C&I waste arisings in the South East Region or Surrey County has not been carried out, results from the 2009 DEFRA National C&I Waste Arisings Survey²² are the most recent survey of C&I waste arisings in Surrey.

2.2.1.2 The national Planning Practice Guidance (nPPG) states that for commercial and industrial waste WPAs can prepare growth profiles, similar to municipal waste, to forecast future commercial and industrial waste arisings. In doing so, however, they should:

- Set out clear assumptions on which they make their forecast, and if necessary forecast on the basis of different assumptions to provide a range of waste to be managed
- Be clear on rate of growth in arisings being assumed. Waste planning authorities should assume a certain level of growth in waste arisings unless there is clear evidence to demonstrate otherwise.”

(Paragraph: 032 Reference ID: 28-032-20141016)

2.2.2 Methodology

2.2.2.1 The methodology applied to calculating a baseline for C&I waste arising in Surrey in 2016 applies the most current national methodology called Reconcile (2014)²³. The method was adapted to local circumstances. The method uses information from several key sources as outlined in Table 11.

²² Department for Environment, Food and Rural Affairs (DEFRA), 2011, Commercial & Industrial Waste Survey 2009 Final Report

²³ Department for Environment, Food and Rural Affairs (DEFRA), 2014, New Methodology to Estimate Waste Generation by the Commercial & Industrial Sector in England. Final Report. August 2014.

Table 11 Data used for calculating Commercial & Industrial (C&I) waste

Data Needed	Data source
Waste dealt with by permitted facilities	Environment Agency Waste Data Interrogator
Waste sent for incineration	Environment Agency Waste Data Tables
LACW	WasteDataFlow
Local Economic Assessment	Surrey County Council

Step 1 – Calculating Arisings

2.2.2.2 The amount of C&I waste arising in Surrey was calculated using the following equation:

$$C \& I \text{ waste} = (\text{Inputs to permitted facilities} + \text{inputs to energy from waste} + \text{exports}) \\ - (\text{LACW} + \text{C, D \& E waste} \\ + \text{mining, agricultural \& wastewater wastes,} + \text{imports})$$

2.2.2.3 Based on information extracted from the EA Waste Data Interrogator (WDI) the total amount of waste which arose in Surrey managed through permitted facilities reporting through the WDI amounted to 3,602,000 tonnes in 2017.

2.2.2.4 From this headline value the following was deducted:

- Agricultural Waste Component
- Mining Waste Component
- Hazardous Waste Component
- Wastewater Waste Component
- LACW including Green Waste sent for Composting

2.2.2.5 The national methodology discounts inputs to all types of transfer facilities as it is assumed that this material will be recorded at its destination for treatment to avoid double counting. Applying the same logic inputs to sites which operate as transfer facilities in Surrey including Transfer Stations and Material Bulking Facilities were discounted.

2.2.2.6 In-depth analysis also identified areas which may be subject to double counting:

- Sites which process waste classified under Chapter 17 (captured under Construction, Demolition & Excavation Waste)
- A proportion of Chapter 19 waste e.g. EWC 19 12 12 also counted under Construction, Demolition & Excavation Waste.

2.2.2.7 Surrey currently does not have any EfW capacity, although the site at Charlton Lane Shepperton is currently being developed. As a result, all waste destined for EfW is sent out of county. The EA dataset for EfW indicates that 11,700 tonnes of non-LACW waste from Surrey is sent out of county for EfW.

- 2.2.2.8 The updated DEFRA national reconcile method²⁴ does not include waste managed at exempt sites when calculating a baseline C&I waste arising figure. The purpose of excluding waste managed at exemptions is to avoid potential double counting of waste managed through exemptions that is then managed at sites in the WDI, or waste that is initially managed at sites in the WDI and is then treated at exempt sites.
- 2.2.2.9 The exclusion of exemptions also takes account of the purpose of this Waste Needs Assessment which is to ensure that Surrey has sufficient planned waste management capacity by estimating the amount of waste that will require management in the county through additional planned capacity. Waste managed at exempt sites on an informal or incidental basis without requiring permitting or express planning consent is considered unlikely to require planned provision.
- 2.2.2.10 However, it is considered that excluding exempt facilities could result in an underestimate of total C&I arisings. Hence, it has been decided to include a margin of error of 15% which accounts for a proportion of waste managed outside the permitting system that may need to be managed at a planned facility in the future.
- 2.2.2.11 The result of applying the adapted national methodology is an estimated 682,000 tonnes of C&I waste from Surrey was managed in 2017 from which the amount to be planned for over the Plan period may be projected.

Step 2 – Determining growth profile

- 2.2.2.12 Using the method for calculating a growth profile outlined in the nPPG, an annual growth rate of C&I waste was estimated using information in the Surrey Local Economic Assessment (LEA)²⁵. The scenarios considered are shown in Table 12. The high growth value was selected as being a worst-case estimate of future arisings.

Table 12 Selected scenarios for predicting future C&I waste arisings in Surrey

Scenario	Growth Rate	Evidence	Waste % change
Scenario 1	No change		0.0
Scenario 2	Medium growth	LEA Baseline projection for Surrey	2.8
Scenario 3	High growth	LEA Increased globalisation scenarios	3.1

- 2.2.2.13 This is a forecast only based on information available at the time. Therefore, the Plan will retain flexibility by planning for the worst case scenario and then adjusting down in light of

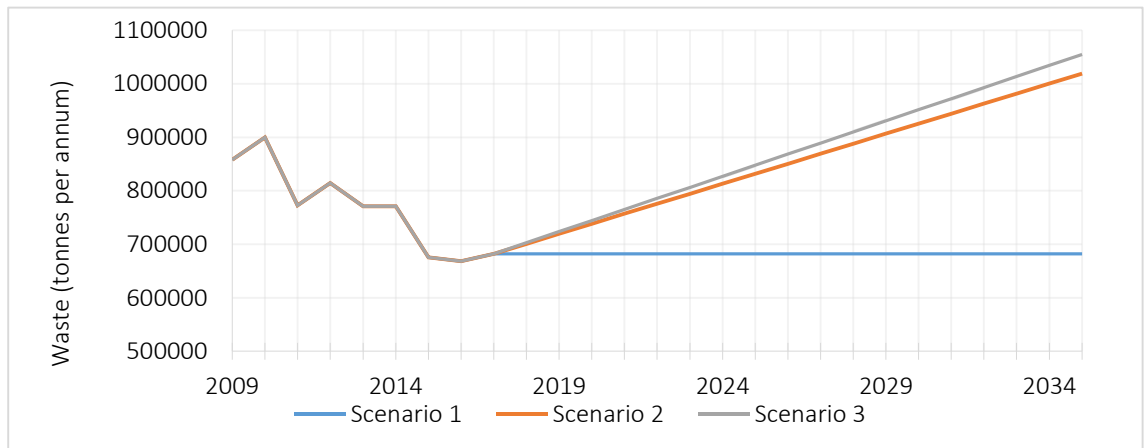
²⁴ Department for Environment, Food and Rural Affairs (DEFRA), 2018, Commercial and Industrial Waste Arisings Methodology Revisions for England. February 2018.

²⁵ Forecasts and future scenarios for the economy of Surrey: an update to the work done in 2010. A Final Report to Surrey County Council. June 2013. https://www.surreycc.gov.uk/data/assets/pdf_file/0003/27075/Economic-Scenarios-Update-Final-Report-June-2013.pdf

AMR monitoring to enable it to respond to changes in circumstances e.g. market conditions, changes in environmental regulation.

2.2.3 Results

2.2.3.1 The growth scenarios above were modelled. The range of values was between 503,000 tonnes and 1,019,000 tonnes requiring management by 2035 (Figure 4). A total arising of C & I waste of 1,019,000 tonnes was used for the purposes of assessing the need for additional waste management capacity to retain flexibility in the Plan.



2.2.3.2

Figure 4 Estimated commercial and industrial waste arisings

2.3 Construction Demolition and Excavation Waste

2.3.1 Guidance on calculating arisings

2.3.1.1 Construction waste is defined as “waste materials, which arise from the construction or demolition of buildings and/or civil engineering infrastructure, including hard construction and demolition waste and excavation waste, whether segregated or mixed”²⁶.

2.3.1.2 Construction waste can be broken down further into the following categories:

- Excavation waste – naturally occurring soil, stone, rock and similar materials (whether clean or contaminated) excavated for construction site preparation
- Demolition waste - materials arising from the demolition and removal of existing structures prior to construction. May include hard materials such as mixed unprocessed brick, concrete, tiles, steel and timber also sheeting including asbestos containing materials etc.
- Mixed construction waste – residual materials arising from construction activity including offcuts of timber, pipework and cabling plasterboard, surplus materials such

²⁶ Department for Communities and Local Government (DCLG): Survey of Arisings & Use of Construction & Demolition Waste as Aggregate in England: 2005

as bricks and spoilt materials plus packaging materials, like pallets and steel/plastic banding

2.3.1.3 The nPPG recommends that waste planning authorities should initially assume “net arisings of construction and demolition waste will remain constant over time... however, when forecasting construction and demolition waste arisings, the following may be relevant:

- Data from site waste management plans (where available)
- The fact that a sizeable proportion of construction and demolition waste arisings are managed or re-used on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way
- Any significant planned regeneration or major infrastructure projects over the timescale of the Plan.” (Paragraph: 033 Reference ID: 28-033-20141016)

2.3.2 Methodology

2.3.2.1 The calculation looks at the total Construction, Demolition and Excavation (C, D & E) waste. The methodology applied for C, D & E waste is modified from the Defra Methodology for Calculating C, D & E waste for Waste Statistics and Waste Framework Directive reporting purposes²⁷. The method was adapted to local circumstances relating to:

- Exempt sites which reflect the results of a survey of selected exemptions undertaken in November 2016.
- Waste converted into recycled aggregate based on the data reported in the Surrey Local Aggregate Assessment (LAA)²⁸.

Table 13 Data used for calculating Construction, Demolition & Excavation (C, D&E) waste

Data Needed	Data source
Waste dealt with by transfer and treatment facilities	Environment Agency Waste Data Interrogator
Waste sent to on/in land recovery and disposal sites	Environment Agency Waste Data Interrogator
Waste managed under exemptions	Environment Agency public register of exempt sites WRAP 2008 Estimate and local survey
Waste recycled as aggregate	Local Aggregate Assessment for Surrey

²⁷ Department for Environment, Food and Rural Affairs (DEFRA), 2012, Methodology for estimating annual waste generation from the Construction, Demolition & Excavation (CD&E) Sectors in England

²⁸ Surrey Local Aggregate Assessment 2015

Step 1 – Calculating Arisings

2.3.2.2 The amount of C, D & E waste arising in Surrey in 2017 was calculated applying the following equation:

$$C, D \& E \text{ waste} = \text{Inputs to permitted facilities} + \text{chapter 19 waste} + \text{recycled aggregates} + \text{exemptions}$$

2.3.2.3 Inputs of C, D & E waste include those wastes classified under the following EWC codes:

- All Chapter 17 waste (Construction & Demolition Waste)
- Some Chapter 19 waste e.g.
- 19 13 Soil and groundwater remediation (and all subcategories)
- 19 12 09 Minerals (for example soils and stones)
- Some Chapter 20 waste
- 20 02 02 (soil and stones)

2.3.2.4 An element of other Chapter 19 waste coming from intermediate sites in Surrey e.g. Waste Transfer Stations and processing sites may have arisen from C, D & E waste coming from Surrey. This amount was estimated by calculating the proportion of the Chapter 19 waste that might be attributable to Surrey given the total amount of C, D & E waste received and the proportion of this that arose in Surrey on a facility by facility basis.

2.3.2.5 The value presented for recycled aggregate production was obtained from the LAA.

2.3.2.6 The exemption survey undertaken by Surrey County Council indicated that U1 exemptions tended to be used as one-off only. Therefore the number of U1 exemptions used was that registered in Surrey over the most recent calendar year i.e. between 1st January 2016 and 31st December 2016.

2.3.2.7 Applying a value of 600 tonnes per exemption based on an estimation made for WRAP to the number of registered U1 exemptions for that period, the amount of C, D & E waste managed through exemptions was estimated.

2.3.2.8 The result of the overall calculation is an estimated 2,494,000 tonnes of C, D & E waste produced in Surrey managed through facilities in 2017.

Step 2 – Determining growth profile

2.3.2.9 Looking at outputs from the construction industry for the Surrey, as a broad indicator of construction activity in the area there is a small variance in annual growth (% change) over the past 5 years but it has stabilised around 5% for the past three years (Figure 5).

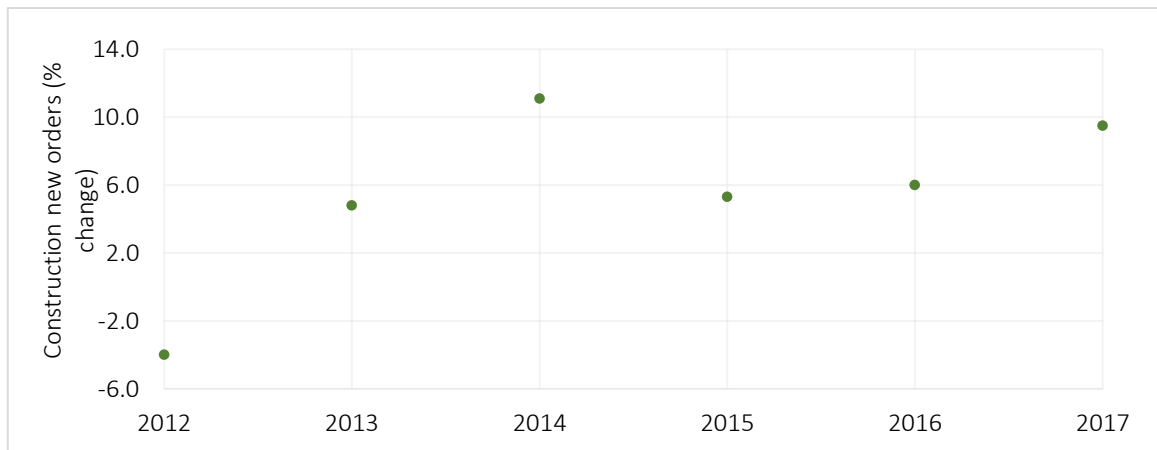


Figure 5 Output in the Construction Industry for the Surrey (£ million) between 2011 and 2017

- 2.3.2.10** Site Waste Management Plans Regulations (2008) were repealed in December 2013 as part of the Defra Red Tape Challenge. However, the implementation of a SWMP represents good practice and demonstrates that waste management practices during construction and operation are undertaken in a sustainable way in line with current UK waste legislation. However data is not made publically available and SWMPs are not necessarily produced consistently for all major development in Surrey. Therefore there is no data available to use from this source.
- 2.3.2.11** Recycling and reusing waste material on the site of production at a construction or engineering site is a common activity given the space and suitable location. Significant savings can be made in off-site waste management costs if material can either be retained or recycled on site. Mobile equipment can be brought onto a site for processing the material without having to gain express planning permission²⁹.
- 2.3.2.12** A report by WRAP³⁰ found that typically between 60 - 80% of waste generated through housing development can be reused or recycled on site. For major infrastructure projects there is also a drive to reuse or recycle material on site and a number of projects have set ambitious targets for reuse and recycling.
- 2.3.2.13** Therefore, while construction activity may increase it is expected that growth in arisings requiring off-site management - and therefore capacity provision will temper the increase in waste arisings.
- 2.3.2.14** The use of waste in construction exemption (paragraph U1) allows between 1000t and 5,000t of waste to be used in construction without requiring a permit. This is considered to be potentially the exemption that may account for substantial quantities of C, D & E waste.

²⁹ Surrey Aggregate Recycling Joint Development Plan Document (ARJDPD). Adopted 2013.

³⁰ Waste & Resources Action Programme (WRAP), 2008, Newsletter: *Recycled content in construction: Sustainable construction for the housing sector*

A report, produced for WRAP³¹ estimated a mean value for U1 exemptions as 600 tonnes per exemption.

2.3.2.15 Surrey County Council undertook a survey of exempt sites in November 2016. Key findings for U1 exemptions were:

- 13 of the 44 entities registered as holding a U1 exemption at the time of the survey responded.
- The amount of waste managed under U1 exemptions ranged from 1 tonne – 1,000 tonnes with an average of 226 tonnes.
- Most U1 exemptions were used to manage only waste produced onsite.
- Most U1 exemptions were used only once i.e. as a one-off exercise.

2.3.2.16 The waste managed at exempt sites has been accounted for in the baseline figure for C, D & E waste arisings in Surrey using 600 tonnes for each exemption.

2.3.2.17 There are a number of significant planned regeneration or major infrastructure projects in Surrey which may or may not come forward during the plan period (2018 – 2033). These are listed in Table 14.

Table 14 Planned regeneration or major infrastructure projects in Surrey during the plan period 2018 – 2033

Significant housing projects	Major infrastructure projects
Wisley New Settlement	Crossrail 2
Dunsfold New Settlement	HS2
Longcross Garden Village	Heathrow Expansion
Guildford Urban Extension at Gosden Hill Farm	River Thames Scheme
Guildford Urban Extensions at Blackwell Farm	Highway Improvements Wisley Jct 10
Redhill Urban Extension	Proposed London Cancer Hub at Belmont, Sutton
Tandridge Local Plan New Settlement	

2.3.2.18 Given the lack of information about when, where and what type of waste these projects are likely to generate it is considered inappropriate to include arisings from these in a specific scenario. Moreover, the management of waste arising from major development and specific engineering projects is expressly planned for as part of the project. Often dedicated outlets are created to accept spoil such as Wallasea Island or it may be incorporated into the overall landscaping of a development. SCC will engage with relevant parties including district and borough planners around such matters as and when firm proposals come forward.

³¹ Waste & Resources Action Programme (WRAP), 2013, Review of the factors causing waste soil to be sent to landfill, 2007 to 2011

2.3.2.19 Taking account of the nPPG which states that “net arisings of construction and demolition waste will remain constant over time” based on the fact that “there is likely to be a reduced evidence base on which forward projections can be based for construction and demolition wastes” the needs assessment uses the baseline figure (Table 15).

Table 15 Selected scenarios for predicting future C,D&E waste arisings in Surrey

Scenario	Growth Rate	Evidence	Waste % change
Scenario 1	No change	national Planning Practice Guidance for waste Paragraph: 033	0.0

2.3.3 Results

2.3.3.1 The report uses arising of 2,494,000 tonnes of C, D & E waste for the purposes of assessing the need for additional waste management capacity the Plan (Figure 6).

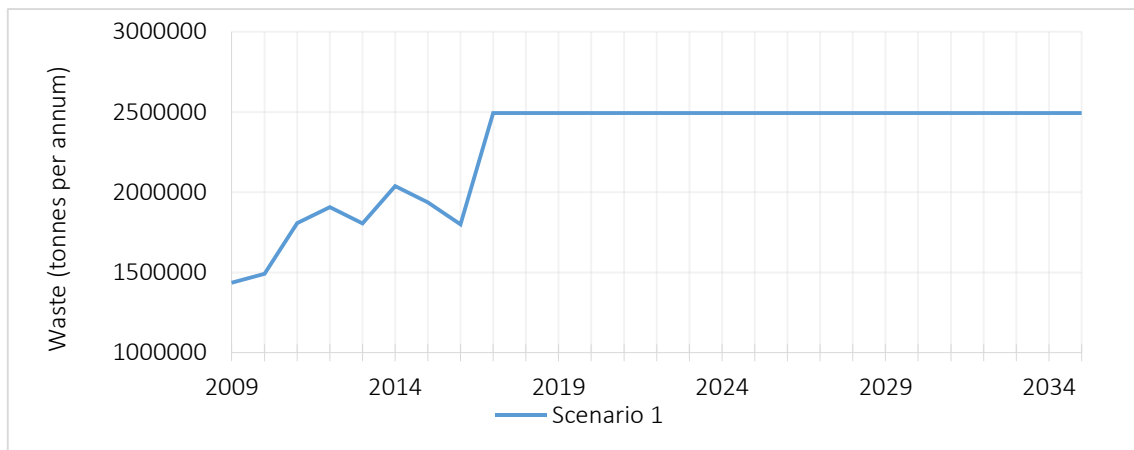


Figure 6 Estimated Construction, Demolition & Excavation waste arisings forecasts

2.4 Hazardous Waste

2.4.1 Guidance on calculating arisings

2.4.1.1 Data on quantities of hazardous waste arising may be obtained from the Environment Agency through their Hazardous Waste Data Interrogator (HWDI) (nPPG Paragraph: 035 Reference ID: 28-035-20141016).

2.4.1.2 The nPPG states that since existing data on hazardous waste arisings is likely to be robust, waste planning authorities should plan for future hazardous wastes arisings based on extrapolating time series data (Paragraph: 034 Reference ID: 28-034-20141016).

2.4.1.3 The Surrey Waste Plan 2008 notes that approximately 21,200 tonnes of hazardous waste was produced in Surrey in 2003. A study conducted for the South East England Regional Assembly estimated that nearly 30,000 tonnes (29,884 tonnes) of hazardous waste were produced in Surrey in 2006.

2.4.2 Methodology

2.4.2.1 The value for hazardous waste managed in Surrey was extracted from the HWDI. This was compared to information on hazardous waste movements into and out of Surrey provided by the EA.

Step 1 – Calculating Arisings

2.4.2.2 Using information from the HWDI for the past five years (Table 16) a value of 62,000 was selected to take into account the recent rise in hazardous waste arisings.

Table 16 Hazardous waste arisings from Surrey for the period 2009 - 2015 (tonnes per annum) Source: EA Hazardous Waste Interrogator

	2012	2013	2014	2015	2016	2017
Hazardous Waste (Tonnes)	34,000	35,000	34,000	68,000	62,000	53,000

Step 2 – Determining growth profile

2.4.2.3 Given the variation in hazardous waste arisings in Surrey over recent years the recommended approach to extrapolate the time series data was considered to be inappropriate. An alternative approach was used based on commercial and industrial waste.

2.4.2.4 Data for the UK as a whole showed that in 2012 over half of hazardous waste came from the commercial and industrial sector (Table 17). Therefore, hazardous waste arisings are considered likely to increase in line with commercial and industrial waste arisings as a whole.

Table 17 Hazardous waste arisings by waste stream for the UK 2012³²

	Tonnes	Proportion
Household	1,306,000	22%
Commercial & Industrial	3,173,000	53%
Construction	1,057,000	18%
Other	395,000	7%

2.4.2.5 The growth rate for commercial and industrial waste was based on the number of active enterprises which are related to the local economy. The same growth rates used for estimating commercial and industrial waste were applied to hazardous waste (Table 18).

³² Department for Environment, Food & Rural Affairs, January 2015, Digest of Waste and Resource Statistics – 2015 Edition

Table 18 Selected scenarios for predicting future C&I waste arisings in Surrey

Scenario	Growth Rate	Evidence	Waste % change
Scenario 1	No change		0.0
Scenario 2	Medium growth	LEA Baseline projection for Surrey	2.8
Scenario 3	High growth	LEA Increased globalisation scenarios	3.1

2.4.2.6 Growth scenarios were modelled by using the baseline figure for hazardous waste arising (53,000 tonnes) and the annual growth rate for each scenario in Table 18.

2.4.2.7 These scenarios do not cover the entire range of possible circumstances that may arise. Therefore, flexibility in the Plan is key to enable the plan to respond to changes in circumstances e.g. market conditions, changes in environmental regulation.

2.4.3 Results

2.4.3.1 The growth scenarios above were modelled. The range of values was between 53,000 and 88,000 by 2035. A figure of 88,000 tonnes was considered to be the worst case scenario.

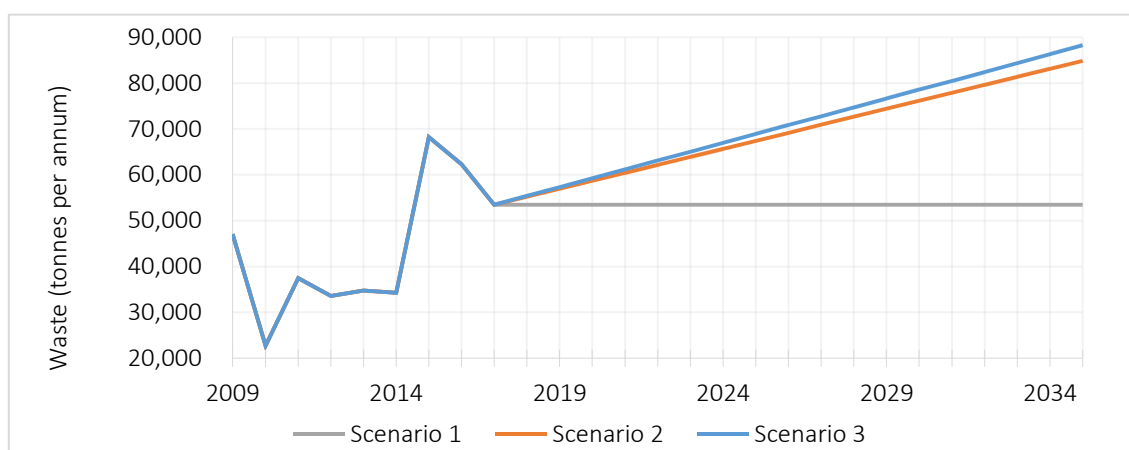


Figure 7 Estimated hazardous waste arising forecasts for Plan period

2.4.3.2 However, there are no proposed sites for hazardous waste as:

- Surrey currently has sufficient capacity to manage hazardous waste arisings at Patteson Court Landfill;
- no sites were put forward for hazardous waste facilities under the call for sites; and
- hazardous waste will need to be treated at specialist facilities and government recognise that such waste might therefore have to travel further.

2.5 Other Types of Waste

2.5.1 Wastewater

2.5.1.1 Waste water management is primarily the responsibility of the regulated water utility companies. The provision of treatment facilities is usually considered on a case-by-case basis in discussion with developers. Consequently it is not considered necessary to make strategic provision for such facilities.

2.5.1.2 However, suitable policies to ensure that new and existing sites can be developed to provide Surrey's ongoing wastewater and associated sludge management requirements without adversely impacting the environment or the community.

2.5.2 Agricultural Waste

2.5.2.1 The agricultural industry produces a range of wastes the majority of which are associated with the inputs to farming such as agrochemicals, seeds, animal health products and machinery and its outputs. These can be further identified as natural agricultural waste (slurries and manure) and non-natural agricultural wastes (containers, plastics, bags and silage sheets, tyres, batteries, clinical waste, old machinery, oil).

2.5.2.2 The amount of agricultural waste³³ managed at permitted facilities which arose in Surrey in 2017 was 35,000 tonnes. The majority of this is organic waste managed at facilities across the border in West Sussex as Surrey has only limited merchant organic waste treatment capacity.

Table 19 Agricultural wastes arising in Surrey based on information from the EA WDI (tonnes per annum)

	2013	2014	2015	2016	2017
Waste (Tonnes)	15,000	30,000	47,000	38,000	35,000

2.5.2.3 In addition to that managed through permitted sites, a substantial proportion of this waste will be managed through exempt facilities for which there is limited information available.

2.5.2.4 The total waste produced by agriculture in Surrey is considered to be unlikely to be sufficient to justify the identification of land for strategic waste management facilities dedicated to this sector. However, the need to support agricultural holdings in managing their waste in the most sustainable way, including by treating this waste on site may be addressed through the inclusion of policies or supporting text recognising the need for capacity to manage small scale or local arisings.

2.5.3 Anaerobic Digestion

2.5.3.1 In the plan area context, there has been one application for a small-scale AD to manage agricultural waste since 2008. The proposal was for 'Construction of an Anaerobic Digestion Plant for production of heat and power and organic fertiliser' (Planning ref.

³³ That classified as European Waste Category 02 01 in the EA WDI

MO/2012/1271). This application was refused and dismissed on appeal. The reasons for the refusal were:

- Inappropriate development in the Greenbelt
- Insufficient evidence to support special circumstances for development in the Greenbelt

2.5.3.2 It is recognised that in principle AD is a technology that sits above traditional energy from waste in the hierarchy and can offer benefits like heat, power and fertiliser to farms and rural communities. When reviewing the policy for the location of waste management facilities, how such uses might be encouraged, while ensuring that appropriate level of protection remains in place will be given special consideration.

2.5.4 Nuclear waste and Radioactive Waste

2.5.4.1 The Nuclear Decommissioning Authority lists 35 sites for major radioactive waste producers. Surrey has no major nuclear waste producers identified within it. However, there are many hospitals and industrial, educational and research establishments that produce small quantities of low or very low level radioactive wastes. Most of this waste is safely disposed of with municipal, commercial or industrial wastes.

2.5.4.2 An estimate for the total radioactive waste in the South East region was reported as 11,000m³, of which Low Level Radioactive Waste (LLW) was 3,837 m³. The forecasted LLW arisings for the South East Region are summarised below.

Table 20 Forecasted LLW arisings for the South East Region based on the South East of England Regional Assembly Report³⁴

Year	2015-2019	2020-2029	2030-2039
Arisings (tonnes)	24,700	16,300	11,900

2.5.4.3 No landfills in the South East are permitted to dispose of low level waste, where the South East to be Kent, East and West Sussex, Hampshire, Surrey and London south of the Thames. The incinerator at the Veterinary Laboratories Agency in Weybridge is permitted to incinerate radioactive waste generated on site, but is not permitted to receive third party waste.

2.5.4.4 A briefing paper published by NuLeAF³⁵ and updated in February 2015 provides interim advice on approaches to radioactive waste management in local plans. This document includes an overview of existing planning policies on radioactive waste, development in

³⁴ South East of England Regional Assembly, 2009, Study into the Arisings and Management of Hazardous Waste and Low Level Radioactive Waste in the South East Region of England (D118128)

³⁵ Nuclear Legacy Advisory Forum (NuLeAF) 2013 (updated 2015), Advice on Approaches to Radioactive Waste Management in Local Plans

government's approach to spatial planning, Duty to Cooperate and the National Waste Management Plan.

2.5.4.5 Following advice from NuLeAF the Plan will ensure that appropriate policies are included to address the potential for these types of applications.

2.5.5 Mining Waste

2.5.5.1 The Mining Waste Directive requires operators to provide a waste management plan for the minimisation, treatment, recovery and disposal of waste resulting from the extraction, treatment and storage of mineral resources and the working of quarries.

3. Methods of Waste Management

3.1 Local Authority Collected Waste (LACW)

3.1.1 Identifying methods of waste management

3.1.1.1 All data for local authority collected waste (LACW) is obtained from the Waste Disposal Authority (WDA) based on their reporting for Waste Data Flow (WDF). There are four Community Recycling Centres (CRCs) which also operate as Waste Transfer Stations (WTS). These are:

- Blenheim Road CRC, Epsom & Ewell WTS
- Slyfield CRC, Guildford & Slyfield WTS
- Horley Road CRC, Earlswood & Horley Road Materials Bulking Facility, Earlswood
- Charlton Lane CRC, Shepperton & Charlton Lane WTS

3.1.1.2 In order to estimate the proportion of waste sent for recycling vs transfer the WDA provided a breakdown of waste received at the CRC and the WTS. Transfer is not used in the management profile LACW because the final fate for all LACW is known e.g. recycling, other recovery, landfill.

3.2 Results

3.2.1.1 The management profile for LACW in 2017 (Figure 8) showed that only a small proportion of waste (6% or 32,000 tonnes) was sent to landfill. The majority of waste was recycled, composted, or recovered (94% or 532,000).

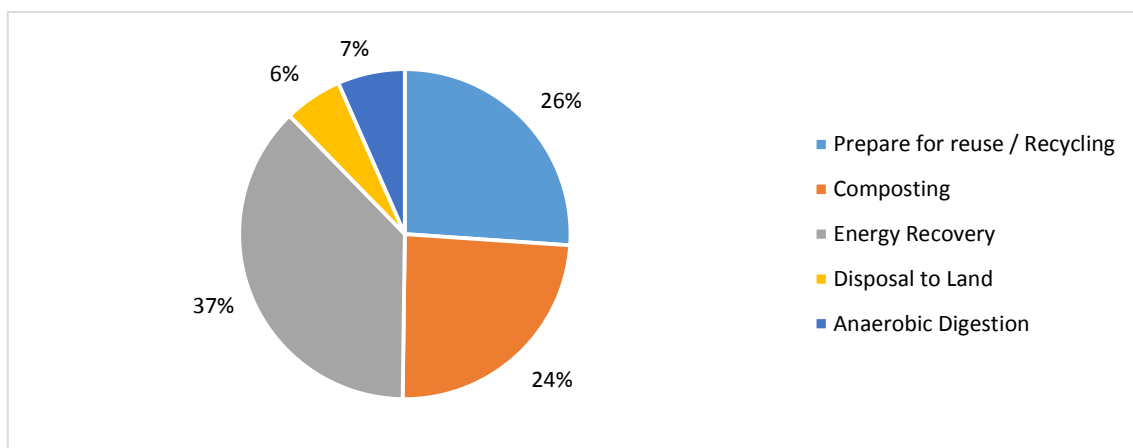


Figure 8 Management profile for Surrey household waste (LACW) 2017

3.2.1.2 There are currently no facilities for energy from waste in Surrey, although a facility at Charlton Lane is currently under construction and due to open 2019/20. Approximately 212,000 tonnes of material was sent out of the county to recovery facilities. Specifically this is sent to:

- Allington Quarry, Laverstoke Road, Maidstone, Kent (41%)

- Lakeside Energy From Waste Facility, Lakeside Road, Colnbrook, Berkshire (10%)
- Stobart Biomass, Tilbury, Thurrock (8%)
- Facility Outside The UK and within Europe (41%)

3.2.1.3 In 2017 99,000 tonnes of green waste and 37,000 tonnes of food waste were collected from the kerbside and at Community Recycling Centres (CRCs). Currently, some food waste is sent to the Anaerobic Digestion (AD) facility at Trumps Farm (38%) and green waste is sent to the composting facility, also at Trumps Farm (17%).

3.2.1.4 The remainder of food waste is primarily sent to:

- Biogen Twinwoods AD Plant, Bedfordshire (35%)
- Biogen Westwood AD Plant, Northamptonshire (11%)
- Biogen Bygrave Lodge AD Plant, Hertfordshire (7%)
- Biogen Merevale AD Plant, Warwickshire (5%)

3.2.1.5 The remainder of green waste is primarily sent to:

- KPS Composting Facility, Boathouse Farm, East Sussex (33%)
- Woodhorn Tangmere Recycling Facility, West Sussex (15%)
- Pease Pottage Composting Facility, West Sussex (12%)
- Woodhorn Runcton, West Sussex (9%)
- Walnut Tree Farm, Runcton, West Sussex (7%)

3.2.1.6 Some other sites also accept small amounts of food waste and green waste from Surrey.

3.3 Commercial & Industrial (C&I) Waste

3.3.1 Identifying methods of waste management

3.3.1.1 In order to assess how C&I waste from Surrey is managed, data was obtained from the Environment Agency (EA) Waste Data Interrogator (WDI). The breakdown for waste management method is based on those used in the calculations for waste arisings.

3.3.1.2 The breakdown of treatment types does not necessarily correspond to the treatment types used in the EA WDI as permitting and planning are distinct regimes. Table 21 shows the treatment types used by the EA and the WPA and how these have been reconciled.

Table 21 Different treatment types for sites listed in the Waste Data Interrogator that were used in producing this Waste Needs Assessment

Environment Agency Waste Data Interrogator		Surrey County Council Waste Needs Assessment	
Treatment type	Detailed treatment type	Treatment type	Detailed treatment type
Treatment	Anaerobic Digestion	Recycling	Anaerobic Digestion

Treatment	Composting	Recycling	Composting
Treatment	Material Recycling Facility	Recycling	Material Recycling Facility
Treatment	Physical Treatment	Other Recovery	Refuse Derived Fuel

3.3.2 Results

3.3.2.1 The management profile for C&I waste based on information extracted from the WDI in 2017 (Figure 9) shows that 30% of C&I waste was sent to landfill, the remainder mainly being prepared for reuse or recycling (including transfer and compost) 62% and only 4% was sent for 'other recovery' and 4% for anaerobic digestion.

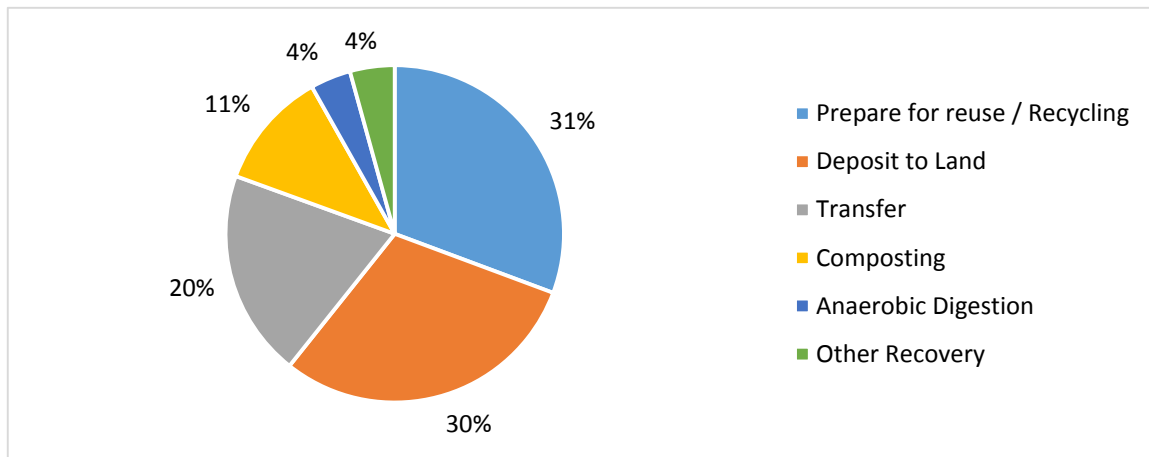


Figure 9 Management profile for Commercial and Industrial waste in Surrey in 2017 Source: EA Waste Data Interrogator

3.3.2.2 There is insufficient information on this waste stream to be able to say definitively whether more could be diverted from landfill, however given the sector profile of businesses in Surrey, with nearly 90% of businesses being 0 – 4 employees it is considered that the majority of waste produced by business premises would not be dissimilar from the types of waste produced by households.

3.3.2.3 Industrial processes may be different and produce different waste e.g. hazardous waste but they represent a relatively small proportion of the business population.

3.3.2.4 In order to continue to encourage the management of waste further up the waste hierarchy with emphasis on driving waste out of landfill, the hierarchy option of last resort, by encouraging recycling in particular, sufficient WTS and MRF capacity needs to be readily available/provided.

3.4 Construction Demolition & Excavation Waste

3.4.1 Identifying methods of waste management

3.4.1.1 In order to assess how C,D&E waste in Surrey is managed, data was obtained from the Environment Agency (EA) Waste Data Interrogator (WDI). The breakdown for waste treatment types is based on those used in the calculations for waste arisings.

3.4.1.2 The breakdown of treatment types does not necessarily reflect the treatment types provided by the EA as permitting and planning are distinct regimes. Table 22 shows the treatment types used by the EA and WPA and how these have been reconciled.

Table 22 Different treatment types for sites listed in the Waste Data Interrogator that were used in producing the Waste Needs Assessment for Surrey Waste Local Plan

Environment Agency Waste Data Interrogator		Surrey County Council Waste Needs Assessment	
Treatment type	Detailed treatment type	Treatment type	Detailed treatment type
Treatment	Composting	Recycling	Composting
Treatment	Material Recycling Facility	Recycling	Material Recycling Facility
Landfill	Inert LF ³⁶	Recovery	Restoration
On/In Land	Deposit of waste to land (recovery)	Recovery	On/In land recovery
Use of Waste	Construction	Recovery	Use of waste
Treatment	Non-Haz Waste Transfer/Treatment	Transfer	Transfer

3.4.2 Results

3.4.2.1 The management profile for C,D&E waste in 2017 (Figure 10) show that a large amount of waste (64%) was recycled (including transfer and compost), this is mostly at those sites producing recycled aggregates. The production of recycled aggregate has increased dramatically over the past five years based on information published in the Surrey LAA.

3.4.2.2 A large proportion of this waste was sent for deposit to land or recovery to land (36%) restoring minerals workings by infilling at sites such as Addlestone Quarry, Hithermoor Quarry and Shepperton Quarry.

³⁶ Based on a site by site assessment which determined that the sites looked at were minerals sites which were being restored

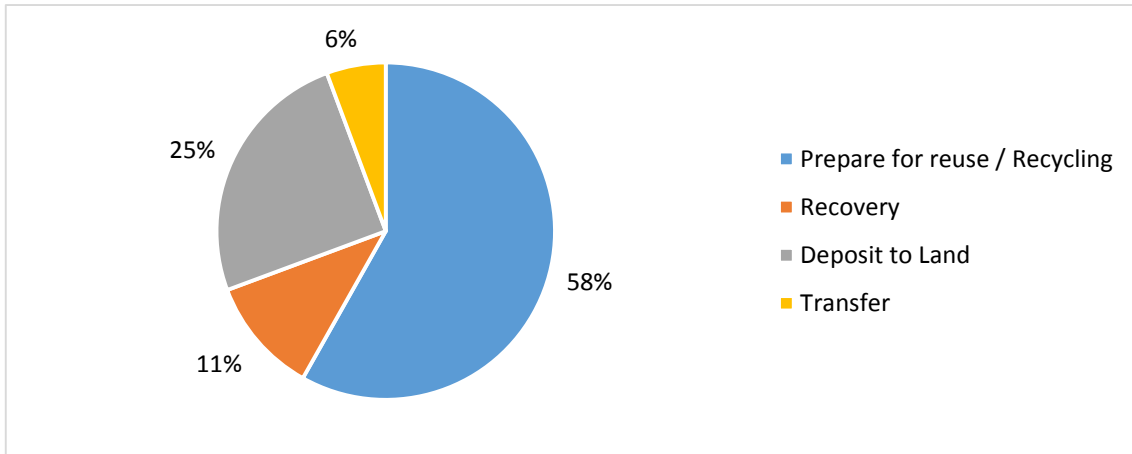


Figure 10 Management profile for Construction, Demolition and Excavation waste in Surrey 2017 Source: EA Waste Data Interrogator

3.4.2.3 While determination of whether a particular operation is classed as recovery or disposal can only be made on the basis of the technical details of the individual proposal, for the purposes of this assessment it has been assumed that the management of C,D&E waste through restoration of mineral workings is recovery. This is consistent with the Government waste hierarchy which classes backfilling of mineral workings as 'other recovery'. Such an interpretation is also supported by the fact that the use of clean soil to backfill quarries is expressly excluded from consideration of the rWFD C,D&E waste recovery targets. That is to say policy is not targeted at deterring this activity.

3.5 Future Waste Management Profiles

3.5.1.1 The targets set out in section 7.1 and the current management profiles listed above have been used to identify what the future waste management profile for Surrey could be, this is set out in Table 23. The results for waste arisings based on these management profiles are set out in Table 24.

Table 23 Future waste management profile (%)

Waste Stream	2017	2020	2025	2030	2035
Waste Recycling Target (%)					
Local Authority Collected Waste	50%	60%	65%	70%	75%
Commercial and Industrial Waste	62%	65%	70%	70%	75%
Construction, Demolition and Excavation Waste	58%	65%	70%	75%	80%
Organic / Food Waste Target (%)					
Local Authority Collected Waste	7%	6%	4%	2%	1%
Commercial and Industrial Waste	4%	3%	2%	1%	0%

Construction, Demolition and Excavation Waste	0%	0%	0%	0%	0%
Other Recovery (%) (inclu. Energy Recovery)³⁷					
Local Authority Collected Waste	38%	32%	30%	27%	23%
Commercial and Industrial Waste	4%	12%	18%	24%	23%
Construction, Demolition and Excavation Waste	17%	20%	20%	20%	18%
Disposal of Waste e.g. to landfill Target (%)					
Local Authority Collected Waste	5%	2%	1%	1%	1%
Commercial and Industrial Waste	30%	20%	10%	5%	2%
Construction, Demolition and Excavation Waste	25%	15%	10%	5%	2%

Table 24 Future waste management profile (tonnes)

Waste Stream	2017	2020	2025	2030	2035
Recycled Waste Arisings (tonnes)					
Local Authority Collected Waste	268,000	324,000	357,000	390,000	425,000
Commercial and Industrial Waste	423,000	484,000	594,000	666,000	791,000
Construction, Demolition and Excavation Waste	1,446,000	1,621,000	1,746,000	1,870,000	1,995,000
Organic / Food Waste Arisings (tonnes)					
Local Authority Collected Waste	37,000	32,000	23,000	12,000	5,000
Commercial and Industrial Waste	27,000	25,000	20,000	11,000	5,000
Construction, Demolition and Excavation Waste	0	0	0	0	0
Other Recovery Arisings (tonnes) (inclu. Energy Recovery)					

³⁷ This is not a target for the Plan but a requirement based on the remainder of waste arisings which are not managed by recycling or disposal to landfill

Local Authority Collected Waste	204,000	173,000	164,000	150,000	131,000
Commercial and Industrial Waste	27,000	86,000	149,000	227,000	238,000
Construction, Demolition and Excavation Waste	424,000	499,000	499,000	499,000	449,000
Residual Waste to Landfill Arisings (tonnes)					
Local Authority Collected Waste	27,000	11,000	5,000	6,000	6,000
Commercial and Industrial Waste	205,000	149,000	85,000	48,000	21,000
Construction, Demolition and Excavation Waste	623,000	374,000	249,000	125,000	50,000
Total Waste Arisings (tonnes)					
Local Authority Collected Waste	536,000	540,000	549,000	557,000	566,000
Commercial and Industrial Waste	682,000	744,000	848,000	951,000	1,055,000
Construction, Demolition and Excavation Waste	2,494,000	2,494,000	2,494,000	2,494,000	2,494,000

4. Capacity

4.1 Future Capacity

4.1.1.1 The capacity of extant waste management facilities in Surrey was assessed from the capacity estimates for 2017 accounting for any new capacity not yet built or closed capacity throughout the proposed plan period (Appendix 2). The future capacity for waste management in Surrey is summarised in Table 25 to Table 28.

4.1.1.2 For disposal and recovery to land an annual estimate was derived from the remaining voidspace and the amount of waste received at each site (from the EA WDI) in 2017. The amount of waste likely to be received at the site was assumed to remain constant so the total waste likely to be received at each five year interval could be determined. The amount of waste was converted from tonnes to cubic metres using a conversion rate of 1 m³ = 1.5 tonnes³⁸.

4.1.1.3 The total amount of waste received over the time interval was deducted from the available voidspace. The future capacity for disposal of non-inert waste to land capacity is summarised in Table 26 and for recovery of inert waste to land in Table 28.

Table 25 Future waste management capacity in Surrey (tonnes per annum) for recycling and other recovery (excluding aggregate recycling and recovery to land)

Treatment Type	2017	2020	2025	2030	2035
Anaerobic Digestion	110,000	110,000	110,000	110,000	110,000
Composting (subtotal)	66,000	66,000	66,000	66,000	66,000
Composting	59,000	59,000	59,000	59,000	59,000
Green waste	7,000	7,000	7,000	7,000	7,000
Other Recovery	221,000	221,000	221,000	221,000	221,000
Recycling (subtotal)	488,000	488,000	488,000	488,000	488,000
Community Recycling Centre	176,000	176,000	176,000	176,000	176,000
Materials Recovery Facility	291,000	291,000	291,000	291,000	291,000
Metal Recycling Sites (inc ELV)	21,000	21,000	21,000	21,000	21,000
Transfer (subtotal)	677,000	677,000	677,000	677,000	677,000
CRC Waste Transfer Station	532,000	532,000	532,000	532,000	532,000
Waste Transfer Station	145,000	145,000	145,000	145,000	145,000

³⁸ Surrey Mineral Restoration Supplementary Planning Document p14, footnote 17

Total	1,562,000	1,562,000	1,562,000	1,562,000	1,562,000
--------------	------------------	------------------	------------------	------------------	------------------

Table 26 Future waste management capacity in Surrey (tonnes) for deposit of non-inert waste to land³⁹

Treatment Type	2017	2020	2025	2030	2035
Disposal of non-inert waste to land	6,740,000	6,740,000	6,493,000	-	-
Less waste received		2,087,000	5,566,000	-	-
Net Capacity	6,740,000	4,653,000	927,000	-	-

Table 27 Future waste management capacity in Surrey (tonnes) for C,D&E Recycling

Treatment Type	2017	2020	2025	2030	2035
C,D&E Recycling (subtotal)	1,190,000	1,040,000	790,000	495,000	295,000
C,D&E Recycling	1,034,000	884,000	634,000	418,000	218,000
Soil Recycling Facility	156,000	156,000	156,000	77,000	77,000

Table 28 Future waste management capacity in Surrey (tonnes) for recovery of inert waste to land

Treatment Type	2017	2020	2025	2030	2035
Recovery to Land	12,896,000	10,600,000	6,004,000	5,853,000	-
Less waste received		1,624,000	4,331,000	7,038,000	-
Net Capacity	12,896,000	8,976,000	1,673,000	-	-

4.2 Future need for waste management facilities

4.2.1 Overall Need for waste management

4.2.1.1 The NPPW requires waste planning authorities to ensure that in preparing their Local Plans provision for new capacity and its spatial distribution is based on robust analysis of best available data and information, and an appraisal of options (Paragraph 2). The accompanying nPPG states that this should include identifying sufficient opportunities to meet the identified needs of an area for the management of waste, aiming to drive waste management up the Waste Hierarchy (Paragraph: 011 Reference ID: 28-011-2014101).

4.2.1.2 Overall Surrey remains net self-sufficient in the short to medium term but within this there are some key areas of need that the Plan will seek to address. In particular, to consider

³⁹ This is based on current landfill void at Pattenon Court and assumes that the facility receives 400,000 tpa based on information provided to the county council as part of the planning application RE07/0791.

additional capacity for other recovery including thermal treatment for waste which cannot be recycled to fill the predicted shortfall in non-inert waste management capacity in the latter part of the Plan period.

4.2.2 Recycling and recovery capacity (excluding recovery to land)

Preparing for Reuse or Recycling

4.2.2.1 The net available capacity for preparing waste for reuse or recycling less the predicted waste arisings is shown in Table 29.

Table 29 Waste management capacity in Surrey (tonnes per annum) for recycling and other recovery (excluding aggregate recycling and recovery to land) with the negative capacity gap shown in red⁴⁰

Treatment Type	2017	2020	2025	2030	2035
Recycling ⁴¹	540,000	423,000	281,000	175,000	15,000
Anaerobic Digestion	45,000	53,000	67,000	87,000	100,000
Other Recovery	-10,000	-39,000	-92,000	-156,000	-148,000

4.2.2.2 There is a surplus of recycling capacity in the medium to long term (includes transfer facilities). It is recognised that there may still be a need for additional recycling capacity towards the end of the plan period. The policies in the Plan make it clear that there is no cap on new recycling capacity and are supportive of new recycling facilities.

4.2.2.3 In addition, currently green waste and food waste collected from the LACW stream is largely sent outside of the county for treatment as there are only limited number of composting facilities in the county so composting facilities may be required.

Other Recovery

4.2.2.4 There are currently no EfW facilities in the county. Nearly 40% of LACW was sent outside of the county for treatment. One facility at Charlton Lane Eco Park is currently under construction and likely to be operational by 2019. This still leaves a capacity gap.

4.2.2.5 In order to continue to encourage the management of waste further up the waste hierarchy with emphasis on recycling in particular, sufficient WTS and MRF capacity also needs to be readily available.

Anaerobic Digestion

4.2.2.6 Due to targets to reduce food waste arisings and the development of an AD facility at Charlton Lane there is not currently an identified need for new AD facilities. However, this could change depending on new technological developments or achievement of food waste targets.

⁴⁰ Including Anaerobic Digestion and Other Recovery Facilities due to become operational in 2018/19

⁴¹ Including composting and transfer facilities

4.2.3 Disposal of non-inert waste to land

- 4.2.3.1 The capacity gap for disposal of non-inert waste to land is provided in Table 30. This shows that there is a capacity gap for permanent deposit to land by 2035. This is based on the planned closure of Patteson Court Landfill (2030) and this does not account for any early closure.
- 4.2.3.2 Surrey has significant non-hazardous landfill capacity at the site known as Patteson Court which is scheduled to be restored during the plan period. The capacity scenarios assume that this facility will be restored in accordance with the relevant planning permission.
- 4.2.3.3 Current experience from other planning authorities in the South East has seen a reluctance from industry in developing new landfill sites. Therefore there is a case to conserve remaining capacity at existing sites. The shortfall in non-hazardous landfill capacity in Surrey could be overcome through:
- Some inert landfill/recovery to land facilities accepting non-hazardous waste, where this is technically possible and acceptable to do so.
 - Higher diversion rates away from landfill are achieved earlier than predicted e.g. due to increases in landfill tax which make this management route less attractive and conserves capacity.
 - Facilities become more selective accepting those waste types which cannot technically, environmentally or economically be dealt with in any other way. This might be aided by policy intervention at national level - for example bans on food waste to landfill in Scotland.

Table 30 Waste management capacity in Surrey (tonnes) for disposal of non-inert waste to land (including landfill)⁴² with the negative capacity gap shown in red

Treatment Type	2017	2020	2025	2030	2035
Disposal to Land ⁴³	6,740,000	4,653,000	927,000	-178,000	-77,000
Cumulative gap				-178,000	-255,000

4.2.4 Inert waste management facilities

C,D&E Recycling

- 4.2.4.1 In order to support targets for aggregate recycling in the Surrey Minerals Plan and Aggregates Recycling Joint DPD, the SWLP needs to encourage recycling of inert C,D&E waste. It is recognised that currently there is insufficient capacity for recycled aggregates in the later part of the plan period (Table 31), based on:

⁴² Based on the arisings figure per year multiplied by the number of years

⁴³ Based on all major waste streams sent for disposal

- a) Existing permanent capacity,
- b) Potential for the renewal of temporary permissions; and
- c) Sites and policies in the ARJDPD

Table 31 Waste management capacity in Surrey (tonnes) for C,D&E Recycling (including soil recycling) with the negative capacity gap shown in red

Treatment Type	2017	2020	2025	2030	2035
C,D&E Recycling	311,000	-14,000	-389,000	-809,000	-1,134,000

4.2.4.2 In 2017 there was a large increase in the amount of recycled aggregates in Surrey from 760,000 tonnes in 2016 to 1,123,000 tonnes in 2017. This was a result of higher production of recycled aggregates at several sites. The issue of capacity for C,D&E waste recycling may be an issue, particularly if higher recycling targets are to be met, but as it is linked to the issue of producing recycled aggregates could form part of the review of the SMP 2011.

4.2.4.3 The current approach in the SWLP is to provide positively worded policies to encourage recycling of C,D&E waste, especially where these are linked to timely restoration of mineral sites but does not allocate specific sites for this purpose. The justification for this is that sites and areas identified as suitable for waste management could come forward for C, D&E waste recycling.

4.2.4.4 The sites for C,D&E waste recycling which are currently in the Green Belt are normally justified by the nature of the operation which is temporary and linked to mineral site permissions as mineral extraction is a temporary use of land.

Recovery to land

4.2.4.5 There is an identified surplus of recovery of inert waste to land capacity in the short to medium term. This is due to a number of large mineral workings which require importing of inert waste to fill the void which remains after the mineral is extracted.

Table 32 Waste management capacity gap in Surrey (tonnes) for recovery of inert waste to land (including landfill)⁴⁴ with the negative capacity gap shown in red

Treatment Type	2017	2020	2025	2030	2035
Recovery to Land ⁴⁵	12,896,000	8,976,000	1,673,000	-2,494,000	-2,244,000
Cumulative gap				-2,494,000	-4,738,000

⁴⁴ Based on the arisings figure per year multiplied by the number of years

⁴⁵ Based on C, D & E waste arisings sent for recovery to land

- 4.2.4.6 This capacity assumes that approved restoration schemes will be completed on time and to the current approved levels. As a result there is sufficient inert waste to land capacity to deal with the quantity of inert waste arising in Surrey at the current time.
- 4.2.4.7 If it is assumed that some point during the plan period those preferred areas identified in the minerals plan that have yet to come forward will come forward and follow the indicative restoration scheme as outlined in the Minerals Site Restoration SPD 2011 there is likely to be a further 5,610,000 tonnes of inert waste capacity.

5. Appendix 1 Sources of Error

5.1 LACW

- 5.1.1.1 Since 2004/5 the collection of data about LACW has been via an online web-based system called WasteDataFlow (WDF). The data that is reported into WasteDataFlow comes from information supplied by local authorities via their waste management contractor supplied on an annual basis. This information is used by DEFRA to develop national statistics.
- 5.1.1.2 In order to provide an indication of future arisings over the plan period, historic waste arising data and future housing provision data were used. Housing provision was taken from the DCLG dataset⁴⁶ for the number of dwellings. Speaking with districts and boroughs this figure may be lower than the number of new homes proposed in local plans based on other information e.g. Objectively Assessed Need.
- 5.1.1.3 However, given that the eleven districts and boroughs in Surrey are at different stages in their plan preparation process and that there were conflicting messages the WPA have used the MHCLG data as this is consistent across the districts and boroughs.
- 5.1.1.4 Modelling future waste arisings is a complex issue. As Defra⁴⁷ notes “it requires predicting future behaviour of a number of uncertain factors, such as waste arisings, recycling rates, when infrastructure projects are likely to come online and how much waste they will divert”. There is an accepted level of uncertainty in many of these factors which could potentially impact future trends.
- 5.1.1.5 However for the purposes of this study, which is to identify whether there is a capacity gap predicted and if so what its quantum might be so that sufficient land may be allocated to accommodate future need, the results shape understanding of the quantum of allocation that may be required to manage waste in Surrey. This will be only one part of the information the WPA will use in preparing the new Plan.

5.2 C&I Waste

- 5.2.1.1 There is currently no formal requirement for all businesses to report material flows or waste arisings. Existing data sources that incorporate elements of this information, such as waste transfer notes and waste permit returns, provide insufficient information to assess trends in C&I waste arisings with total confidence.
- 5.2.1.2 Evidence suggests a survey process may be an effective way of generating estimates in the absence of an established C&I waste arisings reporting mechanism. A benefit of using the 2009 Survey method is that as it breaks down arisings by sector it is possible to project arisings forward on a sector by sector basis using economic forecast modelling. However,

⁴⁶ Department for Communities and Local Government (DCLG) Number of Dwellings by Tenure and District

⁴⁷ Defra, 2013, Forecasting 2020 Waste Arisings and Treatment Capacity

there are acknowledged difficulties with quantifying C&I arisings based on surveys due to a number of reasons:

- The available data is limited due to the small number of surveys (1998/99, 2001/2 and 2009).
- The sample sizes for the surveys vary and there are concerns over the representativeness of the sample profile. This is particularly relevant when seeking to extrapolate the management profile of waste arisings from one region to another - which may have a different mix of facilities available.
- The survey itself provides a snapshot at a particular time which may not be representative either of 'normal' arisings from businesses.
- The survey relies on respondents holding and being prepared to share reliable data on arisings (in tonnes). And for the conversion factors applied where volume may be known to be reliable to convert to tonnage.
- Data may not have been designed to be used at a local scale and extrapolation is required.

5.2.1.3 As well as the limitations associated with the data from surveys, it is noted that surveys are difficult to undertake and are expensive. Another national survey of C&I arisings is unlikely to be undertaken and therefore the current information is considered the best available.

5.2.1.4 While a number of local C&I waste arisings studies have used, the 2009 National Survey, aligning with the national approach and applying the Reconcile method at a local level, is preferable going forward but it does require an in depth understanding of activities taking place at specific sites within the Plan area to ensure that double counting is avoided.

5.3 C,D&E Waste

5.3.1.1 A significant but diminishing proportion of C, D & E waste arisings are managed at sites that are exempt from permitting requirements. As a result the actual amount of C, D & E waste arising is more difficult to determine.

5.3.1.2 The methodology applied here primarily relies on Environment Agency's waste operator returns which are reported through the Waste Data Interrogator (WDI). The benefit of using the WDI is that it is updated annually and publically available.

5.3.1.3 However, the WDI does not account for waste managed at exempt sites, for which there is no obligation to report the input or annual throughput. The calculation also ignores facilities outside of the permitted system e.g. temporary facilities for use on site of production. This includes mobile crushing and screening activities. Figures for the amount of waste managed by these types of activities are difficult to obtain and there is little evidence to support assumptions for tonnages managed.

5.3.1.4 The method aims to address the issue of double counting by assuming that the proportion of C, D & E waste being sent for treatment can be applied to Chapter 19 codes to determine the equivalent C, D & E waste that is transferred onto final fates such as permanent deposit to land.

5.4 Hazardous Waste

- 5.4.1.1 The HWDI data may be an under-estimate as it relies on consignment notes being generated by the waste producer and this sometimes is not the case. However, this value is still considered to be representative of the hazardous waste produced in Surrey.

6. Appendix 2 Supporting Information

Table 33 The number of dwellings from 1991 to 2039 for each Surrey District and Borough and Surrey Total

Year	Elmbridge	Epsom and Ewell	Guildford	Mole Valley	Reigate and Banstead	Runnymede	Spelthorne	Surrey Heath	Tandridge	Waverley	Woking	Surrey
1991	45,742	25,954	49,342	32,373	47,125	29,449	35,950	29,801	28,552	45,278	33,923	403,488
1992	45,669	26,187	49,854	32,521	47,472	29,708	36,431	30,242	28,825	45,216	34,151	406,277
1993	46,283	26,227	49,870	32,629	47,857	29,971	36,665	30,479	29,148	45,378	34,364	408,872
1994	46,976	26,407	49,929	32,711	48,013	30,150	37,000	30,763	29,431	45,574	34,742	411,697
1995	47,607	26,503	49,698	32,948	48,433	30,492	37,216	30,804	29,672	45,867	35,221	414,462
1996	48,162	26,544	49,722	33,089	49,093	30,855	37,424	30,836	29,980	45,651	35,371	416,728
1997	48,798	26,678	50,553	33,215	49,690	30,985	37,626	31,167	30,435	46,175	35,589	420,910
1998	49,066	26,877	50,684	33,045	49,982	31,462	37,699	31,270	30,748	46,452	35,635	422,918
1999	49,902	27,235	51,498	33,556	50,674	31,340	38,162	31,878	31,224	46,707	36,317	428,494
2000	50,324	27,372	51,894	33,493	51,202	31,614	38,250	31,825	31,522	46,858	36,631	430,985
2001	50,649	27,415	52,426	33,666	51,777	31,738	38,380	31,779	31,730	47,191	37,036	433,787
2002	50,996	27,506	52,290	33,803	51,555	31,859	38,266	31,670	31,553	47,044	36,644	433,186
2003	51,416	27,486	52,029	34,055	51,688	31,851	38,151	31,810	31,504	47,182	36,661	433,833

Year	Elmbridge	Epsom and Ewell	Guildford	Mole Valley	Reigate and Banstead	Runnymede	Spelthorne	Surrey Heath	Tandridge	Waverley	Woking	Surrey
2004	51,578	27,678	52,055	34,195	51,800	31,549	38,048	31,925	31,549	47,264	36,604	434,245
2005	52,112	27,950	52,285	34,362	51,993	31,667	38,082	32,250	31,745	47,227	36,993	436,666
2006	52,620	28,188	52,759	34,598	52,471	31,704	38,247	32,616	31,949	47,562	37,659	440,373
2007	52,839	28,553	52,987	34,873	53,145	32,134	38,506	32,929	32,323	47,845	38,098	444,232
2008	52,886	28,983	52,916	35,310	53,633	32,328	38,845	32,947	32,572	48,287	38,461	447,168
2009	52,842	29,156	53,271	35,583	54,456	32,511	39,104	33,198	32,834	48,684	38,756	450,395
2010	53,123	29,507	53,816	35,919	55,141	32,687	39,340	33,491	33,230	49,036	39,185	454,475
2011	53,121	29,831	54,116	35,948	55,629	32,677	39,610	33,664	33,435	49,368	39,599	456,998
2012	53,174	30,183	54,652	36,198	56,304	33,070	40,050	33,884	33,768	49,455	39,577	460,315
2013	53,360	30,576	55,325	36,379	56,935	33,561	40,329	34,152	34,251	49,694	39,764	464,326
2014	53,525	30,931	56,054	36,449	57,803	34,019	40,626	34,402	34,670	49,942	39,778	468,199
2015	53,880	31,359	56,843	36,682	58,647	34,486	41,014	34,671	35,103	50,290	40,072	473,047
2016	54,254	31,764	57,583	36,951	59,501	34,946	41,415	34,926	35,534	50,657	40,374	477,905
2017	54,653	32,181	58,213	37,246	60,362	35,379	41,826	35,204	35,964	51,020	40,653	482,701
2018	55,092	32,602	58,862	37,563	61,243	35,802	42,235	35,494	36,424	51,414	40,980	487,711

Year	Elmbridge	Epsom and Ewell	Guildford	Mole Valley	Reigate and Banstead	Runnymede	Spelthorne	Surrey Heath	Tandridge	Waverley	Woking	Surrey
2019	55,541	33,011	59,479	37,876	62,121	36,222	42,654	35,753	36,895	51,810	41,286	492,648
2020	55,969	33,438	60,063	38,183	62,986	36,614	43,087	36,024	37,360	52,183	41,597	497,504
2021	56,395	33,845	60,625	38,495	63,820	36,996	43,510	36,259	37,825	52,569	41,908	502,247
2022	56,822	34,251	61,146	38,811	64,644	37,363	43,925	36,503	38,284	52,945	42,203	506,897
2023	57,268	34,665	61,670	39,129	65,462	37,743	44,348	36,743	38,747	53,329	42,513	511,617
2024	57,714	35,070	62,198	39,449	66,286	38,135	44,769	36,976	39,219	53,718	42,816	516,350
2025	58,165	35,487	62,703	39,767	67,106	38,518	45,201	37,213	39,675	54,101	43,123	521,059
2026	58,623	35,897	63,222	40,103	67,914	38,922	45,631	37,438	40,144	54,501	43,442	525,837
2027	59,079	36,311	63,720	40,430	68,716	39,318	46,063	37,670	40,603	54,901	43,745	530,556
2028	59,543	36,725	64,230	40,754	69,516	39,718	46,510	37,897	41,060	55,299	44,056	535,308
2029	60,012	37,141	64,741	41,086	70,322	40,113	46,963	38,125	41,525	55,694	44,361	540,083
2030	60,488	37,558	65,243	41,417	71,119	40,503	47,416	38,364	41,973	56,098	44,677	544,856
2031	60,971	37,967	65,755	41,754	71,917	40,896	47,875	38,593	42,426	56,492	45,001	549,647
2032	61,440	38,366	66,242	42,079	72,695	41,287	48,340	38,815	42,870	56,871	45,313	554,318
2033	61,914	38,756	66,723	42,407	73,481	41,661	48,811	39,037	43,308	57,246	45,631	558,975

Year	Elmbridge	Epsom and Ewell	Guildford	Mole Valley	Reigate and Banstead	Runnymede	Spelthorne	Surrey Heath	Tandridge	Waverley	Woking	Surrey
2034	62,375	39,136	67,196	42,735	74,276	42,019	49,274	39,260	43,750	57,602	45,932	563,555
2035	62,832	39,513	67,665	43,057	75,060	42,377	49,736	39,492	44,180	57,958	46,241	568,111
2036	63,289	39,889	68,140	43,387	75,845	42,736	50,200	39,726	44,611	58,322	46,551	572,696
2037	63,742	40,264	68,610	43,712	76,634	43,097	50,672	39,959	45,041	58,684	46,862	577,277
2038	64,190	40,629	69,067	44,023	77,402	43,448	51,139	40,183	45,460	59,027	47,160	581,728
2039	64,628	40,985	69,505	44,326	78,147	43,785	51,590	40,395	45,868	59,349	47,440	586,018

Table 34 Estimated capacity⁴⁸ for waste management facilities in Surrey in 2017

District or Borough	Site Name	Treatment Type	Treatment Category	2017 Throughput (tpa)	Capacity (m3)	Capacity (tpa)	Close Date	Method
Elmbridge	Silvermere Haven Pet Cemetery	Clinical Waste Treatment	Clinical Waste Treatment	203		244		EA Waste Data Interrogator
Elmbridge	Unit 10	Waste Transfer Station	Transfer	13932		18627		EA Waste Data Interrogator
Elmbridge	Weylands Treatment Works	Materials Recovery Facility	Recycling	35054		42065		EA Waste Data Interrogator
Epsom and Ewell	1st Place Skips, Epsom Chalk Pit	Waste Transfer Station	Transfer	9558		24926		EA Waste Data Interrogator
Epsom and Ewell	Abal Waste Ltd, The Chalk Pit	Materials Recovery Facility	Transfer	3898		7131		EA Waste Data Interrogator
Epsom and Ewell	Epsom Community Recycling Centre	Community Recycling Centre	Recycling	9563		17500		Survey
Epsom and Ewell	Epsom Community Recycling Centre	CRC Waste Transfer Station	Transfer	53567		102500		Survey
Epsom and Ewell	Epsom Skip Hire, The Chalkpit	Waste Transfer Station	Transfer	17732		21279		EA Waste Data Interrogator
Epsom and Ewell	Mid-Surrey Farm	Composting	Composting	1152		3506		EA Waste Data Interrogator

⁴⁸ Based on information available for waste management facilities in Surrey and the methodology in the Capacity Scoping Statement published in 2016

Guildford	20-24 Westfield Road	Materials Recovery Facility	Recycling	107761		129313		EA Waste Data Interrogator
Guildford	Ash Vale WTS	Waste Transfer Station	Transfer	42096		51309		EA Waste Data Interrogator
Guildford	Chapel Farm	Materials Recovery Facility	Recycling	0		9318		EA Waste Data Interrogator
Guildford	Clasford Bridge	C,D&E Recycling	Recycling	16670		62500		Planning Permission
Guildford	Guildford CRC & WTS	Community Recycling Centre	Recycling	7090		13300		Survey
Guildford	Guildford CRC & WTS	CRC Waste Transfer Station	Transfer	123496		136700		Survey
Guildford	Guildford Metal Exchange	Metal Recycling Sites (inc ELV)	Recycling			12000		Planning Permission
Guildford	Jury Farm	Composting	Composting			2880		Planning Permission
Guildford	Land at Strawberry Farm	Soil Recycling Facility	Recycling	14800		20400		EA Waste Data Interrogator
Guildford	Merrow Highway Depot	Physical Treatment	Treatment	1792		2349		EA Waste Data Interrogator
Guildford	Repairable Vehicles Ltd,Chapel Farm	Metal Recycling Sites (inc ELV)	Recycling	1700		2039		EA Waste Data Interrogator
Guildford	Three Acres Yard	Composting	Composting			2000		Planning Permission
Mole Valley	81 Woodlands Road	Metal Recycling Sites (inc ELV)	Recycling			300		Survey

Mole Valley	Dorking CRC	Community Recycling Centre	Recycling	2813		7500		Survey
Mole Valley	Dorking West Station Yard	Metal Recycling Sites (inc ELV)	Recycling	1212		1500		EA Waste Data Interrogator
Mole Valley	Leatherhead CRC and WTS	Community Recycling Centre	Recycling	7872		12000		Survey
Mole Valley	Leatherhead CRC and WTS	CRC Waste Transfer Station	Transfer	42752		48000		Survey
Mole Valley	Randalls Road MRF	Materials Recovery Facility	Recycling	34161		53693		EA Waste Data Interrogator
Mole Valley	Regiate Road Quarry	Recovery to Land	Recovery	165227	200000			EA Remaining Landfill Capacity / EA Waste Data Interrogator
Mole Valley	Reigate Road MRF	C,D&E Recycling	Recycling	22610		45000		Planning Permission
Mole Valley	Swires Farm	Composting	Composting			10000		Planning Permission
Mole Valley	Unit 2 Plough Industrial Estate	C,D&E Recycling	Recycling	38266		49035		EA Waste Data Interrogator
Reigate & Banstead	2 Perrylands Lane	C,D&E Recycling	Recycling	35380		42456		EA Waste Data Interrogator
Reigate & Banstead	Earlwood CRC	Community Recycling Centre	Recycling	9056		16000		Survey
Reigate & Banstead	Earlwood CRC	CRC Waste Transfer Station	Transfer	80816		119000		Survey
Reigate & Banstead	Enlightened Lamp Recycling	Materials Recovery Facility	Recycling			1000		Planning Permission

Reigate & Banstead	Epsom Lane	Metal Recycling Sites (inc ELV)	Recycling	160		244		EA Waste Data Interrogator
Reigate & Banstead	Fuller Grab Hire	Soil Recycling Facility	Recycling	7920		17330		EA Waste Data Interrogator
Reigate & Banstead	Little Orchard Farm	C,D&E Recycling	Recycling	249980		299976		EA Waste Data Interrogator
Reigate & Banstead	Patteson Court Landfill	Non-hazardous Landfill	Landfill	666409	4328455		2030	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Reigate & Banstead	Patteson Court Landfill	Soil Recycling Facility	Recycling	60614		79000	2030	Planning Permission
Reigate & Banstead	West View	Metal Recycling Sites (inc ELV)	Recycling			1000		Planning Permission
Runnymede	Addlestone Quarry	C,D&E Recycling	Recycling	54036		100000	2020	Planning Permission
Runnymede	Addlestone Quarry	Recovery to Land	Recovery		551145		2020	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Runnymede	Capital House	C,D&E Recycling	Recycling	1133		18000		Planning Permission
Runnymede	Fairfields	Metal Recycling Sites (inc ELV)	Recycling	0		32		EA Waste Data Interrogator
Runnymede	Fordwater Trading Estate	Metal Recycling Sites (inc ELV)	Recycling	348		417		EA Waste Data Interrogator
Runnymede	Lyne CRC	Community Recycling Centre	Recycling	6528		12000		Survey
Runnymede	Ruxbury Farm	Composting	Composting			1200		Planning Permission

Runnymede	Trumps Farm	Composting	Composting	26018		31593		EA Waste Data Interrogator
Runnymede	Trumps Farm AD	Anaerobic Digestion	Anaerobic Digestion	58039		69646		EA Waste Data Interrogator
Spelthorne	Charlton Lane Eco Park	Anaerobic Digestion	Anaerobic Digestion	0		40000		Survey
Spelthorne	Charlton Lane Eco Park	Community Recycling Centre	Recycling	12069		22000		Survey
Spelthorne	Charlton Lane Eco Park	CRC Waste Transfer Station	Transfer	58011		125500		Survey
Spelthorne	Charlton Lane Eco Park	Other Recovery	Recovery	0		45000		Planning Permission
Spelthorne	Hengrove Farm & Hengrove Park	Recovery to Land	Recovery		0		2020	Planning Permission
Spelthorne	Hithermoor Quarry	C,D&E Recycling	Recycling	303499		250000	2022	Planning Permission
Spelthorne	Hithermoor Quarry	Recovery to Land	Recovery		0		2022	Planning Permission
Spelthorne	Home Farm c&o Shepperton Quarry	Recovery to Land	Recovery	11308	979000		2020	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Spelthorne	Homers Farm	Recovery to Land	Recovery		540000		2021	Planning Permission
Spelthorne	Land at 111 Windmill Road	Waste Transfer Station	Transfer	250		395		EA Waste Data Interrogator
Spelthorne	Land at Bugle Nurseries	Materials Recovery Facility	Recycling	0		9312		EA Waste Data Interrogator
Spelthorne	Manor Farm Quarry	Recovery to Land	Recovery		0			Planning Permission

Spelthorne	Oakleaf Farm	Other Recovery	Recovery	73377		88052		EA Waste Data Interrogator
Spelthorne	Oakleaf Farm	Other Recovery	Recovery	73377		88052		EA Waste Data Interrogator
Spelthorne	Queen Mary Quarry	C,D&E Recycling	Recycling	5619		200000	2033	Planning Permission
Spelthorne	Stanwell Quarry	Recovery to Land	Recovery	6048	101154		2027	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Spelthorne	Stanwell Quarry	C,D&E Recycling	Recycling	137042		216802	2027	EA Waste Data Interrogator
Surrey Heath	Bagshot CRC	Community Recycling Centre	Recycling	3383		6000		Survey
Surrey Heath	Bluebell Copse	Green waste	Composting	5850		7020		EA Waste Data Interrogator
Surrey Heath	Camberley CRC	Community Recycling Centre	Recycling	8337		13000		Survey
Surrey Heath	Camberley Treatment Works	Sludge Treatment	Treatment	49800		59760		EA Waste Data Interrogator
Surrey Heath	Chobham Car Spares	Metal Recycling Sites (inc ELV)	Recycling	623		1061		EA Waste Data Interrogator
Surrey Heath	Ecovert Ltd	Waste Transfer Station	Transfer	12944		26671		EA Waste Data Interrogator
Surrey Heath	The Compost Centre	Composting	Composting	6023		7228		EA Waste Data Interrogator
Tandridge	Caterham CRC	Community Recycling Centre	Recycling	3582		7000		Survey
Tandridge	Hays Bridge Farm	Materials Recovery Facility	Recycling	2630		3156		EA Waste Data Interrogator

Tandridge	Hays Bridge Farm	Materials Recovery Facility	Recycling	24729		30566		EA Waste Data Interrogator
Tandridge	Hillbury Farm	Metal Recycling Sites (inc ELV)	Recycling			971		Planning Permission
Tandridge	Land adjoining Willetts Cottage	Materials Recovery Facility	Recycling	656		787		EA Waste Data Interrogator
Tandridge	Mercers South Quarry	Recovery to Land	Recovery	14470	0			EA Waste Data Interrogator
Tandridge	Moorhouse Sandpits	Soil Recycling Facility	Recycling			25000		Planning Permission
Tandridge	Normans Corner	C,D&E Recycling	Recycling	20310		33000		Planning Permission
Tandridge	Oxted Quarry Landfill	Recovery to Land	Recovery	143455	2238824		2042	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Tandridge	Oxted Sandpit	Recovery to Land	Recovery		338000			Planning Permission
Tandridge	Surrey Pet Cemetery	Clinical Waste Treatment	Clinical Waste Treatment	109		131		EA Waste Data Interrogator
Tandridge	Taylors Hill Depot	Waste Transfer Station	Transfer	29		305		EA Waste Data Interrogator
Tandridge	Unit 35	Materials Recovery Facility	Recycling	4098		4917		EA Waste Data Interrogator
Tandridge	Unit 8, Shawlands Court	Waste Transfer Station	Transfer			590		Planning Permission
Tandridge	Warlingham CRC	Community Recycling Centre	Recycling	1528		3500		Survey

Waverley	Alton Road Sandpit	Recovery to Land	Recovery	127427	2524000		2022	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Waverley	Bourne Mill Community Recycling Centre	Community Recycling Centre	Recycling	3876		7500		Survey
Waverley	Green World Trading	Waste Transfer Station	Transfer	1121		1345		EA Waste Data Interrogator
Waverley	Homefield Sandpit	C,D&E Recycling	Recycling	181326		217591	2042	EA Waste Data Interrogator
Waverley	Homefield Sandpit	Recovery to Land	Recovery	26807	1102992		2042	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Waverley	Kill Copse, Willinghurst Estate	C,D&E Recycling	Recycling	9200		16500		Planning Permission
Waverley	Nanhurst Civic Amenity Site	Community Recycling Centre	Recycling	2587		5000		Survey
Waverley	Refine Metals	Metal Recycling Sites (inc ELV)	Recycling	101		121		EA Waste Data Interrogator
Waverley	Runfold South Inert Recycling Facility	C,D&E Recycling	Recycling	17370		50000	2018	Planning Permission
Waverley	Runfold South Landfill Area A	Non-hazardous Landfill	Landfill	29402	165000		2024	EA Remaining Landfill Capacity / EA Waste Data Interrogator
Waverley	Scrap Yard adjacent to Old Ewhurst Brickworks	Metal Recycling Sites (inc ELV)	Recycling			1600		Planning Permission
Waverley	Stockstone Quarry	Recovery to Land	Recovery	46606	22025			EA Remaining Landfill Capacity / EA Waste Data Interrogator

Waverley	Witley CRC	Community Recycling Centre	Recycling	6625		17000		Survey
Woking	Elm Nursery	Composting	Composting			1000		Planning Permission
Woking	Martyrs Lane CRC	Community Recycling Centre	Recycling	10947		17000		Survey
Woking	Mimbridge Nurseries	Soil Recycling Facility	Recycling			14000		Planning Permission