

Annex 2

Waste reduction and financial arrangements

SEP Officers' Group

4 June 2020

1. Summary

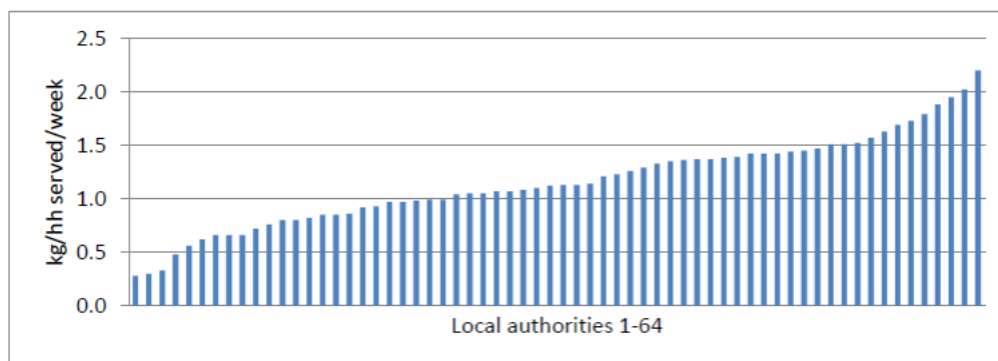
- 1.1 This report develops an overarching residual waste reduction strategy, based on food waste data. If all collected food waste is recycled there is a maximum potential saving of around £4million in disposal costs. Taking into account participation rates and increased collection costs there is an estimated £2million-£3million potential waste management system cost saving in Surrey. The Partnership is recommended to review the variable part of the current financial mechanism to incentivise food waste collection and reduce DMR contamination.

2. Introduction

- 2.1 An analysis by WRAP in 2014 (See Figure below) of the performance of household food waste collections from across the UK identified 'indicative yields' for food waste with separate weekly collections of 1.5 kg/HH served/week. Food Waste Collection data from five collection rounds for one month in 2019 indicate that Surrey is performing well when compared nationally with Food Waste collections yielding 1.65kg per household served. Using this marker Surrey is clearly above average, although national performance will have changed in the last six years.

2.2

Figure 3.1 Yield from separate weekly food waste collections from selected local authorities (N.B. each column represents a separate local authority) (WRAP 2014)



- 2.4 Please note that the WRAP data above is at least six years old and includes poor performing systems such as food collected with garden waste, and weekly residual.

3. Waste Compositional Analysis – 2016/17

- 3.1 The Surrey Waste Partnership commissioned MEL Research to conduct a Waste Compositional Analysis during 2016. This was carried out in two phases; Phase 1 was carried out in June (Q1 2016/17) and Phase 2 in November (Q3 2016/17). In both Phase 1 and Phase 2, MEL looked at the composition of residual waste based on samples taken separately from both houses and flats within each District and Borough. The Phase 1 and Phase 2 results were then combined to provide two distinct sets of composition data for each District & Borough; one for houses and one for flats. Within each of these datasets, a breakdown was provided by both primary and secondary material classification; the primary category defines the overall waste stream (e.g. paper and card, plastics), and the secondary category provides a more specific definition to show, for example, the quality of paper or the type of plastic in question.
- 3.2 The potential for additional recycling - by primary material category and District & Borough are shown in the Tables 1 and 2 below.
- 3.3 It should also be noted that the tonnages used to calculate the capture rate here are not the same as those used to calculating the recycling rate published in Waste Data Flow. This is because the composition analysis looks at what was actually found in the waste samples analysed.
- 3.4 The analysis shows that in 2016-17 there was a potential 45,000-46,000 tonnes of food waste for recycling in the local authority collected waste in Surrey.

4. Waste Composition Analysis – 2020/21

- 4.1 The Surrey Environment Partnership have budgeted £100,000 for another compositional analysis in 2020. This study will look at the composition of residual household waste, and bring the food waste analysis up to date, since the last study was carried out in 2016/17.
- 4.2 Sampling for the waste composition analysis was planned to take place in two phases in 2020/21. However, the timeline for taking samples will have to be delayed, partly due to the current lockdown, and because samples would not be representative of a 'normal' situation. The SEP is developing the specification and sampling strategy. To compare with previous years and avoid seasonal changes affecting the results the analysis will be re-planned to take place in November 2020 and June 2021.

5. Potential cost savings

- 5.1 The Food Waste tonnages for 2019-20 are shown in Table 3. This shows that since 2016-17 separately collected food waste has increased by 7,000 tonnes (from 32,000 to 39,000 tonnes a year). It is reasonable to assume that there is currently around 40,000 tonnes of Food Waste in the residual waste stream. A more accurate figure will be known once the 2020/21 waste compositional analysis is available.
- 5.2 SCC's current cost of treating residual waste is £129 per tonne including transport. The cost of sending and treating food waste at a third party Anaerobic Digestion (AD) facility is averaging £35 per tonne currently including transport. Where food waste is treated at the Eco Park AD, SCC pays a fixed amount regardless of any tonnage plus the variable processing costs of about £13 per tonne excluding transport.
- 5.3 Assuming the Eco Park AD is operational the potential treatment cost saving benefit of food waste over residual waste will be around £100 per tonne. For 40,000 tonnes a year, this represents a maximum potential saving of around £4million in disposal costs. Taking into account participation rates and increased collection costs there is an

estimated £2million-£3million potential waste management system cost saving in Surrey.

6. Current Food Waste collections

- 6.1 As a result of the Corona lock down, food waste tonnages have increased and while this is largely being driven by workplaces and schools being closed, we may see a positive ongoing increase in usage of caddies after things return to normal.
- 6.2 Surrey has Food Waste collections in all eleven WCAs and has a good record of improving performance through the use of data led targeted interventions resulting in a strong national performance.
- 6.3 For example in 2018-19 the Surrey Environment Partnership campaign that included applying 'no food waste' stickers to 255,000 bins, evaluated well with 80% of residents saying the campaign encouraged them to use their food waste caddy and resulted in a 3.7% increase in average daily tonnages post campaign resulting in a £200,000 annual saving.
- 6.4 The SEP has work already underway to develop trials of targeted interventions following a Eunomia report that investigated successful trials being undertaken elsewhere in the UK. The approach is to use data to identify specific behaviours that we can try to influence through tightly targeted communications and engagement. For the new programme the SEP will continue to deliver the current programme of data driven intervention trials to increase recycling of food waste. The targeted intervention trials are currently on hold.

7. Dry Mixed Recycling – Contamination Reduction

- 7.1 The SEP's work programme for 2020-21 includes a focus on contamination reduction. Contamination of dry mixed recycling (DMR) with other materials reduces the quality of recycling and can lead to loads being rejected. The following work is being developed to help tackle contamination: Identifying the causes of contamination and contamination hotspots, using data lead intelligence; Determining potential interventions, based on the evidence available; Trialling interventions in smaller areas, and then developing and rolling out successful ones in additional areas, eg training crews as part of a continued approach to managing contaminated bins.
- 7.2 Benefits include: Trialling interventions can determine the most effective solutions and the chance to evolve the delivery of these to maximise on impact; Data lead interventions will help identify hotspots and processes that could be improved to reduce contamination; A reduction in contamination rates and rejected loads, will in turn improve recycling rates and reduce disposal costs.
- 7.3 The SEP have allocated an estimated budget of £10,000. Initial work is underway, with interventions being trialled and a wider roll out to take place across the year.
- 7.4 Initial sampling at one MRF from October-December 2019 showing the Food Waste elements are shown in Table 4. below. This shows that an average of 3.95% of the Dry Mixed Recycling is Food Waste. This is contamination in it's own right, but in addition food waste has the potential to contaminate DMR especially paper and card, further increasing the overall contamination rate.
- 7.5 The SEP has established an officer working group to look at improving system processes between recovery outlets and collection and disposal authorities to manage DMR contamination. This is currently ongoing, as the team works to define the scope. Linked to this, the team are currently reviewing data to ascertain the viability of

targeted interventions that could tackle the contamination of DMR. However, the trialling of such interventions on the ground will have to put on hold until it is deemed safe to carry out this work.

8. Financial Arrangements

- 8.1 Financial and operational support from SCC and the partnership is available to any authority looking to move towards what the partnership feels are optimal collection systems. Separate food waste collections were introduced in Surrey by the districts and boroughs from 2010 with financial support from the County Council. SCC remains committed to reducing the system costs of waste management in Surrey.
- 8.2 Surrey County Council as the waste disposal authority (WDA) for Surrey makes payments to district and borough councils in their capacity as waste collection authorities. SEP is currently funded by top-slicing some of these payments. This current financial mechanism was put in place for a period of three years from 2018/19 to 2020/21. This means that a new funding arrangement is needed from April 2021 onwards.
- 8.3 In 2017 Surrey County Council's Cabinet resolved to change the financial arrangements for recycled waste with district and borough councils from Recycling Credits to a mix of variable and fixed elements: Variable payments for a share of gate fee savings on Dry Mixed Recyclables (or a transitional arrangement) and a share of future savings; and, fixed payments for recycling services based on the number of households within each authority area.
- 8.4 The variable payment is a mechanism for sharing savings that arise from future improvements (e.g. increases in recycling and/or reductions in residual waste). The principle of this mechanism is that the saving should be calculated based on changes in the actual cost of dealing with all waste streams, compared to a baseline year (2017/18), with the payment split 40:40:20 between the WDA, WCAs and the SEP.
- 8.5 The original waste funding mechanism Projected and Actual payments, with revised and forecast figures for 2019/20 and 2020/21 are shown below in Table 5. The most significant cost variation of £2.6M is due to the global market conditions for sales of Dry Mixed Recycling. However, collection, contamination and MRF operations will also be a factor.
- 8.6 During 2020/21 there is a need to review these financial arrangements and agree funding for 2021/22 onwards. This represents an opportunity to develop a mechanism to incentivise food waste composting, and reduce DMR contamination.
- 8.7 SEP Members Group agreed that Interim arrangements need to be agreed by SCC by the end of Summer 2020 in order for the financial implications to be known in time for autumn budget setting.

9. Recommendation

It is recommended that: the SEP keep the stability of the current fixed payments and review the variable payments to maximise Food Waste recycling and reduce the contamination of Dry Mixed Recycling.

10. Next steps

The SEP should form an officer group to review the variable payment mechanism and consider what is required to increase food waste capture, reduce DMR contamination

and deliver a net waste management system cost saving in Surrey. The officer group should report back in time for the 2021-22 budget setting process.

Table 1. Extract from Waste Compositional Analysis 2016

2016 Potential for additional recycling - by primary material category and District & Borough**Recycling potential - by primary material**

Material	Potential for recycling (tonnage)					Recyclable potential (%)		
	Recyclable - Kerbside	Recyclable - Bring banks / CRCs	Not recyclable	Total	Total recyclable	Recyclable - Kerbside	Recyclable - Bring banks / CRCs	Not recyclable
Paper and Card	10,319	1,130	10,563	22,012	11,449	46.9%	5.1%	48.0%
Plastics	9,006	0	15,343	24,349	9,006	37.0%	0.0%	63.0%
Glass	4,046	0	556	4,603	4,046	87.9%	0.0%	12.1%
Textiles	5,026	3,084	1,153	9,263	8,110	54.3%	33.3%	12.4%
Metals	2,795	2,171	279	5,245	4,966	53.3%	41.4%	5.3%
Wood	0	2,575	0	2,575	2,575	0.0%	100.0%	0.0%
Offensive Waste	0	0	21,388	21,388	0	0.0%	0.0%	100.0%
WEEE	791	2,140	41	2,972	2,931	26.6%	72.0%	1.4%
Garden waste	7,156	0	0	7,156	7,156	100.0%	0.0%	0.0%
Food waste	45,399	0	2,843	48,242	45,399	94.1%	0.0%	5.9%
Hazardous	65	95	488	649	161	10.1%	14.7%	75.2%
Miscellaneous	0	1,197	23,387	24,584	1,197	0.0%	4.9%	95.1%
Total	84,603	12,392	76,042	173,037	96,995	48.9%	7.2%	43.9%

Table 2. Extract from Waste Compositional Analysis 2016

Kerbside food waste tonnages and food waste capture rates by District & Borough				
District / Borough	Residual	Recycled	Total	Capture rate
Elmbridge	6,124	3,868	9,992	38.7%
Epsom & Ewell	2,954	1,936	4,889	39.6%
Guildford	5,160	3,572	8,732	40.9%
Mole Valley	3,490	2,208	5,698	38.7%
Reigate & Banstead	5,523	4,212	9,736	43.3%
Runnymede	4,873	2,028	6,901	29.4%
Spelthorne	5,282	2,040	7,322	27.9%
Surrey Heath	2,312	3,185	5,497	57.9%
Tandridge	2,959	2,838	5,797	49.0%
Waverley	4,898	2,614	7,512	34.8%
Woking	2,774	3,514	6,288	55.9%
All Surrey	46,350	32,015	78,365	40.9%

Table 3. Food Waste Collected 2019-20

	Food Waste Collected (tonnes)												Total
	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Elmbridge BC	395	417	369	417	395	414	437	399	398	486	358	428	4912
Epsom & Ewell BC	225	239	205	237	227	235	239	197	195	276	175	199	2649
Guildford BC	358	389	355	370	356	361	404	379	377	440	338	374	4499
Mole Valley DC	228	229	210	246	221	230	256	230	253	287	229	249	2868
Reigate & Banstead BC	373	407	355	390	382	360	404	376	384	464	356	398	4649
Runnymede BC	197	204	182	212	194	196	213	197	205	239	183	208	2430
Spelthorne BC	211	227	199	226	204	212	235	218	234	254	207	227	2655
Surrey Heath BC	291	303	291	368	299	275	325	305	304	357	286	302	3708
Tandridge DC	226	232	217	234	229	229	263	236	249	297	236	258	2905
Waverley BC	305	297	264	223	278	272	337	313	345	411	305	343	3693
Woking BC	317	352	302	346	315	311	343	315	328	406	291	329	3955
Total	3,126	3,295	2,948	3,269	3,100	3,096	3,456	3,165	3,270	3,918	2,965	3,315	38,923

Table 4. Summary of MRF contamination sample October-December 2019

Supplier	Surrey CC														
Raw Material	Comingled Glass - Loose														
Date	01/10/2019	02/10/2019	04/10/2019	08/10/2019	09/10/2019	11/10/2019	14/10/2019	16/10/2019	17/10/2019	24/10/2019	25/10/2019	28/10/2019	Grand Total	End Process	
Food	4.55%	3.95%	8.04%	1.51%	0.76%	6.72%	1.43%	0.51%	1.36%	2.55%	6.06%	1.12%	3.23%	Not Recycled	
Date					01/11/2019	04/11/2019	05/11/2019	12/11/2019	15/11/2019	19/11/2019	22/11/2019	26/11/2019	Grand Total	End Process	
Food					14.50%	7.13%	7.38%	5.11%	1.74%	0.00%	6.87%	1.15%	5.01%	Not Recycled	
Date				02/12/2019	06/12/2019	10/12/2019	12/12/2019	13/12/2019	18/12/2019	20/12/2019	23/12/2019	27/12/2019	Grand Total	End Process	
Food				6.77%	1.25%	4.15%	0.88%	7.62%	3.61%	2.81%	2.66%	2.35%	3.58%	Not Recycled	
													Sample Average		
													3.95%		

Table 5. Waste Financial Mechanism – updated with Forecasts and Revised estimates for 2019/20 and 2020/21

Costs to SCC	Actual costs to SCC			Projected costs to SCC		Forecast	Revised	Variance	Variance
	2016/17	2017/18	2018/19	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21
Payments to Districts & Boroughs (including SEP Financial Mechanisms)									
Fixed payment (net)			£3,207,682	£2,207,682	£1,207,682	£2,840,182	£1,840,182	£632,500	£632,500
SEP variable payment - disposal cost savings shared with WCAs			£125,891	£125,891	£125,891	£150,000	£150,000	£24,109	£24,109
Transitional payment where WCA continues to manage their kerbside collected recyclables			£2,524,522	£1,543,376	£835,655	£1,425,304	£849,231	-£118,072	£13,576
Payment for gate fee savings where SCC manages kerbside collected recyclables			£168,535	£134,394	£134,394	£0	£0	-£134,394	-£134,394
Recycling credits	£8,625,142	£7,696,531	£107,415	£107,415	£107,415	£130,232	£134,139	£22,817	£26,724
Food waste payment (paid in lieu of recycling credits)	£774,821	£719,160							
One-off payment from the WCA to SCC		-£1,077,261							
Performance Reward Grant	£191,615	£200,000							
Net sum received by WCAs	£9,591,578	£7,538,430	£6,134,045	£4,118,758	£2,411,037	£4,545,718	£2,973,552	£426,960	£562,515
SEP funding - amount diverted from WCA payments	£216,088	£240,000	£632,500	£632,500	£632,500	0	0	-£632,500	-£632,500
SEP variable payment - disposal cost savings shared with SEP			£62,945	£62,945	£62,945	0	0	-£62,945	-£62,945
Total cost to SCC	£9,807,666	£7,778,430	£6,829,490	£4,814,203	£3,106,482	£4,545,718	£2,973,552	-£268,485	-£132,930
Cost to SCC of managing DMR material	£244,593	£1,169,849	£1,884,846	£3,460,649	£4,593,003	£4,579,914	£7,244,795	£1,119,265	£2,651,792
Total cost to SCC dependent on recycling tonnages	£10,052,259	£8,948,279	£8,714,336	£8,274,852	£7,699,485	£9,125,632	£10,218,347	£850,780	£2,518,862
Other costs to SCC for county-wide work									
SEP funding - fixed contribution	£466,747	£250,000	£57,500	£172,500	£172,500	0	0	-£172,500	-£172,500
Project spend	£72,073	£32,794	£59,111						
Contribution to SEP staff salaries & expenses	£49,380	£57,324	£43,352						
SCC staff salaries & expenses	£440,000	£440,190	£437,326						
Contribution to JWS costs (includes staff, office & projects)			£38,232	£459,615	£492,359	£632,500	£651,475	£172,885	£159,116
Total cost to SCC	£1,028,200	£780,308	£635,521	£632,115	£664,859	£632,500	£651,475	£385	-£13,384
Overall cost to SCC	£11,080,459	£9,728,587	£9,349,857	£8,906,967	£8,364,344	£9,758,132	£10,869,822	£851,165	£2,505,478