ITEM 3

WRWA 892

WESTERN RIVERSIDE WASTE AUTHORITY

MEETING	25th November 2019
REPORT AUTHOR/DATE	General Manager *(Contact Mark Broxup - Tel. 020 8871 2788)* 15th November 2019
SUBJECT	Report outlining progress with operations and other matters since the previous meeting of the Authority.
CONTENTS	Page 1 Executive Summary Pages 1 to 15 Items reported on Page 15 Recommendations Pages 16 – 26 Appendix A – Performance Monitoring Graphs Pages 27 – 57 Appendix B – WRWA Waste Strategy Briefing Note
STATUS	Open
BACKGROUND PAPERS	None

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EXECUTIVE SUMMARY

1. This paper brings Members up to date on operational and other matters which, in themselves, do not warrant production of a separate paper. The majority of these matters are for Members' information, but where approval is sought this is referred to in the report. The specific matters covered in this report are:-

    a) Operations
    b) Performance Monitoring
    c) Recycle Western Riverside 2019/20 – Progress Report
    d) Recycle Western Riverside Communications Strategy 2020/21
    e) Education Visits and Schools Programme
    f) Procurement Update
    g) REWORK – Licence to Occupy
    h) Funding Application – WEEE Local Project Fund
    i) WEEE and Persistent Organic Pollutants
    j) Government Resource and Waste Strategy and WRWA Joint Waste Strategy
    k) Constituent Council New Recycling Initiatives
    l) Riverside Energy Park
    m) Consultation with other Statutory Joint Waste Disposal Authorities
    n) The Discharge of Functions
    o) Absence Management Code of Practice
    p) Approval to Dispose of Authority Assets
    q) Data Protection
    r) Items costing between £5,000 and £30,000

OPERATIONS

Transfer Stations/ Materials Recycling Facility (MRF)

2. There has been no major disruption in service to the main Transfer Stations' operations since the last Authority meeting.

B&Q in Smugglers Way

3. The B&Q DIY superstore closed on 12th October 2019. Works began shortly after closure to clear the site in preparation for the construction of the planned mixed use development.

4. On 4th November the Authority received a letter from Wandsworth's Planners advising that a planning application had been submitted, application number 2019/4583. The application is seeking permission to vary the existing application dated 29th March 2019. The proposed variation includes increasing the residential unit numbers from 517 to 554, increasing the affordable housing units from 184 to 197 and the installation of an outdoor swimming pool and private amenity, public open space and play space across the site. A revised Environmental Statement has been submitted under the Town and Country Planning (Environmental Impact Assessment).

5. The Authority will appoint the Authority's property consultant, Carter Jonas, to examine the proposed variations and the revised Environmental Statement and provide a response to the consultation on behalf of the Authority.

PERFORMANCE MONITORING

Introduction

6. Detailed performance monitoring is shown in Appendix A to this report. The tables shown set out:

    a. the tonnages of each waste type (including co-mingled recycling contamination) delivered by each constituent council in the current financial year to date, together with projected outturn tonnages, compared against those budgeted for and the previous financial year's outturn;

    b. the projected annual cost for each commodity, compared to what these would be if the Authority's budgeted tonnage of each commodity was received;

    c. forecast tonnages for future years, adjusted simply by the number of working days in each year; the major waste type and co-mingled contamination tonnages are also shown on a monthly as well as an annual basis;

    d. comparisons of the tonnage of each major waste type handled by each constituent council on an annual basis;

e. comparisons by borough of the tonnages of Local Authority Collected Waste (LACW), household and non-household waste, household waste arisings per dwelling and per person; and

f. weight-based recycling performance on a household and LACW basis.

Points to Highlight

7. Whilst General Waste (the residual waste that cannot be reused or recycled and is sent for energy recovery) accounts for around 76% of the delivered waste stream, it accounts for almost 93% of the Authority's waste disposal costs after allowing for the treatment of the contamination within the co-mingled recycling. By comparison co-mingled recycling represents 18% of the delivered tonnage, but only accounts for 4% of the Authority's costs.

8. From tonnage data to date we are predicting a 2.1% reduction in total waste handled by the Authority in 2019/20 from that budgeted for and a 3.3% reduction in General Waste. However, these predictions are only based on the actual tonnage up until 31st October 2019. The levels of reductions in General Waste vary across the constituent councils, with Hammersmith & Fulham at 3.8%, Kensington and Chelsea at 2.9%, Lambeth at 2.2% and Wandsworth predicted at 2.1%.

9. The General Waste for 2019/20 received at the Household Waste and Recycling Centre is currently forecast to be 5.3% below that predicted in the budget. However, these figures are likely to change over the year as there is a great deal of seasonality in the HWRC figures.

10. The predicted tonnage of co-mingled recycling collected by Hammersmith & Fulham is up by 3.3%, Kensington and Chelsea is currently forecast to be on target, Lambeth is down by 4.2% and Wandsworth is down by 2.8% on the predicted forecast for 2019/20.

RECYCLE WESTERN RIVERSIDE (RWR) 2019/20 – Progress Report

End of the Line for Waste

11. At the last meeting of the Authority it was reported that a number of short videos, ranging from one minute to three minutes in length (28 in total), had been produced that were designed specifically for social media platforms; these include interviews with residents talking about reducing waste and many are light-hearted and

humorous, for example one discusses what to do with leftover food waste (the 'Bubble and Squeak Debate').

12. Ten videos have been posted and paid for boosts have been applied which have produced much higher reach and engagements numbers when compared to the organic reach numbers. "Reach" is the number of unique people who saw the content. An "Engagement" is when people perform actions on a platform, they may like a post, click on a link, watch a video or comment on an image. The organic reach is on a par with the constituent councils' social media platforms, attracting single numbers to posts, but the paid for posts (advertising) are attracting considerably higher numbers; one video posted reached 11,141 residents which resulted in 136 engagements. The paid for posts are targeted by geographical area and age. The number of organic followers is gradually increasing as a result of the paid for advertising.

13. Further engagement events have been booked for February and March 2020, these will consist of four event days in each of the four boroughs promoting the 'End of the Line for Waste' campaign.

What Happens to Your Recycling – A Recycling Campaign

14. At the last Authority meeting it was reported that two short videos – one to support the 'What Happens to your Recycling' campaign and the second to support the Schools programme – are being produced. At the time of writing, the first draft of the campaign video has been completed and it is hoped that the final version will be available on the Authority's website by the end of November 2019.

15. Ashmole Primary school in Lambeth has agreed that filming can take place at their school in November, following which the second video is planned to be completed by the end of January 2020.

16. Campaign panels are being installed on Hammersmith & Fulham, Lambeth and Wandsworth Borough Recycling Collection Vehicles during November 2019 and adverts have been placed in a local publication in Hammersmith and Fulham, in Wandsworth's borough publication 'Brightside', and in Lambeth's 'Lambeth Talk'. The campaign is also being promoted at media points in Sainsburys and on the Authority's website and social media platforms.

RECYCLE WESTERN RIVERSIDE COMMUNICATIONS STRATEGY 2020/21

17. At the Members' Visit to Smugglers Way on 11th October 2019, officers gave a presentation on the two current communications campaign (described in paragraphs 11 to 16 of this report) and described the difficulties with the operation of the communications campaigns. These relate to the liaison with the constituent councils and the problems relating to gaining consensus on the look of the campaigns across the Authority area. In some cases, this means that the expenditure across the four boroughs is not equal. For example Kensington and Chelsea advised the Authority, in September 2019, that it did not wish to participate in the 'What Happens to your Recycling' campaign during 2019/20 as it had decided to work on a recycling campaign with Hubbub. This decision was made after the Authority had approved the budget and communications plan and, indeed, after a consensus had finally been reached on the look of the campaign.

18. Officers spend a lot of their time on the communications plan seeking individual borough approval – in fact, more than they do managing the campaign itself, i.e. booking advertisements, organising artwork and coordinating the campaigns on social media. It took almost five months to obtain a consensus and get the approvals from boroughs on the look of the 'What Happens to your Recycling' campaign. Officers appreciate that each of the four boroughs has their own corporate communications and branding specifications which need to be considered, but this does make reaching a consensus challenging.

19. Both the current campaigns relate directly to the Authority's function as a waste disposal authority; the 'End of the Line for Waste' relates to the reduction of waste and the 'What Happens to your Recycling' campaign provides reassurance that the recycling is being recycled properly. Neither campaign is concerned with the specifics of how waste and recyclables are collected.

20. Going forward the Authority could become autonomous with its communications, deciding itself on the look of future campaigns and how they are to be communicated. Campaigns might focus on issues such as waste reduction and material quality, possibly with a greater emphasis on engaging with the public as they use the Household Waste and Recycling Centre. These campaigns would be designed to be complementary to those run by the boroughs themselves which could refer to them in their own communications.

21. Delivering autonomous campaigns in the future would mean that the Authority would no longer use Borough vehicle panels or other Borough related media that require individual Borough approval. Bidding for external funding for partnership

related communications might be more challenging, but not impossible – for example, with the funding received from Resource London for Recycle Week 2019, the "London Recycles" logo was used on the poster sites booked in Hammersmith & Fulham and Kensington and Chelsea, since neither Borough liked the Resource London campaign designs that had to be used as part of the funding agreement.

The other option is for the Authority to stop the use of the communications campaigns with effect from financial year 2020/21 and save £153,000 per annum, but officers believe that this would be a false economy, especially considering the resources invested in establishing both the current campaigns, neither of which have had sufficient time to build momentum. The 'End of the Line for Waste' campaign was launched 12 months ago and 'What Happens to your Recycling' has only recently been launched. It is hard, if not impossible, to assign direct value to waste communication campaigns as no direct linkage to waste tonnage can be made. However, it is generally recognised that constant communication is necessary to inform new residents of the correct procedures, to reinforce messaging with existing residents and to inform residents of new initiatives or areas that need improving.

22. It is proposed therefore that, with effect from 1st April 2020, the communications campaigns are branded under an Authority logo that has meaning to the public and can be approved at the next Authority meeting, alongside a communications plan and budget. This arrangement will be trialled for financial year 2020/21 and a review will be carried out in 12 months' time, with officers preparing a summary for Members at the November 2020 Authority meeting.

EDUCATION VISITS AND SCHOOLS PROGRAMME

23. Since the Autumn term commenced in September 2019, and up to the end of term, 53 classes have visited or are booked in to visit Smugglers Way, which is now fully booked until Christmas. The team has spent 28 days in school, carrying out 58 workshops and assemblies.

24. There is a new piece of equipment in the Education Room, on loan from a local charity – the Whale Company. This is a bike-powered plastic bottle top shredder, which children can feed bottle tops into and watch them being shredded as they pedal. The Education Team will be incorporating the bike into a new plastics workshop that will focus on plastic pollution as part of the Smugglers Way tour.

25. Table A shows the breakdown of visits by borough for the school year 2018/19. Wandsworth schools still make up a larger proportion of visits, which is

probably due to proximity, however in terms of the proportion of schools the Education Team has engaged with overall the distribution is on a par.

Table A

2018/19	Smugglers Way tours		In-school visits		Engagement
Borough	No. of schools	No. of tours	No. of schools	Total no of workshops	% of state primary schools taking part in the programme (since 2013)
Wandsworth	33	53	29	121	81
Lambeth	11	23	16	98	77
K&C	17	24	12	67	89
H&F	20	29	15	64	89
Total	81	129	72	350	82

26. There have been 15 adult tours, including one Saturday Open Day, since September. All were well attended and the number of requests for adult visits remains steady.

PROCUREMENT UPDATE

Waste Composition Survey

27. At the Authority meeting in July 2019, Members approved the commissioning of four Waste Composition surveys to be carried out every 15 months, starting in January 2020. Following a procurement exercise and a tender evaluation process, M.E.L Waste Insights has been appointed to carry out the four Waste Composition Surveys between January 2020 and October 2023.

28. It is proposed to appoint a Carbon measurement specialist to provide some baseline carbon footprint data for the Authority's operations over the last ten years. Officers will draft a specification, in consultation with the Borough technical officers, that will require the measurement of the impact of the Authority's operation from when it sent waste to Landfill disposal. It will also require the specialist to detail the effect

that declining waste tonnages (waste reduction) and changes in composition have had on the carbon footprint of the Authority over the last ten years and highlight where future carbon savings might most effectively be made. Members are asked to approve a procurement process to appoint a Carbon Measurement specialist.

REWORK – LICENCE TO OCCUPY

29. Rework is the refurbish and reuse project based at Smugglers Way, where household items in good cosmetic condition are repaired and passed on for reuse. It is one of the busiest and best equipped domestic appliance repair workshops in the country. In 2018/19 Rework passed 84 tonnes of Authority waste for reuse, which equates to 4500 electrical items, including washing machines, fridges, cookers, microwaves and other household electrical goods. These appliances are returned to full working order and given a second life. Once refurbished they are passed onto charity retailers and social enterprises who sell them at affordable prices.

30. Rework also has an eBay shop where they sell spares and parts for household appliances. In addition, the project has the social benefit of employing trainees at the workshop who have all been out of work for some time. Rework employs apprentices in electrical engineering and maintenance, helping them to gain the experience and the skills necessary to embark on a new career.

31. Rework occupies two workshops at Smugglers Way under a Licence to Occupy that is due to expire on 26th January 2020. Cory, the Authority and Groundwork London (previously London Reuse Limited) are parties to a Licence Agreement and, following a review of the licence, it is proposed to extend the Licence to Occupy until 2027 and add variations by way of a letter signed by all the parties. The variations simply relate to the proposed extension and the inclusion of new legislation. Members are requested to approve the extension and the variations to the Licence.

FUNDING APPLICATION – WEEE LOCAL PROJECT FUND

32. On 30th September 2019, a partnership funding application for £49,208 was submitted by the Authority and Rework to the Waste Electrical and Electronic Equipment (WEEE) local project fund, administered by VALPAK, a WEEE producer responsibility compliance scheme appointed by the Department for Environment, Food and Rural Affairs (DEFRA). The application requested funds to expand the operational capacity by employing an additional senior engineer and enrolling eight existing staff on an accredited Appliance and Diagnostic repair course.

33. On 5th November 2019, the Authority was notified that it had been successful with the application and awarded the full amount requested. It is estimated that the project will generate an additional ten tonnes of reuse per year.

WEEE AND PERSISTENT ORGANIC POLLUTANTS

34. The Environment Agency (EA) has sent out new guidance by letter to WEEE processors about Persistent Organic Pollutants (POPs) in WEEE. POPs are potentially hazardous organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Because of their persistence, POPs can accumulate with potential adverse impacts on human health and the environment.

35. In May 1995, the United Nations Environment Programme Governing Council investigated POPs; they originally only recognised 12 types for their adverse effects and placed a global ban on the use of the initial 12, requiring parties to take measures to eliminate or reduce the release of POPs in the environment. Since 2001 the list of banned POP's has been expanded to include some polycyclic aromatic hydrocarbons (PAHs), brominated flame retardants, and other compounds.

36. POPs are mainly contained in plastic waste from WEEE in the form of flame retardants. The EA are working through compliance issues in relation to WEEE and POPs on a company by company basis. They have stated that they are aware of risks around impacts potentially to Local Authorities and their partners and collections from Household Waste and Recycling Centres.

37. Waste containing POPs must be managed in a waste that destroys (or irreversibly transforms) the POP. The waste cannot be reused. Electrical devices containing POPs can be re-used provided that they are not, and were never previously, waste. This would include, for example, cases where there is a genuine second-hand use arrangement in place before an item enters the waste management system.

38. As such, this reuse can never generate evidence of recycling or recovery for the purposes of the WEEE Regulations. However if, at any point, an electrical device containing POPs becomes waste, it becomes subject to the legal requirement to destroy (or irreversibly transform) the POP. It is not allowed to reuse the device and it cannot cease to be waste, even if it is in working order. The POPs must be destroyed. This means that waste display devices, monitors and Small Mixed WEEE cannot cease to be a waste, or be reused, unless it can be demonstrated that POPs

are not present in a particular device or item of equipment. Other categories of WEEE may also be affected.

39. It is expected that the re-use industry will propose a solution based on checking the label of each device to show that it was manufactured (to meet EU product controls) after the date when use of these POP flame retardants was prohibited.

40. The Department of the Environment Food and Rural Affairs WEEE team have advised that it plans to provide additional guidance in the coming months and has stated that, if any authorities find themselves in a position in which WEEE is not being cleared due to the EA guidance, they can contact the EA's POPs and WEEE team for advice.

GOVERNMENT RESOURCE AND WASTE STRATEGY

Background

41. The report by Ricardo Energy and Environment (the **'REE Report'**), attached as Appendix B to this report, provides a short summary of the Government's proposals under its Resource and Waste Strategy (the **'Strategy'**) and provides a short overview of the responses to the consultations on the introduction of a Deposit Return Scheme, Extended Producer Responsibility and Consistency in Household and business Recycling. All of these have the potential, by 2023, to significantly change both the composition and volume of the constituent councils' residual and co-mingled waste streams and may require the constituent councils to introduce revised collection systems (e.g. require separate collection of recyclate, effectively outlawing co-mingled collection), collection frequencies and material streams, with the requirement to use new treatment processes such as Anaerobic Digestion.

WRWA Joint Waste Strategy

42. Given the current uncertainty around the Strategy, the REE report recommends in the conclusion that revision of the current Joint Waste Management Strategy should be postponed so as to enable the Authority and the constituent councils to engage with Government to explore the full implications of the proposals outlined in its Strategy and to explore whether options for variance dependant on specific local circumstances may be permitted.

Food and Garden Waste

43. The REE Report highlights Food and Garden Waste as being two waste streams that are generally not collected separately by the constituent councils, but which may be required under the Strategy, and considers what the impact of the constituent councils separately collecting these waste streams might be in terms of recycling rate, carbon impact and cost. All of these will be very important considerations when the Authority and its constituent councils are responding to the Government's promised future consultations on these matters which it is believed will focus on the methodology of how the Government will introduce these proposals, including how it will reimburse local authorities for their additional costs.

44. The REE Report highlights that:

    a. because the Authority's residual waste is already used to extract energy, the carbon benefit of separately collecting food and garden waste is likely to be relatively small and would reduce further once the carbon impact of producing and supplying food caddies and liners was factored in (by contrast a much smaller reduction in the tonnage of plastic would achieve the same end) ;

    b. Lambeth already collects both materials so is unlikely to see a large increase as a consequence, but there would be a significant increase in recycling rates for the other three constituent councils;

    c. The additional costs of operating a separate food and garden waste collection may be significant, possibly over £1 million a year for Hammersmith & Fulham and the Royal Borough of Kensington and Chelsea and over £2 million a year for Wandsworth. Whilst any additional collection costs will be offset by lower treatment costs, the maximum saving that could be achieved would be the current General Waste rate (i.e. in the unlikely event that Anaerobic Digestion (**AD**) or In Vessel composting (**IVC**) treatment could be sourced at zero cost), but even then the treatment saving might only equate to less than half of the additional collection costs.

45. There is also the potential that, under the Change in Law mechanism within the Authority's Waste Management Services Agreement with Cory that it could be entitled to compensation for any lost tonnage, meaning that any AD or IVC treatment costs would be addition to the current General Waste cost plus the value of any lost energy income.

CONSTITUENT COUNCIL NEW RECYCLING INITIATIVES

46. At the meeting of the Authority on 22nd September 2010 (Paper No. WRWA 669A) Members instructed the Clerk to write to each of the constituent councils to inform them that, in future, should they wish to make arrangements themselves to recycle any significant tonnage of waste then, in accordance with Section 48 of the Environment Protection Act 1990, they must, as soon as reasonably practicable, notify the Authority in writing. The Authority will then approve or object to any such proposal at its next available meeting. The Clerk wrote to the constituent councils, as instructed, on 27th October 2010.

47. The constituent councils have not notified the Authority of any new initiatives since the previous Authority meeting.

RIVERSIDE ENERGY PARK

48. The Planning Inspectorate completed the Examination of Riverside Energy Park (**'REP'**) on 9th October 2019. There will now be a period of three months for the Examining Authority to write its report and make a recommendation to the Secretary of State. The Secretary of State will then have three months in which to make a decision.

49. If the Secretary of State grants development consent for REP, Cory expect to start construction in 2021 so that the proposed Energy Park can be generating electricity and heat for London's homes and treating more of London's waste by 2024.

CONSULTATION WITH OTHER STATUTORY JOINT WASTE DISPOSAL AUTHORITY'S

50. In response to the recommendations made by the Authority following discussion of Paper No. WRWA 889 on Governance issues at the last Authority meeting, the Chairman wrote to the chairs of the other Statutory Joint Waste Disposal Authorities on 11th October 2019 regarding Section 31 of the Local Government Act 1985 and Section 1 of the Localism Act 2011. Officers have received some informal officer responses, but are awaiting formal responses which will be reported to a future meeting of the Authority.

THE DISCHARGE OF FUNCTIONS

51. At the last Authority meeting the Authority discussed the nomination of Members of the Authority to answer questions, on behalf of the Authority, at meetings of each constituent council. Section 41 of the Local Government Act 1985 requires the Authority to nominate a Member of the Authority (who is also a Member of the relevant constituent council) to answer any questions on the discharge of WRWA's functions arising at meetings of each constituent council.

52. The Clerk wrote to constituent council Chief Executives on 20th September 2019, requesting that they nominate a Member to carry out this function. Responses have been received and the nominated Members, which the Authority is asked to approve, are as follows:

- Councillor James Husband – Kensington and Chelsea
- Councillor Wesley Harcourt – Hammersmith & Fulham
- Councillor Guy Senior – Wandsworth
- Councillor Claire Holland – Lambeth

ABSENCE MANAGEMENT CODE OF PRACTICE

53. It was highlighted by the last internal audit, carried out in May 2019, that there had been a number of instances of delay with the Return to Work interviews following a period of sickness. The Absence Management Code of Practice currently states that the Return to Work interview should be carried out on the first day the employee returns to work. In many instances it is proving difficult to meet this requirement, as the Authority has a number of Outreach workers working out in the community and may not available on the day the Return to Work interview should be conducted.

54. It is proposed therefore to amend the Absence Management Code of Practice to state that Return to Work interviews should take place as soon as reasonably practicable and Members are requested to approve this amendment.

APPROVAL TO DISPOSE OF AUTHORITY ASSETS

55. The internal audit also highlighted that currently, under the Rules of the Authority, the General Manager, in consultation with the Treasurer, is allowed to authorise the disposal of unwanted/obsolete goods or materials where the value does not exceed £500. There is no procedure for set out for unwanted items over £500.

56. The Authority is therefore asked to approve that this be amended to say that General Manager can authorise the disposal of unwanted/obsolete goods or materials where the value does not exceed £1,000 and, in consultation with the Treasurer, authorise disposal for goods valued over £1,000 not including land and buildings which will need to be approved by the Authority.

DATA PROTECTION

57. In the normal course of its business the Authority has to share confidential information with a wide and ever-changing number of people, including not only its own members, employees, contractors and advisors, but also officers from its constituent councils. This confidential information can include certain committee reports, briefing papers, contract documents, legal opinions, employee data and, occasionally, the personal data of members of the public.

58. Historically, the fact that the information was only available in paper format naturally helped to control its circulation, but in the digital age people seem to want to receive ever increasing amounts of information. Unfortunately, however, it is has also become easier for them to inadvertently spread sensitive data more widely.

59. Therefore, officers have been investigating the use of new software to better protect the Authority's electronic files and it has been trialing some with the constituent councils. It is hoped that new arrangements can be put in place by the January/February or June 2020 meetings of the Authority and we hope to run some trials with members after Christmas.

60. Officers have also begun to collate data to populate the 'Members' area of our website and, again, we will be sending Members and Technical Officers sign in details for that in the New Year.

ITEMS COSTING BETWEEN £5,000 AND £30,000

61. There have been no items of expenditure that have been authorised by officers under delegated powers that fall within the band range of £5,000 to £30,000 since the last Authority meeting.

COMMENTS OF THE TREASURER

62. The cost of the proposals within this report are being met and will continue to be met from within existing approved budgets or existing reserves with no additional cost to the constituent boroughs. The grant funding of £49,208 will be allocated to specifically meet the requirements of the WEEE application.

RECOMMENDATIONS

63. Members are asked to approve:

a) the proposal as detailed in paragraph 22 concerning the Communications Campaigns,

b) a procurement process to appoint a Carbon Measurement specialist as described in paragraph 28,

c) the extension and the variations to the Licence to Occupy as described in paragraph 31,

d) the amendment to the Absence Management Code of Practice as described in paragraph 54, and

e) otherwise to receive this report as information

M. Broxup
GENERAL MANAGER

Western Riverside Transfer Station
Smugglers Way
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SW18 1JS

15th November 2019

Hammersmith & Fulham | After 7 months of 2019/2020 | = Forecast Figures | Printed 8/11/2019 11:55

Tonnage	2018/2019 Outturn	2019/2020 Budget	2019/2020 Forecast	Difference to Budget Tonnes	Difference to Budget Percentage	2019/2020 £/Tonne	Budget 2019/2020 Cost £	Projected 2019/2020 Cost £	Projected 2019/2020 Variance £
Batteries	1	1	1	- 0	-19%	60.00	50	40	- 10
Clinical Waste	23	22	19	- 3	-14.3%	709.00	15,918	13,641	- 2,276
Co-Mingled	11,146	11,277	11,648	370	3.3%	28.00	315,761	326,135	10,374
Detritus Waste	611	680	390	- 291	-42.7%	81.50	55,453	31,769	- 23,684
Electricals	9	8	8	0	4.5%	53.00	419	437	19
Fridges	91	89	86	- 3	-3.0%	50.50	4,501	4,364	- 136
Gas Bottles	1	1	0	- 1	-70.3%	134.50	168	50	- 118
General Waste	57,772	57,885	55,711	- 2,174	-3.8%	150.50	8,711,733	8,384,567	- 327,166
Carpet	-	-	-	-		38.00	-	-	-
Green Waste	121	149	85	- 64	-42.8%	100.00	14,915	8,535	- 6,380
Inert Waste	-	-	-	-		31.50	-	-	-
Paint & Oil	-	0	-	- 0	-100.0%	130.00	18	-	- 18
Paper & Cardboard	-	-	-	-		- 27.00	-	-	-
Scrap Metals	4	5	3	- 1	-28.7%	-	-	-	-
Textiles	-	-	-	-		- 209.50	-	-	-
Tyres	-	0	-	- 0	-100.0%	290.00	82	-	- 82
Wood	-	-	-	-		112.50	-	-	-
Grand Total	**69,779**	**70,119**	**67,953**	**- 2,166**	**-3.1%**	**Sub-Total**	**9,119,017**	**8,769,539**	**- 349,478**
Contamination	1,693	1,750	1,553	- 197	-11.2%	150.50	263,333	233,727	- 29,606
						Grand Total	**9,382,350**	**9,003,266**	**- 379,084**

Forecast Tonnes	2020/2021	2021/2022	2022/2023
Batteries	1	1	1
Clinical Waste	19	19	19
Co-Mingled	11,602	11,602	11,602
Detritus Waste	388	388	388
Electricals	8	8	8
Fridges	86	86	86
Gas Bottles	0	0	0
General Waste	55,492	55,492	55,492
Carpet	-	-	-
Green Waste	85	85	85
Inert Waste	-	-	-
Paint & Oil	-	-	-
Paper & Cardboard	-	-	-
Scrap Metals	3	3	3
Textiles	-	-	-
Tyres	-	-	-
Wood	-	-	-
Grand Total	**67,685**	**67,685**	**67,685**
Contamination	1,547	1,547	1,547

Co-Mingled Contamination	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Apr	13.3%	14.2%	11.6%	13.4%	13.8%
May	15.5%	12.1%	15.9%	13.0%	13.5%
Jun	11.3%	14.2%	12.1%	12.5%	14.5%
Jul	15.3%	11.0%	13.3%	15.8%	12.0%
Aug	16.3%	13.0%	17.1%	15.8%	16.4%
Sep	15.7%	12.9%	11.5%	16.6%	13.3%
Oct	14.7%	13.5%	15.1%	19.3%	10.7%
Nov	14.7%	16.0%	13.5%	15.3%	13.3%
Dec	15.9%	18.5%	16.8%	18.7%	13.3%
Jan	13.3%	15.7%	16.1%	16.5%	13.3%
Feb	11.9%	15.2%	13.7%	12.1%	13.3%
Mar	15.0%	11.9%	12.0%	12.9%	13.3%
Average	14.4%	14.0%	14.1%	15.2%	13.3%
				Budget	15.5%

Working Days	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Total	253	254	253	253	253
Diff from Year before		1	-1	0	0
Change		0.40%	-0.39%	0.00%	0.00%

General Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	4,746	4,633	- 113	-2.39%
May	5,291	4,909	- 383	-7.23%
Jun	4,933	4,551	- 382	-7.75%
Jul	5,015	5,064	50	0.99%
Aug	4,775	4,460	- 316	-6.61%
Sep	4,540	4,574	35	0.76%
Oct	5,127	4,955	- 171	-3.34%
Nov	5,059	4,890	- 169	-3.34%
Dec	4,860	4,698	- 162	-3.34%
Jan	4,697	4,540	- 157	-3.34%
Feb	4,230	4,089	- 141	-3.34%
Mar	4,499	4,349	- 150	-3.34%
Total	**57,772**	**55,711**	**- 2,061**	**-3.57%**

Co-Mingled Tonnes	2018/2019	2019/2020	Difference	
Apr	900	913	13	1.41%
May	999	985	- 14	-1.38%
Jun	951	912	- 38	-4.02%
Jul	965	1,038	72	7.50%
Aug	823	879	56	6.83%
Sep	872	974	102	11.70%
Oct	966	1,055	89	9.24%
Nov	996	1,044	47	4.74%
Dec	998	1,045	47	4.74%
Jan	978	1,024	46	4.74%
Feb	833	872	40	4.74%
Mar	864	905	41	4.74%
Total	**11,146**	**11,648**	**502**	**4.50%**

Detritus Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	66	29	- 37	-55.48%
May	68	27	- 41	-60.75%
Jun	53	40	- 14	-25.68%
Jul	56	34	- 22	-39.50%
Aug	49	35	- 13	-27.54%
Sep	41	38	- 3	-6.80%
Oct	52	42	- 10	-19.18%
Nov	75	48	- 27	-36.08%
Dec	48	30	- 17	-36.08%
Jan	27	17	- 10	-36.08%
Feb	25	16	- 9	-36.08%
Mar	50	32	- 18	-36.08%
Total	**611**	**390**	**- 221**	**-36.23%**

Co-mingled Contamination Tonnes	2018/2019	2019/2020	Difference	
Apr	120	126	5	4.52%
May	129	133	3	2.65%
Jun	118	132	14	11.70%
Jul	152	124	- 28	-18.23%
Aug	130	144	14	10.47%
Sep	144	130	- 15	-10.22%
Oct	186	112	- 74	-39.59%
Nov	152	139	- 13	-8.66%
Dec	186	139	- 47	-25.20%
Jan	161	137	- 25	-15.31%
Feb	101	116	15	15.32%
Mar	112	121	9	8.09%
Total	**1,693**	**1,553**	**- 140**	**-8.28%**

Green Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	10	-	- 10	-100.00%
May	6	-	- 6	-100.00%
Jun	1	-	- 1	-100.00%
Jul	3	-	- 3	-100.00%
Aug	7	-	- 7	-100.00%
Sep	4	-	- 4	-100.00%
Oct	6	1	- 5	-77.32%
Nov	10	10	0	0.40%
Dec	1	1	0	0.40%
Jan	73	73	0	0.40%
Feb	-	-	-	0.00%
Mar	-	-	-	0.00%
Total	**121**	**85**	**- 35**	**-29.28%**

Wood Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	-	-	-	0.00%
May	-	-	-	0.00%
Jun	-	-	-	0.00%
Jul	-	-	-	0.00%
Aug	-	-	-	0.00%
Sep	-	-	-	0.00%
Oct	-	-	-	0.00%
Nov	-	-	-	0.00%
Dec	-	-	-	0.00%
Jan	-	-	-	0.00%
Feb	-	-	-	0.00%
Mar	-	-	-	0.00%
Total	**-**	**-**	**-**	**0.00%**

Kensington and Chelsea | After 7 months of 2019/2020 | = Forecast Figures | Printed 8/11/2019 11:55

Tonnage	2018/2019 Outturn	2019/2020 Budget	2019/2020 Forecast	Difference to Budget Tonnes	Difference to Budget Percentage	2019/2020 £/Tonne	Budget 2019/2020 Cost £	Projected 2019/2020 Cost £	Projected 2019/2020 Variance £
Batteries	-	-	-	-		60.00	-	-	-
Clinical Waste	2	1	5	4	256.2%	709.00	1,061	3,778	2,718
Co-Mingled	16,087	16,144	16,140	- 4	0.0%	28.00	452,027	451,917	- 110
Detritus Waste	623	559	1,202	643	115.1%	81.50	45,545	97,971	52,426
Electricals	33	35	19	- 16	-46.5%	53.00	1,838	984	- 854
Fridges	64	56	51	- 5	-9.7%	50.50	2,826	2,553	- 273
Gas Bottles	1	1	1	- 0	-4.7%	134.50	97	93	- 5
General Waste	59,581	59,990	58,221	- 1,769	-2.9%	150.50	9,028,497	8,762,262	- 266,234
Carpet	-	-	-	-		38.00	-	-	-
Green Waste	429	435	444	8	1.9%	100.00	43,523	44,358	835
Inert Waste	-	-	-	-		31.50	-	-	-
Paint & Oil	-	-	-	-		130.00	-	-	-
Paper & Cardboard	-	-	-	-		- 27.00	-	-	-
Scrap Metals	1	1	-	- 1	-100.0%	-	-	-	-
Textiles	-	-	-	-		- 209.50	-	-	-
Tyres	-	-	-	-		290.00	-	-	-
Wood	1	2	1	- 2	-75.0%	112.50	270	68	- 202
Grand Total	**76,822**	**77,224**	**76,082**	**- 1,142**	**-1.5%**	**Sub-Total**	**9,575,684**	**9,363,984**	**- 211,700**
Contamination	1,875	1,890	1,719	- 171	-9.0%	150.50	284,429	258,690	- 25,739
						Grand Total	**9,860,113**	**9,622,674**	**- 237,439**

Forecast Tonnes	2020/2021	2021/2022	2022/2023
Batteries	-	-	-
Clinical Waste	5	5	5
Co-Mingled	16,076	16,076	16,076
Detritus Waste	1,197	1,197	1,197
Electricals	18	18	18
Fridges	50	50	50
Gas Bottles	1	1	1
General Waste	57,992	57,992	57,992
Carpet	-	-	-
Green Waste	442	442	442
Inert Waste	-	-	-
Paint & Oil	-	-	-
Paper & Cardboard	-	-	-
Scrap Metals	-	-	-
Textiles	-	-	-
Tyres	-	-	-
Wood	1	1	1
Grand Total	**75,783**	**75,783**	**75,783**
Contamination	1,712	1,712	1,712

Co-Mingled Contamination	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Apr	13.0%	10.8%	14.7%	12.2%	9.5%
May	15.7%	11.5%	11.8%	10.9%	10.0%
Jun	12.3%	11.1%	13.2%	11.0%	11.3%
Jul	14.1%	11.1%	12.1%	13.2%	9.3%
Aug	10.0%	11.3%	14.3%	11.4%	13.9%
Sep	13.9%	13.1%	11.9%	12.7%	11.1%
Oct	14.3%	11.9%	14.0%	10.1%	10.0%
Nov	13.0%	12.1%	10.6%	11.2%	10.6%
Dec	14.8%	11.4%	12.3%	13.6%	10.6%
Jan	16.9%	11.8%	11.3%	9.9%	10.6%
Feb	17.5%	12.6%	11.7%	13.0%	10.6%
Mar	13.5%	13.6%	9.2%	10.9%	10.6%
Average	14.1%	11.9%	12.2%	11.7%	10.6%
				Budget	11.7%

Working Days	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Total	253	254	253	253	253
Diff from Year before		1	-1	0	0
Change		0.40%	-0.39%	0.00%	0.00%

General Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	4,858	4,740	- 117	-2.42%
May	5,250	4,937	- 313	-5.96%
Jun	5,004	4,813	- 192	-3.83%
Jul	5,289	5,156	- 133	-2.52%
Aug	4,986	4,899	- 87	-1.74%
Sep	4,754	4,858	103	2.18%
Oct	5,279	5,153	- 126	-2.38%
Nov	5,337	5,227	- 110	-2.05%
Dec	4,943	4,842	- 102	-2.05%
Jan	4,801	4,703	- 99	-2.05%
Feb	4,327	4,238	- 89	-2.05%
Mar	4,753	4,655	- 98	-2.05%
Total	**59,581**	**58,221**	**- 1,360**	**-2.28%**

Co-Mingled Tonnes	2018/2019	2019/2020	Difference	
Apr	1,266	1,266	- 0	-0.01%
May	1,378	1,331	- 47	-3.41%
Jun	1,352	1,335	- 17	-1.27%
Jul	1,431	1,467	36	2.50%
Aug	1,176	1,176	- 1	-0.07%
Sep	1,322	1,373	50	3.82%
Oct	1,436	1,431	- 6	-0.39%
Nov	1,454	1,462	8	0.56%
Dec	1,433	1,441	8	0.56%
Jan	1,326	1,334	7	0.56%
Feb	1,178	1,185	7	0.56%
Mar	1,333	1,340	7	0.56%
Total	**16,087**	**16,140**	**53**	**0.33%**

Detritus Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	47	76	29	61.36%
May	43	75	32	73.38%
Jun	40	84	44	109.69%
Jul	23	81	57	244.15%
Aug	42	88	46	109.53%
Sep	55	85	30	54.57%
Oct	55	100	45	81.65%
Nov	72	140	67	93.23%
Dec	41	80	38	93.23%
Jan	40	77	37	93.23%
Feb	69	134	64	93.23%
Mar	95	184	89	93.23%
Total	**623**	**1,202**	**579**	**92.86%**

Co-mingled Contamination Tonnes	2018/2019	2019/2020	Difference	
Apr	154	121	- 33	-21.64%
May	150	133	- 17	-11.23%
Jun	149	151	2	1.51%
Jul	188	136	- 52	-27.62%
Aug	134	163	28	21.20%
Sep	168	152	- 16	-9.79%
Oct	145	143	- 2	-1.38%
Nov	162	156	- 6	-3.95%
Dec	195	153	- 42	-21.37%
Jan	132	142	10	7.85%
Feb	153	126	- 26	-17.30%
Mar	145	143	- 2	-1.38%
Total	**1,875**	**1,719**	**- 156**	**-8.33%**

Green Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	23	23	- 1	-2.24%
May	38	32	- 6	-15.25%
Jun	34	36	2	6.14%
Jul	23	36	14	59.66%
Aug	26	28	2	8.92%
Sep	38	29	- 8	-21.90%
Oct	39	43	4	10.12%
Nov	43	44	2	3.72%
Dec	32	33	1	3.72%
Jan	91	94	3	3.72%
Feb	21	22	1	3.72%
Mar	22	23	1	3.72%
Total	**429**	**444**	**15**	**3.51%**

Wood Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	-	-	-	0.00%
May	-	-	-	0.00%
Jun	-	-	-	0.00%
Jul	-	-	-	0.00%
Aug	1	1	- 1	-50.82%
Sep	-	-	-	0.00%
Oct	-	-	-	0.00%
Nov	-	-	-	0.00%
Dec	-	-	-	0.00%
Jan	-	-	-	0.00%
Feb	-	-	-	0.00%
Mar	-	-	-	0.00%
Total	**1**	**1**	**- 1**	**-50.82%**

Lambeth	After	7	months of	2019/2020	Printed	8/11/2019 11:55
	= Forecast Figures					

Tonnage	2018/2019 Outturn	2019/2020 Budget	2019/2020 Forecast	Difference to Budget Tonnes	Difference to Budget Percentage	2019/2020 £/Tonne	Budget 2019/2020 Cost £	Projected 2019/2020 Cost £	Projected 2019/2020 Variance £
Batteries	-	-	-	-		60.00	-	-	-
Clinical Waste	3	3	5	2	71.8%	709.00	1,865	3,205	1,340
Co-Mingled	19,858	20,096	19,249	- 847	-4.2%	28.00	562,699	538,983	- 23,716
Detritus Waste	760	860	459	- 400	-46.6%	81.50	70,077	37,447	- 32,630
Electricals	122	104	76	- 29	-27.4%	53.00	5,536	4,019	- 1,517
Fridges	179	175	143	- 33	-18.6%	50.50	8,860	7,211	- 1,649
Gas Bottles	3	4	3	- 1	-13.6%	134.50	528	456	- 72
General Waste	89,226	88,538	86,572	- 1,966	-2.2%	150.50	13,324,923	13,029,070	- 295,853
Carpet	-	-	-	-		38.00	-	-	-
Green Waste	546	543	707	164	30.1%	100.00	54,307	70,664	16,357
Inert Waste	1	1	2	1	90.3%	31.50	27	52	25
Paint & Oil	-	-	-	-		130.00	-	-	-
Paper & Cardboard	439	453	384	- 70	-15.4%	- 27.00	- 12,240	- 10,357	1,883
Scrap Metals	112	90	108	18	20.6%	-	-	-	-
Textiles	-	-	-	-		- 209.50	-	-	-
Tyres	12	11	7	- 5	-40.1%	290.00	3,291	1,972	- 1,319
Wood	251	245	220	- 25	-10.4%	112.50	27,553	24,695	- 2,858
Grand Total	**111,510**	**111,124**	**107,934**	**- 3,190**	**-2.9%**	**Sub-Total**	**14,047,426**	**13,707,417**	**- 340,010**
Contamination	3,257	3,352	2,671	- 681	-20.3%	150.50	504,412	401,979	- 102,433
						Grand Total	**14,551,838**	**14,109,396**	**- 442,443**

Forecast Tonnes	2020/2021	2021/2022	2022/2023
Batteries	-	-	-
Clinical Waste	5	5	5
Co-Mingled	19,174	19,174	19,174
Detritus Waste	458	458	458
Electricals	76	76	76
Fridges	142	142	142
Gas Bottles	3	3	3
General Waste	86,231	86,231	86,231
Carpet	-	-	-
Green Waste	704	704	704
Inert Waste	2	2	2
Paint & Oil	-	-	-
Paper & Cardboard	382	382	382
Scrap Metals	108	108	108
Textiles	-	-	-
Tyres	7	7	7
Wood	219	219	219
Grand Total	**107,509**	**107,509**	**107,509**
Contamination	2,660	2,660	2,660

Co-Mingled Contamination	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Apr	13.2%	12.6%	16.5%	15.7%	11.1%
May	14.3%	13.8%	17.7%	12.2%	16.8%
Jun	15.0%	14.9%	11.5%	16.8%	13.2%
Jul	12.8%	11.9%	22.4%	16.2%	15.6%
Aug	11.4%	11.9%	18.9%	16.7%	13.6%
Sep	13.8%	13.4%	14.9%	19.2%	13.9%
Oct	11.5%	11.9%	13.1%	20.2%	12.7%
Nov	13.6%	15.3%	15.0%	14.9%	13.9%
Dec	16.8%	12.2%	17.8%	18.4%	13.9%
Jan	15.6%	16.3%	16.2%	16.5%	13.9%
Feb	16.3%	13.2%	15.9%	14.5%	13.9%
Mar	15.5%	18.6%	17.6%	15.3%	13.9%
Average	14.2%	13.9%	16.5%	16.4%	13.9%
				Budget	16.7%

Working Days	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Total	253	254	253	253	253
Diff from Year before		1	-1	0	0
Change		0.40%	-0.39%	0.00%	0.00%

General Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	7,420	7,319	- 101	-1.36%
May	7,998	7,471	- 526	-6.58%
Jun	7,568	7,037	- 531	-7.02%
Jul	7,795	7,787	- 8	-0.11%
Aug	7,418	7,089	- 330	-4.44%
Sep	6,998	6,953	- 45	-0.64%
Oct	7,723	7,608	- 115	-1.48%
Nov	7,449	7,244	- 205	-2.75%
Dec	7,271	7,071	- 200	-2.75%
Jan	7,822	7,607	- 215	-2.75%
Feb	6,762	6,576	- 186	-2.75%
Mar	7,002	6,810	- 192	-2.75%
Total	**89,226**	**86,572**	**- 2,654**	**-2.97%**

Co-Mingled Tonnes	2018/2019	2019/2020	Difference	
Apr	1,572	1,579	7	0.45%
May	1,742	1,710	- 32	-1.84%
Jun	1,629	1,497	- 132	-8.10%
Jul	1,750	1,672	- 78	-4.44%
Aug	1,633	1,524	- 108	-6.63%
Sep	1,542	1,540	- 2	-0.14%
Oct	1,732	1,704	- 29	-1.66%
Nov	1,673	1,625	- 48	-2.84%
Dec	1,760	1,710	- 50	-2.84%
Jan	1,823	1,771	- 52	-2.84%
Feb	1,445	1,404	- 41	-2.84%
Mar	1,558	1,514	- 44	-2.84%
Total	**19,858**	**19,249**	**- 608**	**-3.06%**

Detritus Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	71	32	- 39	-55.15%
May	86	38	- 48	-56.04%
Jun	63	41	- 22	-35.04%
Jul	72	23	- 48	-67.33%
Aug	54	37	- 16	-30.17%
Sep	46	44	- 3	-5.76%
Oct	57	56	- 1	-1.79%
Nov	77	47	- 31	-39.37%
Dec	71	43	- 28	-39.37%
Jan	52	32	- 21	-39.37%
Feb	43	26	- 17	-39.37%
Mar	67	41	- 26	-39.37%
Total	**760**	**459**	**- 300**	**-39.51%**

Co-mingled Contamination Tonnes	2018/2019	2019/2020	Difference	
Apr	247	219	- 28	-11.23%
May	212	237	25	11.64%
Jun	273	208	- 66	-24.06%
Jul	283	232	- 51	-18.15%
Aug	273	211	- 62	-22.56%
Sep	295	214	- 82	-27.68%
Oct	349	236	- 113	-32.35%
Nov	249	226	- 24	-9.58%
Dec	323	237	- 86	-26.61%
Jan	301	246	- 55	-18.34%
Feb	210	195	- 15	-7.22%
Mar	239	210	- 29	-12.00%
Total	**3,257**	**2,671**	**- 586**	**-17.98%**

Green Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	2	6	4	281.33%
May	7	15	8	106.20%
Jun	18	28	10	55.48%
Jul	22	34	12	55.95%
Aug	26	31	5	20.97%
Sep	49	51	2	4.56%
Oct	64	76	13	19.69%
Nov	145	188	43	29.48%
Dec	132	170	39	29.48%
Jan	60	77	18	29.48%
Feb	17	21	5	29.48%
Mar	6	8	2	29.48%
Total	**546**	**707**	**160**	**29.31%**

Wood Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	23	32	9	38.09%
May	27	27	0	1.65%
Jun	16	20	4	25.16%
Jul	25	25	- 1	-3.38%
Aug	23	18	- 5	-20.63%
Sep	26	17	- 9	-35.01%
Oct	19	-	- 19	-100.00%
Nov	15	14	- 2	-12.21%
Dec	21	19	- 3	-12.21%
Jan	13	11	- 2	-12.21%
Feb	15	13	- 2	-12.21%
Mar	27	24	- 3	-12.21%
Total	**251**	**220**	**- 31**	**-12.43%**

Wandsworth | After 7 months of 2019/2020 | = Forecast Figures | Printed 8/11/2019 11:55

Tonnage	2018/2019 Outturn	2019/2020 Budget	2019/2020 Forecast	Difference to Budget Tonnes	Difference to Budget Percentage	2019/2020 £/Tonne	Budget 2019/2020 Cost £	Projected 2019/2020 Cost £	Projected 2019/2020 Variance £
Batteries	-	-	-	-		60.00	-	-	-
Clinical Waste	64	68	66	- 2	-3.2%	709.00	48,428	46,897	- 1,531
Co-Mingled	20,173	20,410	19,843	- 567	-2.8%	28.00	571,468	555,604	- 15,864
Detritus Waste	2,992	3,232	2,569	- 663	-20.5%	81.50	263,435	209,384	- 54,052
Electricals	3	3	2	- 1	-41.9%	53.00	163	95	- 69
Fridges	96	89	180	91	102.9%	50.50	4,482	9,093	4,611
Gas Bottles	1	1	0	- 1	-80.1%	134.50	152	30	- 122
General Waste	76,028	76,486	74,897	- 1,589	-2.1%	150.50	11,511,080	11,271,930	- 239,150
Carpet	-	-	-	-		38.00	-	-	-
Green Waste	340	260	457	197	75.9%	100.00	25,952	45,651	19,699
Inert Waste	-	0	2	2	1941.9%	31.50	3	52	49
Paint & Oil	-	-	-	-		130.00	-	-	-
Paper & Cardboard	-	-	-	-		- 27.00	-	-	-
Scrap Metals	-	0	0	- 0	-29.3%	-	-	-	-
Textiles	-	-	-	-		- 209.50	-	-	-
Tyres	1	1	0	- 1	-63.1%	290.00	293	108	- 185
Wood	-	-	-	-		112.50	-	-	-
Grand Total	**99,698**	**100,550**	**98,016**	**- 2,534**	**-2.5%**	**Sub-Total**	**12,425,456**	**12,138,844**	**- 286,612**
Contamination	2,852	2,904	2,547	- 358	-12.3%	150.50	437,109	383,300	- 53,809
						Grand Total	**12,862,566**	**12,522,144**	**- 340,422**

Forecast Tonnes	2020/2021	2021/2022	2022/2023
Batteries	-	-	-
Clinical Waste	66	66	66
Co-Mingled	19,765	19,765	19,765
Detritus Waste	2,559	2,559	2,559
Electricals	2	2	2
Fridges	179	179	179
Gas Bottles	0	0	0
General Waste	74,602	74,602	74,602
Carpet	-	-	-
Green Waste	455	455	455
Inert Waste	2	2	2
Paint & Oil	-	-	-
Paper & Cardboard	-	-	-
Scrap Metals	0	0	0
Textiles	-	-	-
Tyres	0	0	0
Wood	-	-	-
Grand Total	**97,630**	**97,630**	**97,630**
Contamination	2,537	2,537	2,537

Co-Mingled Contamination	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Apr	11.2%	13.2%	15.6%	14.1%	11.7%
May	10.8%	12.7%	11.9%	12.8%	11.9%
Jun	13.6%	17.9%	15.4%	14.1%	13.8%
Jul	12.1%	16.4%	16.2%	15.1%	12.0%
Aug	14.1%	16.1%	16.8%	14.8%	13.2%
Sep	12.5%	14.3%	11.3%	16.2%	11.8%
Oct	12.5%	14.3%	15.4%	13.2%	15.4%
Nov	12.2%	12.2%	16.0%	13.4%	12.8%
Dec	18.0%	13.3%	14.9%	15.5%	12.8%
Jan	17.4%	16.3%	14.4%	15.2%	12.8%
Feb	17.2%	16.1%	12.2%	13.3%	12.8%
Mar	19.0%	13.9%	17.5%	11.9%	12.8%
Average	14.3%	14.7%	14.8%	14.1%	12.8%
				Budget	14.2%

Working Days	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Total	253	254	253	253	253
Diff from Year before		1	-1	0	0
Change		0.40%	-0.39%	0.00%	0.00%

General Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	6,373	6,318	- 54	-0.85%
May	7,097	6,693	- 404	-5.69%
Jun	6,391	6,046	- 345	-5.40%
Jul	6,685	6,923	238	3.56%
Aug	6,423	6,104	- 319	-4.97%
Sep	5,976	6,136	160	2.67%
Oct	6,641	6,616	- 25	-0.37%
Nov	6,449	6,368	- 81	-1.26%
Dec	6,058	5,982	- 76	-1.26%
Jan	6,388	6,308	- 80	-1.26%
Feb	5,555	5,486	- 70	-1.26%
Mar	5,993	5,918	- 75	-1.26%
Total	**76,028**	**74,897**	**- 1,132**	**-1.49%**

Co-Mingled Tonnes	2018/2019	2019/2020	Difference	
Apr	1,587	1,608	21	1.33%
May	1,819	1,698	- 120	-6.60%
Jun	1,694	1,565	- 128	-7.57%
Jul	1,754	1,744	- 10	-0.59%
Aug	1,525	1,550	25	1.61%
Sep	1,556	1,575	20	1.25%
Oct	1,743	1,726	- 16	-0.94%
Nov	1,767	1,742	- 25	-1.41%
Dec	1,840	1,814	- 26	-1.41%
Jan	1,847	1,821	- 26	-1.41%
Feb	1,491	1,470	- 21	-1.41%
Mar	1,551	1,529	- 22	-1.41%
Total	**20,173**	**19,843**	**- 330**	**-1.63%**

Detritus Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	235	172	- 64	-27.06%
May	273	219	- 54	-19.81%
Jun	231	183	- 48	-20.83%
Jul	284	208	- 76	-26.68%
Aug	265	232	- 34	-12.73%
Sep	220	246	25	11.54%
Oct	290	283	- 6	-2.23%
Nov	401	345	- 56	-13.92%
Dec	238	205	- 33	-13.92%
Jan	173	149	- 24	-13.92%
Feb	184	158	- 26	-13.92%
Mar	197	170	- 27	-13.92%
Total	**2,992**	**2,569**	**- 423**	**-14.12%**

Co-mingled Contamination Tonnes	2018/2019	2019/2020	Difference	
Apr	223	206	- 17	-7.50%
May	232	218	- 14	-6.13%
Jun	239	201	- 38	-15.92%
Jul	265	224	- 42	-15.67%
Aug	225	199	- 26	-11.58%
Sep	252	202	- 50	-19.73%
Oct	230	222	- 9	-3.76%
Nov	236	224	- 13	-5.43%
Dec	285	233	- 52	-18.20%
Jan	282	234	- 48	-16.97%
Feb	198	189	- 9	-4.78%
Mar	185	196	12	6.34%
Total	**2,852**	**2,547**	**- 305**	**-10.70%**

Green Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	15	8	- 8	-49.61%
May	14	12	- 2	-15.40%
Jun	12	17	6	49.39%
Jul	14	19	5	36.78%
Aug	11	16	5	43.53%
Sep	8	19	11	137.44%
Oct	8	18	10	132.73%
Nov	11	15	4	34.29%
Dec	44	59	15	34.29%
Jan	184	247	63	34.29%
Feb	10	14	4	34.29%
Mar	10	14	4	34.29%
Total	**340**	**457**	**116**	**34.17%**

Wood Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	-	-	-	0.00%
May	-	-	-	0.00%
Jun	-	-	-	0.00%
Jul	-	-	-	0.00%
Aug	-	-	-	0.00%
Sep	-	-	-	0.00%
Oct	-	-	-	0.00%
Nov	-	-	-	0.00%
Dec	-	-	-	0.00%
Jan	-	-	-	0.00%
Feb	-	-	-	0.00%
Mar	-	-	-	0.00%
Total	**-**	**-**	**-**	**0.00%**

Household Waste & Recycling Centre & Charity — After 7 months of 2019/2020 = Forecast Figures

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Tonnage	2018/2019 Outturn	2019/2020 Budget	2019/2020 Forecast	Difference to Budget Tonnes	Difference to Budget Percentage	2019/2020 £/Tonne	Budget 2019/2020 Cost £	Projected 2019/2020 Cost £	Projected 2019/2020 Variance £
Batteries	15	8	24	16	192%	60.00	486	1,420	933
Clinical Waste	-	-	-	-		709.00	-	-	-
Co-Mingled	601	672	601	- 71	-10.5%	28.00	18,814	16,839	- 1,975
Detritus Waste	-	-	-	-		81.50	-	-	-
Electricals	751	728	751	24	3.2%	53.00	38,579	39,825	1,246
Fridges	78	67	78	11	16.5%	50.50	3,367	3,921	554
Gas Bottles	15	11	13	2	15.7%	134.50	1,499	1,734	235
General Waste	9,713	9,416	8,916	- 500	-5.3%	150.50	1,417,060	1,341,844	- 75,216
Carpet	269	-	419	419		38.00	-	15,917	15,917
Green Waste	3,190	3,077	3,171	94	3.1%	100.00	307,748	317,149	9,401
Inert Waste	1,624	1,581	1,792	211	13.3%	31.50	49,814	56,447	6,633
Paint & Oil	17	16	16	0	0.9%	130.00	2,084	2,102	18
Paper & Cardboard	793	738	962	224	30.3%	- 27.00	- 19,933	- 25,969	- 6,036
Scrap Metals	721	730	640	- 90	-12.3%	-	-	-	-
Textiles	234	493	256	- 237	-48.0%	- 209.50	- 103,346	- 53,722	49,624
Tyres	-	0	-	- 0	-100.0%	290.00	17	-	- 17
Wood	3,474	3,280	4,100	820	25.0%	112.50	369,048	461,256	92,208
Grand Total	**21,494**	**20,819**	**21,740**	**922**	**4.4%**	**Sub-Total**	**2,085,238**	**2,178,763**	**93,525**
Contamination	88	99	76	- 22	-22.5%	150.50	14,826	11,486	- 3,340
						Grand Total	**2,100,064**	**2,190,250**	**90,185**

Forecast Tonnes	2020/2021	2021/2022	2022/2023
Batteries	24	24	24
Clinical Waste	-	-	-
Co-Mingled	599	599	599
Detritus Waste	-	-	-
Electricals	748	748	748
Fridges	77	77	77
Gas Bottles	13	13	13
General Waste	8,881	8,881	8,881
Carpet	417	417	417
Green Waste	3,159	3,159	3,159
Inert Waste	1,785	1,785	1,785
Paint & Oil	16	16	16
Paper & Cardboard	958	958	958
Scrap Metals	638	638	638
Textiles	255	255	255
Tyres	-	-	-
Wood	4,084	4,084	4,084
Grand Total	**21,655**	**21,655**	**21,655**
Contamination	76	76	76

Co-Mingled Contamination	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Apr	12.6%	12.6%	15.0%	14.0%	11.4%
May	13.8%	12.6%	14.3%	12.2%	13.2%
Jun	13.2%	14.8%	13.2%	13.9%	13.1%
Jul	13.3%	12.9%	16.6%	15.1%	12.4%
Aug	12.7%	13.2%	16.9%	14.8%	14.0%
Sep	13.8%	13.5%	12.5%	16.3%	12.5%
Oct	13.1%	12.9%	14.3%	15.5%	12.5%
Nov	13.2%	13.7%	14.0%	13.6%	12.7%
Dec	16.5%	13.4%	15.4%	16.4%	12.7%
Jan	16.1%	15.1%	14.5%	14.7%	12.7%
Feb	16.1%	14.3%	13.4%	13.4%	12.7%
Mar	16.0%	14.8%	14.6%	12.8%	12.7%
Average	14.2%	13.6%	14.6%	14.6%	12.7%
				Budget	14.7%

Working Days	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Total	253	254	253	253	253
Diff from Year before		1	-1	0	0
Change		0.40%	-0.39%	0.00%	0.00%

General Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	975	873	- 102	-10.48%
May	1,029	949	- 80	-7.80%
Jun	949	784	- 165	-17.39%
Jul	891	867	- 24	-2.74%
Aug	871	897	25	2.91%
Sep	826	772	- 54	-6.57%
Oct	789	663	- 127	-16.07%
Nov	637	586	- 51	-7.97%
Dec	657	605	- 52	-7.97%
Jan	623	573	- 50	-7.97%
Feb	656	603	- 52	-7.97%
Mar	809	745	- 65	-7.97%
Total	**9,713**	**8,916**	**- 797**	**-8.21%**

Co-Mingled Tonnes	2018/2019	2019/2020	Difference	
Apr	46	63	16	35.30%
May	39	62	23	60.06%
Jun	49	60	11	22.16%
Jul	63	55	- 8	-13.06%
Aug	59	47	- 12	-19.93%
Sep	50	37	- 12	-25.01%
Oct	51	32	- 19	-36.74%
Nov	47	47	0	0.22%
Dec	72	72	0	0.22%
Jan	53	54	0	0.22%
Feb	31	31	0	0.22%
Mar	43	43	0	0.22%
Total	**601**	**601**	**- 0**	**-0.01%**

Detritus Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	-	-	-	0.00%
May	-	-	-	0.00%
Jun	-	-	-	0.00%
Jul	-	-	-	0.00%
Aug	-	-	-	0.00%
Sep	-	-	-	0.00%
Oct	-	-	-	0.00%
Nov	-	-	-	0.00%
Dec	-	-	-	0.00%
Jan	-	-	-	0.00%
Feb	-	-	-	0.00%
Mar	-	-	-	0.00%
Total	**-**	**-**	**-**	**0.00%**

Co-mingled Contamination Tonnes	2018/2019	2019/2020	Difference	
Apr	6	7	1	10.00%
May	5	8	3	73.18%
Jun	7	8	1	15.51%
Jul	9	7	- 3	-28.76%
Aug	9	7	- 2	-24.29%
Sep	8	5	- 3	-42.42%
Oct	8	4	- 4	-49.04%
Nov	6	6	- 0	-6.39%
Dec	12	9	- 3	-22.48%
Jan	8	7	- 1	-13.20%
Feb	4	4	- 0	-4.89%
Mar	5	5	- 0	-0.71%
Total	**88**	**76**	**- 11**	**-12.90%**

Green Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	309	363	54	17.41%
May	497	407	- 90	-18.16%
Jun	429	372	- 57	-13.19%
Jul	276	334	59	21.37%
Aug	306	356	50	16.35%
Sep	260	296	35	13.62%
Oct	278	211	- 67	-24.14%
Nov	208	207	- 1	-0.28%
Dec	147	146	- 0	-0.28%
Jan	118	117	- 0	-0.28%
Feb	126	125	- 0	-0.28%
Mar	237	236	- 1	-0.28%
Total	**3,190**	**3,171**	**- 18**	**-0.57%**

Wood Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	304	363	60	19.59%
May	312	321	9	3.03%
Jun	301	313	12	3.84%
Jul	309	409	100	32.47%
Aug	267	370	103	38.52%
Sep	251	363	112	44.41%
Oct	301	270	- 31	-10.21%
Nov	263	311	48	18.30%
Dec	254	300	46	18.30%
Jan	296	350	54	18.30%
Feb	278	329	51	18.30%
Mar	338	400	62	18.30%
Total	**3,474**	**4,100**	**626**	**18.02%**

Western Riverside Waste Authority | After 7 months of 2019/2020 | = Forecast Figures | Printed 8/11/2019 11:55

Tonnage	2018/2019 Outturn	2019/2020 Budget	2019/2020 Forecast	Difference to Budget Tonnes	Difference to Budget Percentage	2019/2020 £/Tonne	Budget 2019/2020 Cost £	Projected 2019/2020 Cost £	Projected 2019/2020 Variance £
Batteries	16	9	24	15	172%	60.00	536	1,460	924
Clinical Waste	92	95	95	0	0.4%	709.00	67,271	67,521	250
Co-Mingled	67,865	68,599	67,481	-1,118	-1.6%	28.00	1,920,769	1,889,478	-31,291
Detritus Waste	4,986	5,331	4,621	-711	-13.3%	81.50	434,510	376,571	-57,939
Electricals	918	878	856	-22	-2.5%	53.00	46,535	45,361	-1,174
Fridges	508	476	537	62	12.9%	50.50	24,036	27,143	3,107
Gas Bottles	21	18	18	-1	-3.3%	134.50	2,444	2,363	-81
General Waste	292,320	292,314	284,317	-7,997	-2.7%	150.50	43,993,293	42,789,673	-1,203,620
Carpet	269	-	419	419		38.00	-	15,917	15,917
Green Waste	4,626	4,464	4,864	399	8.9%	100.00	446,444	486,357	39,913
Inert Waste	1,625	1,582	1,795	213	13.5%	31.50	49,844	56,550	6,707
Paint & Oil	17	16	16	-0	0.0%	130.00	2,102	2,102	-0
Paper & Cardboard	1,232	1,192	1,345	154	12.9%	-27.00	-32,172	-36,326	-4,154
Scrap Metals	838	826	752	-73	-8.9%	-	-	-	-
Textiles	234	493	256	-237	-48.0%	-209.50	-103,346	-53,722	49,624
Tyres	13	13	7	-6	-43.5%	290.00	3,683	2,080	-1,603
Wood	3,726	3,528	4,320	792	22.5%	112.50	396,871	486,018	89,147
Grand Total	**379,303**	**379,835**	**371,725**	**-8,110**	**-2.1%**	**Sub-Total**	**47,252,822**	**46,158,547**	**-1,094,275**
Contamination	9,764	9,994	8,566	-1,428	-14.3%	150.50	1,504,109	1,289,182	-214,927
						Grand Total	**48,756,931**	**47,447,729**	**-1,309,202**

Forecast Tonnes	2020/2021	2021/2022	2022/2023
Batteries	24	24	24
Clinical Waste	95	95	95
Co-Mingled	67,216	67,216	67,216
Detritus Waste	4,602	4,602	4,602
Electricals	852	852	852
Fridges	535	535	535
Gas Bottles	17	17	17
General Waste	283,197	283,197	283,197
Carpet	417	417	417
Green Waste	4,844	4,844	4,844
Inert Waste	1,788	1,788	1,788
Paint & Oil	16	16	16
Paper & Cardboard	1,340	1,340	1,340
Scrap Metals	749	749	749
Textiles	255	255	255
Tyres	7	7	7
Wood	4,303	4,303	4,303
Grand Total	**370,261**	**370,261**	**370,261**
Contamination	8,532	8,532	8,532

Co-Mingled Contamination	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Apr	12.6%	12.6%	15.0%	14.0%	11.4%
May	13.8%	12.6%	14.3%	12.2%	13.2%
Jun	13.2%	14.8%	13.2%	13.9%	13.1%
Jul	13.3%	12.9%	16.6%	15.1%	12.4%
Aug	12.7%	13.2%	16.9%	14.8%	14.0%
Sep	13.8%	13.5%	12.5%	16.3%	12.5%
Oct	13.1%	12.9%	14.3%	15.5%	12.5%
Nov	13.2%	13.7%	14.0%	13.6%	12.7%
Dec	16.5%	13.4%	15.4%	16.4%	12.7%
Jan	16.1%	15.1%	14.5%	14.7%	12.7%
Feb	16.1%	14.3%	13.4%	13.4%	12.7%
Mar	16.0%	14.8%	14.6%	12.8%	12.7%
Average	14.2%	13.6%	14.6%	14.6%	12.7%
				Budget	14.7%

Working Days	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Total	253	254	253	253	253
Diff from Year before		1	-1	0	0
Change		0.40%	-0.39%	0.00%	0.00%

General Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	24,372	23,884	-488	-2.00%
May	26,665	24,958	-1,706	-6.40%
Jun	24,846	23,230	-1,616	-6.50%
Jul	25,675	25,797	122	0.47%
Aug	24,474	23,448	-1,026	-4.19%
Sep	23,095	23,293	198	0.86%
Oct	25,559	24,996	-563	-2.20%
Nov	24,929	24,314	-615	-2.47%
Dec	23,790	23,198	-592	-2.49%
Jan	24,331	23,731	-600	-2.47%
Feb	21,530	20,992	-538	-2.50%
Mar	23,056	22,476	-580	-2.52%
Total	**292,321**	**284,317**	**-8,004**	**-2.74%**

Co-Mingled Tonnes	2018/2019	2019/2020	Difference	
Apr	5,371	5,428	57	1.06%
May	5,976	5,786	-190	-3.17%
Jun	5,674	5,369	-305	-5.37%
Jul	5,964	5,976	12	0.20%
Aug	5,216	5,176	-40	-0.77%
Sep	5,342	5,499	157	2.95%
Oct	5,928	5,948	20	0.33%
Nov	5,936	5,920	-17	-0.28%
Dec	6,102	6,082	-20	-0.33%
Jan	6,028	6,004	-24	-0.40%
Feb	4,978	4,962	-16	-0.32%
Mar	5,349	5,332	-18	-0.33%
Total	**67,864**	**67,481**	**-383**	**-0.56%**

Detritus Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	420	309	-111	-26.35%
May	470	358	-112	-23.84%
Jun	388	348	-40	-10.27%
Jul	435	346	-89	-20.48%
Aug	410	392	-18	-4.32%
Sep	362	412	50	13.75%
Oct	454	481	27	6.04%
Nov	626	580	-46	-7.37%
Dec	398	358	-40	-10.01%
Jan	292	275	-17	-5.81%
Feb	321	334	13	3.98%
Mar	410	427	17	4.11%
Total	**4,986**	**4,621**	**-365**	**-7.33%**

Co-mingled Contamination Tonnes	2018/2019	2019/2020	Difference	
Apr	750	617	-134	-17.84%
May	728	763	35	4.76%
Jun	786	704	-83	-10.52%
Jul	899	738	-161	-17.88%
Aug	771	724	-48	-6.17%
Sep	868	686	-182	-20.95%
Oct	918	742	-176	-19.17%
Nov	807	750	-57	-7.03%
Dec	1,001	772	-229	-22.89%
Jan	883	765	-118	-13.40%
Feb	666	630	-36	-5.37%
Mar	685	675	-10	-1.45%
Total	**9,764**	**8,566**	**-1,198**	**-12.27%**

Green Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	358	399	40	11.24%
May	562	465	-97	-17.21%
Jun	493	454	-40	-8.03%
Jul	337	423	86	25.58%
Aug	375	431	56	14.91%
Sep	360	396	36	10.14%
Oct	395	350	-45	-11.43%
Nov	417	464	48	11.42%
Dec	355	410	55	15.41%
Jan	525	609	84	16.01%
Feb	173	182	9	5.09%
Mar	276	281	6	2.00%
Total	**4,626**	**4,864**	**238**	**5.14%**

Wood Waste Tonnes	2018/2019	2019/2020	Difference	
Apr	327	395	68	20.91%
May	339	348	10	2.92%
Jun	317	333	16	4.92%
Jul	335	434	99	29.74%
Aug	291	389	97	33.48%
Sep	278	380	102	36.89%
Oct	319	270	-49	-15.42%
Nov	279	325	46	16.61%
Dec	275	319	44	15.92%
Jan	309	362	53	17.03%
Feb	293	342	49	16.77%
Mar	365	424	59	16.04%
Total	**3,726**	**4,320**	**594**	**15.95%**

Appendix A

After 7 months of 2019/2020

General Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	61,562	60,602	58,478	57,772	33,146	55,711	- 2,061	-3.57%	57,885	- 2,174	-3.76%
KC	61,110	60,292	59,730	59,581	34,556	58,221	- 1,360	-2.28%	59,990	- 1,769	-2.95%
LA	93,483	92,784	89,451	89,226	51,264	86,572	- 2,654	-2.97%	88,538	- 1,966	-2.22%
WA	79,542	79,034	77,251	76,028	44,836	74,897	- 1,132	-1.49%	76,486	- 1,589	-2.08%
WRWA	12,355	11,792	10,749	9,713	5,804	8,916	- 797	-8.21%	9,416	- 500	-5.31%
Total	308,051	304,504	295,660	292,321	169,606	284,317	- 8,004	-2.74%	292,314	- 7,997	-2.74%
Change		- 3,547	- 8,844	- 3,339		- 8,004					
Percentage Change		-1.15%	-2.90%	-1.13%		-2.74%					

Co-Mingled Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	11,463	11,520	11,305	11,146	6,757	11,648	502	4.50%	11,277	370	3.29%
KC	16,711	16,307	15,889	16,087	9,378	16,140	53	0.33%	16,144	- 4	-0.02%
LA	18,379	18,388	19,902	19,858	11,225	19,249	- 608	-3.06%	20,096	- 847	-4.21%
WA	19,699	20,180	19,900	20,173	11,467	19,843	- 330	-1.63%	20,410	- 567	-2.78%
WRWA	379	339	437	601	356	601	- 0	-0.01%	672	- 71	-10.50%
Total	66,630	66,733	67,433	67,864	39,182	67,481	- 383	-0.56%	68,599	- 1,118	-1.63%
Change		103	700	431		- 383					
Percentage Change		0.15%	1.05%	0.64%		-0.56%					

Co-Mingled Contamination (Percentage)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Change in Percentage Point
HF	14.41%	14.02%	14.09%	15.19%	13.33%	13.33%	-1.86%
KC	14.10%	11.86%	12.23%	11.66%	10.65%	10.65%	-1.01%
LA	14.17%	13.90%	16.46%	16.40%	13.88%	13.88%	-2.52%
WA	14.29%	14.73%	14.80%	14.14%	12.83%	12.83%	-1.30%
WRWA	14.24%	13.64%	14.59%	14.57%	12.69%	12.69%	-1.88%

Co-Mingled Contamination (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2017/2018 Budget Percentage	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	1,652	1,616	1,593	1,693	901	1,553	- 140	-8.28%	15.5%	1,750	- 197	-11.24%
KC	2,357	1,934	1,943	1,875	999	1,719	- 156	-8.33%	11.7%	1,890	- 171	-9.05%
LA	2,604	2,556	3,276	3,257	1,558	2,671	- 586	-17.98%	16.7%	3,352	- 681	-20.31%
WA	2,816	2,973	2,946	2,852	1,472	2,547	- 305	-10.70%	14.2%	2,904	- 358	-12.31%
WRWA	54	46	64	88	45	76	- 11	-12.90%	14.7%	99	- 22	-22.53%
Total	9,482	9,124	9,821	9,764	4,974	8,566	- 1,198	-12.27%	14.6%	9,994	- 1,428	-14.29%
Change		- 358	697	- 57		- 1,198						
Percentage Change		-3.78%	7.64%	-0.58%		-12.27%						

Green Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	75	114	115	121	1	85	- 35	-29.28%	149	- 64	-42.78%
KC	494	359	387	429	227	444	15	3.51%	435	8	1.92%
LA	323	241	298	546	242	707	160	29.31%	543	164	30.12%
WA	483	552	503	340	108	457	116	34.17%	260	197	75.91%
WRWA	2,749	3,217	3,065	3,190	2,339	3,171	- 18	-0.57%	3,077	94	3.05%
Total	4,124	4,483	4,368	4,626	2,918	4,864	238	5.14%	4,464	399	8.94%
Change		359	- 115	257		238					
Percentage Change		8.72%	-2.57%	5.89%		5.14%					

Clinical Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	34	30	27	23	11	19	-4	-15.98%	22	-3	-14.30%
KC	4	3	2	2	3	5	4	196.05%	1	4	256.23%
LA	2	2	1	3	2	5	2	80.81%	3	2	71.84%
WA	58	60	65	64	39	66	2	2.58%	68	-2	-3.16%
WRWA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
Total	98	95	96	92	55	95	4	3.88%	95	0	0.37%
Change		-3	1	-4		4					
Percentage Change		-2.74%	0.57%	-4.14%		3.88%					

Detritus Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	951	813	733	611	246	390	-221	-36.23%	680	-291	-42.71%
KC	650	536	499	623	588	1,202	579	92.86%	559	643	115.11%
LA	678	587	610	760	271	459	-300	-39.51%	860	-400	-46.56%
WA	2,609	2,482	2,539	2,992	1,542	2,569	-423	-14.12%	3,232	-663	-20.52%
WRWA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
Total	4,888	4,418	4,380	4,986	2,646	4,621	-365	-7.33%	5,331	-711	-13.33%
Change		-470	-38	606		-365					
Percentage Change		-9.62%	-0.85%	13.82%		-7.33%					

Battery Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	2	1	1	1	0	1	0	-6.45%	1	0	-19.21%
KC	-	-	-	-	-	-	-	0.00%	-	-	0.00%
LA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WA	-	0	-	-	-	-	-	0.00%	-	-	0.00%
WRWA	28	25	22	15	11	24	9	62.28%	8	16	191.87%
Total	30	25	23	15	11	24	9	59.05%	9	15	172.18%
Change		-5	-2	-8		9					
Percentage Change		-15.60%	-9.16%	-33.48%		59.05%					

Electrical Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	45	44	15	9	5	8	-0	-3.59%	8	0	4.50%
KC	37	49	27	33	12	19	-15	-44.47%	35	-16	-46.48%
LA	196	194	172	122	50	76	-46	-37.88%	104	-29	-27.40%
WA	3	3	10	3	1	2	-1	-29.01%	3	-1	-41.95%
WRWA	858	806	738	751	441	751	1	0.12%	728	24	3.23%
Total	1,139	1,095	964	917	509	856	-61	-6.68%	878	-22	-2.52%
Change		-44	-131	-47		-61					
Percentage Change		-3.89%	-11.96%	-4.83%		-6.68%					

Fridge Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	93	101	94	91	53	86	-5	-5.40%	89	-3	-3.03%
KC	60	64	61	64	30	51	-13	-20.83%	56	-5	-9.67%
LA	207	212	182	179	98	143	-36	-20.08%	175	-33	-18.61%
WA	128	123	100	96	112	180	84	88.15%	89	91	102.89%
WRWA	59	86	65	78	48	78	0	0.19%	67	11	16.45%
Total	548	587	503	507	341	537	30	5.99%	476	62	12.93%
Change		39	-83	4		30					
Percentage Change		7.12%	-14.19%	0.76%		5.99%					

Gas Bottle Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	1	1	2	1	0	0	-1	-70.53%	1	-1	-70.35%
KC	1	0	1	1	1	1	-0	-23.46%	1	-0	-4.70%
LA	4	2	4	3	3	3	1	20.29%	4	-1	-13.55%
WA	3	1	2	1	0	0	-1	-83.75%	1	-1	-80.14%
WRWA	-	-	19	15	10	13	-2	-13.25%	11	2	15.68%
Total	9	5	27	21	13	18	-4	-17.21%	18	-1	-3.32%
Change		-5	22	-6		-4					
Percentage Change		-48.73%	461.98%	-21.99%		-17.21%					

Carpet Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	-	-	-	-	-	-	-	0.00%	-	-	0.00%
KC	-	-	-	-	-	-	-	0.00%	-	-	0.00%
LA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WRWA	-	-	-	269	224	419	150	55.54%	-	419	0.00%
Total	-	-	-	269	224	419	150	55.54%	-	419	0.00%
Change		-	-	269		150					
Percentage Change						55.54%					

Inert Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	-	-	-	-	-	-	-	0.00%	-	-	0.00%
KC	-	2	-	-	-	-	-	0.00%	-	-	0.00%
LA	13	10	-	1	1	2	1	91.09%	1	1	90.34%
WA	12	4	23	0	2	2	2	1950.00%	0	2	1941.93%
WRWA	830	1,061	1,212	1,624	1,137	1,792	168	10.32%	1,581	211	13.32%
Total	855	1,076	1,235	1,625	1,140	1,795	170	10.46%	1,582	213	13.46%
Change		221	158	390		170					
Percentage Change		25.83%	14.72%	31.62%		10.46%					

Oil/Paint Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	-	-	-	0	-	-	-0	-100.00%	0	-0	-100.00%
KC	-	-	-	-	-	-	-	0.00%	-	-	0.00%
LA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WA	-	-	0	-	-	-	-	0.00%	-	-	0.00%
WRWA	9	17	15	17	10	16	-1	-3.42%	16	0	0.87%
Total	9	17	15	17	10	16	-1	-4.22%	16	-0	0.00%
Change		8	-1	1		-1					
Percentage Change		86.28%	-8.08%	9.04%		-4.22%					

Paper/Cardboard Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	-	-	-	-	-	-	-	0.00%	-	-	0.00%
KC	-	-	-	-	-	-	-	0.00%	-	-	0.00%
LA	255	321	484	439	238	384	-56	-12.67%	453	-70	-15.38%
WA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WRWA	713	806	827	793	555	962	169	21.25%	738	224	30.28%
Total	968	1,127	1,311	1,232	793	1,345	113	9.16%	1,192	154	12.91%
Change		159	185	-79		113					
Percentage Change		16.42%	16.39%	-6.02%		9.16%					

Scrap Metal Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	8	11	13	4	3	3	-0	-8.49%	5	-1	-28.66%
KC	3	1	1	1	-	-	-1	-100.00%	1	-1	-100.00%
LA	128	150	115	112	66	108	-3	-3.08%	90	18	20.58%
WA	-	0	2	0	-	0	0	0.40%	0	-0	-29.27%
WRWA	573	697	687	721	422	640	-81	-11.17%	730	-90	-12.30%
Total	711	859	818	837	491	752	-85	-10.15%	826	-73	-8.90%
Change		148	-42	20		-85					
Percentage Change		20.80%	-4.86%	2.42%		-10.15%					

Appendix A

Textile Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	-	-	-	-	-	-	-	0.00%	-	-	0.00%
KC	-	-	-	-	-	-	-	0.00%	-	-	0.00%
LA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WRWA	204	209	205	234	158	256	22	9.57%	493	- 237	-48.02%
Total	204	209	205	234	158	256	22	9.57%	493	- 237	-48.02%
Change		5	- 5	30		22					
Percentage Change		2.49%	-2.25%	14.42%		9.57%					

Tyre Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	1	0	0	0	-	-	- 0	-100.00%	0	- 0	-100.00%
KC	-	0	0	-	-	-	-	0.00%	-	-	0.00%
LA	11	8	12	12	5	7	- 5	-43.99%	11	- 5	-40.08%
WA	1	2	1	1	0	0	- 1	-58.52%	1	- 1	-63.09%
WRWA	0	-	-	0	-	-	- 0	-100.00%	0	- 0	-100.00%
Total	13	11	13	13	5	7	- 6	-46.47%	13	- 6	-43.53%
Change		- 1	2	1		- 6					
Percentage Change		-11.16%	13.45%	4.52%		-46.47%					

Wood Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	-	-	-	-	-	-	-	0.00%	-	-	0.00%
KC	-	-	1	1	1	1	- 1	-50.82%	2	- 2	-75.00%
LA	366	273	245	251	139	220	- 31	-12.43%	245	- 25	-10.37%
WA	-	-	-	-	-	-	-	0.00%	-	-	0.00%
WRWA	3,022	3,223	3,165	3,474	2,409	4,100	626	18.02%	3,280	820	24.99%
Total	3,387	3,496	3,411	3,726	2,549	4,320	594	15.95%	3,528	792	22.46%
Change		109	- 86	315		594					
Percentage Change		3.21%	-2.45%	9.24%		15.95%					

Total Waste Delivered (Tonnes)

	2015/2016	2016/2017	2017/2018	2018/2019	TO DATE 2019/2020	FORECAST 2019/2020	Annual Change Tonnes	Annual Change Percent	2019/2020 Budget Tonnes	Budget Change Tonnes	Budget Change Percent
HF	74,234	73,236	70,785	69,779	40,223	67,953	- 1,826	-2.62%	70,119	- 2,166	-3.09%
KC	79,068	77,613	76,597	76,822	44,795	76,082	- 739	-0.96%	77,224	- 1,142	-1.48%
LA	114,046	113,172	111,477	111,510	63,604	107,934	- 3,576	-3.21%	111,124	- 3,190	-2.87%
WA	102,539	102,442	100,395	99,698	58,107	98,016	- 1,682	-1.69%	100,550	- 2,534	-2.52%
WRWA	21,778	22,277	21,208	21,494	13,922	21,740	246	1.14%	20,819	922	4.43%
Total	391,665	388,741	380,462	379,303	220,651	371,725	- 7,579	-2.00%	379,835	- 8,110	-2.14%
Change		- 2,924	- 8,279	- 1,159		- 7,579					
Percentage Change		-0.75%	-2.13%	-0.30%		-2.00%					

Local Authority Collected Waste (Tonnes)

Forecast after 7 months of 2019/2020 | Printed 8/11/2019 11:59

	HF	KC	LA	WA	HWRC	Total	Share	Adjusted for Contamination	Share
Co-Mingled Recyclables	11,648	16,140	19,249	19,843	601	67,481	18%	58,915	16%
Detritus Waste	390	1,202	459	2,569	-	4,621	1%	4,621	1%
General Waste	55,711	58,221	86,572	74,897	8,916	284,317	76%	292,883	79%
Green Waste	85	444	707	457	3,171	4,864	1%	4,864	1%
Wood Waste	-	1	220	-	4,100	4,320	1%	4,320	1%
Other Waste	118	75	727	250	4,951	6,122	2%	6,122	2%
TOTAL WASTE	**67,953**	**76,082**	**107,934**	**98,016**	**21,740**	**371,725**	**100%**	**371,725**	**100%**
Co-Mingled Contamination	1,553	1,719	2,671	2,547	76	8,566			

Local Authority Collected Waste (£)

	£/T	HF	KC	LA	WA	HWRC	Total	Share	Adjusted for Contamination	Share
Co-Mingled Recyclables	28.00	326,135	451,917	538,983	555,604	16,839	1,889,478	4%	1,889,478	4%
Detritus Waste	81.50	31,769	97,971	37,447	209,384	-	376,571	1%	376,571	1%
General Waste	150.50	8,384,567	8,762,262	13,029,070	11,271,930	1,341,844	42,789,673	93%	44,078,855	93%
Green Waste	100.00	8,535	44,358	70,664	45,651	317,149	486,357	1%	486,357	1%
Wood Waste	112.50	-	68	24,695	-	461,256	486,018	1%	486,018	1%
Other Waste		18,533	7,408	6,558	56,275	41,675	130,449	0%	130,449	0%
SUB-TOTAL COST		9,003,266	9,622,674	14,109,396	12,522,144	2,190,250	46,158,547	100%	**47,447,729**	100%
Co-Mingled Contamination	150.50	233,727	258,690	401,979	383,300	11,486	1,289,182			
						TOTAL COST	47,447,729			

Local Authority Collected Waste (Tonnes) Adjusted for Contamination

	HF	KC	LA	WA	HWRC	WRWA
Co-Mingled Recyclables	10,095	14,421	16,578	17,296	525	58,915
Detritus Waste	390	1,202	459	2,569	-	4,621
General Waste	57,264	59,940	89,243	77,443	8,992	292,883
Green Waste	85	444	707	457	3,171	4,864
Wood Waste	-	1	220	-	4,100	4,320
Other Waste	118	75	727	250	4,951	6,122
TOTAL WASTE	**67,953**	**76,082**	**107,934**	**98,016**	**21,740**	**371,725**

Local Authority Collected Waste (Tonnes) Other Estimated Adjustments

	HF	KC	LA	WA	HWRC	WRWA
HWRC Recycling Tonnage assigned to Councils	2,405	2,976	3,329	4,038	- 12,748	
Mixed Food & Garden Waste			4,500			4,500
Other Third Party Recycling	350	250	2050	500		3,150
TOTAL Local Authority Collected Waste	**70,708**	**79,308**	**117,812**	**102,554**	**8,992**	**379,375**

Household Waste Data from Waste DataFlow

Forecast after 4 Quarters of 2017/2018

* Allocated to Consituent Councils

	HF	KC	LA	WA	HWRC	WRWA
Residual Household Waste	36,666	38,560	58,450	73,955	8,992	216,623
HH Dry Recycling Tonnage	10,467	12,395	19,150	18,954	*	60,966
HH Compost Tonnage	895	1,278	5,672	1,978	*	9,824
Total Household Waste	48,028	52,233	83,272	94,887	8,992	287,413
HH Waste Sent for Recycling or Composting	11,362	13,673	24,822	20,932	*	70,790
Non-Household Residual Waste	20,599	21,380	30,793	3,488	-	76,260
Non-Household Recycling & Composting	2,081	5,695	3,748	4,178	-	15,702
Total Non-Household Waste	22,680	27,075	34,540	7,667	-	91,962
Total Local Authority Collected Waste	70,708	79,308	117,812	102,554	8,992	379,375

Demographics

	HF	KC	LA	WA	HWRC	WRWA
Population	182,998	156,726	327,910	323,257	990,891	990,891
Number of Households	87,380	88,720	140,260	142,720	459,080	459,080
Persons per Household	2.09	1.77	2.34	2.26	2.16	2.16
HH Waste per HH (kg/week)	10.6	11.3	11.4	12.8	0.4	12.0
Residual HH Waste per HH (kg/week)	8.1	8.4	8.0	10.0	0.4	9.1
Recycled/Composted HH Waste per HH (kg/week)	2.5	3.0	3.4	2.8	*	3.0
HH Waste per Resident (kg/week)	5.0	6.4	4.9	5.6	0.2	5.6
Residual HH Waste per Resident (kg/week)	3.9	4.7	3.4	4.4	0.2	4.2
Recycled/Composted HH Waste per Resident (kg/week)	1.2	1.7	1.5	1.2	*	1.4

Recycling Performance

	HF	KC	LA	WA	HWRC	WRWA
HH Dry Recycling %	21.8%	23.7%	23.0%	20.0%	*	21.2%
HH Compost %	1.9%	2.4%	6.8%	2.1%	*	3.4%
HH Recycling/composting %	23.7%	26.2%	29.8%	22.1%	*	24.6%
Municipal Recycling/composting %	19.0%	24.4%	24.3%	24.5%	*	22.8%



Joint Waste Strategy – Briefing Report

Briefing Note

Report for Western Riverside Waste Authority

ED 11299 | Issue Number 1 | Date 05/11/2019

Customer:

Western Riverside Waste Authority

Customer reference:

Waste Strategy Analysis

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1 Executive Summary

The purpose of this paper is to consider recent government initiatives in waste and recycling policy, legislation and statutory duties and to explore their potential impact on WRWA's current Joint Waste Management Strategy and the implications on the most appropriate timescale for updating the current Strategy.

WRWA's first Joint Waste Management Strategy was produced in 2006 and was revised in July 2013. It was intended that a new joint waste policy document for the Authority and its constituent councils would be developed and presented for approval during 2018. However, development of the Mayor of London's Environment Strategy and the government's announcement of a forthcoming Resource and Waste Strategy in early 2018, following on from the launch of the government's 25 Year Environment Plan, the Bioeconomy Strategy, and the Clean Growth Strategy created an element of uncertainty in terms of balancing the requirements of the Authority's ambitions against the potential constraints deriving from these Government initiatives.

Eventually published in December 2018, the Resources and Waste Strategy sets out[1] how government will:

- ensure producers pay the full net costs of disposal or recycling of packaging they place on the market by extending producer responsibility;
- review current producer responsibility schemes for items that can be harder or costly to recycle including cars, electrical goods, batteries and explore extending it to textiles, fishing gear, vehicle tyres, certain materials from construction and demolition, and bulky waste such as mattresses, furniture and carpets;
- introduce a consistent set of recyclable materials collected from all households and businesses, and consistent labelling on packaging so consumers know what they can recycle, to drive-up recycling rates;
- ensure weekly collections of food waste, which is often smelly and unpleasant, for every household – restoring weekly collections in some local authorities. This will be subject to consultation which will also consider free garden waste collections for households with gardens, to reduce greenhouse gas emissions from landfill;
- introduce a deposit return scheme, subject to consultation, to increase the recycling of single-use drinks containers including bottles, cans, and disposable cups filled at the point of sale;
- explore mandatory guarantees and extended warranties on products, to encourage manufacturers to design products that last longer and drive up the levels of repair and re-use;
- introduce annual reporting of food surplus and waste by food businesses. Should progress be insufficient, we will consult on introducing mandatory targets for food waste prevention and
- clamp-down on illegal movements of waste at home and abroad by introducing compulsory electronic tracking of waste, and tougher penalties for rogue waste crime operators if they mislabel their waste to dodge tax rules

Following publication of the Strategy, the government issued public consultations regarding the proposals for:

- A deposit return scheme (DRS) for drinks containers,
- Consistency in household and business recycling and
- Extended producer responsibility (EPR)

[1] https://www.gov.uk/government/news/gove-launches-landmark-blueprint-for-resources-and-waste

The consultation documents provided additional details regarding the government's proposals, the majority of which have the potential to both impact on the collection methodologies of the constituent authorities and to change both the composition and volume of material delivered to the Energy from Waste (EfW) facility, Material Recover Facility (MRF) and the Household Waste and Recycling Centre (HWRC).

The key proposals are:

1.1 Deposit Return Scheme (DRS)

The introduction of a Deposit Return Scheme (DRS) for packaging waste is aimed primarily at drinks containers – plastic, cans and possibly glass - the aim of a DRS would be to reduce littering and increase recycling levels for these materials by incorporating a returnable deposit into the purchase price of the goods which would be redeemable through a network of return points.

1.2 Extended Producer Responsibility Scheme (EPR)

The government will introduce an EPR scheme that will ensure producers pay the full costs of managing the disposal of their products, whether as recyclate or as residual waste. This would mean that the costs incurred by WRWA and the constituent authorities for the collection, recycling and disposal of packaging would be reimbursed by producers.

1.3 Consistency in household and business recycling:

The government will legislate to introduce a core set of consistent recyclable materials which will be collected from all households and businesses. This will include food waste, and may include garden waste, for which the ability to charge residents is under consideration. It will be a requirement to collect food waste weekly, and the government is considering setting minimum collection frequencies for both residual waste and recycling. They are also considering specifying how recycling should be collected, with the possibility of co-mingled collection not being accepted, with the aim of increasing the quality of the materials collected.

The government's proposals are likely to impact on all aspects of the waste activities of WRWA and their constituent authorities in terms of service provision, collection methodology, overall tonnages and composition of waste streams, service costs and the income from recyclate. However, whilst both the Strategy and consultation documents provide indicative dates for the development of schemes, the introduction of legislation and the implementation of service change, the proposed timescales are challenging, and confidence in the achievement of the required timeline for government action has been expressed. A position further complicated by the forthcoming General Election in December 2019 and the potential for other matters, including Brexit, to dominate the legislative timetable.

This briefing paper thus explores the potential implications of the Strategy's proposals on the current Joint Waste Management Strategy, considers the operational impacts of the government's proposals and assesses the most appropriate timescale for updating the Joint Waste Management Strategy.

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2 Overview of Government Consultations on Resource and Waste Strategy

The government has published summaries of the consultations, which incorporate their responses to each of the consultations and their proposed next steps towards implementation[2]. The key elements relevant to the Joint Waste Management Strategy are:

2.1 Deposit Return Scheme (DRS):

The DRS approach is considered likely to reduce costs for the constituent Councils by reducing litter volumes. The volume of drinks containers in kerbside collections may fall, but this is not expected to be operationally significant. Residual and recyclate volume and composition may change as residents utilise DRS rather than kerbside to recycle drinks containers and are incentivised to divert more material from their refuse. Similarly, WRWA may receive noticeably lower volumes at both the MRF and the EfW facility. Processing costs may fall due to reduced volumes, but income may be reduced due to the loss of high value materials from the current recycling services (i.e. plastic bottles and steel and aluminium cans). It should be noted that the government's modelling (and previous Authority modelling) suggests a net saving.

The government received 1,180 responses to this consultation (excluding campaign responses) of which 122 were from local authorities. Respondents overwhelmingly agreed (84%) with the proposed principles of a DRS; two thirds of local authorities agreed with the principles with only 5% of local authorities disagreeing with the principles, primarily due to questioning whether there was a need for a DRS scheme given existing council collection services.

The vast majority of respondents wanted to see plastic, metal and glass containers of all sizes included in the DRS.

As a result, the government intend to introduce a DRS for drinks containers in England and Wales into law via the Environment Bill, which will introduce powers that will enable a deposit return scheme to be implemented in England, Wales and Northern Ireland from 2023. Further consultations on the proposed scope and model of the scheme will take place in 2020.

2.2 Extended Producer Responsibility

The key element of this aspect of the Resource and Waste Strategy is the proposal that the producers of packaging should be responsible for the cost of collecting and recycling it, and also for the cost of disposing packaging which remains in the residual stream. This has the potential to substantially impact on local authority budgets, providing funding for operations currently carried out and funded by WRWA and the constituent Councils.

The government received 679 responses to the consultation of which 226 were from local government. There was strong support for the three elements proposed for producer payments to local authorities for managing packaging waste:

- 77% of respondents agreed the scheme should include payment for the cost of providing a recycling collection service,
- 91% agreed the scheme should include a recycling payment for the amount of packaging waste collected and recycled, and

[2] https://www.gov.uk/government/news/stronger-protections-for-the-environment-move-closer-as-landmark-bill-takes-shape?utm_source=REA+Member+List+%E2%80%93+GDPR+compliant&utm_campaign=2b86dd1ff4-EMAIL_CAMPAIGN_2018_02_28_COPY_01&utm_medium=email&utm_term=0_60f97b574c-2b86dd1ff4-250367781

- 81% agreed that the scheme should include a residual waste payment related to the cost of managing household packaging waste remaining in residual waste.

The Extended Producer Responsibility system would thus fund the costs of collection, recycling and disposing of packaging collected by local authorities in recycling and residual waste collections, which is currently funded by local authorities. However, a majority of respondents agreed that payments to local authorities for collecting and managing household packaging waste should be based on the provision of collection services that meet any minimum requirements and the collection of a common set of packaging materials.

With the government considering legislating for minimum service standards, this funding may be subject to adherence with the government's statutory collection standards. At present, local authorities are able to decide what type and frequency of collection arrangements best suit their area, with residents able to express their satisfaction with the arrangements in their area at local elections. Should the cost of these services be funded by central government through payments from packaging producers, brands or retailers, this local decision making may not be possible, and non-compliance may result in funding being withheld.

The government states it will introduce an Extended Producer Responsibility system for packaging in 2023. They will introduce the powers to extend the producer responsibility systems through the Environment Bill. They expect to consult on the final proposals for the system in 2020; in the meantime, further work will be taken forward to consider how funding will be allocated to local authorities and to assess the implications for UK reprocessing capacity and secondary materials markets of the increased quantities of packaging materials which will be available for recycling.

2.3 Consistency in Household and Business Recycling:

The Strategy proposes plans to make recycling collections consistent across England. All local authorities would be required to collect the same kind of materials from households, namely:

- Plastic containers
- Glass
- Metal cans
- Paper
- Cardboard

The government received 1,713 responses to this consultation, of which 531 were from stakeholders or part of an organisation (the remainder coming from the public). 241 responses were from local authorities. 95% of organisational responses agreed with this proposal (the Authority's constituent councils already collect all five of these materials as part of their co-mingled service). However, proposals to require separate collection of recyclate (two-stream as a minimum, effectively outlawing co-mingled collections) were agreed to by 48% of responders.

Local authorities would also be required to provide separate food and garden waste collections, with food collected weekly (72% of responders agreed), and possibly with a free provision of caddy liners (56% agreed).

Proposals to provide a free garden waste collection service to all households with gardens were agreed by 38% of responders. Whilst the government has guaranteed that new burden funding will be made available for any service changes necessary to comply with these requirements, concerns have been raised regarding the methodology for calculating the funding, how equitable it would be and its duration.

The government will now look to work with local authorities, waste management businesses and others to develop more detailed regulations and guidance for implementing consistency in recycling. It is expected that the agreed measures will come into effect from 2023.

3 Conclusion

In terms of the proposals outlined in the Resource and Waste Strategy and the level of support for them expressed through the consultations and the government's comments in their responses to the consultations, it appears that all proposals are likely to be introduced; the government is proposing further consultation and engagement, but it would appear this will focus on the methodology of introduction rather than fundamental changes to the proposals.

Implementation of the requirement for revised collection systems, collection frequencies and material streams is planned for 2023, leaving limited time for local authorities to consider the operational and financial implications of the changes required. For this reason, this briefing paper concludes that the revision of the current Joint Waste Management Strategy should be postponed. This will enable WRWA and the constituent authorities to engage with government to explore the full implications of the proposals and to explore whether options for variance dependant on specific local circumstances may be permitted.

Experience suggests that there will be a variety of valid reasons, including location, urbanisation, contractual positions and housing type why not all local authorities cannot operate to the same level of quantity, quality and cost, particularly in dense urban areas.

In terms of operational considerations, practical issues include the need for additional collection vehicles to be purchased for food waste and garden waste collections. Should recyclate need to be collected in more streams than the current co-mingled manner, alternate vehicles will be required. Adaptations to and/or expansion of transfer stations will be required to accommodate the additional material streams, and additional containers will be required for all households.

There is also the issue that separate collection in dense urban areas is simply not a practicable option due to lack of space and participation and capture rates could plummet if such a requirement were to be imposed.

Central government has long appreciated that local authorities are best placed to decide what type and frequency of collection arrangements best suit their area, not central government or packaging producers, brands or retailers. Residents can then express their satisfaction with the arrangements in their area at local elections.

The Authority also considers that the proposals fail to take into account the wider environmental impact of the additional resources required to conform with the government's requirements. This issue is addressed in the two operational examples provided in A.1 and A.2 below.

Timescales for the introduction of legislation have been provided for each proposal. In summary, however, the proposed service changes are planned to become statutory requirements by 2023.

In terms of next steps, the government has suggested that further consultations and engagement with local authorities will be forthcoming; however, no schedule or proposed timelines for these have yet been published or announced.

A.1 Implications of Separate Food Waste Collections

The Authority believes that the need for weekly food waste collections should be a matter for local authorities to decide on grounds of their technical, economic, and environmental practicality. In areas where food waste is sent for energy recovery as part of the residual waste stream, it would seem appropriate for local authorities to utilise lifecycle analysis to determine what the environmental and economic benefits of separate collection would be in their area.

To more fully appreciate the costs and benefits of introducing dedicated food waste collection services across the constituent councils, a separate Options Assessment would need to be carried out, enabling consideration of the operational cost of collection, the infrastructure required (containers, food waste liners, communications etc), the benefits in terms of reduced disposal costs, and the carbon and air quality implications of the collection operation. This would effectively constitute a full TEEP assessment, enabling informed strategic decisions to be considered. Whilst the government has indicated that new burden funding would be provided for the introduction of both additional collection infrastructure and additional ongoing operational costs, it is unclear whether this would include the costs of an initial Options Assessment, or whether the outputs of such an assessment would be considered in terms of the need to comply with their legislative requirements.

To aid this briefing note, Ricardo has undertaken some overarching modelling to provide some indicative data on the implications of introducing a separate food waste service for each constituent borough. This comprises an overarching assessment of the carbon impact along with the potential cost implications. It should be noted that for the purposes of this briefing note and the accompanying modelling, the carbon metrics provide updated metrics to those used in the performance report issued in September 2018. We have used the latest carbon factors from the Scottish Carbon Metric[3] for residual waste. For food waste, garden waste and mixed food and garden waste we have used factors from an earlier version of the Scottish Carbon Metric[4], as the current data combines the different treatment processes (composting and AD). Although the factors for composting and AD are from an earlier version, we believe they are still suitable to conduct this high-level assessment. We are aware that WRAP is developing an English Carbon Metric and once available, we would recommend the analysis is updated with factors from this, if suitable.

[3] https://www.zerowastescotland.org.uk/sites/default/files/2014%20and%202015%20Carbon%20Factors%20Table%20for%20website.xlsx

[4] Contained within Ricardo's internal carbon model

Table 1: Summary carbon factors (kgCO2eq per tonne of material)

Material Type	Household (kgCO2eq per tonne of material)				
	Anaerobic Digestion (AD)	Recycled/Composted	Incinerated	Landfilled	Other diversion
Glass wastes		-754.96	69.40	4.57	
Household and similar wastes		-660.99	403.07	457.79	457.79
Metallic wastes, ferrous		-1774.82			
Metallic wastes, mixed ferrous and non-ferrous		-2543.23	62.07	4.57	-2481.16
Metallic wastes, non-ferrous		-9965.84			
Food waste*	-161.97	-39.27	-89.00		
Food & garden waste*	-126.21	-41.73	-67.14		
Garden waste*	-118.63	-42.25	-62.50		
Paper and cardboard wastes		-546.60	-180.35	498.30	
Plastic wastes		-539.16	1664.74	4.57	

**Indicates metrics sourced from Ricardo's internal carbon model*

It should be noted that to develop a baseline against which to assess the impact of both a separate food waste service and a separate garden waste service, the food waste and garden waste tonnages that are projected to be removed from the residual stream in their respective scenarios have been isolated and assessed against their individual metrics in Table 1 above. This method was chosen to highlight the carbon savings made by the Authority sending food waste and garden waste to incineration as part of the residual stream compared to sending food waste to anaerobic digestion and garden waste to composting as dedicated material streams. This baseline has been used to represent the current carbon impact for both scenarios.

To provide guidance on assumptions to be used in the overarching modelling, the recent MEL composition study was used for food waste yields for Kensington & Chelsea (1.27kg/hh/wk) and Lambeth (0.68kg/hh/wk). For the remaining boroughs, we have applied the lower limit of 1.093kg/hh/wk as indicated by the most recent WRAP methodology for assessing the impact of introducing food waste collections. This uses their analysis of authorities where food waste collections have been introduced to develop a 'ready reckoner tool', which provides an indication of the likely average yields of separated food waste. The outputs from the use of this tool suggest that the predicted yields per household served per week would be (on the assumption that refuse is collected every week) calculated as follows:

= 2.1614 – (% Social Groups D and E x 2.2009) ± 0.40 kg/hh/week[5]

The input data on the proportion of population in social groups D&E are included within the table below. Utilizing this data alongside WRAP's 'ready reckoner' calculation allows the calculation of the indicative food waste yields per household. This is accompanied by upper and lower thresholds around the predicted average household yield.

Figure 1: WRAP 'ready reckoner' input data and estimated food waste yields[6]

Local authority	Approximated social grade DE (%)	Residual waste collection system	Average food waste yield kg/hh/wk.	Lower limit food waste yield kg/hh/wk.	Upper limit food waste yield kg/hh/wk.
WRWA	17%	Weekly	1.343	1.093	1.593

It should be noted that these yield figures have been applied to standard households only. For communal / flatted properties a figure of 0.5kg/hh/wk has been applied in line with the findings of a recent Resource London study. It should also be noted that the separate food waste has been assumed to go to anaerobic digestion rather than composting.

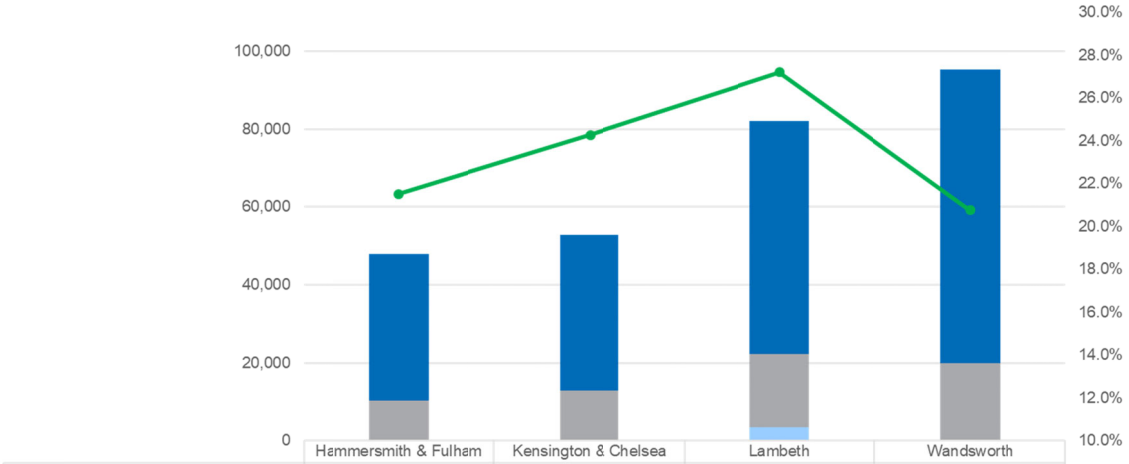
[5] WRAP's food waste ready reckoner based on factors derived from statistical analysis of multiple implemented food waste schemes in the UK

[6] Averages taken of the four constituent boroughs

Table 2: Current Kerbside Tonnages (2018/19 WasteDataFlow) and Carbon Impact

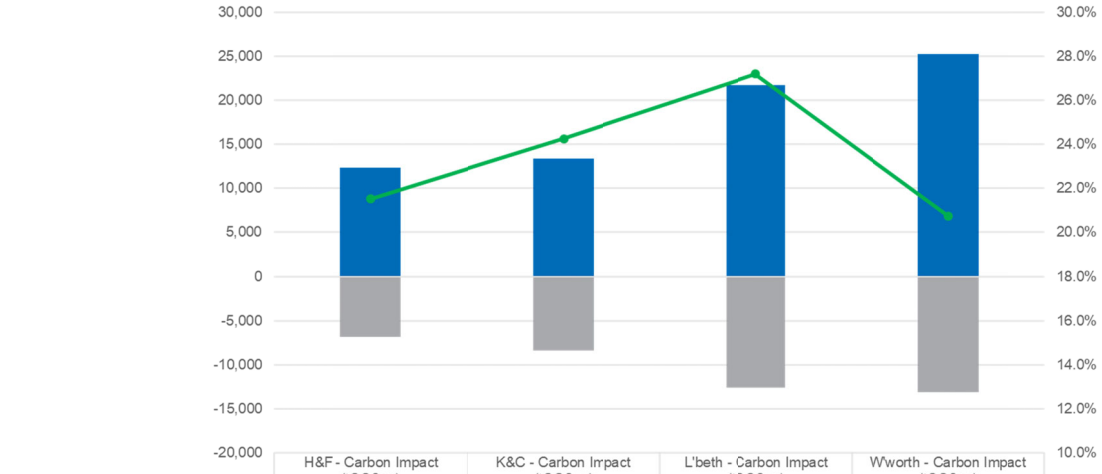
	Hammersmith & Fulham	Carbon Impact (tCO2eq)	Kensington & Chelsea	Carbon Impact (tCO2eq)	Lambeth	Carbon Impact (tCO2eq)	Wandsworth	Carbon Impact (tCO2eq)	WRWA	Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	31,670	12,765	34,050	13,797	54,717	22,055	64,614	26,044	185,232	74,661
Food Waste (Projected to be Removed from Residual Stream)	2,968	-264	2,724	-242	517	-46	5,207	-463	11,416	-1,016
Garden Waste (Projected to be Removed from Residual Stream)	2,869	-179	3,061	-191	4,575	-286	5,784	-361	16,290	-1,018
Comingled	10,283	-6,797	12,639	-8,354	18,792	-12,421	19,799	-13,087	61,513	-40,659
Food / Mixed Food & Garden Waste	0	0	180	-7	3,549	-148	0	0	3,729	-155
Total	47,790	5,525	52,835	5,002	82,151	9,153	95,404	12,132	278,180	31,812
Recycling Rate	**21.5%**		**24.3%**		**27.2%**		**20.8%**		**23.5%**	

Figure 2: Current Performance (2018/19 WasteDataFlow)[7]



	Hammersmith & Fulham	Kensington & Chelsea	Lambeth	Wandsworth
Residual Waste (inc. Contamination)	37,507	40,016	59,810	75,605
Comingled	10,283	12,639	18,792	19,799
Food / Mixed Food & Garden Waste	0	180	3,549	0
Total	47,790	52,835	82,151	95,404
Recycling Rate	21.5%	24.3%	27.2%	20.8%

Figure 3: Current Carbon Impact



	H&F - Carbon Impact (tCO2eq)	K&C - Carbon Impact (tCO2eq)	L'beth - Carbon Impact (tCO2eq)	Wworth - Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	12,322	13,363	21,723	25,219
Comingled	-6,797	-8,354	-12,421	-13,087
Food / Mixed Food & Garden Waste	0	-7	-148	0
Total	5,525	5,002	9,153	12,132
Recycling Rate	21.5%	24.3%	27.2%	20.8%

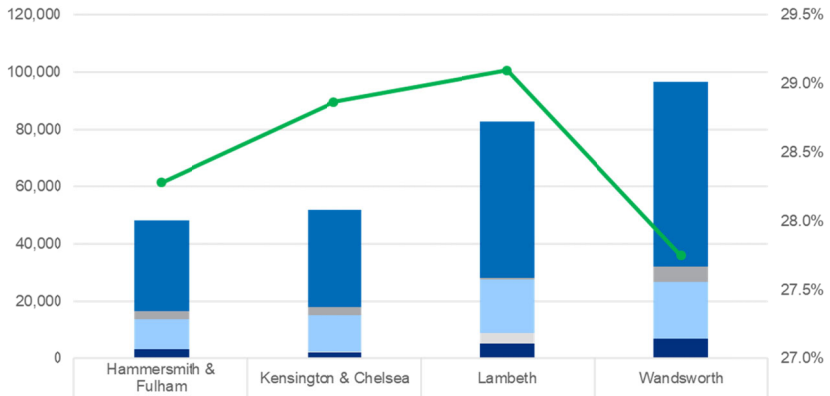
[7] Residual waste includes the projected food and garden waste indicated in Table 2

Table 3: Projected Kerbside Tonnages and Carbon Impact – Separate Food Waste Service

	Hammersmith & Fulham	Carbon Impact (tCO2eq)	Kensington & Chelsea	Carbon Impact (tCO2eq)	Lambeth	Carbon Impact (tCO2eq)	Wandsworth	Carbon Impact (tCO2eq)	WRWA	Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	31,670	12,765	34,230	13,797	54,717	22,055	64,614	26,044	185,232	74,661
Garden Waste (Remaining in Residual Stream)	2,869	-179	3,061	-191	4,575	-286	5,784	-361	16,290	-1,018
Comingled	10,283	-6,797	12,639	-8,354	18,792	-12,421	19,799	-13,087	61,513	-40,659
Food Waste*	2,968	-481	2,904	-470	4,066	-659	5,207	-843	15,145	-2,453
Total	47,790	5,308	52,835	4,781	82,151	8,689	95,404	11,752	278,180	30,530
Recycling Rate	**27.7%**		**29.4%**		**27.8%**		**26.2%**		**27.6%**	

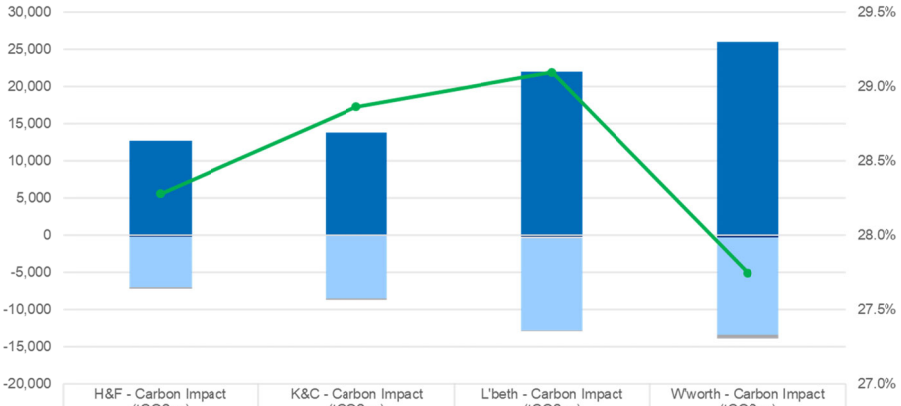
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Figure 4: Projected Kerbside Tonnage – Separate Food Waste Collection[8]



	Hammersmith & Fulham	Kensington & Chelsea	Lambeth	Wandsworth
Residual Waste (inc. Contamination)	31,670	34,050	54,717	64,614
Food Waste (Remaining in Residual Stream)	2,968	2,904	517	5,207
Comingled	10,283	12,639	18,792	19,799
Food Waste	0	180	3,499	0
Garden Waste	3,375	2,176	5,310	7,016
Total	48,296	51,950	82,836	96,636
Recycling Rate	28.3%	28.9%	29.1%	27.7%

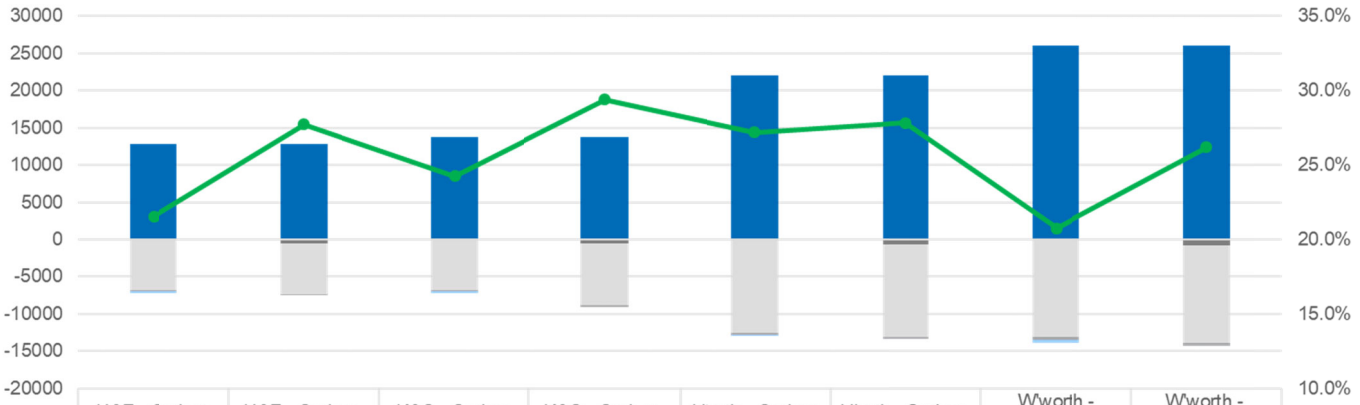
Figure 5: Projected Carbon Impact - Separate Food Waste Collection



	H&F - Carbon Impact (tCO2eq)	K&C - Carbon Impact (tCO2eq)	L'beth - Carbon Impact (tCO2eq)	Wworth - Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	12,765	13,797	22,055	26,044
Food Waste (Remaining in Residual Stream)	-264	-242	-46	-463
Comingled	-6,797	-8,354	-12,421	-13,087
Food Waste	0	-7	-137	0
Garden Waste	-143	-92	-224	-296
Total	5,561	5,101	9,225	12,197
Recycling Rate	28.3%	23.9%	29.1%	27.7%

[8] Lambeth is predicted to have a higher yield of food waste than their current mixed garden and food due to the inclusion of flats in the separate food waste scenario

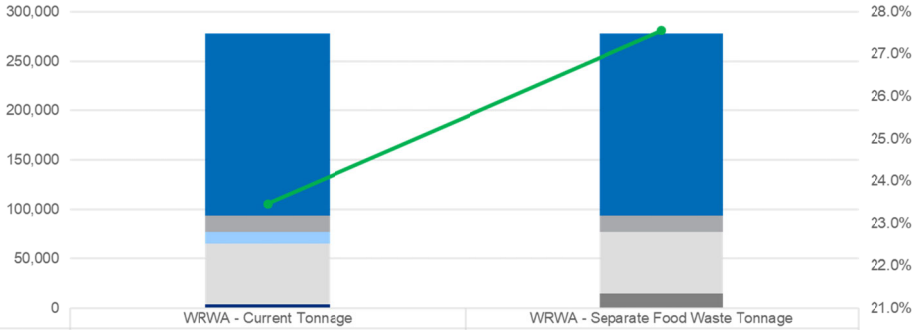
Figure 6: Current and Projected Carbon Impact - Comparison



	H&F - Carbon Impact (tCO2eq) - Current	H&F - Carbon Impact (tCO2eq) - Separate Food	K&C - Carbon Impact (tCO2eq) - Current	K&C - Carbon Impact (tCO2eq) - Separate Food	L'beth - Carbon Impact (tCO2eq) - Current	L'beth - Carbon Impact (tCO2eq) - Separate Food	W'worth - Carbon Impact (tCO2eq) - Current	W'worth - Carbon Impact (tCO2eq) - Separate Food
Residual Waste (inc. Contamination)	12,765	12,765	13,797	13,797	22,055	22,055	26,044	26,044
Food Waste (Currently in Residual Stream)	-264	0	-242	0	-46	0	-463	0
Garden Waste (Currently in Residual Stream)	-179	-179	-191	-191	-286	-286	-361	-361
Comingled	-6,797	-6,797	-6,797	-8,354	-12,421	-12,421	-13,087	-13,087
Food / Mixed Food & Garden Waste	0	0	-7	0	-148	0	0	0
Food Waste	0	-481	0	-470	0	-659	0	-843
Total	5,525	5,308	5,002	4,781	9,153	8,689	12,132	11,752
Difference		-217		-221		-465		-380
Recycling Rate	21.5%	27.7%	24.3%	29.4%	27.2%	27.8%	20.8%	26.2%

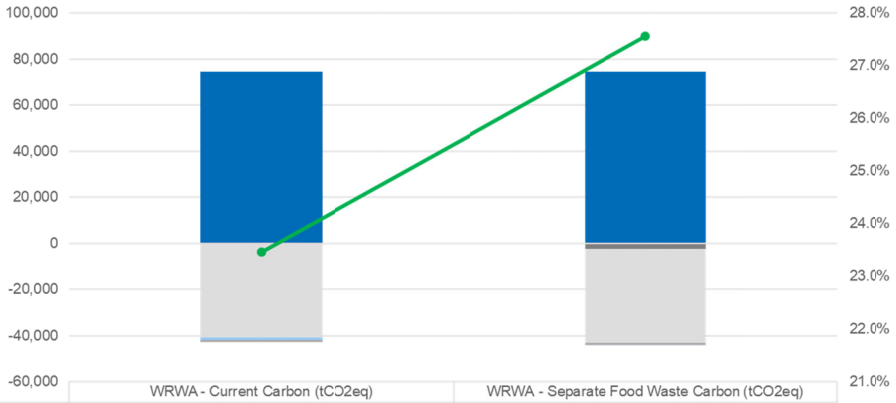
The modelling indicates that the introduction of a separate food waste collection service would significantly boost the recycling rate of all boroughs (excluding Lambeth, in which the existing mixed food and garden waste service collects the majority of food waste that is deemed eligible for capture). However, from a carbon perspective the impact is less impressive due to the Authority already realising the carbon benefit of the food waste currently in the residual stream being incinerated, recovering energy and therefore carbon.

Figure 7: WRWA Tonnage Comparison



	WRWA - Current Tonnage	WRWA - Separate Food Waste Tonnage
Residual Waste (inc. Contamination)	185,232	185,232
Garden Waste (Currently in Residual Stream)	16,290	16,290
Food Waste (Currently in Residual Stream)	11,416	0
Comingled	61,513	61,513
Food / Mixed Food & Garden Waste	3,729	0
Food Waste	0	15,145
Total	278,180	278,180
Recycling Rate	23.5%	27.6%

Figure 8: WRWA Carbon Comparison



	WRWA - Current Carbon (tCO2eq)	WRWA - Separate Food Waste Carbon (tCO2eq)
Residual Waste (inc. Contamination)	74,661	74,661
Garden Waste (Currently in Residual Stream)	-1,018	-1,018
Food Waste (Currently in Residual Stream)	-1,016	0
Comingled	-40,659	-40,659
Food / Mixed Food & Garden Waste	-155	0
Food Waste	0	-2,453
Total	31,812	30,530
Recycling Rate	23.5%	27.6%

To provide and overarching assessment of the potential vehicle costs and requirements of introducing a separate food waste service across all boroughs, collecting from all properties, a number of assumptions have been made using data from recent modelling undertaken for a Rurality 2 (the same Rurality as all WRWA constituent boroughs) London borough, along with internal data regarding vehicle costs taken from numerous procurements. These are:

- A 12 tonne Euro6 food waste collection vehicle:
  - £85,000 capital purchase
  - £11,500 annual running costs
  - Fuel efficiency of 12.5mpg
  - Fuel price of £1.31 (inc. VAT)[9]
  - The annual mileage has been assumed to be the same as the annual average vehicle mileage data previously provided by the constituent boroughs
- Annual staff costs, including overheads:
  - Driver: £38,000
  - Loader: £33,500
- Central overhead contribution of 10%
- One vehicle can collect:
  - 1.6t of food waste per day in a Rurality 2 environment from standard households
  - 2.2t per day from communal properties

Table 4: Estimated Costs of Separate Food Waste Service

	Hammersmith & Fulham	Kensington & Chelsea	Wandsworth
Food Vehicles Required	6	6	11
Capital Cost of Vehicles	£510,000	£510,000	£935,000
Annual Vehicle Cost (Depreciated over 7 Years)	£72,857	£72,857	£133,571
Annual Running Costs of Vehicles	£69,000	£69,000	£126,500
Annual Cost of Crew (inc. Overheads)	£429,000	£429,000	£786,500
Annual Fuel Cost (including VAT)	£13,787	£17,431	£23,102
Central Overhead Contributions (10%)	£58,464	£58,829	£106,967
Total Annual Operational Cost	**£1,153,109**	**£1,157,117**	**£2,111,641**

It should be noted that given Lambeth's current vehicle deployment for mixed food and garden waste service (i.e. five 26 tonne RCVs), these would be sufficient to deliver a separate food waste service incurring no additional cost, assuming these vehicles were not redeployed to other collection duties. It

[9] Average taken from the AA's September 2019 fuel prices https://www.theaa.com/driving-advice/driving-costs/fuel-prices

is also worth noting that the removal of the food waste from the residual stream works out at an average of ~0.5t per vehicle per day across the four boroughs, which could potentially yield savings through a reduction in vehicle requirements, however this would need to be examined through a comprehensive re-routing exercise.

The additional vehicles required for the service will increase the borough's carbon emissions.

Table 5: Separate Food Waste Vehicles - Carbon Emissions

	Hammersmith & Fulham	Kensington & Chelsea	Wandsworth
Average annual vehicle mileage (miles)	4,836	6,114	4,420
Number of Veh	6	6	11
Mile per gallon factor	12.5	12.5	12.5
Fuel consumption (Gallon)	2,321	2,935	3,890
Fuel consumption (litre)	10,553	13,342	17,682
Fuel type	Diesel (average biofuel blend)	Diesel (average biofuel blend)	Diesel (average biofuel blend)
Global warming potential (kg CO2 eq)	33,410	42,239	55,982
Global warming potential (t CO2 eq)	33.41	42.24	55.98

Again, it should be noted that should Lambeth opt to continue using its current mixed food and garden waste vehicles to provide the service then there will be no additional carbon impact from vehicle movements.

Using the outputs from the modelling and the assumptions used to cost the service, the following table illustrates the cost per tonne of increased recycling (and the cost per percentage point to increase the recycling rate) through introducing a separate food waste collection service, along with the cost of the carbon saved (tCO2eq):

Table 6: Cost Implications of Separate Food Waste Service (Per Annum)

	Hammersmith & Fulham	Kensington & Chelsea	Lambeth	Wandsworth	WRWA
Cost to Introduce Collection Service	£1,153,109	£1,157,117	£0	£2,111,641	£6,739,989
Recycling Increase	6.2%	5.1%	0.6%	5.5%	4.1%
Cost of Recycling Increase / % point	£185,690	£225,222	£0	£386,914	£1,077,481
tCO2Eq Decrease*	183	179	465	324	1,282
Cost of Carbon Saving (tCO2Eq)	£6,296	£6,477	£0	£6,518	£3,449

**It should be noted that this total accounts for the carbon saved / generated by both the tonnages and the additional vehicles required to collect the food waste*

It is evident that that the impact of introducing a separate food waste service will have a positive impact on most of the constituent boroughs and the Authority's recycling rate, with an average increase of 4.1% (although this is impacted by the fact Lambeth already collect a significant amount of their 'available' food waste). However, the cost implications of this are not insignificant, as indicated by Table 6 above. It should also be noted that the modest savings of carbon (tCO2Eq) will likely be eliminated through the introduction of additional containers and supplies of food waste liners, which this indicative modelling has not accounted for. To establish a 'whole service' impact, a more detailed assessment would need to be undertaken for the constituent boroughs and WRWA.

To provide an indication of material value from a carbon saving perspective, the latest composition study[10] indicates that there is an average of 7.3% recyclable plastic remaining in the residual stream across WRWA, equating to ~13,500t. To realise the same carbon benefit as introducing a food waste collection service using the outputs and assumptions above, only 4.5% of this plastic (or ~600t) would need to be captured as part of the recycling service each year. The boroughs currently deliver around 7,000 tonnes of plastic to the MRF each year so this would only represent an increase of 8.5% on current performance or ~1.6t of additional plastic across the four boroughs per day; an additional tonnage that should easily be absorbed across the boroughs' existing fleets. The boroughs may wish to consider methods to extract materials with a higher carbon value from the residual stream to reduce their carbon impact, which may prove significantly less expensive and operationally onerous than introducing a food waste collection service.

There are significant practicalities to be overcome should a food waste service be introduced across WRWA. The government's consultation question (19) asking 'Are there circumstances where it would not be practical to provide a separate food waste collection to kerbside properties or flats?' received 521 responses, with 54% agreeing. However, of the local authorities responding, 89% of local authorities believe that Yes, there are circumstances in which separate food waste collection would not be practical.

Of the respondents that answered yes, 253 provided additional information as free text. 140 identified flats, HMOs and flats above shops in general and related to providing collection from these the following key reasons were also identified;

[10] Undertaken by MEL in 2018

- storage and space issues for bulk containers (107)
- misuse of bulk collection containers and thus high levels of contamination prevalent (61)
- concerns around vermin, odour and unhygienic bulk collection areas (30).

Other reasons/suggestions raised included;

- housing/streets where there is difficult vehicle access (15)
- where there is likely to cause impact on residual treatment facilities i.e. organic content going into an MBT facility or changes to the Calorific Value of waste to an EfW plant (7)
- terraced and back to back houses difficult to service (6)

WRWA's current policy, as expressed in the current Joint Waste Management Strategy, recognises and reflects these practical constraints. The strategy incorporates the beneficial use of food waste to generate heat and power, which represents a substantive carbon benefit, and facilitates an approach which recognises the potential environmental, operational and financial costs of introducing a dedicated food waste collection system.

A.2 Implications of Separate Garden Waste Collections

Direct comparators for the WRWA area are limited in terms of the potential availability of garden waste, due to the intensely urban nature of the locality. Two comparator authorities (with available tonnage and housing data) have been used to inform the overarching assessment of introducing a free garden waste service across WRWA. These two London Boroughs are Redbridge and Barnet, both of which are Rurality 2 and have a free garden waste service. Ricardo has also undertaken a detailed modelling exercise for Barnet in 2019 and have targeted assumptions regarding vehicle capability in a Rurality 2 environment.

An estimated yield of 2.78kg/hh/wk of garden waste for the constituent boroughs was calculated as an average of Barnet and Redbridge's yields as taken from the latest available (2017/18) WasteDataFlow information: 2.73kg/hh/wk and 2.83kg/hh/wk respectively. The 2018 MEL composition study indicated that there was an average of 8.5% of garden waste in the WRWA residual stream. It is a reasonable assumption that the vast majority (90%) of this will be diverted to the free garden waste service, with a small (10%) amount remaining in the residual stream. It should also be noted it has been assumed that only standard properties would receive the service, with flats and communals unlikely to have gardens. The estimated yield of 2.78kg/hh/wk exceeded 90% diversion of garden waste from the residual stream, resulting in extra waste being generated at the kerbside. This assumption has been made due to a new free garden waste service likely prompting residents to divert material from e.g. home composting, delivering less garden material to HWRC or starting to use the service because it is available and free etc.

Table 7: Current Kerbside Tonnages and Carbon Impact (2018/19 WasteDataFlow)

	Hammersmith & Fulham	Carbon Impact (tCO2eq)	Kensington & Chelsea	Carbon Impact (tCO2eq)	Lambeth	Carbon Impact (tCO2eq)	Wandsworth	Carbon Impact (tCO2eq)	WRWA	Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	31,670	12,765	34,050	13,797	54,717	22,055	64,614	26,044	185,232	74,661
Food Waste (Projected to be Removed from Residual Stream)	2,968	-264	2,724	-242	517	-46	5,207	-463	11,416	-1,016
Garden Waste (Projected to be Removed from Residual Stream)	2,869	-179	3,061	-191	4,575	-286	5,784	-361	16,290	-1,018
Comingled	10,283	-6,797	12,639	-8,354	18,792	-12,421	19,799	-13,087	61,513	-40,659
Food / Mixed Food & Garden Waste	0	0	180	-7	3,549	-148	0	0	3,729	-155
Total	47,790	5,525	52,835	5,002	82,151	9,153	95,404	12,132	278,180	31,812
Recycling Rate	**21.5%**		**24.3%**		**27.2%**		**20.8%**		**23.5%**	

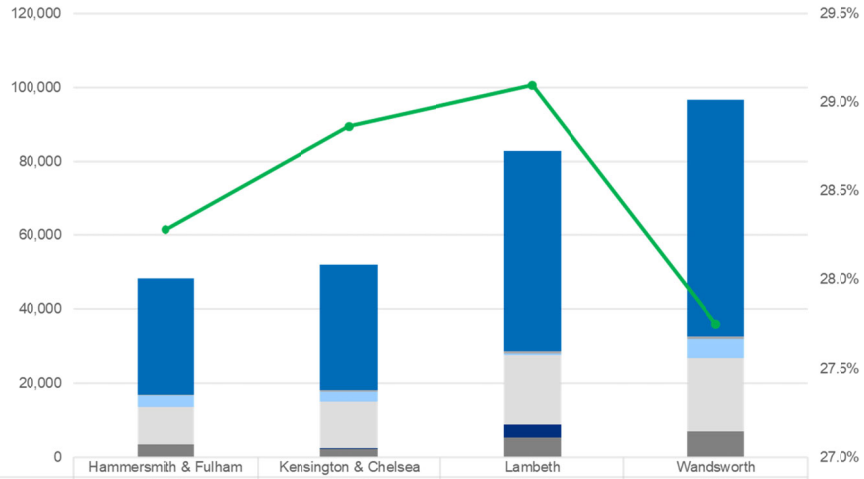
Charts for the current performance can be seen at Figure 2 and Figure 3.

Table 8: Projected Kerbside Tonnages and Carbon Impact – Separate Garden Collections

	Hammersmith & Fulham	Carbon Impact (tCO2eq)	Kensington & Chelsea	Carbon Impact (tCO2eq)	Lambeth	Carbon Impact (tCO2eq)	Wandsworth	Carbon Impact (tCO2eq)	WRWA	Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	31,353	12,637	33,888	13,797	54,170	21,834	63,968	25,783	183,380	74,052
Garden Waste (10% Remaining in Residual Stream)	317	-20	342	-21	547	-34	646	-40	1,852	-116
Food Waste (Remaining in the Residual Stream)	2,968	-264	2,724	-242	517	-46	5,207	-463	11,416	-1,016
Comingled	10,283	-6,797	12,639	-8,354	18,792	-12,421	19,799	-13,087	61,513	-40,659
Food Waste*	0	0	180	-7	3,499	-137	0	0	3,679	-145
Garden Waste	3,375	-143	2,176	-92	5,310	-224	7,016	-296	17,878	-755
Total	48,296	5,414	51,950	5,080	82,836	8,971	96,636	11,896	279,718	31,361
Recycling Rate	**28.3%**		**28.9%**		**29.1%**		**27.7%**		**29.7%**	

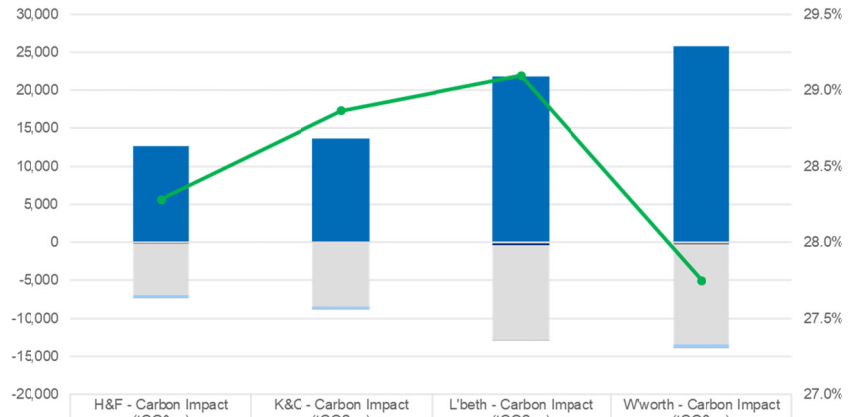
**Lambeth has been assumed to retain the food waste fraction of its current mixed food and garden waste service, along with Kensington & Chelsea's existing food waste service, with all food waste continuing to go to composting*

Figure 9: Projected Kerbside Tonnage –Separate Garden Waste Collections



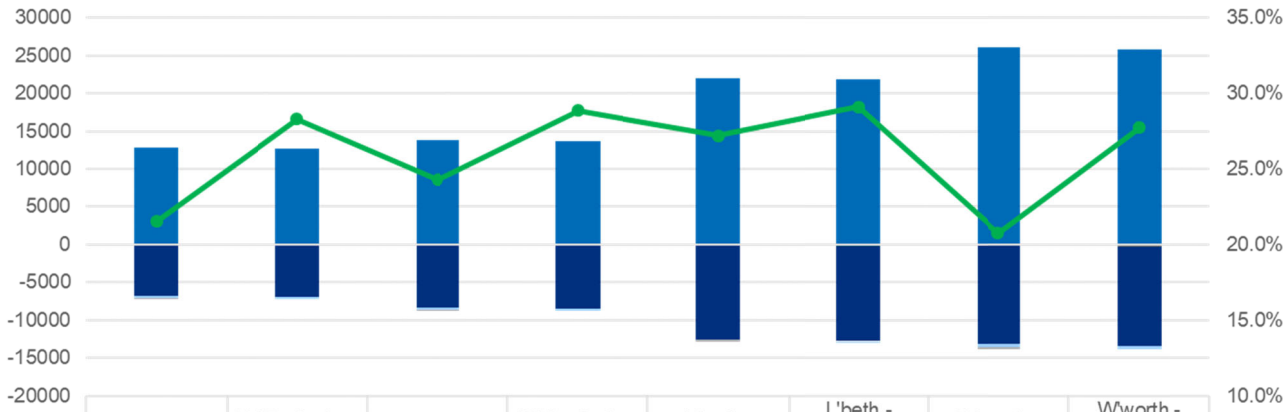
	Hammersmith & Fulham	Kensington & Chelsea	Lambeth	Wandsworth
Residual Waste (inc. Contamination)	31,353	33,888	54,170	63,968
Garden Waste (10% Remaining in Residual Stream)	317	342	547	646
Food Waste (Remaining in Residual Stream)	2,968	2,724	517	5,207
Comingled	10,283	12,639	18,792	19,799
Food Waste	0	180	3,499	0
Garden Waste	3,375	2,176	5,310	7,016
Total	48,296	51,950	82,836	96,636
Recycling Rate	28.3%	28.9%	29.1%	27.7%

Figure 10: Projected Carbon Impact - Separate Garden Waste Collection



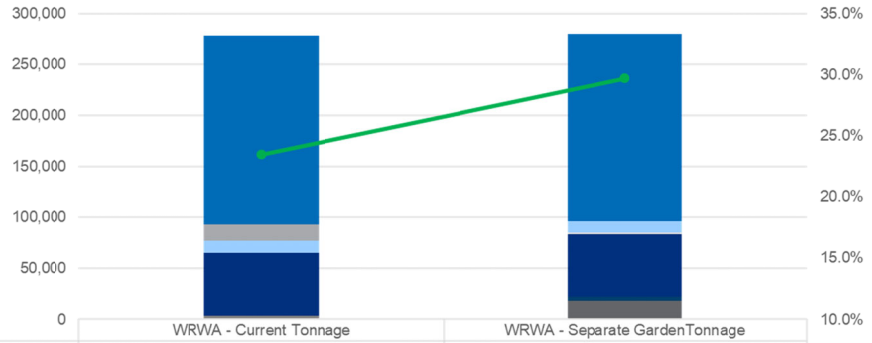
	H&F - Carbon Impact (tCO2eq)	K&C - Carbon Impact (tCO2eq)	L'beth - Carbon Impact (tCO2eq)	W'worth - Carbon Impact (tCO2eq)
Residual Waste (inc. Contamination)	12,637	13,659	21,834	25,783
Garden Waste (10% Remaining in Residual Stream)	-20	-21	-34	-40
Food Waste (Remaining in Residual Stream)	-264	-242	-46	-463
Comingled	-6,797	-8,354	-12,421	-13,087
Food Waste	0	-7	-137	0
Garden Waste	-143	-92	-224	-296
Total	5,414	4,942	8,971	11,896
Recycling Rate	28.3%	28.9%	29.1%	27.7%

Figure 11: Current and Projected Carbon Impact - Comparison



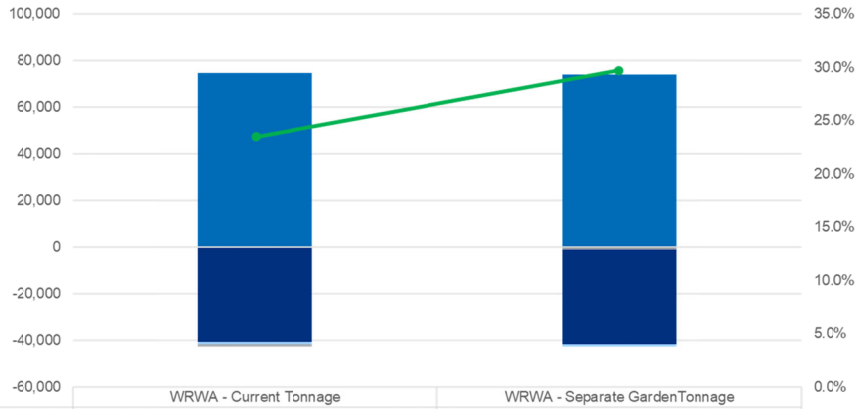
	H&F - Carbon Impact (tCO2eq) - Current	H&F - Carbon Impact (tCO2eq) - Separate Garden	K&C - Carbon Impact (tCO2eq) - Current	K&C - Carbon Impact (tCO2eq) - Separate Garden	L'beth - Carbon Impact (tCO2eq) - Current	L'beth - Carbon Impact (tCO2eq) - Separate Garden	W'worth - Carbon Impact (tCO2eq) - Current	W'worth - Carbon Impact (tCO2eq) - Separate Garden
Residual Waste (inc. Contamination)	12,765	12,637	13,797	13,659	22,055	21,834	26,044	25,783
Garden Waste (Currently in Residual Stream)	-179	0	-191		-286		-361	0
Food Waste (Remaining in Residual Stream)	-264	-264	-242	-242	-46	-46	-463	-463
Garden Waste (10% Remaining in Residual Stream)	0	-20	0	-21	0	-34	0	-40
Comingled	-6,797	-6,797	-8,354	-8,354	-12,421	-12,421	-13,087	-13,087
Food / Mixed Food & Garden Waste	0	0	0	0	-148	0	0	0
Food Waste	0	0	-7	-7	0	-137	0	0
Garden Waste	0	-143	0	-92	0	-224	0	-296
Total	5,525	5,414	5,002	4,942	9,153	8,971	12,132	11,896
Difference		-111		-60		-182		-236
Recycling Rate	21.5%	28.3%	24.3%	28.9%	27.2%	29.1%	20.8%	27.7%

Figure 12: WRWA - Tonnage Comparison



	WRWA - Current Tonnage	WRWA - Separate GardenTonnage
Residual Waste (inc. Contamination)	185,232	183,380
Garden Waste (Currently in Residual Stream)	16,290	0
Food Waste (Remaining in Residual Stream)	11,416	11,416
Garden Waste (10% Remaining in Residual Stream)	0	1,852
Comingled	61,513	61,513
Food / Mixed Food & Garden Waste	3,729	0
Food Waste	0	3,679
Garden Waste	0	17,878
Total	278,180	279,718
Recycling Rate	23.5%	29.7%

Figure 13: WRWA - Carbon Comparison



	WRWA - Current Tonnage	WRWA - Separate GardenTonnage
Residual Waste (inc. Contamination)	74,661	73,914
Garden Waste (Currently in Residual Stream)	-1,018	0
Food Waste (Remaining in Residual Stream)	-1,016	-1,016
Comingled	-40,659	-40,659
Food / Mixed Food & Garden Waste	-155	0
Garden Waste (10% Remaining in Residual Stream)	0	-116
Food Waste	0	-145
Garden Waste	0	-755
Total	31,812	31,223
Recycling Rate	23.5%	29.7%

To provide and overarching assessment of the potential vehicle costs and requirements of introducing a separate garden waste service across all boroughs, collecting from all properties, a number of assumptions have been made using data from recent modelling undertaken for a Rurality 2 (the same Rurality as all WRWA constituent boroughs) London borough, along with internal data regarding vehicle costs taken from numerous procurements. These are:

- A 26 tonne Euro6 garden waste RCV collection vehicle:
  - £155,000 capital purchase
  - £15,500 annual running costs
  - Fuel efficiency of 3.5mpg
  - Fuel price of £1.31 (inc. VAT)[11]
  - The annual mileage has been assumed to be the same as the annual average vehicle mileage data provided by the constituent boroughs
- Annual staff costs, including overheads:
  - Driver: £38,000
  - Loader: £33,500
- Central overhead contribution of 10%
- One vehicle can collect:
  - 7.08t of garden waste per day in a Rurality 2 environment from standard households

Table 9: Estimated Costs of Separate Garden Service

	Hammersmith & Fulham	Kensington & Chelsea	Wandsworth
Garden Vehicles Required	2	2	4
Capital Cost of Vehicles	£310,000	£310,000	£620,000
Annual Vehicle Cost (Depreciated over 7 Years)	£44,286	£44,286	£88,571
Annual Running Costs of Vehicles	£31,000	£31,000	£62,000
Annual Cost of Crew (inc. Overheads)	£143,000	£143,000	£286,000
Annual Fuel Cost (including VAT)	£16,413	£16,413	£32,827
Central Overhead Contributions (10%)	£54,470	£54,470	£108,940
Total Annual Operational Cost	**£289,169**	**£289,169**	**£578,338**

[11] Average taken from the AA's September 2019 fuel prices https://www.theaa.com/driving-advice/driving-costs/fuel-prices

It should be noted that given Lambeth's current vehicle deployment for mixed food and garden waste service (i.e. five 26 tonne RCVs), these would be sufficient to deliver a separate garden waste service incurring no additional cost, assuming these vehicles were not redeployed to other collection duties. It is also worth noting that the removal of 90% of the garden waste from the residual stream works out at an average of ~0.75t per vehicle per day across the four boroughs, which could potentially yield savings through a reduction in vehicle requirements, however this would need to be examined through a comprehensive re-routing exercise.

The additional vehicles required for the service will increase the borough's carbon emissions.

Table 10: Separate Garden Waste Vehicles - Carbon Emissions

	Hammersmith & Fulham	Kensington & Chelsea	Wandsworth
Average annual vehicle mileage (miles)	4,836	6,114	4,420
Number of Veh	2	2	4
Mile per gallon factor	3.5	3.5	3.5
Fuel consumption (Gallon)	2,763	3,494	5,051
Fuel consumption (litre)	12,563	15,883	22,964
Fuel type	Diesel (average biofuel blend)	Diesel (average biofuel blend)	Diesel (average biofuel blend)
Global warming potential (kg CO2 eq)	39,773	50,284	72,704
Global warming potential (t CO2 eq)	39.77	50.28	72.70

Again, it should be noted that should Lambeth opt to continue using its current mixed food and garden waste vehicles to provide the service then there will be no additional carbon impact from vehicle movements.

Using the outputs from the modelling and the assumptions used to cost the service, the following table illustrates the cost per tonne of increased recycling (and the cost per percentage point to increase the recycling rate) through introducing a separate garden waste collection service, along with the cost of the carbon saved (tCO2eq):

Table 11: Cost Implications of Separate Garden Waste Service (Per Annum)

	Hammersmith & Fulham	Kensington & Chelsea	Lambeth	Wandsworth	WRWA
Cost to Introduce Collection Service	£289,169	£289,169	£433,753	£578,338	£1,590,429
Recycling Increase	6.8%	4.6%	1.9%	7.0%	6.2%
Cost of Recycling Increase / % point	£42,756	£62,833	£0	£82,672	£254,689
tCO2Eq Decrease*	-71	-10	-182	-110	-373
Cost of Carbon Saving (tCO2Eq)	£4,076	£29,821	£0	£5,268	£4,265

**It should be noted that this total accounts for the carbon saved / generated by both the tonnages and the additional vehicles required to collect the food waste*

It is evident that that the impact of introducing a separate garden waste service will have a positive impact on most of the constituent boroughs and the Authority's recycling rate, with an average increase of 6.2%. However, there are cost implications as indicated by Table 11 above, although these are significantly lower than providing a food waste collection service. It should also be noted that the savings of carbon (tCO2Eq) will be impacted by the introduction of additional garden waste containers, which this indicative modelling has not accounted for. To establish a 'whole service' impact, a more detailed assessment would need to be undertaken for the constituent boroughs and WRWA.



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