

South London Waste Partnership Joint Committee - Informal Briefing Session

Please note that this is not a formal meeting of the South London Waste Partnership Committee. None of the reports being discussed at this session require any formal decision and will simply be noted by the attending members. Due to a recent change in legislation, virtual committee meetings are no longer permissible and in view of current coronavirus restrictions, an in-person meeting is particularly challenging. Notwithstanding, we wished to keep residents updated on the work of the Partnership.

Date: 8 June 2021 (6:30pm)

Location: A virtual briefing session which members of the public can view online at this link: <https://www.youtube.com/c/kingstoncouncil/videos>

Published: 28 May 2021

Members of the Committee

London Borough of Croydon

Councillor Patsy Cummings

Councillor Muhammad Ali

Royal Borough of Kingston upon Thames

Councillor Hillary Gander (Chair)

Councillor Tim Cobbett

London Borough of Merton

Councillor Natasha Irons

Councillor Tobin Byers

London Borough of Sutton

Councillor Manuel Abellan (Vice-Chair)

Councillor Ben Andrew

If you wish to submit a question for this informal briefing, please contact henry.yellop@kingston.gov.uk. Questions must be submitted by **10:00am the day before the briefing session (10:00am – Monday 7 June 2021)**. Please keep your submissions as concise as possible.

For enquiries about this briefing please contact: henry.yellop@kingston.gov.uk / 020 8547 5846

Running Order for Informal Briefing Session

Please note that this is not a formal meeting of the South London Waste Partnership Committee. None of the reports being discussed at this session require any formal decision and will simply be noted by the attending members. Due to a recent change in legislation, virtual committee meetings are no longer permissible and in view of current coronavirus restrictions, an in-person meeting is particularly challenging. Notwithstanding, we wished to keep residents updated on the work of the Partnership.

1. PUBLIC QUESTIONS

2. CONTRACT MANAGEMENT REPORT A AND B Q4

Appendix 1

An update on the performance of the Phase A and Phase B Contracts procured and managed by the South London Waste Partnership:

- i. Contract 1 – Receipt and Transport of Food, Green and mixed recycling.
- ii. Contract 2 - HRRC services - HRRC site management and material recycling
- iii. Contract 3 - Treatment of food and green
- iv. Phase B - The 2012 Residual Waste Treatment Contract (the ERF Contract)

This information relates to performance data for the period 1st April 2020 to the 31st March 2021.

3. JWC PAPER - CARBON MANAGEMENT PLAN

Appendix 2

An introduction to the Carbon Management Plan prepared by Viridor in relation to the Beddington Energy Recovery Facility and the SLWP Residual Waste Treatment Contract.

4. JWC PARTNERSHIP BUDGET OUTTURN 2020/21

Appendix 3

Information on the outturn position for the 2020/21 financial year

5. JWC COMMUNICATIONS PAPER - JUNE 2021

Appendix 4

An update on communications and stakeholder engagement activities relating to the Partnership's Phase A (transport & residual waste management, HRRC services and marketing of recyclates) and Phase B (residual waste treatment) contracts. This report focuses on activity that has taken place between December 2020 and May 2021.



Report to: South London Waste Partnership (SLWP) Joint Waste Committee
Date: 8th June 2021
Author(s): Andrea Keys Interim Strategic Manager
Chair: Councillor Hilary Gander
Report title: Phase A and B Contract Management Report

Summary

This report provides Joint Waste Committee with an update on the performance of the Phase A and Phase B Contracts procured and managed by the South London Waste Partnership:

- i. Contract 1 – Receipt and Transport of Food, Green and mixed recycling.
- ii. Contract 2 - HRRC services - HRRC site management and material recycling
- iii. Contract 3 - Treatment of food and green
- iv. Phase B - The 2012 Residual Waste Treatment Contract (the ERF Contract)

This report provides performance data for the period 1st April 2020 to the 31st March 2021.

Recommendations

Joint Waste Committee is asked to note the contents of this report, and comment on any aspects of the performance of the Partnership's Phase A & B contracts.

Background Documents

Contract Performance Monitoring updates have been presented to the Joint Waste Committee since 22 July 2010. The most recent reports were presented at the meeting in December 2020 by the Interim Strategic Manager, Andrea Keys.

BACKGROUND

- 1.1. **Phase A: Contract 1** is operated by Viridor Waste Management Ltd and includes the receipt, bulking and haulage of green, food and recycling until 31 August 2022. (The disposal element of this contract ceased on the 3rd March 2019 and since the 4th March 2019 the residual waste has been managed through the Residual Waste Treatment Contract operated by Viridor South London Ltd (also referred to as the Phase B ERF Contract)).

- 1.2. The London Boroughs of Croydon, Sutton and Merton direct deliver kerbside-collected garden and food waste into the Beddington site, operated by Viridor.
- 1.3. The Royal Borough of Kingston (RBK) direct delivers kerbside-collected residual, recyclates, garden waste and food waste into the Kingston Villiers Road Waste Transfer Station (WTS). The WTS is divided into three parts and is operated by Viridor South London under the Residual waste treatment contract (see 1.6 below), by Veolia under the HRRC contract (1.4), and also by Viridor WML under this Contract 1.
- 1.4. **Phase A: Contract 2**, the HRRC service is operated by Veolia (ES) (UK) Ltd. The contract commenced on the 1st October 2015 and includes the management of the 6 Partnership HRRC sites in addition to the marketing of recyclates collected at each of the sites.
- 1.5. **Phase A: Contract 3** is operated by Viridor Waste Management Ltd and includes the composting of garden and food waste until August 2022. The services provided under Contract 1 receive and bulk this material and then provide onward transport to the composting facilities in this Contract 3.
- 1.6. **Phase B: Residual Waste Treatment Contract** - Viridor South London Limited ('Viridor SL') was formally awarded a contract for the treatment and disposal of residual waste in November 2012. The Contract involves Viridor designing, building and operating an Energy Recovery Facility (ERF) which will remain in its ownership and through which it will dispose of suitable and permitted municipal residual waste arising in the South London Waste Partnership area.

PERFORMANCE DETAIL

- 1.7. **Contract 1: Waste transfer station bulking and haulage (Viridor Waste Management Limited)**
- 1.8. Contract 1 includes waste transfer station operations and bulk haulage services only. The Contract is operating effectively and there are no issues to report.
2. **Contract 2: Management of the Household Reuse and Recycling Centres (Veolia (ES) (UK) Ltd)**
 - 2.1. **HRRC Contract Performance Review:** The scope of the HRRC services can be summarised in three parts: the general management of the sites including staffing, plant, equipment, and site layouts; the transportation of materials; and the recycling, treatment, and/or disposal of waste collected at the HRRC sites (excluding garden and residual waste).
 - 2.2. The contract specification focuses on three key performance categories; site user experience, health and safety, and material recycling. The report reviews the site user and recycling experience performance of the contract for the period April 2020 to March 2021.

- 2.3. **HRRC COVID Measures** – Recap: On the 24th March 2020 all six SLWP HRRC sites, along with all other London borough HRRC sites, were closed following government advice and resultant legislation in relation to the COVID19 outbreak. Following the remobilisation project the services reopened on the 13th May 2020 and have remained under special COVID measures. These measures include; restrictions on customer numbers in narrow access areas within the sites (such as the gantry steps and raised walkways), enhanced hygiene measures (washing down of handrails and contact points), social distancing between staff and customers (staff cannot offer assistance with carrying waste), measures to control number of customers on site, and additional site signage.
- 2.4. **Roadmap** - Since March 2020 the Partner Boroughs have moved through a number of government led 'risk classification and control mechanisms' including a full lockdown, the '5 step social distancing guide', the '3 tier' system, and now the most recent 'roadmap out of lockdown'. The guidance throughout this period has required varying special operational measures to remain in place. An HRRC roadmap tracking the Government's has been agreed with the contractor, following which on the 17th May the number of parking bays available for public use was increased and on the 21 June, subject to Government guidance remaining as per the current Road-map, all other special measures will cease and the service will return to pre-COVID operations, with the exception of the pre-booking systems which will remain in place in Kingston, Merton and Sutton.
- 2.5. **Site user experience:** Veolia started customer satisfaction surveys in July 2016 to monitor site user experience. Customer satisfaction questionnaires are undertaken for two weeks at the six sites in turn for each round. Customer Satisfaction surveys were suspended on the 24th March 2020 when the sites were closed, however, over 800 surveys were still undertaken in the reporting year 2020/21 when the relevant restrictions permitted. The results of the surveys show that the sites continue to achieve in excess of 80% in satisfaction levels. The one exception during the year has been the waiting times at the Garth Road site where, between February and April, 47% of visitors were dissatisfied with their queue times. This issue is believed to be resolved now following the reintroduction of the booking system. A summary of the results from each of the boroughs can be found on the SLWP website.
- 2.6. **Recycling Performance analysis** – Each month the SLWP looks at materials recycled, recycling markets, and the impact of the wider SLWP recycling services, in order to better understand HRRC recycling rates and assess the Contractor's performance.
- 2.7. Table 2a of Appendix A details the recycling performance by site and by month (please note the year end performance figure is based on the raw tonnage data, not an average of the recycling performance per month). At the end of quarter 4 the combined performance at the SLWP HRRC sites was 65%, this is a 1% drop against the financial year 2019/20.

2.8. Table 2b in Appendix A uses data from the last three years in order to compare performance in 2020/21 with the previous two years. The green bars show the recycling performance for the current Contract Year 2020/21. The yellow and blue bars show recycling performance for the same period in the previous two years. The dotted line and accompanying white numbers in this graph show last year's end-of-year recycling performance for each site. This table shows that the Merton Garth Road HRRC and the Kingston Villiers HRRC both achieved the same recycling performance as last year. The Kimpton HRRC site in Sutton saw a 1% drop in recycling, and of the three Croydon HRRC sites, Factory Lane and Fishers have seen a 4% reduction in recycling performance and Purley Oaks a 3% reduction.

2.9. **Green Waste** – In most years, between April and March, the HRRC sites would typically receive c.11,000 tonnes of green waste. However, due to the site closures during the busy spring period at the start of the reporting year, the annual green waste figure for 2020/21 has dropped by 36% to just over 7,000 tonnes. During the year, the kerbside-collected green waste tonnes did increase and so it could be assumed that some, although not all, of the displaced HRRC green waste was collected at the kerbside. Green waste accounts for approximately one third of the recycling rates at our HRRCs so the 6 week site closure, and this shift in the presentation of green waste to the kerbside, accounts for a significant drop in the final HRRC recycling figure.

2.10. **Other Recycling** – Analysis shows a 41% reduction in cardboard tonnes, and a 59% drop in glass bottles received at the HRRC sites, although again, the kerbside recycling rates have increased. The other notable drop in tonnes is from textiles which have reduced by 48%, and this is believed to be a combination of; the industry's slow start-up following lockdown, the challenges with adapting to COVID measures, the extended hiatus of second-hand clothing sales, and the increasingly stringent quality acceptance criteria.

2.11. **Residual waste tonnes** - Residual waste tonnes have also been lower for this year, and the analysis shows a reduction of just over 19% across the sites combined.

2.12. **Total tonnes captured at the HRRC sites** - All six sites saw a reduction in total materials received in the reporting year, and this is assumed to be the result of the site closures and additional COVID measures in place throughout the year. The Kingston, Sutton, and Merton sites have all seen a drop in tonnes of between 32 - 35%. In Croydon, Factory lane saw a 30% reduction in the total tonnes received, and Purely Oaks 13%, however Fishers Farm saw a 1% reduction in tonnes received at the site.

3. **Contract 3 – Materials Recycling Services, Composting, and additional treatment services (Viridor Waste Management Limited)**

3.1. Garden waste is delivered to the Viridor Beddington Waste Transfer facility where it is bulked and hauled off-site for treatment in a combination

of the following facilities: Woodhorn Runcton and Tangmere, and Laverstoke Park.

- 3.2. The garden waste is processed in order to produce a BSI PAS100-compliant compost product. Garden waste tonnage data for the reporting period on combined kerbside and HRRC tonnes can be found in Appendix A, in chart 3b.
- 3.3. Food waste is delivered to either the Beddington transfer station facility or the Villiers Road transfer station facility. From both sites the food waste is transferred by Viridor to the Severn Trent Trumps Farm Anaerobic Digestion (AD) facility located in Surrey. The Severn Trent facility produces a BSI PAS 110 compost product. Food waste tonnage data for the reporting period can be found in Appendix A, in chart 3b.
- 3.4. There are no performance issues with the food and garden waste processed through the Contract 3 service.

4. Phase B – Residual Waste treatment Contract (Viridor South London Limited)

- 4.1. Viridor South London has been delivering the services under the Residual Waste Treatment contract since 4th March 2019.
- 4.2. In the reporting period, 1st April 2020 until the 31st March 2021, the Partnership delivered just over 216,000 tonnes of residual waste to Beddington, this is an increase in residual waste of 7% when the data is compared to the same period last year. Please see Appendix A table 1a for further detail.
- 4.3. **Landfill Diversion** - Viridor SL has an annual landfill diversion target, and for 2020/21 this target is 91.34%. In the reporting period 1 April to 31 March 2021, 100% of the residual waste delivered by SLWP partner boroughs was treated via ERF with no residual waste sent to landfill. Please see Appendix A table 1b for further diversion data.
- 4.4. **Planned Maintenance shutdown** – The ERF facility undertook a planned maintenance shutdown in April and May 2021. Processing line one was taken out of operation on the 5 of April, followed by line two on the 16 April, with the common outage lasting for 7 days. Following completion of the required maintenance programme, line one was brought back into operation on the 23 April, followed by line two on the 3 May. General maintenance activities were undertaken including an overhaul of the grate, fan inspections, general internal cleaning and inspections. The Maintenance programme was completed successfully and there were no issues or major faults identified.
- 4.5. **Emissions** – The emissions from the Beddington ERF are sampled every 10 seconds, 7 days a week, 365 days a year. The results are fed back to the ERF Control Room, so any potential issues are known about immediately and appropriate action can be taken. The results from the continuous emissions monitoring systems (CEMS) are reported to the

Environment Agency (EA - the regulator for the facility) and uploaded by Viridor to a publicly-accessible website (www.beddingonterf.info). The EA sets limits (based on 10-minute, 30-minute, and daily averages) for different types of emissions. The Beddington ERF has been designed to operate at the very highest international standards and, under normal operating conditions, emissions are well below the limits set by the EA.

- 4.6. **Sulphur dioxide (SO₂)** – From November 2020 to the end of this reporting period, March 2021, there were no emissions exceedances. Following the planned maintenance shutdown in April, there was an exceedance of the SO₂ 30-minute average, and on 2 May there were a further two 30-minute average exceedances of SO₂. The cause of the exceedances is likely to be waste with a higher than normal sulphur content (for example plasterboard). The issues were identified and appropriate action was taken. In all cases, the facility remained within its Daily Average limit for SO₂. Viridor have reported these exceedances to the EA and will also publish full details of the emissions for April and May on the publicly-accessible Beddington Virtual Visitor Centre website.
- 4.7. The facility must operate in accordance with its Environmental Permit which is issued and regulated by the Environment Agency (EA). The site cannot operate without its permit from the EA and if the site is not compliant with its permit, the EA have the power to serve both enforcement and suspension notices. The SLWP will continue to work closely with Viridor and the EA to ensure the Beddington ERF is operating safely.

5. **RECOMMENDATIONS**

- 5.1. It is recommended that the Joint Waste Committee:
- a) Note the contents of this report, and comment on any aspects of the performance of the Partnership's Phase A and B contracts.

6. **IMPACTS AND IMPLICATIONS**

- 6.1. LEGAL -There are no legal considerations arising directly out of the recommendation in this report.
- 6.2. FINANCE - There are no financial considerations arising directly out of the recommendation in this report.

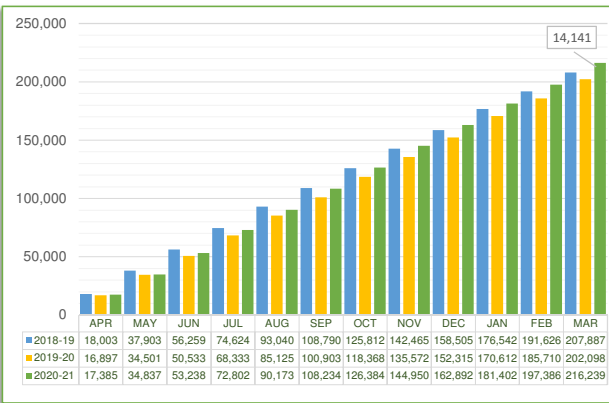
7. **Appendices**

- 7.1. Appendix A provides data on the performance of the Phase A and B contracts for the reporting period 1st April 2020 to the 31st March 2021.

SECTION 1: CONTRACT 1 - RESIDUAL WASTE DISPOSAL

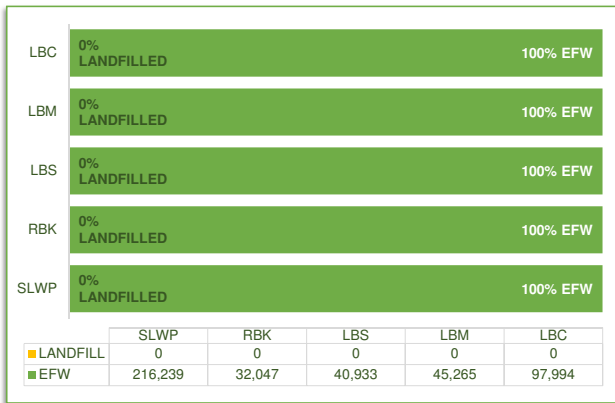
1a - TOTAL RESIDUAL WASTE GROWTH

CUMULATIVE RESIDUAL WASTE - CURRENT YEAR AGAINST 2 PREVIOUS YEARS



1b - DIVERSION FROM LANDFILL

TOTAL TONNES AND % OF WASTE SENT TO ENERGY RECOVERY



SECTION 2: HRRC RECYCLING PERFORMANCE

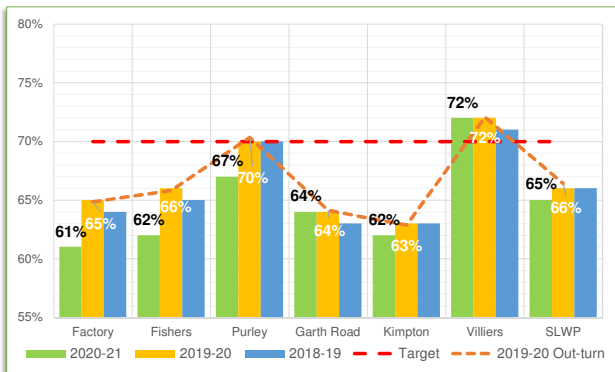
2a: HRRC RECYCLING PERFORMANCE

MONTHLY PERFORMANCE FOR EACH SITE AND SLWP AVERAGE

	FACTORY LANE	FISHERS FARM	PURLEY OAKS	GARTH ROAD	KIMPTON PARK WAY	VILLIERS ROAD	SLWP
APR	All HRRC sites closed during April 2020						
MAY	57%	67%	66%	64%	67%	77%	66%
JUN	59%	66%	66%	69%	68%	77%	67%
JUL	66%	67%	73%	72%	65%	77%	70%
AUG	59%	62%	68%	66%	61%	71%	64%
SEP	65%	67%	71%	65%	66%	73%	68%
OCT	63%	62%	67%	63%	59%	72%	64%
NOV	60%	58%	69%	63%	60%	70%	64%
DEC	56%	60%	64%	57%	57%	66%	60%
JAN	55%	48%	57%	57%	56%	64%	57%
FEB	58%	56%	57%	57%	56%	64%	58%
MAR	61%	61%	68%	65%	61%	73%	65%
YTD	61%	62%	67%	64%	62%	72%	65%

2b: YEAR TO DATE RECYCLING PERFORMANCE

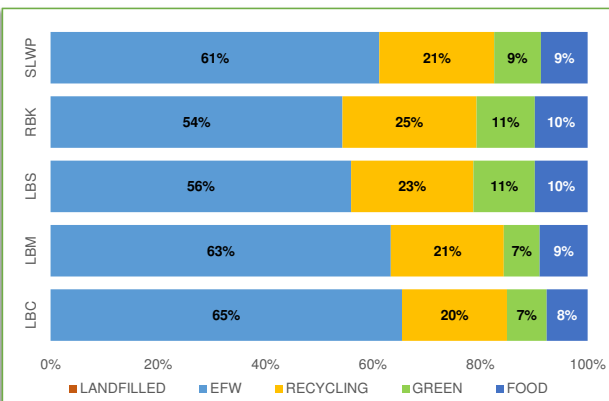
PERFORMANCE COMPARED TO LAST 2 YEARS



SECTION 3: WASTE ARISING

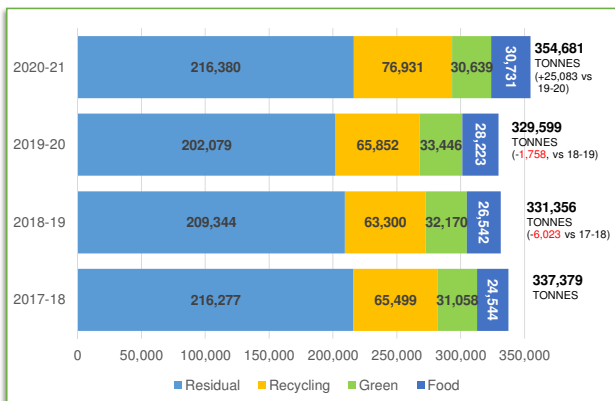
3a: WASTE ARISING BY BOROUGH (INC. NON HOUSEHOLD WASTE)

INDIVIDUAL WASTE STREAMS AS % OF TOTAL WASTE (APRIL'20 - MARCH'21)



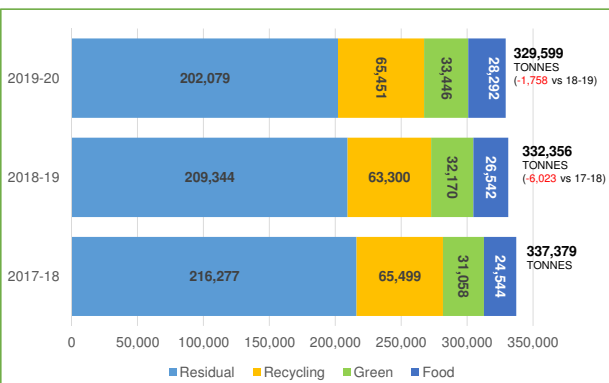
3b: TOTAL WASTE ARISING - YTD (INC. NON HOUSEHOLD WASTE)

QUARTER 1 to 4 (APRIL'20 - MARCH'21) 2020-21 AGAINST LAST 3 YEARS



3c: TOTAL ANNUAL PARTNERSHIP WASTE ARISING (INC. NON HOUSEHOLD WASTE)

TOTAL SLWP TONNAGE BY WASTE STREAM - LAST 3 YEARS





Report to: South London Waste Partnership Joint Committee

Date: 8 June 2021

Report of: South London Waste Partnership Management Group

Author(s): Andrea Keys, Interim Strategic Manager

Chair: Councillor Hilary Gander

Report Title: Carbon Management Plan for the SLWP Residual Waste Treatment Contract and the Beddington Energy Recovery Facility

Summary

This paper introduces the Carbon Management Plan prepared by Viridor in relation to the Beddington Energy Recovery Facility and the SLWP Residual Waste Treatment Contract.

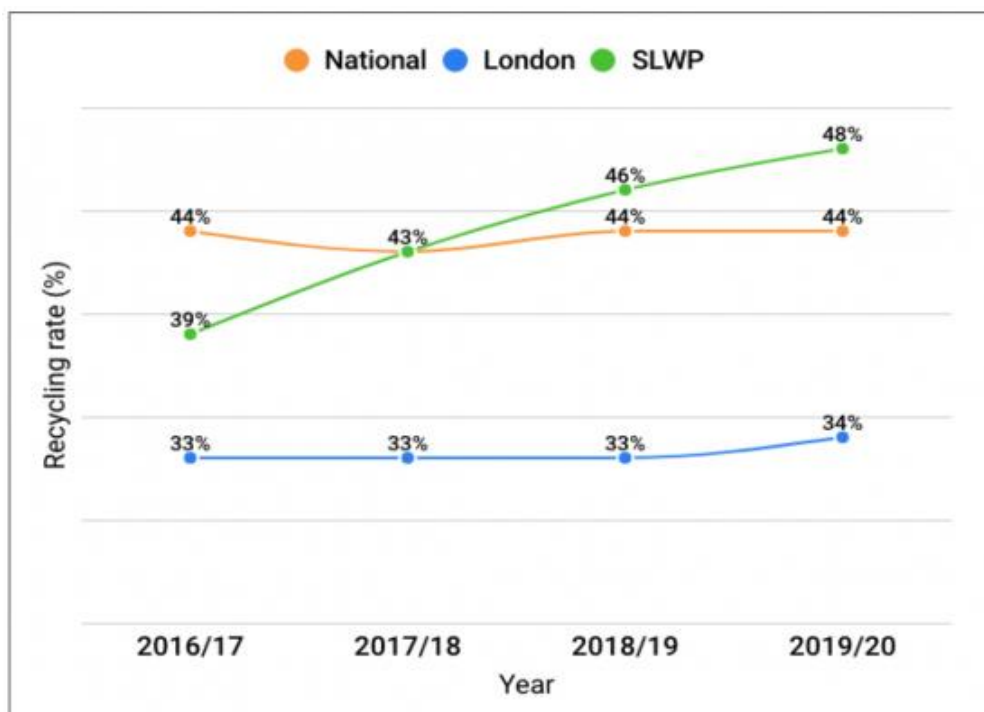
Recommendations

The Committee is asked to:

- Note the contents of the Carbon Management Plan: Beddington Energy Recovery Facility & Residual Waste Treatment Contract and to note the carbon apportionment principle set out in paragraph 4.2.

1. Introduction

1.1 The four SLWP boroughs have made excellent progress in recent years working together to increase their recycling rates, outperforming regional and national trends:



- 1.2 Despite this success, households across the SLWP region still generate c.200,000 tonnes of residual waste each year. The vast majority of this (95%+) is treated at the Beddington Energy Recovery facility.
- 1.3 When it comes to recycling performance, local authorities are still judged, primarily, by their recycling rates. But the focus for many residents, elected Members and other local stakeholders is increasingly turning towards carbon emissions and what can be done to reduce the carbon impact of the waste and recycling generated by households across the region; in particular the carbon emissions associated with the SLWP's residual waste treatment activities.
- 1.4 The contract documents relating to the residual waste treatment services provided to the SLWP boroughs by Viridor were written many years ago, when carbon was not attracting the attention it does today. It is therefore pleasing that the contract includes a requirement for Viridor to prepare and maintain a Carbon Management Plan that details how the carbon footprint of the services provided by them are to be monitored and managed over the life of the contract.

2. The Carbon Steering Group

- 2.1 The Beddington ERF & Residual Waste Treatment Contract Carbon Management Steering Group was established in June 2020 and meets quarterly. This Group includes representatives from Viridor and the four SLWP boroughs.
- 2.2 The Steering Group has supported and challenged Viridor during the preparation of its Carbon Management Plan. The group will continue to

meet to review progress, monitor the Opportunities Register and agree the Annual Reports.

3. The Carbon Management Plan and the Baseline year

- 3.1 The key role of Viridor's Carbon Management Plan is to set an initial carbon baseline for the Beddington ERF and residual waste treatment contract services. This could only be achieved through a detailed analysis of carbon emissions from the first full year of operations of the ERF (April 2019-March 2020). All savings/increases in the footprint will be measured against this baseline year and reported as part of an Annual Report published each year.
- 3.2 A copy of the Carbon Management Plan is attached. It states that during the baseline year 18,550.4 tonne of fixed, scope 1, fossil-derived carbon emissions were generated as a result of managing and treating the SLWP boroughs' residual waste.
- 3.3 Viridor have a target to reduce these fixed, scope 1, fossil-derived carbon emissions by 1% every year over the lifetime of the contract (25 years).

4. Carbon apportionment

- 4.1 The Carbon Management Plan reveals that once variable emissions are accounted for, the total fossil-derived carbon emissions for the baseline year were 121,994 tCO₂e.
- 4.2 This figure for total carbon emissions has been apportioned to each of the four SLWP boroughs according to the volume of waste (as a percentage of the total) they send to each facility in scope of the services:

ERF emissions = 93,117.89

Croydon (44%) = 40,971.72
Kingston (16%) = 14,898.86
Merton (21%) = 19,554.76
Sutton (19%) = 17,692.40

ERF operations = 18,590.20

Croydon (44%) = 8,179.69
Kingston (16%) = 2,974.43
Merton (21%) = 4,089.84
Sutton (19%) = 3,543.14

Landfill emissions = 9,745.61

Croydon (48%) = 4,677.89
Kingston (10%) = 974.56
Merton (23%) = 2,241.49
Sutton (20%) = 1,949.12

Landfill operations = 425.6

Croydon (48%) = 204.29

Kingston (10%) = 42.56

Merton (23%) = 97.89

Sutton (20%) = 85.12

Waste Transfer Station (Villiers Road, Kingston) operations = 114.7

Kingston (100%) = 114.7

TOTALS

Croydon = 54,033.59 tCO₂e

Kingston = 19,005.11 tCO₂e

Merton = 25,983.98 tCO₂e

Sutton = 23,269.78 tCO₂e

Note: figures have been rounded to two decimal places - this means that some percentage totals may not add up to 100

- 4.3 The SLWP Boroughs will work with Viridor, through the Beddington ERF & Residual Waste Contract Carbon Management Steering Group, to reduce the fixed carbon emissions associated with their operations. The boroughs will also use the Steering Group as a forum to explore the feasibility of emerging technologies such as carbon capture, to significantly reduce the variable Carbon emissions released through the ERF stacks. Finally the Steering Group will work with residents to raise awareness of the important role we all have to play in reducing variable carbon emissions by keeping plastics out of our residual waste bins.

5. IMPACTS AND IMPLICATIONS

Legal


- 5.1 None

Finance

- 5.2 None

6. RECOMMENDATIONS

- 6.1 The Committee is asked to:
- Note the contents of the Carbon Management Plan: Beddington Energy Recovery Facility & Residual Waste Treatment Contract and to note the carbon apportionment principle set out in paragraph 4.2.



**Beddington Energy Recovery
Facility & Residual Waste
Contract 2019-2043**

Carbon Management Plan

Baseline year: 2019-2020

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Glossary of terms

Term	Definition
Annual CO2 emissions	The total carbon emissions created by the Beddington ERF and associated waste treatment contract for the SLWP contract waste.
Any guaranteed target's boundary	The Beddington ERF, Kingston TLS and fixed carbon emissions resulting from the treatment of Contract waste under the SLWP Phase B contract.
Anthropogenic waste	All waste contains carbon. Carbon dioxide (CO ₂) is part of the natural cycle of life on earth. Waste that is derived from fossil fuels (for example plastics) accelerate climate change when they are burnt. This carbon was locked under the ground for millions of years and then is released.
Aspirational target for CO2 emissions saving	Viridor has committed to achieving an aspirational 1% saving on fixed carbon emissions from the Contract each year.
Biogenic waste	Waste that is derived from carbon. When waste that is derived from plant-based material (wood, paper, organic matter) is burnt this carbon is released, but then absorbed by new plants in a short-chain cycle not impacting climate change.
CO2e emissions	CO ₂ is the most common GHG emitted by human activities, in terms of the quantity released and the total impact on global warming. As a result, the term "CO ₂ " is sometimes used as a shorthand expression for all greenhouse gases.
Carbon Management Plan	This Carbon Management Plan details how the carbon footprint of the services are to be monitored and managed over the life of the contract and will cover the operation of the Beddington ERF and any associated transportation and transfer sites, but shall exclude elements that are outside the remit of the contract.
Carbon Management Steering Group	This Steering Group draws together officers from the South London Waste Partnership, the London Boroughs of Croydon, Kingston, Merton and Sutton along with Viridor.
Climate Change	Climate change refers to changes in the long-term distribution and severity of weather patterns caused, mainly, by global warming, which is the process by which the average surface temperature on the Earth increases.
ESG Strategy	Viridor's Environmental, Social and Governance Strategy focusing on managing carbon emissions, boosting recycling and helping Viridor to reach net zero.
Environment Agency	The UK environmental regulator for the Beddington ERF.
Fixed carbon emissions	Relates to any emissions that Viridor has direct or indirect control over.
Greenhouse Gas Protocol	The Greenhouse Gas protocol is a comprehensive global standardised framework to measure and manage greenhouse gas (GHG) emissions from private and public sector operations.
Imported electricity	Electricity that is imported into the ERF and Villiers Road sites, it is classified as fixed carbon under Scope 2.
Ofgem	The UK electricity and gas market regulator.
Scope 1 – carbon emissions	Direct emissions which occur from assets that are directly owned or controlled (i.e. the Beddington ERF).
Scope 2 – carbon emissions	Indirect emissions from the generation of purchased energy, from a utility provider.
Scope 3 – carbon emissions	Consequence of the activities of the company but occur from sources not owned or controlled by the company (i.e. employees commuting).
Variable carbon emissions	Relates to the carbon emissions that are released into the atmosphere as part of the waste treatment process itself.



Overview

Viridor have entered into a Residual Waste Treatment contract with the South London Waste Partnership (the Authority) to treat non-recyclable household waste from the London boroughs of Croydon, Kingston, Merton and Sutton at the Beddington Energy Recovery Facility (ERF) until the year 2043.

As part of the contractual requirements, Viridor has prepared and will maintain a Carbon Management Plan (CMP). This Carbon Management Plan will detail how the carbon footprint of the services are to be monitored and managed over the life of the contract and will cover the operation of the Beddington ERF and any associated transportation and transfer sites, but shall exclude elements that are outside the remit of the contract.

Viridor is committed to taking an active approach to the reduction of carbon emissions rather than simply increasing the annual amount of direct emissions offset. This will be in line with National, Regional and Local policies.

To ensure that a robust methodology is adopted, the Plan will be developed to ensure that it meets an external recognition programme, which will also demonstrate the commitment level to save carbon. Viridor hold the ISO 50001 energy management accreditation which focuses on continuously improving the management of energy on Viridor's sites.

Viridor also received an assurance statement by DNV-GL, an independent accreditor, to confirm its audit and measurement of carbon emissions was accurate. This was completed under the Pennon Group (owner of Viridor prior to July 2020).

Viridor's ESG Strategy & Governance of climate change and carbon emissions

Climate change and carbon management is governed by Viridor at a corporate level. Viridor was acquired by American company, Kohlberg Kravis Roberts (KKR) in 2020 and the organisation has a strong commitment to the management of climate change. KKR has established an Environment, Social and Governance (ESG) sub-Committee at Viridor and this Committee has overall responsibility for climate change and carbon performance.

A new, ambitious, ESG strategy is under development; this focuses on managing carbon emissions and is due for completion in 2021. Once this strategy has been approved it will support and inform this Carbon Management Plan. Viridor has been required to report its greenhouse gas (carbon) emissions from 2019 as mandated by the UK Government including the Streamlined Energy & Carbon Requirements (SECR). Viridor GHG performance is independently assured as part of our Annual Reporting process.

Viridor is committed to managing and reducing carbon emissions and became the first company in the waste sector to join the Carbon Capture and Storage trade association along with chairing the Environmental Services Association Climate Change working group, preparing the UK Waste Sector net zero strategy and tailored carbon accounting methodology.

Viridor launched its Carbon Management Programme in 2019 and this will support the Beddington ERF & Residual Waste Contract Carbon Management Plan. Details of the Carbon Management Programme are shown in the diagram below (Figure No.1).

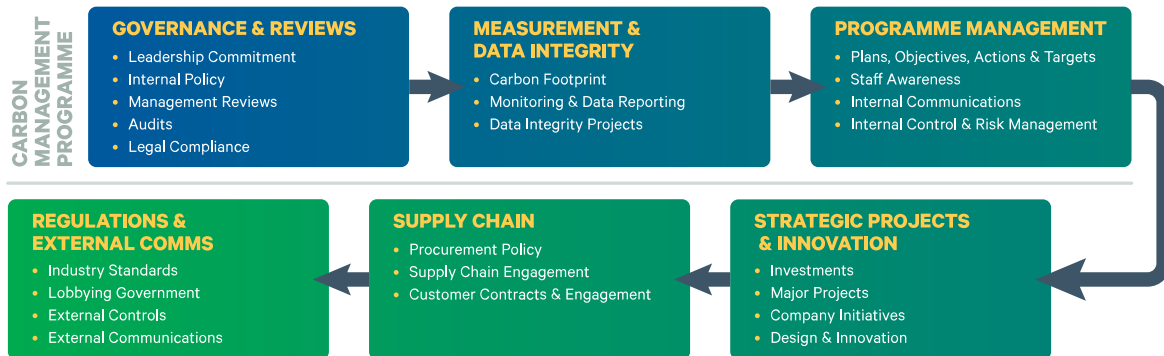


Figure 1 – Carbon Management Programme

Aside from regulatory requirements, Viridor publicly discloses its carbon emissions performance through the annual Carbon Disclosure Project. Environmental impacts from Viridor’s activities are managed under energy (ISO 50001) and environmental (ISO14001) management systems which apply across all facilities including those under this Contract. ISO 50001 mandates Viridor to commit to a continuous improvement in the management of its energy and emissions reduction.

Authority's requirements

The requirements of this Carbon Management Plan are outlined in the method statements included within the Residual Waste Treatment Contract. Method Statement 4.2 requirements are set out below.

Carbon Management Plan

The Contractor will take an active approach to CO₂e reduction rather than simply increasing the annual amount of direct emissions offset. A draft Carbon Management Plan was outlined in Appendix 4.2b and was developed with this in mind, whilst recognising the core partnership and spatial objectives relating to carbon reduction.

- a) The Carbon Management Plan will recognise the guidelines of the EpE, PAS2050, ISO and the Greenhouse Gas (GHG) protocol, will include the setting of an initial carbon baseline. Normally the baseline would be the first year of operation from the Service Commencement Date and all savings/increases in the footprint will be measured against this baseline year.
- b) To ensure a robust methodology is adopted, the plan will be developed to ensure it meets an external recognition programme, which will also demonstrate the commitment level to save carbon.
- c) The Contractor will produce a draft plan to determine the carbon baseline. The Contractor will follow a five-step carbon methodology based on a Carbon Trust methodology (right Figure No.2).
- d) The Carbon Management Plan will include the following principles:

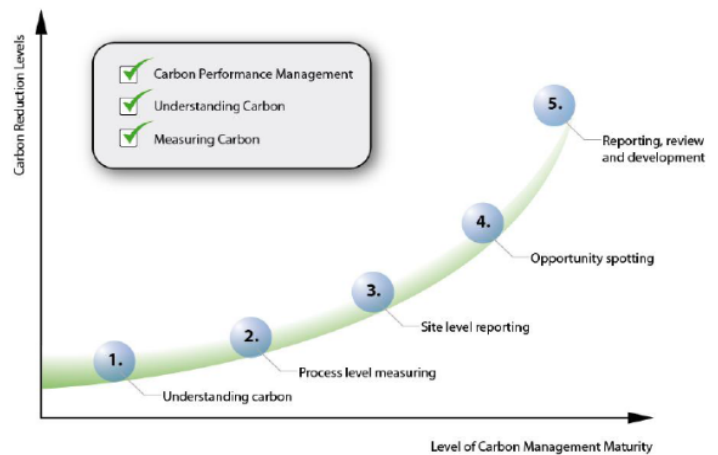


Figure 2 – Carbon Trust methodology

1. Understanding carbon

This involves ensuring that the project team fully understand the issues and impacts of carbon, including the differences between biogenic and fossil derived carbon (anthropogenic), fixed and variable carbon and scope 1, scope 2 and scope 3 emissions. This also involves ensuring that the team understand the boundaries and baseline which have been set in order to provide a year-on-year comparable CO₂e emissions figure.

2. Process level measuring

A service wide measurement system will be used in order to record emissions, consumables consumption, Waste inputs and process outputs from each Facility within the Contract.

3. Site level reporting

This stage of the strategy utilises a service wide measurement system in order to capture emissions, consumables, inputs and outputs measured at process level into a single data store.

4. Opportunity spotting

The measured data will be reviewed on an annual basis internally within the Contractor's organisation and it is proposed to review with the Authority on a biannual basis. The objective would be to demonstrate savings



made and identify potential options for future savings in conjunction with the Authority in order to ascertain areas where CO₂e reductions are feasible. This stage of the strategy also estimates the CO₂e impact of potential alterations and the associated cost implication.

5. Reporting, review and development

CO₂e emissions would be verified, as required, and reported to the Authority as part of the performance monitoring. Annualised reporting of the year-on-year CO₂e saving will be adopted and the cumulative CO₂e saving in relation to the defined baseline will also be reported. The Carbon Management Plan will be reviewed regularly and developed as required to ensure that it is consistent with current guidance and Legislation.

Introduction to carbon management

Climate change refers to changes in the long-term distribution and severity of weather patterns caused, mainly, by global warming, which is the process by which the average surface temperature on the Earth increases. This is caused primarily by an increase in the amount of Greenhouse Gases (GHGs) in our atmosphere. When we talk about GHGs, we refer to 6 different gases, one of them being Carbon Dioxide (CO₂).

The surge in carbon dioxide levels due to human activity since the Industrial Revolution is now causing an overall warming of the planet that is having impacts around the globe. It's too late to stop climate change, but it's not too late to reduce the impact it will have. That is why it is important that we all – as businesses, organisations and individuals – do whatever we can to monitor and reduce our carbon emissions.

Carbon management is a complex topic. This section of the Carbon Management Plan will introduce three key principles that need to be understood before reading on:

- Scopes 1, 2 and 3 carbon emissions
- Anthropogenic and biogenic carbon emissions
- Fixed and variable carbon emissions

Carbon emissions: Scopes 1, 2 and 3

Carbon emissions are created from most activities in our day-to-day lives. They are typically viewed as falling into one of three 'scopes', as defined by the Greenhouse Gas Protocol:

- Scope 1 - direct emissions which occur from assets that are directly owned or controlled (i.e. the Beddington ERF).
- Scope 2 – indirect emissions from the generation of purchased energy, from a utility provider.
- Scope 3 - consequence of the activities of the company but occur from sources not owned or controlled by the company (i.e. employees commuting).

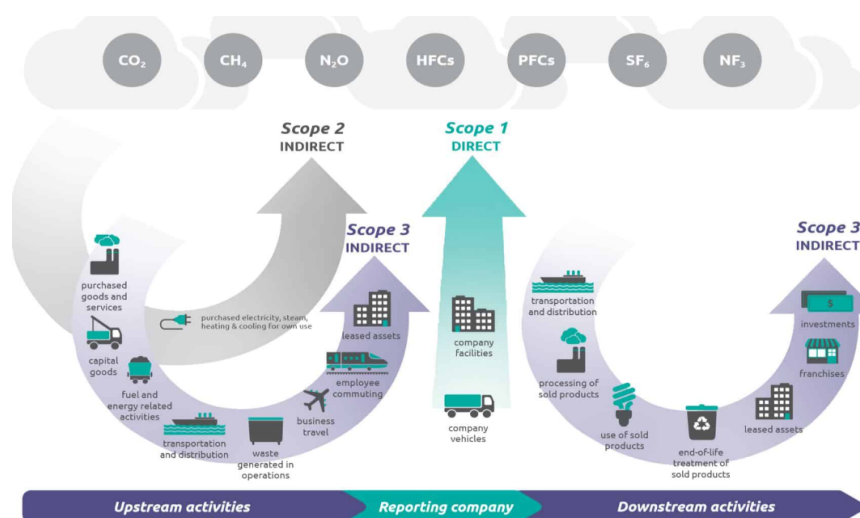


Figure 3 – Scope Carbon Emissions

Carbon emissions: anthropogenic and biogenic

Carbon dioxide (CO₂) has always been around and within us. It is part of the natural cycle of life on earth. This natural 'biogenic' cycle is relatively fast: Carbon cycles between plants and the atmosphere in a short period of time; a few years to a few decades.

The problems occur when human activity means that carbon that has been locked up in the ground for millions of years is released into the atmosphere. It is the release of this 'anthropogenic' or 'fossil-derived' carbon that accelerates climate change.

The two key generators of fossil-derived carbon emissions are burning fossil fuels either for energy generation (i.e. gas or coal-fired power stations) or transportation (i.e. petrol or diesel powered vehicles).

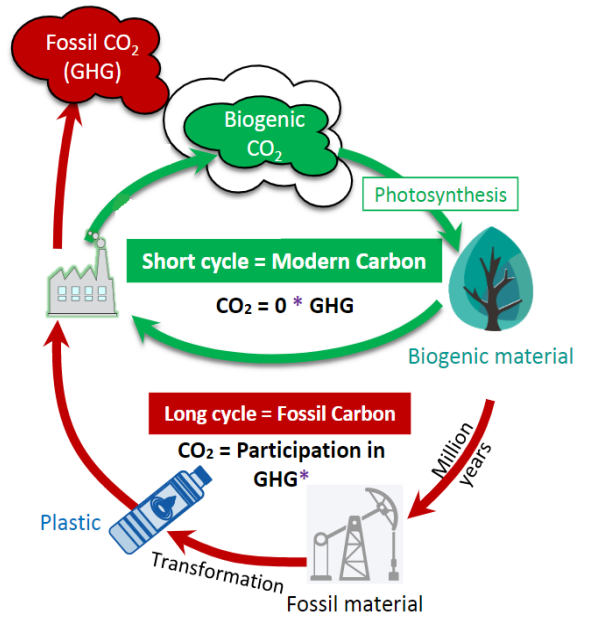


Figure 4 – Carbon Cycle of Waste

This distinction between biogenic and anthropogenic carbon is important because the waste treated at the Beddington Energy Recovery Facility (ERF) is also categorised in this way: roughly half of the waste delivered to the facility is anthropogenic (i.e. plastics) and the other half is biogenic. The Government classifies energy that has been produced from biogenic sources (including waste) as being 'renewable' so the Beddington ERF is a source of partially renewable energy.

Carbon emissions: fixed and variable

This Carbon Management Plan will also make the distinction between 'fixed' and 'variable' carbon emissions:

- Fixed emissions - relates to anything that Viridor has direct or indirect control over
- Variable emissions – relates to the carbon emissions that are released into the atmosphere as part of the waste treatment process itself. Viridor has no control over what residents put in their rubbish bins, but the composition of the waste does have a significant impact on the fossil-derived carbon emissions released when that waste is treated.

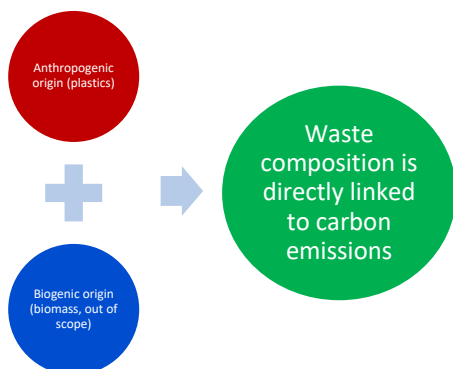


Figure 5 – Waste Composition - Source: Cabinet Merlin, 2020 (CEWEP)



Carbon Management Steering Group

The Beddington ERF & Residual Waste Treatment Contract Carbon Management Steering Group was established in June 2020 and meets quarterly. This Group has a clear term of reference and draws together officers from the South London Waste Partnership, the London Boroughs of Croydon, Kingston, Merton and Sutton along with Viridor.

The Steering Group will be led by Viridor and will include a Beddington ERF Carbon Management Champion based at the site. The Carbon Management Champion will be appointed by the Viridor Operations Team and will contribute to discussions around the annual performance of the facility as well as participating in the identification and validation of opportunities identified to reduce the carbon footprint of the Services.

The Carbon Management Steering Group will prepare awareness and communication plans to support its work and will explore opportunities to transfer learning.

The terms of reference for the Steering Group can be found in the Appendix of this document.

Scope of Contract waste management service

The scope of the Contract (Services) involves the reception and treatment of non-recyclable waste from the four London boroughs of the South London Waste Partnership (Croydon, Kingston, Merton and Sutton) at the Beddington ERF.

Three of the London boroughs (Croydon, Merton and Sutton) direct deliver non-recyclable waste to the Beddington ERF in refuse collection vehicles (RCVs), whilst material from the Royal Borough of Kingston upon Thames (RBK) is delivered to a satellite Waste Transfer Station at Villiers Road, Kingston, and then loaded into subcontractor bulk articulated vehicles managed by the Contractor and transferred to the Beddington ERF. The Waste Transfer Station and associated vehicle movements are included in this Carbon Management Plan.

The Residual Waste Treatment Contract also makes provision for the receipt and management for materials that are not permitted to be treated at the Beddington ERF and such materials are managed on an ad-hoc basis.

Key objectives and scope of the Carbon Management Plan

The key objective of the Carbon Management Plan, and supporting annual reports, is to monitor, review and manage the fixed carbon emissions from the Beddington ERF, Villiers Road Waste Transfer Station and associated transportation, to enhance the performance through a process of continuous improvement and agree measures to reduce the carbon footprint of the facility through the reduction initially in scope 1 and 2 emissions, with scope 3 from a later date as carbon reporting matures.

The vast majority of the carbon emissions associated with the residual waste contract are variable emissions from the ERF, which are dependent on the composition of the waste that is sent to the facility. As Viridor does not have direct control over this, there are no contractual targets for its reduction. However, these variable emissions will be monitored and reported on; the Carbon Management Steering Group will seek to reduce these variable emissions by working with residents to change the composition of the waste being delivered to the facility and exploring opportunities and initiatives such as carbon capture technologies.

This plan is based on an understanding of the background of carbon management, along with consideration of the applicable legislation and guidance at the national, regional and local levels (see Appendix A). Viridor will actively engage with the South London Waste Partnership and the local community on carbon saving topics and knowledge items through the Beddington ERF visitor centre. Viridor intends to engage with the community to help the SLWP to develop a better understanding of carbon management in south London, this will be done through:

- Hosting information relating to carbon management, and the Carbon Management Plan on the Virtual Visitor Centre, www.beddingtonerf.info
- Including carbon management information in site visits to the visitor centre at the Beddington ERF
- Supporting the SLWP with its residents' communications, to include information about carbon management as part of the Residual Waste Treatment Contract
- Stakeholder engagement with representatives around the Beddington ERF to inform them of the role Viridor is playing in the management of carbon around the Residual Waste Treatment contract

This carbon management plan includes the setting of an initial carbon baseline for the Beddington ERF and residual waste treatment contract services. This is following a detailed analysis of carbon emissions from the first full year of operations (April 2019-March 2020). All savings/increases in the footprint will be measured against this baseline year and reported as part of an Annual Report published each year.

CO₂e emissions will be verified, as required, and reported to the Carbon Management Steering Group as part of the performance monitoring. The Annual Report will include year-on-year CO₂e savings derived from implementing opportunities and to the defined baseline will also be reported.



Figure 6 – approach to carbon management

A three-stage approach to minimising carbon impact during operations will guide the Carbon Management Plan:

- **Low cost options** – e.g. behaviour change opportunities to minimise the use of fuel, efficiency at start-ups to minimise fuel use, installing low carbon lights, and implementing switch off policies.
- **Medium cost options** – e.g. installing renewable energy generation at the ERF including solar PV or wind
- **High cost options** – these will be monitored and may become available during the contract – for example cleaner combustion burners, carbon capture and storage or carbon scrubbers.

Changes identified will be placed into two separate categories:

Options with no associated monetary cost

Options which fall into this category include operator control and behaviour, energy efficient lighting etc. In these cases the costs are small or can be included within the general operation and maintenance budget. Items which are considered to have no associated cost will be implemented as they are identified in order to maximise the impact on reducing CO₂e emissions. These options will be reported in the Annual Reports.

Options with an associated monetary cost

Options which fall into this category include; embodied carbon during the Works Period, process heat recovery, biodiesel/biomethane powered or electric vehicles, solar or wind energy utilisation, carbon sequestration. In these cases, costs are potentially much higher and so cannot be accommodated within existing project budgets. Such items are likely to require additional support to the project before being introduced.

Items falling into this category will be identified to the Authority through the Annual Reports. If the Authority agrees that the carbon saving justifies the increase in cost then the change can be implemented using the contractor change mechanism within the Contract.

Baseline data (contract year 1: April 2019-March 2020) and targets

To provide a meaningful aspirational target, Viridor has offered a 1% reduction in Fixed, Scope 1, fossil-derived carbon emissions per Contract Year based on a rolling five-year average.

The first Contract Year being reported for the purposes of the Carbon Management Plan is the 1st April 2019 until the 31st March 2020 – this is ‘Year 1’ and is termed the baseline year.

Detailed analysis of carbon emissions for the baseline year show that **18,550.4 tCO₂e** of fixed, Scope 1, fossil-derived carbon emissions were generated as a result of managing and treating the SLWP boroughs’ residual waste.

Fixed carbon emissions – how they were calculated

The table below summarises the fixed carbon emissions from the following sources:

Imported electricity

Electricity that is imported into the site is classified as fixed carbon under Scope 2. Whilst the Beddington ERF produces energy in the form of heat and electricity, during periods when the facility is not in operation, electricity is imported to run the key elements of the ERF and administration block. Viridor has included the half-hourly meter data for the Beddington ERF between April 2019 and March 2020– this is also included below.

Beddington Transfer Station and transport

As part of the Services, the material collected from the kerbside by the Royal Borough of Kingston is received first at a local transfer station and then bulk hauled over to Beddington in a single vehicle. This local transfer station is referred to as the Villiers Road Transfer Station and the operation of that site and the transportation of waste is included under this residual waste treatment contract.

The emissions data for the Villiers Road Waste Transfer Station has been included in the table on page 14 (Diesel used on site, electricity import, employee travel and transfer of materials to Beddington ERF).

Villiers Road Waste Transfer Station receives material associated with multiple contracts. To ensure that only the residual waste Services relating to Kingston are reported under this Carbon Management Plan, a percentage split of the electricity used onsite has been apportioned to the Residual Waste Service and reported within this Carbon Management Plan.

Where Scope 3 data is available, Viridor has included this for completeness.

Facility	Address	Scope	Emission source	Fixed or variable emissions	Emissions (tCO ₂ e)	% from total Facility	% from total Contract
Transfer Station	Chapel Mill Road, Off Villiers Road, Kingston upon Thames, KT1 3GZ	SCOPE 1	Diesel used on site	Fixed	62.8	54.82%	0.33%
		SCOPE 2	Electricity import	Fixed	8.1	7.03%	0.04%
		SCOPE 3	Employee travel	Fixed	11.6	10.08%	0.06%
			Material transfer ERFs	Fixed	32.2	28.06%	0.17%
Landfill	105 Beddington Ln, Croydon CR0 4TT	SCOPE 1	Diesel used on site	Fixed	409.9	96.32%	2.14%
		SCOPE 2	Electricity import	Fixed	7.4	1.74%	0.04%
		SCOPE 3	Employee travel	Fixed	8.3	1.94%	0.04%
Beddington ERF	105 Beddington Ln, Croydon CR0 4TT	SCOPE 1	Diesel used on site	Fixed	2,225.3	11.97%	11.63%
			Electricity generation and used onsite	Fixed	15,852.4	85.27%	83.14%
		SCOPE 2	Electricity import	Fixed	383.1	2.06%	2.00%
		SCOPE 3	Waste disposal to other landfills	Fixed	-	0.00%	0.000%
			Employee travel (home to work only)	Fixed	129.4	0.70%	0.68%

Variable carbon emissions – how they were calculated

At the Beddington ERF bi-annual waste composition sampling is conducted using a methodology that meets the regulatory requirements of the Environment Agency and Ofgem. This sampling enables the Beddington ERF to accurately calculate the carbon emissions produced and report on the split between biogenic and anthropogenic carbon emissions. This involves a representative sample of waste being collected from the waste bunker and analyzed to determine the average composition of waste being treated at the Beddington ERF.

Waste composition for full ERF facility (sampling conducted November 2019)	Percentage of total
Biogenic, renewable qualifying carbon emissions	50.65%
Anthropogenic, non-renewable qualifying carbon emissions	49.35%



For the Beddington ERF stack emissions calculation Viridor took into account the total stack emissions and modelled further to reflect only the contractual waste (201,971 tonnes).

Waste tonnage treated at the Beddington ERF during the Baseline year	Tonnes of waste
Contract waste (under the Phase B contract)	201,971
tCO ₂ e emitted from ERF (contract waste only)	93,117.89
Biogenic tCO ₂ e emitted from ERF (contract waste only)	95,379.86
Total waste tonnage treated at the ERF	289,934
tCO ₂ e ERF stack emissions (all waste)	133,672.86
Biogenic tCO ₂ e ERF stack emissions (all waste)	136,919.97

Landfilling of Contract Waste

During periods of maintenance of the ERF, the Beddington landfill site was utilised during the baseline year to safely dispose of non-recyclable waste under the Contract. This has been captured in the baseline carbon assessment for the Carbon Management Plan. Viridor closed the landfill site at Beddington in December 2019 to active waste and going forward when the Beddington ERF is not operational waste will be transferred to other residual waste disposal facilities. The waste deposited in the landfill site was not sampled in the same way as the ERF waste bunker, however reflecting the waste source (homes from the South London Waste Partnership) it is anticipated that the waste composition aligns with the waste being sampled in the ERF at this time.

The emissions have been calculated using the Greenhouse Gas Protocol and further modelled to reflect the SLWP contract only. This methodology means that in the Carbon Management Plan does not record the total facility emissions. Therefore, the data will differ from what is provided annually to the Environment Agency and for the corporate reporting purposes.

For the landfill emissions calculation Viridor took into account the SLWP waste that was diverted to the landfill when the ERF was not operating and this equated to 10,824 tonnes in the contract year. Viridor have modelled the impact of waste landfilled as if it was treated completely in the Contract year, to make this comparable data with the ERF, rather than decomposing over a number of years.

This modelling shows that the total CO₂e emissions from anthropogenic waste from landfilling waste in the baseline year was 9,745.61 tonnes.

As Viridor don't have direct control over the composition of the waste being delivered to the ERF or the landfill, there are no contractual targets for reducing these variable carbon emissions. However, the Carbon Steering Group recognise the importance of reducing this variable carbon and will seek to do so by working with residents of the four SLWP boroughs to change the composition of the waste being delivered to the facility (in particular reducing plastic waste).

Carbon intensity – Beddington ERF vs Beddington landfill

	Baseline year (2019/2020)		
	Tonnes of contract waste	CO2e emissions	CO2e per tonne of contract waste
Beddington Landfill	10,824	9,745.61	0.90
Beddington ERF	201,971	93,117.89	0.46

The modelling shows that for every tonne of waste that is treated at the Beddington ERF, there is a reduction of 440kg of fossil-derived carbon emissions compared to the Beddington landfill site. This is before any further benefits of the ERF are taken into account, such as energy production and capture of metals for recycling from the incinerator bottom ash.

Summary of all carbon emissions

Description	Total tCO2e anthropogenic	Anthropogenic tCO2	Biogenic tCO2	Anthropogenic tCH4 (tCO2e)	Anthropogenic tN2O (tCO2e)	Biogenic tN2O (tCO2e)
Annual emissions split into various GHGs for contract waste tonnages (for example fossil derived CO2, biogenic CO2, Methane, NO2)	105,956.28	94,362.98	96,118.59	9,745.61	1,847.69	1,859.22

The total tCO2e captures the whole carbon footprint for the contract including methane and nitrous oxide emissions. This is because greenhouse gases, known as “the Kyoto 6”, are: Carbon dioxide (CO2), Methane (CH4), Nitrous oxide (N2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF6). Recently added to these, is Nitrogen trifluoride (NF3).

CO2 is the most common GHG emitted by human activities, in terms of the quantity released and the total impact on global warming. As a result, the term “CO2” is sometimes used as a shorthand expression for all greenhouse gases, however, this can cause confusion, and a more accurate way of referring to a number of GHGs collectively is to use the term “carbon dioxide equivalent” or “CO2e”. CO2e is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO2e signifies the amount of CO2 which would have the equivalent global warming impact.

Description	tCO ₂ e
Annual CO ₂ e emissions	105,956.28
Annual CO ₂ e emissions per tonne of Contract Waste	0.52
Annual CO ₂ e emissions included within any guaranteed target's boundary (all scope 1, fixed and fossil derived emissions, including parasitic (electricity used when the plant is online)).	18,550.4
Annual CO ₂ e emissions included within any guaranteed target's boundary per tonne of Contract Waste	0.09
Annual CO ₂ e emissions included within any guaranteed target's boundary from the previous five years	N/A
Cumulative CO ₂ e savings from year 1 to the current reporting year	N/A
Calculation of any guaranteed target as per the agreed definition	185.5
Annual CO ₂ e emissions relating to any aspirational targets	N/A

Opportunity spotting and target setting

Throughout the Contract Period, Viridor will be reviewing and where applicable, adopting options to improve the performance and efficiencies of the infrastructure and equipment utilised in the delivery of the Services. Over time this will reduce the fixed CO₂e emissions associated with the Residual Waste Treatment contract.

Environmental impacts from all of Viridor's operational activities are managed under energy (ISO50001) and environmental (ISO14001) management systems. Therefore, the activities to be undertaken as part of this Contract and their environmental effects will be managed under these existing systems.

A record of these opportunities and projects will be kept in the Beddington ERF Carbon Management Opportunities Register database document. Once a project has been approved by stakeholders (including the Carbon Management Steering Group and Viridor senior management team) details of the project and an update on development and delivery will be included in the Annual Reports.

A key principle of any management system is continual improvement. Under ISO50001 each site has an obligation to track the total energy consumption related to operation, determine all energy sources, high energy users and be able to demonstrate continuous energy efficiency improvement.

The specific carbon reduction measures to be explored as part of this Carbon Management Plan include:

- Identifying abatement opportunities – green energy options (on and off site)
- Energy monitoring and technical audits
- Energy management/Energy efficiency of buildings
- Heat transfer optimisation – schedules for energy efficiency
- Steam generation / boilers demand profiles, load planning and optimisation
- Heat recycle opportunities
- Compress air demand, profiles, optimisation and load balancing
- Organisation patterns and business travel
- Transport footprint and review
- Waste composition issues and options
- Use of on-site renewable and low carbon technology
- Engagement opportunities with the Partnership, Community and the supply chain
- Review Carbon Capture
- CHP, District Heating, review of opportunities for deployment
- Collation, feasibility and ranking of projects
- Developing and reviewing investment levels and consider paybacks
- Prioritisation of opportunities and allocation of responsibilities
- Resourcing committed projects appropriately



Carbon Management Plan audit and assurance

All of Viridor's contractor's energy use associated with the Contract service delivery, (including transport), is managed under an ISO50001 programme. As such the energy activities will be subject to internal and external ISO50001 audit.

Annual carbon emissions performance is independently assured as part of Viridor's annual reporting process according to the International Standard on Assurance Engagements (ISAE) 3000. Updated certificates will be provided in the Annual Report.

Appendix A

Policy framework

In developing and delivering Viridor's business and sustainability strategies, carbon management plans and its services, Viridor engages with UK Government, the Greater London Authority, local government and a wide range of policy makers and stakeholders to ensure that Viridor considers relevant, current and future policies /regulation. A summary of the key policies in relation to this Carbon Management Plan are summarised below.

Viridor, along with the Carbon Management Steering Group, will observe and monitor changes to legislation and emerging policy to ensure this plan meets the requirements of the UK legislation across the contract period.

Climate Change Act – [link to the Climate Change Act](#)

The Climate Change Act (2008) is the basis for the UK's approach to tackling and responding to climate change. It requires that emissions of carbon dioxide and other greenhouse gases are reduced and that climate change risks are prepared for. The Act also establishes the framework to deliver on these requirements and commits the UK government by law to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050.

Net Zero Carbon Emissions – [link to UK Government announcement](#)

In June 2019, the UK became the first major economy in the world to pass laws to end its contribution to global warming by 2050. The target will require the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels. The Climate Change Act 2008 prescribes that economy-wide annual emissions of greenhouse gases in 2050 must be at least 80 per cent lower than 1990 levels.

The Mayor of London's Environment Strategy – [link to the Strategy](#)

In May 2018, the Greater London Authority published its Environment Strategy setting out a vision for London's environment in 2050, focusing on cleaning up the capital's toxic air, greening its streets, reducing waste and tackling climate change. Ambitious targets include London becoming a zero-carbon city by 2050. Included in the plans to reduce the environmental impact of waste activities was setting a target by 2026 for no biodegradable or recyclable waste will be sent to landfill and by 2030 65% of London's municipal waste will be recycled. This is compliant with the Paris Climate Agreement to limit global climate change to 1.5 degrees.

Sitting alongside this are the four SLWP Borough Strategies:

- **London Borough of Sutton Environment Strategy (host London Borough of the ERF) – [link to the document](#)**
- **London Borough of Croydon Environment and Climate Change Strategy – [link to the document](#)**
- **London Borough of Kingston Environmental Management Plan – [link to the document](#)**
- **London Borough of Merton Climate Strategy and Action Plan – [link to the document](#)**

In addition to the above, the [South London Waste Plan](#) governs waste management development policies of the South London Waste Partnership are this was adopted in 2012.

Terms of reference for the Carbon Management Steering Group

Function and purpose of the Working Group

- i. The Beddington ERF Carbon Management Working Group has been established by Viridor to engage with the South London Waste Partnership and the Local Planning Authority, the London Borough of Sutton around ongoing carbon management and reduction across the Phase B contract between Viridor and its local authority partner.
- ii. The purpose of the Working Group is to provide an open channel of communication and a structured framework of consultation between Viridor, the South London Waste Partnership and the Local Planning Authority, the London Borough of Sutton around the ongoing carbon management and reduction across the Phase B contract between Viridor and its local authority partner.
- iii. The key deliverable of the Working Group will be effective communication and consultation on the subject of carbon management and the setting of objectives for carbon management and reduction in relation to the Beddington ERF and associated facilities. This may include statutory/GLA/community stakeholders that may have a legitimate interest in the Beddington ERF and its carbon management. This will be achieved through open, honest and transparent discussion and consultation on defined matters relating to the Carbon Management Plan.
- iv. The Working Group will be supported by a framework of reporting that will be conducted by the Beddington ERF management and presented for review by the Working Group.
- v. Alongside the setting of objectives relating to carbon management and reduction, the Working Group will be established to share best practice knowledge sharing and learning between Working Group members.
- vi. Although Working Group meetings will not be open to members of the public, the minutes of meetings will be available to the public upon request, and it is envisaged that Working Group representatives will report back to the local community on core areas of the Carbon Management Plan and performance.
- vii. It is proposed that the Workshop be chaired by Viridor as the nominated Carbon Champion leading the meetings.
- viii. The Working Group may, by prior agreement only, invite other organisations to address its meetings where their contribution would be directly relevant. These organisations would not become permanent to the Working Group and their attendance at meetings would be strictly limited.
- ix. The Working Group will have no executive authority or collective authority, no funding and only access to documentation that is related to the associated Carbon Management Plan.
- x. The purpose of, and need for, the Working Group is linked to Viridor's local authority contract with the South London Waste Partnership and will be for a period of 25 years.

Membership

- Viridor Carbon Champion – as the lead stakeholder responsible for the Carbon Management Plan
- Viridor Energy Management team representatives – responsible for carbon management, reporting and enhancement projects

- Viridor Energy Recovery Facility representatives – responsible for the environmental quality at the Beddington site
- Viridor Communications representative – jointly responsible for communicating the objectives of the Carbon Management Plan
- South London Waste Partnership communications representative – jointly responsible for agreeing and communicating the objectives of the Carbon Management Plan
- South London Waste Partnership Carbon Champion – as the lead stakeholder responsible for the Carbon Management Plan review
- South London Waste Partnership representatives – nominated representatives with a subject matter specialism in carbon management
- London Borough of Sutton representative – officer responsible for sustainability and carbon reduction
- London Borough of Sutton representative – officer responsible for planning development

All representatives will be named individuals.

Secretariat

Viridor will provide all secretariat services for the Working Group, including chairing the meetings.

Minutes and public access

Minutes will be taken at each Working Group meeting. These minutes will be circulated following each meeting, for sign off within one month of the meeting.

Although the Working Group meetings will not be open to the public or the media, the minutes will be available for public inspection in hard copy upon request.

Frequency of meetings

Working Group meetings will be held at a frequency of no more than once per quarter. In addition, communication with Working representatives will take place as and when appropriate/necessary.

As a result of a Working Group meeting, there may be the requirement for additional meetings to take place with specific members of the Working Group and other specialists.

Venue and timing

The suggested venue would be the Beddington Energy Recovery Facility visitor centre and meetings will be scheduled at a time convenient for the Working Group members.

Whilst COVID-19 measures are in place Viridor will host the meeting virtually.

Agenda and activity of meetings

All meetings will have a clear agenda agreed by representatives, any supporting documentation will be provided to the members of the Working Group at least seven days before the relevant meeting.



Report to: South London Waste Partnership (SLWP) Joint Waste Committee
Date: 08 June 2021
Author(s): Michael Mackie, Finance Lead
Chair: Councillor Hilary Gander
Report title: South London Waste Partnership Budget Outturn 2020/21

Summary

This paper provides an outturn position for the 2020/21 financial year

1. Background

- 1.1 The Partnership sets its budget in December for the forthcoming financial year.
- 1.2 The budget is monitored monthly to allow the budgets to be flexed where appropriate in order to respond to any budget pressures.

2. Financial Position 2020/21

- 2.1 The table below refers to the Partnership's outturn position for its Strategic Management activities for the 2020/21 financial year. It relates to expenditure in the following areas; procurement, project management, administration, contract management and communications.

Item	Approved Budget £	Outturn £	Variance £
<i>Internal and External Advisors, Accounting and Projects</i>	148,400	305,629	157,229
<i>SLWP Staff Resources and communications management</i>	615,400	382,343	(233,057)
<i>Document and Data Management</i>	25,000	18,174	(6,826)
<i>Communications</i>	26,000	8,168	(17,832)
TOTAL	814,800	714,314	(100,486)
COST PER BOROUGH	203,700	178,579	(25,122)

- 2.2 The Partnership's outturn for Strategic Management activities is an underspend of £100,486 (£25,122 per borough) for the year. The major variances are as follows:

- 2.3 Project and Contract Management was underspent by £233k. There were several posts vacant during the year and it was planned not to recruit to the posts until the new Director is in post.
- 2.4 The Internal and External Advisors budget was overspent by £157k. This was due to advisors being commissioned to carry out the governance and staffing structure review, the annual review for the Environmental Services Contract and to provide strategic and contract management services, covering some of the activities of the vacant posts.
- 2.5 Document and Data Management was underspent by £7k due to the contract for the data room not being renewed for 2020/21.
- 2.6 The communications budget was underspent by £18k. This was due to responding effectively to the Covid-19 pandemic which required a shift in focus for the SLWP's communications activities resulting in some planned spend not happening. This work is being re-scheduled for 2021/22. The Communications Advisor also successfully secured external funding (£3,000 + agency fees) from London Waste and Recycling Board (LWARB - now ReLondon) to support Recycle Week activities.

3. Recommendations:

- 3.1 To note the content of this report.

4. Impacts and Implications:

Finance

- 4.1 Contained within report.



SOUTH LONDON WASTE PARTNERSHIP

Report to: South London Waste Partnership Joint Committee

Date: 8 June 2021

Report of: South London Waste Partnership Management Group

Author(s): John Haynes (SLWP Communications Advisor)

Chair of the Meeting: Councillor Hilary Gander

Report Title:

**Communications and Stakeholder Engagement
South London Waste Partnership - Phase A and Phase B contracts**

Summary

This paper provides an update to Members of the South London Waste Partnership Joint Committee on communications and stakeholder engagement activities relating to the Partnership's Phase A (transport & residual waste management, HRRC services and marketing of recyclates) and Phase B (residual waste treatment) contracts.

This report focuses on activity that has taken place between December 2020 and May 2021.

Recommendations

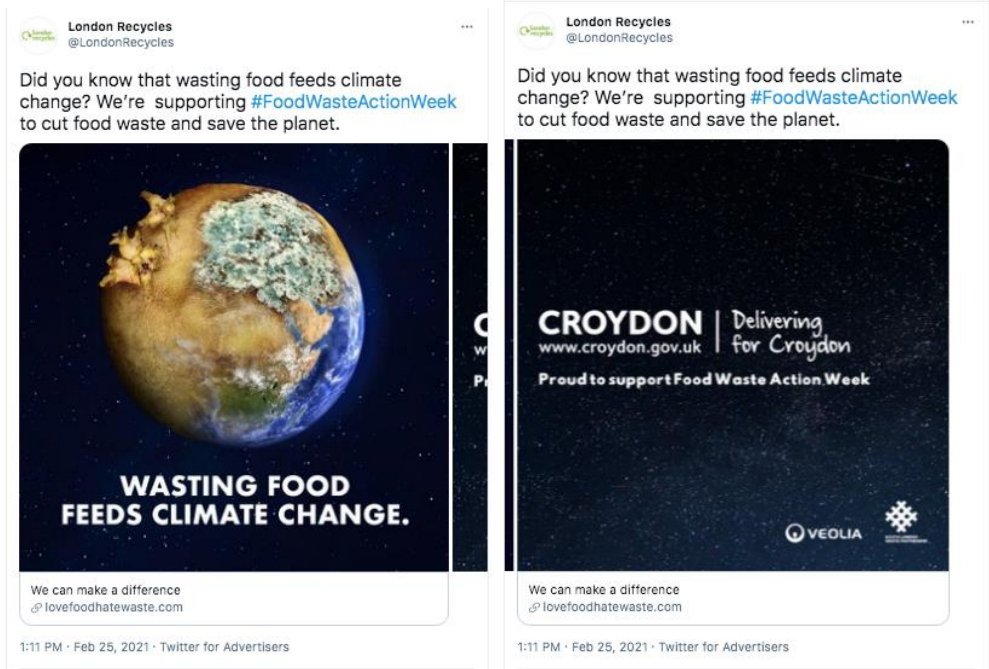
The Committee is asked to:

- Note the contents of this report and comment on any aspects of communications and engagement activities relating to the Phase A and Phase B contracts.

1. Food Waste Action Week 2021

- 1.1 The inaugural Food Waste Action Week took place 1-7 March 2021. The national awareness week was championed by WRAP (under their 'Love Food Hate Waste' consumer campaign banner) and the aim was to 'wake the nation up to the environmental consequences of wasting food'.
- 1.2 At a regional level, the campaign was coordinated by the London Waste and Recycling Board (now called 'ReLondon'). The SLWP boroughs secured £3,000 of funding (plus agency support) from ReLondon to

deliver a targeted social media campaign using the WRAP campaign materials during the week of awareness.



1.3 The campaign delivered the following results across the SLWP region:

Reach (no. of individuals):	408,311
Impressions (no. of views):	1,260,407
Video views:	15,645
Post engagements:	20,070
Click-throughs:	15,645

1.4 The reach and impressions for this campaign were good, but the click-through rate was lower than we've seen for other recent social media campaigns, such as Recycle Week and Repair Week. This may be because the content provided did not have a clear 'call to action'; the campaign was trying to communicate a generic concept ('food waste contributes to climate change') rather than provide simple advice or practical tips on how to reduce food waste. This feedback has been provided to ReLondon so it can be considered for future campaigns.

2. Increasing participation in food waste recycling– GLA / ReLondon Webinar

2.1 The SLWP was invited by the GLA and ReLondon to give a presentation at their 'Increasing food waste participation' webinar held on 27 January 2021. The webinar (which was attended by c.40 representatives from London boroughs) was designed to help boroughs meet their Reduction and Recycling Plan (RRP) commitments regarding food waste recycling.

2.2. The SLWP Communications Advisor and the Veolia Area Communications Manager for SLWP jointly presented. The achievements

of the SLWP boroughs in increasing food waste tonnages by 66% (an additional 11,000 tonnes p/a) in three years was recognised.

3. PHASE A BACKGROUND

- 3.1 The Phase A contracts encompass transport & residual waste management, HRRC services and marketing of recyclates.
- 3.2 From a communications and stakeholder engagement perspective, the elements of the Phase A contracts that are of most significance are:
 - the management of the six Household Reuse, and Recycling Centres (HRRCs), and
 - the landfill operations at Beddington.

4. HOUSEHOLD REUSE AND RECYCLING CENTRES (HRRCs)

- 4.1 Site user customer satisfaction surveys continue to take place on a rolling basis across the sites (surveys were suspended during April and May 2021 when the HRRC sites were closed due to Covid-19 restrictions). The findings are reported back to this Committee in the Phase A & B Contract Management Report and are also published on the SLWP website.
- 4.2 The SLWP Communications Advisor continues to support the boroughs and Veolia in ensuring that residents are aware of the arrangements in place at the six HRRC sites and that suitable temporary signage is in place to support appropriate use of the site. These arrangements are working well with the sites operating smoothly.
- 4.3 Improved signs promoting the boroughs' garden waste collection services are being produced and will soon be installed at the six HRRC sites. These signs will include a QR code enabling residents to sign up to the subscription-based collection service on the spot.

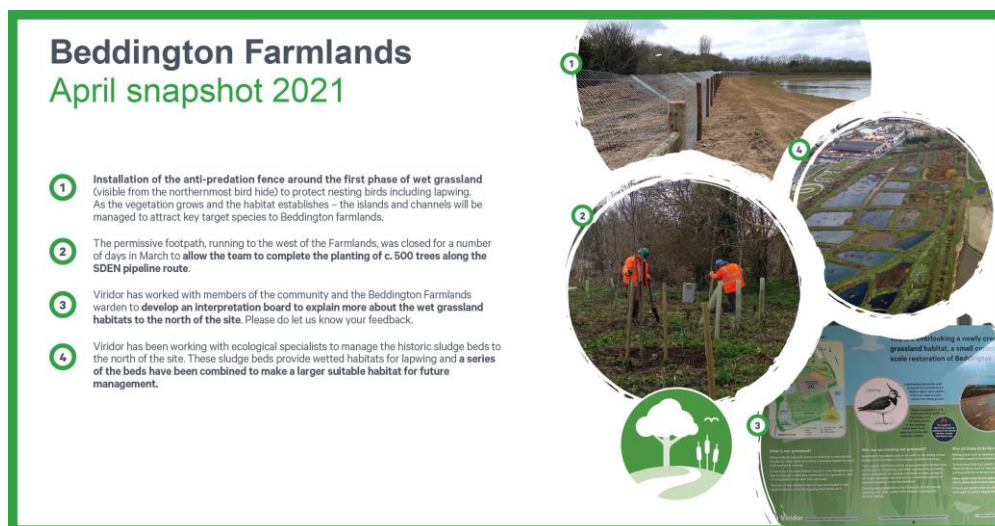
5. BEDDINGTON LANDFILL OPERATIONS AND RESTORATION

- 5.1 This contract is operated by Viridor on behalf of the Partnership.
- 5.2 The focus of communications and engagement activities has been two-fold:
 - Educating local residents and key stakeholders about the landfill operations at Beddington – i.e. how it has provided vital waste disposal capacity for hundreds of thousands of local households and businesses and how the site is being managed in order to minimise any negative environmental impacts;
 - Providing information on how the 120-hectare Beddington Farmlands site (which incorporates the landfill) is being restored into a rich patchwork of habitats for wildlife with public access.

- 5.3 Concerns continue to be raised by some local residents and stakeholders regarding delays to the Beddington Farmlands restoration work.
- 5.4 Viridor have made it clear that they remain committed to completing the restoration work by 2023, which is the commitment they have under planning conditions.
- 5.5 Progress of the restoration project is being monitored by the Conservation and Access Management Committee (CAMC). Viridor also attend Sutton Council's Housing, Economy and Business Committee on a regular basis to provide an update on progress and provide updates to the quarterly Beddington Community Liaison Group meeting.
- 5.6 Viridor provided a 'Beddington Farmlands April snapshot' of work that is currently taking place via their social media channels in early May. This was shared by Sutton Council via their social media channels and with members of the Community Liaison Group.

The snapshot used photos taken on site (see below) to highlight progress in the following areas:

- Installation of anti-predation fencing around the first phase of wet grassland
- Planting of c.500 trees along the SDEN pipeline route
- New interpretation boards developed in partnership with members of the community and the site warden
- Work on the historic sludge beds to provide suitable habitats for Lapwing.



- 5.7 On 18 April 2021, Viridor facilitated a visit to the Farmlands by BBC Springwatch programme. The crew spent a day on site with a young local ornithologist. The piece is due to air sometime between 26 May - 12 June 2021.

6. PHASE B BACKGROUND

- 6.1 The Phase B contract (residual waste treatment) was awarded to Viridor in 2012. In order to fulfill the contract, Viridor have constructed a £205m state-of-the-art Energy Recovery Facility in Beddington. Household waste from the four Partner boroughs that has not been sorted by residents for recycling is treated at the facility and used to generate electricity.
- 6.2 The SLWP Communications Advisor continues to work closely with Viridor to:
- Ensure Viridor are meeting their contractual requirements with regards to communications and stakeholder engagement around the construction and operation of the Beddington ERF
 - Ensure local people understand why it is we need an ERF and provide reassurance around the safety of modern, well-run facilities such as this
 - Ensure the Partnership understands the views of local people with regards to waste treatment and ERF technologies in particular.

7. BEDDINGTON ERF COMMUNICATIONS AND STAKEHOLDER ENGAGEMENT

- 7.1 On 8 March 2021, Channel 4 aired a Dispatches programme 'The dirty truth about your rubbish'. The programme was critical of energy from waste plants, comparing their carbon intensity directly with other sources of power such as coal, gas, wind and solar. The programme stated that areas that use energy from waste facilities to treat their residual waste also have low recycling rates. And one of the programme's contributors claimed that official recycling rates are based on what's collected at the kerbside, not what's *actually* recycled.
- 7.2 The SLWP issued a statement (published on the website – www.slwp.org.uk) responding to each of these points: explaining why it is nonsensical to directly compare the carbon intensity of energy from waste plants with coal or gas-fired power plants; that the SLWP region's recycling rate has increased significantly in recent years, outperforming regional and national trends; and that the SLWP boroughs' recycling rates do reflect the proportion of household waste that is *actually* recycled.
- 7.3 On 6 May 2021, a film was published by Merton TV raising concerns about what happens to recycling collected from street litter bins in Merton. GPS trackers that had been placed in recycling litter bins suggested that these materials had been taken to the Beddington ERF for treatment instead of being recycled.

- 7.4 The SLWP provided support to Merton in responding to queries raised by residents in response to the film. The key points made were:
- The SLWP boroughs stand by the position that any waste that has been properly sorted by residents is recycled
 - Street litter is a particular challenge – research has shown that recycling litter bins can contain up to 80% contamination
 - There are currently no recycling processing plants that will accept deliveries of recycling materials with those of levels of contamination – a tolerance of up to 5% is typical in the industry
 - SLWP boroughs are going to great lengths to find a solution – Merton and Sutton are both running street recycling litter bin trials, exploring different approaches that aim to improve the quality of material collected
 - Work is also ongoing to identify specialist facilities that may be able to accept recycling loads with higher contamination rates for additional sorting
 - In the meantime, we ask residents and visitors to our boroughs to help us by being careful when recycling on the go and make sure the right thing goes in the right bin.
- 7.5 Viridor continues to upload Emissions Monitoring Reports to the Beddington ERF Virtual Visitor Centre (www.beddingtonerf.info) twice per month.
- 7.6 The environmental performance of the Beddington ERF has attracted significant attention in recent months. During 2020, there was a total of 10 exceedances of the emissions limits values.
- 7.7 The SLWP boroughs responded by:
- Putting the emissions exceedances into context - throughout 2020, the Beddington ERF was 100% compliant in the cases of Hydrogen Chloride, Oxides of Nitrogen, Ammonia and Particulates; 99.99% compliant in the case of Sulphur Dioxide; 99.95% compliant in the case of Volatile Organic Compounds and 99.73% compliant in the case of Carbon Monoxide.
 - Holding Viridor to account - making it clear that, as the main providers of waste to the facility, the SLWP boroughs want and expect the ERF to be 100% compliant, and that is why Viridor was asked to provide a formal Rectification Plan in November 2020.
 - Providing reassurance - the Environment Agency closely monitors and regulates the facility, applies financial penalties (in the form of Compliance Assessment Scores) for any exceedances and has the ability to revoke the permit if there are any concerns the facility is not operating safely.
- 7.8 The environmental performance of the Beddington ERF has improved since November 2020 .

7.9 At the December SLWP Joint Committee meeting, Members expressed concerns about the environmental performance of the ERF and a variation to the facility's permit had been approved by the Environment Agency, allowing Viridor to increase its capacity by 15%.

Members asked for meeting to be arranged with Viridor and the Environment Agency to raise and discuss these concerns.

7.10 A meeting with senior and operational representatives from Viridor took place (online) on 13 April 2021. The meeting was attended by Councillors and Officers from each of the four SLWP boroughs.

7.11 Following a short introductory presentation by Viridor, a wide range of topics were discussed including: emissions exceedances and what was being done to minimise them; the recent permit variation submitted to the Environment Agency, why it was required and why SLWP boroughs were not consulted; a commitment to managing carbon emissions and the restoration of the Farmlands.

7.12 The 90-minute meeting was productive and Members expressed a desire for it to be the first of many. A request for Viridor representatives to attend future SLWP Joint Committee meetings as and when appropriate was repeated.

7.13 A meeting with regional and national representatives from the Environment Agency (EA) took place (online) on 11 May 2021. The meeting was attended by Councillors and officers from each of the four SLWP boroughs.

7.14 Following a short introductory presentation by the EA, a wide range of topics were discussed including: the permit variation process, how applications are categorised and why Local Authorities are not consulted on all applications; reassurances that any future applications to treat more waste at the Beddington ERF would be subject to consultation with the boroughs; the environmental performance of the Beddington ERF and how it compares with other similar facilities; the EA's Compliance Classification Scheme and how operators are incentivised to ensure compliance with their permit; and the challenge of ensuring consistency of the application of compliance scores by EA regulatory officers across the country.

7.15 The 90-minute meeting was productive and Members expressed their thanks to Environment Agency Officers for their time and input.

7.16 In a significant addition to the Beddington ERF Virtual Visitor Centre (www.beddingtonerf.info) a series of 15 short videos featuring footage taken from within the facility were added to the website in May 2021. The videos improve further what was already a high-quality resource

7.17 In March, Viridor issued a press release and short film on the Beddington Community Fund. A total of £92,537.75 has been donated

to 15 local community groups between March 2020 and February 2021. This brings the total funding to £185,889 since 2016.

- 7.18 Some of the projects to have benefited include a £30,000 donation to Beddington Infant School for the installation of a solar dome to allow learning to continue outside the classroom. The Croydon Foodbank was also successful in an application for just over £10,000 to buy a new van to help expand the reach of their deliveries and support for communities.
- 7.19 Applications for funding remain open. Grants of up to £5,000 are available for any project within the SLWP region, or up to £30,000 for project within 2km of the Beddington site.

8. IMPACTS AND IMPLICATIONS

Legal

- 8.1 None

Finance

- 8.2 The South London Waste Partnership's Communications Advisor post is funded through the core activities budget.
- 8.3 A £25,000 annual Communications Budget is available to support communications and engagement activities.

9. RECOMMENDATIONS

- 9.1 The Committee is asked to:
- Note the contents of this report and comment on any aspects of communications and engagement activities relating to the Phase A and Phase B contracts.