metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

METRO VANCOUVER REGIONAL DISTRICT
Zero Waste Committee

REGULAR MEETING

Friday, July 15, 2022
9:15 a.m.
Meeting conducted in person/electronically pursuant to the Procedure Bylaw
28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia
Webstream available at http://www.metrovancouver.org

A G E N D A[1]

1. ADOPTION OF THE AGENDA

1.1 July 15, 2022 Regular Meeting Agenda

That the Zero Waste Committee adopt the agenda for its regular meeting scheduled for July 15, 2022 as circulated.

2. ADOPTION OF THE MINUTES

2.1 June 16, 2022 Regular Meeting Minutes

That the Zero Waste Committee adopt the minutes of its regular meeting held June 16, 2022 as circulated.

3. DELEGATIONS

4. INVITED PRESENTATIONS

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Draft Solid Waste Services 2023-2027 Capital Plan

That the Zero Waste Committee receive for information the report dated July 5, 2022, titled "Draft Solid Waste Services 2023–2027 Capital Plan".

5.2 2021 Disposal Ban Program Update

That the Zero Waste Committee receive for information the report dated July 7, 2022, titled "2021 Disposal Ban Program Update".

[1] *Note: Recommendation is shown under each item, where applicable.*

5.3 Sewage and Waste Heat Recovery Policy

That the GVS&DD Board approve the proposed *Sewage and Waste Heat Recovery Policy*, as presented in the report dated July 5, 2022, titled "Sewage and Waste Heat Recovery Policy".

5.4 Manager's Report

That the Zero Waste Committee receive for information the report dated July 5, 2022 titled "Manager's Report".

6. INFORMATION ITEMS

7. OTHER BUSINESS

8. BUSINESS ARISING FROM DELEGATIONS

9. RESOLUTION TO CLOSE MEETING

Note: The Committee must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item, the basis must be included below.

That the Zero Waste Committee close its regular meeting scheduled for July 15, 2022 pursuant to the *Community Charter* provisions, Section 90 (1) (j)as follows:

"90 (1) A part of the meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

(j) information that is prohibited, or information that if it were presented in a document would be prohibited, from disclosure under section 21 of the *Freedom of Information and Protection of Privacy Act*.

10. ADJOURNMENT/CONCLUSION

That the Zero Waste Committee adjourn/conclude its regular meeting of July 15, 2022.

Membership:

Froese, Jack (C) – Langley Township
Hodge, Craig (VC) – Coquitlam
Calendino, Pietro – Burnaby
Elford, Doug – Surrey
Fry, Pete – Vancouver
Little, Mike – North Vancouver District
Martin, Gayle – Langley City
McDonald, Bruce – Delta
Morden, Mike – Maple Ridge
Steves, Harold – Richmond
Vagramov, Rob – Port Moody

METRO VANCOUVER REGIONAL DISTRICT
ZERO WASTE COMMITTEE

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Zero Waste Committee held at 9:15 a.m. on Thursday, June 16, 2022 in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:
Chair, Mayor Jack Froese, Langley Township
Vice Chair, Councillor Craig Hodge*, Coquitlam (arrived at 9:16 a.m.)
Councillor Pietro Calendino*, Burnaby
Councillor Doug Elford*, Surrey
Councillor Pete Fry*, Vancouver
Mayor Mike Little*, North Vancouver District
Councillor Gayle Martin*, Langley City
Councillor Bruce McDonald*, Delta
Mayor Mike Morden*, Maple Ridge
Councillor Harold Steves*, Richmond
Mayor Rob Vagramov*, Port Moody (arrived at 9:18 a.m.)

MEMBERS ABSENT:
None.

STAFF PRESENT:
Paul Henderson, General Manager, Solid Waste Services
Morgan Mackenzie, Legislative Services Coordinator, Board and Information Services

1. ADOPTION OF THE AGENDA

1.1 June 16, 2022 Regular Meeting Agenda

It was MOVED and SECONDED
That the Zero Waste Committee adopt the agenda for its regular meeting scheduled for June 16, 2022 as circulated.

CARRIED

*denotes electronic meeting participation as authorized by Section 3.6.2 of the *Procedure Bylaw*

2. ADOPTION OF THE MINUTES

2.1 May 13, 2022 Regular Meeting Minutes

It was MOVED and SECONDED
That the Zero Waste Committee adopt the minutes of its regular meeting held May 13, 2022 as circulated.

CARRIED

9:16 a.m. Councillor Hodge arrived at the meeting.

3. DELEGATIONS

No items presented.

4. INVITED PRESENTATIONS

No items presented.

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Waste-to-Energy Facility 2021 Financial Update

Report dated June 8, 2022, from Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Services, providing the Zero Waste Committee with the annual financial update for the Metro Vancouver Waste-to-Energy Facility located in Burnaby.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated June 8, 2022, titled "Waste-to-Energy Facility 2021 Financial Update."

CARRIED

5.2 Summer 2022 Zero Waste Programs and Events

Report dated June 9, 2022, from Adriana Velázquez, Senior Project Engineer, Solid Waste Services, providing the Zero Waste Committee with an update on Metro Vancouver's zero waste programs and events planned for the summer of 2022, to encourage waste reduction and recycling in the region.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated June 9, 2022, titled "Summer 2022 Zero Waste Programs and Events".

CARRIED

5.3 2022 Regional Clothing Waste Reduction Campaign Results

Report dated June 8, 2022, from Larina Lopez, Division Manager, Corporate Communications, External Relations and Jay Soper, Communications Specialist, External Relations, providing the Zero Waste Committee with the results of the 2022 regional clothing waste reduction campaign, "Think Thrice About Your Clothes", as identified in the 2022 Zero Waste Committee Work Plan.

9:18 a.m. Mayor Vagramov arrived at the meeting.

Members were provided with a presentation on the campaign highlights, the promotional strategies used and the results from the campaign.

Members were shown an audio and a video advertisement of the campaign, which are not retained with the agenda.

Presentation material titled "2022 Regional Clothing Waste Reduction Campaign Results" is retained with the June 16, 2022 Zero Waste Committee agenda.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated June 8, 2022, titled "2022 Regional Clothing Waste Reduction Campaign Results".

CARRIED

5.4 Update on Metro Vancouver's Participation in the Love Food Hate Waste Canada Campaign

Report dated June 9, 2022, from Larina Lopez, Division Manager, Corporate Communications, External Relations and Alison Schatz, Senior Communications Specialist, Corporate Communications, External Relations, providing the Zero Waste Committee with an update on Metro Vancouver's participation in the Love Food Hate Waste Canada behaviour change campaign.

Members were provided with a presentation on the regional and the national behaviour change campaign highlighting the methods of promotion, the performance highlights and various campaign content examples.

In response to questions, staff highlighted a recent partnership with FoodMesh on the Metro Vancouver Food Recovery Network.

Presentation material titled "Update on Metro Vancouver's Participation in the Love Food Hate Waste Canada Campaign" is retained with the June 16, 2022 Zero Waste Committee agenda.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated June 9, 2022 titled "Update on Metro Vancouver's Participation in the Love Food Hate Waste Canada Campaign."

CARRIED

5.5 Manager's Report

Report dated June 9, 2022, from Paul Henderson, General Manager, Solid Waste Services, providing the Zero Waste Committee with an update on the return-it reusable cup pilot, the food delivery and take-out packaging, the North Surrey and Langley recycling depots procurement status, and the 2022 Zero Waste Committee Work Plan.

It was MOVED and SECONDED

That the Zero Waste Committee receive for information the report dated June 9, 2022, titled "Manager's Report".

CARRIED

6. INFORMATION ITEMS

No items presented.

7. OTHER BUSINESS

No items presented.

8. BUSINESS ARISING FROM DELEGATIONS

No items presented.

9. RESOLUTION TO CLOSE MEETING

No items presented.

10. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED

That the Zero Waste Committee conclude its regular meeting of June 16, 2022.

CARRIED

(Time: 9:46 a.m.)

_____ _____

Morgan Mackenzie, Legislative Services Coordinator

Jack Froese, Chair

53511242 FINAL

To: Zero Waste Committee

From: Lynne Vidler, Lead Senior Engineer, Solid Waste Services

Date: July 5, 2022 Meeting Date: July 15, 2022

Subject: **Draft Solid Waste Services 2023–2027 Capital Plan**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 5, 2022, titled "Draft Solid Waste Services 2023–2027 Capital Plan".

EXECUTIVE SUMMARY

The draft 2023 - 2027 Solid Waste Services Capital Plan has been prepared following direction received at the April 14, 2022 Metro Vancouver Board Budget Workshop and continues to maintain the Solid Waste customer level of service objectives. As part of Metro Vancouver's focus on enhancing transparency and governance of the Capital Plan, this report allows the Zero Waste Committee to provide comments on the draft Capital Plan, which will then be incorporated into the Solid Waste Services Capital Plan and included in the Fall budget presentations to the Zero Waste Committee and the Board. Capital program expenditures are funded through debt charges in the annual operating budget. Solid Waste Services closely monitors waste flows as tipping fees are the primary revenue source for the solid waste system.

The estimated 2023 Capital Cash Flow is $62.2M with a total estimated spend of $272.0M over the five years. With respect to the common four years compared to the prior cycle's capital plan, the estimated spend has increased by $4.3M, or 2.0%.

PURPOSE

To present to the Zero Waste Committee the draft Solid Waste Services 2023–2027 Capital Plan for input and feedback, which will then be incorporated into the fall budget approvals.

BACKGROUND

On April 14, 2022, Metro Vancouver held a Board Budget Workshop with the objective to seek direction for the preparation of the 2023-2027 Financial Plan. In addition, Metro Vancouver is looking to enhance the transparency and governance of the capital planning process and give the Committee the opportunity to provide input and feedback earlier to be incorporated into the 2023-2027 Financial Plan.

Solid Waste Services

Solid Waste Services' initiatives within the draft 2023–2027 Capital Plan are guided by customer level of service objectives, specifically:

- Offering exceptional customer service at Metro Vancouver solid waste facilities;
- Continuously improving services offered at the recycling and waste centres, including enhanced recycling opportunities;

- Providing cost effective disposal for ratepayers through sound financial management and long-term planning; and
- Monitoring and enhancing performance metrics.

CAPITAL PLAN HIGHLIGHTS

The draft 2023-2027 Capital Plan includes $62.2M for 2023 and a total of $272.0M over the five years, or an average of $54.4M per year (Attachment 1). There are 42 projects and the largest six projects make up 69.5% of the capital spending over the next five years. The 2023 capital cash flow is $8.3M (15.4%) more than last year's projection for 2023. The primary reason for the increase is cash flows carried forward for projects underspent in 2022 as a result of timing issues for delivery of the projects.

The spending over the next five years is driven by the need to improve the resilience of the solid waste system, replace aging systems particularly related to the Waste-to-Energy Facility, and create opportunities for waste reduction and greenhouse gas emissions reduction. Biosolids processing at the Waste-to-Energy Facility will strengthen the regional solid waste system and liquid waste system. The Waste-to-Energy Facility district energy system will substantially reduce greenhouse gas emissions in the region. The alternative fuel and recyclables recovery centre will process small load waste which will increase diversion and reduce greenhouse gas emissions by offsetting fossil fuel use.

Key capital projects planned or ongoing in 2023 – 2027 for Solid Waste Services include the following:

Infrastructure Type	Project Name	Primary Driver	Proposed 2023 Cashflow
Waste to Energy Facilities	Refuse Crane Replacement	Maintenance	9,000,000
Waste to Energy Facilities	Waste-to-Energy Facility Biosolids Processing	Resilience	8,100,000
Recycling and Waste Centres	North Surrey and Langley Recycling and Waste Centre recycling depots	Resilience	6,100,000
Waste to Energy Facilities	Waste-to-Energy Facility District Energy	Resilience	6,000,000
Waste to Energy Facilities	Electrical Transformers Replacement	Maintenance	4,500,000
	Other Projects	Various	28,450,000
			62,150,000

Initial funding for a western region recycling and waste centre replacement is included at the end of the financial plan with business casing, and needs assessment work to be brought forward for the Board's consideration in the coming years.

The capital program for Solid Waste Services is funded by long-term debt, contributions from the operating budget, and some external (interagency) contributions.

Capital Plan Changes

Metro Vancouver's annual capital planning process allows the Board to adjust the capital budget once a year, in the fall, to accommodate changes required to fund projects transitioning from one phase to another (e.g. design phase to construction phase), and in response to new or changing project needs, emerging issues, and changing priorities.

Proposed changes in the draft 2023-2027 Capital Plan can be described within the following categories:

- Projected Carry-forward – Project expenditures which were expected to occur in 2022, but are now scheduled to occur in 2023.
- Net Deferral – Project expenditures that have been deferred or re-scheduled beyond 2026.
- Cost Adjustments – Project cashflow changes resulting from project budget changes not related to scope.
- New Scope – Project cashflow changes resulting from project budgets specifically related to project scope change.

The following table summarizes the total proposed capital plan adjustments in the draft 2023-2027 Capital Plan:

($Millions)

Prior cycle Cashflow 2022-2026	Cashflow 2022	Adjustments to 2023-2026 Capital Plan					Cashflow 2027	Draft Capital Plan 2023-2027
		Projected Carry-Forward	Net Deferral	Cost Adjustments	New scope	Total		
268.0	(50.8)	4.0	(5.0)	2.3	3.0	4.3	50.5	272.0

The draft 2023-2027 Capital plan expected cash flow is holding relatively steady on the common 4 years from last year's budget, with an increase of $4.3M over what was projected last year. This represents about an 2.0% increase. The new scope is primarily related to replacement of a series of weigh scales at different facilities.

Capital Plan Review Process

Solid Waste Services diligently reviewed their schedules to accommodate any Carry Forwards and Cost Adjustments by deferring projects, where possible.

Throughout the capital planning process, Solid Waste reviews each project line to ensure efficient project timing, deliverability, and scope. This exercise was performed in preparing the Solid Waste Services 2023-2027 capital plan and resulted in the deferral of $5 million in capital expenditures into future years.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
The draft 2023-2027 Capital Plan includes $62.2M for 2023 and a total of $272.0M over the five years, an average of $54.4M per year. Any feedback and input from the Zero Waste Committee will be incorporated into the fall budget presentations to the Committees and Boards.

Capital expenditures are funded through debt charges in the annual operating budget and five-year financial plan. The Solid Waste function revenues are almost exclusively from tipping fee revenues with revenues based on the amount of garbage disposed. Economic uncertainty has the potential to affect waste flows, and therefore Solid Waste Services monitors waste flows closely throughout the year.

SUMMARY / CONCLUSION
The 2023–2027 Capital Plan illustrates how Solid Waste Services supports projects that enhance recycling opportunities and provide cost-effective disposal for ratepayers, and the financial impacts of these projects over the next five years.

The presentation of the draft 2023–2027 Capital Plan for Solid Waste Services provides the Zero Waste Committee the opportunity to provide input and feedback which will be incorporated into the fall budget budget presentations to the Committees and Boards.

Attachment
Draft Solid Waste Services 2023-2027 Capital Plan *(Orbit 53041857)*

ATTACHMENT

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
SOLID WASTE SERVICES

DRAFT 2023 CAPITAL BUDGET AND 2023-2027 CAPITAL PLAN

	PROJECT BUDGET FOR APPROVAL	2023 CASH FLOW	2024 CASH FLOW	2025 CASH FLOW	2026 CASH FLOW	2027 CASH FLOW	2023 to 2027 TOTAL	ACTIVE PHASE	PRIMARY DRIVER
SWS - Landfills									
Alternative Fuel and Recyclables Recovery Centre	-	-	-	1,500,000	20,000,000	20,000,000	41,500,000	Planned	Opportunity
Coquitlam Landfill East Closure	5,000,000	2,150,000	1,750,000	1,100,000	-	-	5,000,000	Construction	Resilience
Coquitlam Landfill Gas Collection Upgrades	8,100,000	2,000,000	-	-	-	-	2,000,000	Multiple	Maintenance
Coquitlam Landfill Pump Station Upgrade	2,400,000	1,000,000	800,000	-	-	-	1,800,000	Construction	Maintenance
Coquitlam Landfill: Leachate Collection System Grade Realignment	1,000,000	850,000	-	-	-	-	850,000	Construction	Resilience
SWS - Landfills Total	**16,500,000**	**6,000,000**	**2,550,000**	**2,600,000**	**20,000,000**	**20,000,000**	**51,150,000**		
SWS - Recycling and Waste Centres									
Central Surrey Recycling and Waste Centre	49,800,000	200,000	-	-	-	-	200,000	Construction	Growth
Langley Recycling and Waste Centre Replacement	-	-	-	-	-	13,000,000	13,000,000	Planned	Growth
Langley Recycling Depot Development	5,500,000	3,050,000	2,250,000	-	-	-	5,300,000	Construction	Upgrade
Maple Ridge Recycling and Waste Centre Upgrades	2,000,000	1,800,000	-	-	-	-	1,800,000	Construction	Maintenance
North Shore Recycling and Waste Centre Compactor Replacement	-	-	-	2,500,000	-	-	2,500,000	Planned	Maintenance
North Surrey Recycling and Waste Centre Compactor Replacement	3,000,000	3,000,000	-	-	-	-	3,000,000	Construction	Maintenance
North Surrey Recycling Depot Development	25,500,000	3,050,000	2,250,000	-	-	-	5,300,000	Construction	Upgrade
Weigh Scale Replacement	3,000,000	1,000,000	2,000,000	-	-	-	3,000,000	Construction	Maintenance
Western Region Recycling and Waste Centre Replacement	-	-	-	-	-	5,000,000	5,000,000	Planned	Resilience
SWS - Recycling and Waste Centres Total	**88,800,000**	**12,100,000**	**6,500,000**	**2,500,000**	**-**	**18,000,000**	**39,100,000**		
SWS - Waste to Energy Facilities									
Acid Gas Reduction	2,000,000	-	2,800,000	7,750,000	30,000,000	6,500,000	47,050,000	Design	Upgrade
Air System Piping Replacement	300,000	300,000	-	-	-	-	300,000	Construction	Maintenance
Biosolids Processing	22,500,000	8,100,000	8,000,000	3,700,000	-	-	19,800,000	Construction	Resilience
Boiler and APC Roof Replacement	1,750,000	100,000	650,000	1,000,000	-	-	1,750,000	Construction	Maintenance
Bottom Ash Crane Replacement	1,400,000	500,000	-	-	-	-	500,000	Construction	Maintenance
Bottom Ash Processing	6,800,000	200,000	-	-	-	-	200,000	Construction	Opportunity
Carbon Silo Replacement	-	-	-	-	-	2,400,000	2,400,000	Planned	Maintenance
Compressed Air System Replacement	3,000,000	1,500,000	-	-	-	-	1,500,000	Construction	Maintenance
Electrical Transformers Replacement	5,000,000	4,500,000	300,000	-	-	-	4,800,000	Construction	Maintenance
Fabric Filter Hopper and Pulse Header Refurbishment	2,150,000	1,500,000	-	-	-	-	1,500,000	Construction	Maintenance
Feed Hopper/Chute	2,600,000	50,000	-	-	-	-	50,000	Construction	Maintenance
Feedwater Pump Replacement	1,000,000	50,000	-	-	-	-	50,000	Construction	Maintenance
Fire Suppression System	1,000,000	500,000	-	-	-	-	500,000	Construction	Maintenance
Fly Ash Silo Refurbishment	1,000,000	500,000	400,000	-	-	-	900,000	Construction	Maintenance
Generation Bank Replacement	9,000,000	100,000	5,900,000	3,000,000	-	-	9,000,000	Construction	Maintenance

	PROJECT BUDGET FOR APPROVAL	2023 CASH FLOW	2024 CASH FLOW	2025 CASH FLOW	2026 CASH FLOW	2027 CASH FLOW	2023 to 2027 TOTAL	ACTIVE PHASE	PRIMARY DRIVER
Lime Silo Replacement	-	-	-	-	-	3,600,000	3,600,000	Planned	Maintenance
Primary Economizer Replacement	7,000,000	3,000,000	-	-	-	-	3,000,000	Construction	Maintenance
Primary Superheaters Replacement	4,000,000	2,000,000	1,000,000	900,000	-	-	3,900,000	Construction	Maintenance
Programmable Logic Controllers Replacement	2,000,000	500,000	500,000	500,000	-	-	1,500,000	Construction	Maintenance
Pug Mill Enclosure Ventilation System Replacement	1,000,000	500,000	-	-	-	-	500,000	Construction	Maintenance
Refuse Crane	16,800,000	9,000,000	4,300,000	-	-	-	13,300,000	Construction	Maintenance
Refuse Pit Bunker Door Replacement	600,000	200,000	-	-	-	-	200,000	Construction	Maintenance
Secondary Economizers Replacement	6,000,000	1,750,000	3,000,000	1,000,000	-	-	5,750,000	Construction	Maintenance
Soot Blower Piping Replacement	300,000	300,000	-	-	-	-	300,000	Construction	Maintenance
Special Handle Waste Direct Feed System	5,000,000	2,500,000	2,500,000	-	-	-	5,000,000	Construction	Opportunity
Stack Refurbishment	350,000	350,000	-	-	-	-	350,000	Construction	Maintenance
WTE Facility District Heating	55,000,000	6,000,000	25,000,000	23,000,000	-	-	54,000,000	Construction	Resilience
WTE Facility District Heating Opportunities	2,300,000	50,000	-	-	-	-	50,000	Construction	Opportunity
SWS - Waste to Energy Facilities Total	**159,850,000**	**44,050,000**	**54,350,000**	**40,850,000**	**30,000,000**	**12,500,000**	**181,750,000**		
TOTAL CAPITAL EXPENDITURES	**265,150,000**	**62,150,000**	**63,400,000**	**45,950,000**	**50,000,000**	**50,500,000**	**272,000,000**		
SUMMARY BY DRIVER									
Growth	49,800,000	200,000	-	-	-	13,000,000	13,200,000		
Maintenance	84,750,000	36,000,000	18,850,000	8,900,000	-	6,000,000	69,750,000		
Resilience	83,500,000	17,100,000	34,750,000	27,800,000	-	5,000,000	84,650,000		
Upgrade	33,000,000	6,100,000	7,300,000	7,750,000	30,000,000	6,500,000	57,650,000		
Opportunity	14,100,000	2,750,000	2,500,000	1,500,000	20,000,000	20,000,000	46,750,000		
TOTAL CAPITAL EXPENDITURES	**265,150,000**	**62,150,000**	**63,400,000**	**45,950,000**	**50,000,000**	**50,500,000**	**272,000,000**		

To: Zero Waste Committee

From: Brandon Ho, Senior Project Engineer, Solid Waste Services

Date: July 7, 2022 Meeting Date: July 15, 2022

Subject: **2021 Disposal Ban Program Update**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 7, 2022, titled "2021 Disposal Ban Program Update".

EXECUTIVE SUMMARY

Garbage loads received at regional solid waste facilities are visually inspected for banned materials, and surcharges are applied if banned materials are present. Metro Vancouver's solid waste facilities received 822,000 loads of garbage in 2021, up 5% from 2020. 194,329 garbage loads were inspected (24% of total loads), and 16,781 were found to contain banned materials. In total, 3,104 surcharge notices were issued, representing a surcharge rate of 1.6%. Electronic waste, corrugated cardboard and oversized objects were the top three banned materials identified.

Following a procurement process, a new contractor began providing inspection services at Metro Vancouver and City of Vancouver solid waste facilities in May 2021. Disposal bans for recyclable material were temporarily waived in November and December 2021 following the atmospheric river flood event. The combination of the new contractor start-up and surcharge relaxations due to the flood event reduced both total inspections and surcharge rates in 2021 compared to 2020. Total surcharge revenues were $386,507 and total program expenditures were $921,403. Inspectors were able to work with customers and provided alternative recycling options to prevent 13,677 loads containing banned materials from being disposed as garbage.

A third party review of the disposal ban inspection process is being initiated as part of the solid waste management plan update process to determine if any improvements to the program can be implemented to further enhance the effect of the program in encouraging waste reduction and recycling.

PURPOSE

The purpose of this report is to provide the annual update to the Zero Waste Committee on the 2021 results of the Metro Vancouver disposal ban program.

BACKGROUND

Disposal ban program results are reported annually as outlined in the Zero Waste Committee work plan. The program helps keep readily recyclable materials and materials that pose operational risks and are hazardous out of the waste stream.

2021 DISPOSAL BAN PROGRAM RESULTS

The *Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017*, as amended (Tipping Fee Bylaw) specifies a list of over 40 banned materials restricted from disposal (Attachment 1). Loads received at regional solid waste facilities are visually inspected for banned materials, and surcharges are applied if banned materials are present in quantities exceeding the thresholds defined in the Tipping Fee Bylaw. Metro Vancouver reports annually on program results including inspection and surcharge rates, and surcharges by material and customer type.

Disposal Ban Program Results

In 2021, the number of garbage loads received at regional solid waste facilities was 5% higher than in 2020, primarily due to an increase in loads received at the Vancouver Landfill. Table 1 provides a multi-year comparison of disposal ban program results.

Following a procurement process, a new disposal ban contractor commenced work in May of 2021. It took a number of months for the contractor to be fully staffed and trained given the complexity of the disposal ban program work. Additionally, a disposal ban waiver on recyclable materials was in effect in November and December following the flood emergency. These factors combined to reduce both the number of inspections and the inspection rate in 2021 compared to 2020.

In 2021, 194,329 garbage loads were inspected (24% inspection rate), and 16,781 (or approximately 9%) of inspected loads contained banned materials. Inspectors were able to work with customers and provided alternative recycling options to prevent 13,677 loads containing banned materials from being disposed as garbage.

Table 1: Inspection Statistics for Regional Solid Waste Facilities

Year	Garbage Loads	Loads Inspected	Inspection Rate	Re-Loads	Surcharge Notices	Surcharge Rate
2019	729,479	202,521	28%	16,578	4,294	2.1%
2020	782,333	221,875	28%	20,398	6,642	3.0%
2021	822,060	194,329	24%	13,677	3,104	1.6%

Results by Material Type

Table 2 summarizes the distribution of surcharged loads by banned material type. The largest category was electronic waste (including vacuums, kitchen appliances, home entertainment systems, computers, and other household electronic items), representing 26% of surcharged loads, down from 35% in 2020. Corrugated cardboard accounted for 25% of the surcharge notices in 2021, up from 20% in 2020. Large objects accounted for 11% of the surcharge notices in 2021, up from 10% in 2020. The majority of these large objects were identified at the Waste-to-Energy Facility where the length of an object is limited to one metre due to operational impacts. In comparison, the length restriction at recycling and waste centres is 2.5 metres resulting in less large object surcharges at those facilities. In August 2021, a temporary relaxation on surcharges for waxed cardboard was issued due to limited options for recycling, which remains in effect.

Table 2: Summary of Materials Contained in Surcharged Loads at Regional Solid Waste Facilities

Material	2019	2020	2021
Electronic Waste	30%	35%	26%
Cardboard	24%	20%	25%
Large Objects	5%	10%	11%
Mattresses	14%	9%	9%
Other Banned Materials	6%	5%	5%
Food Waste	4%	4%	5%
Gypsum	4%	3%	4%
Paint (Includes empty containers)	3%	4%	3%
Tires	3%	3%	3%
Clean Wood	2%	3%	3%
Expanded Polystyrene Packaging	1%	2%	3%
Green Waste	1%	< 1%	1%
Oil (Includes containers and filters)	1%	< 1%	1%
Recyclable Containers	1%	< 0.5%	0.5%
Recyclable Paper	1%	< 0.5%	0.5%

Surcharges by Customer Type

Table 3 summarizes the number of inspections and surcharge notices by customer type in 2021. The surcharge rate for commercial loads was higher than other customer types, due to the volumes, types of materials, and how they are collected. Non-account customers arriving in small vehicles normally unload materials manually and are able to separate and recycle banned materials more easily, while banned items in commercial loads cannot typically be reloaded into garbage trucks for safety and operational reasons.

Table 3: Summary of Surcharges by Customer Type for 2021

Customer Type	Inspections	Surcharge Notices	Surcharge Rate
Commercial	42,355	2,696	6%
Municipal	6,848	151	2%
Non-account	145,126	257	0.2%
Totals	194,329	3,104	1.6%

Dispute Resolution

Customers may dispute a surcharge within 30 days of it being issued by completing a dispute form. Metro Vancouver received 15 surcharge disputes in 2021, down from 26 in 2020. Ten surcharge notices were rescinded as summarized in Table 4.

Table 4: Surcharge Dispute Summary

Year	Surcharge Disputes Received	Surcharge Notices Rescinded
2019	17	11
2020	26	10
2021	15	10

Hauler Surcharge Information
The surcharge amount for each hauler with total surcharges exceeding $1,000 is shown in Attachment 2 (for Metro Vancouver facilities only). The hauler surcharge rate is the number of surcharge notices divided by the number of inspections for each hauler.

Disposal Ban Program Third Party Review
With the start of a new contract and Metro Vancouver's ongoing work on the solid waste management plan update, a third party consulting review of the disposal ban program is being initiated to determine if any improvements to the program can be implemented to further enhance the effect of the program in encouraging waste reduction and recycling. Results of the consulting review will be communicated to the Zero Waste Committee. Stakeholders including the waste hauling industry through the Solid Waste and Recycling Industry Advisory Committee will be engaged through the review process.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
In 2021, surcharge revenues were $386,507 with $363,766 from Metro Vancouver solid waste facilities and $22,741 from City of Vancouver solid waste facilities as shown in Attachment 3. Total program expenditures for regional facilities in 2021 were $921,403. Program expenditures in 2021 were greater than 2020 because new contract rates are higher than under the historic contract.

CONCLUSION
The disposal ban program helps keep readily recyclable materials and materials that pose operational risks and other hazards out of the waste stream. In 2021, 194,329 loads were inspected, 16,781 loads were found to contain banned materials and 3,104 surcharge notices were issued. The disposal ban program remains an effective tool to encourage waste reduction and diversion.

Attachments
1. 2021 Banned Materials
2. 2021 Solid Waste Surcharge Information at Metro Vancouver Facilities
3. 2021 Solid Waste Surcharge Summary

49467151

2021 Banned Materials

Banned Hazardous and Operational Materials ($65 surcharge on any single item plus the costs of remediation and clean-up)	
• Agricultural Waste	• Hazardous Waste
• Automobile Parts	• Inert Fill Materials
• Barrels or Drums (205 L or greater)	• Liquids or Sludge
• Creosote Treated Wood	• Mattresses
• Dead Animals	• Oversize Objects
• Dusty or Odourous	• Personal Hygiene Products over 10% of the load
• Excrement	• Propane Tanks
• Flammable Materials	• Toxic Plants
• Gypsum	• Wire, Hosing, Rope or Cable longer than 1 m

Banned Recyclable Materials (50% surcharge on Items above the threshold)
5% threshold on any combination of the following: • Beverage containers • Other recyclable plastic, glass, metal, and composite material containers • Corrugated cardboard • Recyclable paper • Green waste • Clean Wood
25% threshold on food waste

Banned Recyclable Materials (100% surcharge on Items above the threshold)
20% threshold on expanded polystyrene packaging

Banned Product Stewardship Materials ($65 surcharge on any single item)	
• Antifreeze and Containers	• Paint and Paint Containers
• Electronics and Electrical Products	• Pesticides
• Gasoline	• Pharmaceutical Products and Medications
• Lead-Acid Batteries	• Solvents and Flammable Liquids
• Lubricating Oil and Containers	• Tires
• Oil, Oil Filters, Oil Containers	

ATTACHMENT 2

2021 Solid Waste Surcharge Information Metro Vancouver Facilities		
Hauler (MV Facilities)	Surcharge Amount*	Hauler Surcharge Rate**
Canada Minibins Ltd.	$ 4,908	5%
Cascades Recovery	$ 3,567	6%
City of Burnaby	$ 7,533	4%
City of New Westminster	$ 1,580	6%
City of Surrey	$ 3,338	3%
District of North Vancouver	$ 2,773	4%
GFL Environmental	$ 65,260	7%
Halton Recycling Ltd.	$ 5,213	14%
Maple Leaf Disposal Ltd.	$ 11,971	10%
Metro Disposal	$ 1,235	1%
NSD Disposal Ltd.	$ 3,241	7%
Providence Health Care	$ 1,231	12%
Residential (RDO) Non-Account	$ 14,874	0.2%
Revolution Resource Recovery Inc.	$ 19,566	9%
Smithrite Disposal Ltd.	$ 4,443	11%
Super Save Disposal Inc.	$ 52,074	12%
Urban Impact Recycling Ltd.	$ 23,852	6%
Vancouver Coastal Health	$ 11,388	27%
Waste Connections of Canada	$ 36,710	11%
Waste Control Services Inc.	$ 14,522	6%
Waste Management of Canada Corporation	$ 63,823	12%
Wescan Disposal	$ 1,160	4%

* Does not include haulers with surcharge amounts less than $1,000.

** Hauler surcharge rate is equal to the number of surcharges divided by the number of inspections for each hauler.

ATTACHMENT 3

2021 Solid Waste Surcharge Summary	Surcharge Amount
Metro Vancouver Facilities ($363,766)	
- Commercial	$339,560
- Municipal	$9,333
- Cash Customers	$14,873
City of Vancouver Facilities	$22,741
Total	$386,507

To: Liquid Waste Committee and Zero Waste Committee

From: Jeff Carmichael, Division Manager, Business Development, Liquid Waste Services
Sarah Wellman, Senior Engineer, Solid Waste Operations, Solid Waste Services

Date: July 5, 2022 Meeting Dates: July 13, 2022
July 15, 2022

Subject: **Sewage and Waste: Heat Recovery Policy**

RECOMMENDATION

That the GVS&DD Board approve the proposed *Sewage and Waste: Heat Recovery Policy*, as presented in the report dated July 5, 2022, titled "Sewage and Waste: Heat Recovery Policy".

EXECUTIVE SUMMARY

Metro Vancouver has the opportunity to reduce greenhouse gas emissions by investing in waste heat recovery to offset fossil fuel use for building heat and hot water. Metro Vancouver's *Climate 2050* strategy includes a target of a climate neutral region by 2050 with an interim target of 45% greenhouse gas emission reductions by 2030. Metro Vancouver's liquid waste system and the Waste-to-Energy Facility have the potential to provide heat and hot water for up to 130,000 homes, reducing greenhouse gas emissions by up to 300,000 tonnes per year, or equivalent to approximately the annual emissions of 60,000 passenger vehicles. The proposed *Sewage and Waste: Heat Recovery Policy* facilitates maximizing the recovery of this resource.

The proposed *Sewage and Waste: Heat Recovery Policy* replaces the existing *Liquid Waste Heat Recovery Policy*:

- incorporating Waste-to-Energy Facility district energy projects;
- standardizing the baseline for GHG emission reduction calculations;
- updating the approach to allocating GHG emission reduction credits between the GVS&DD and member jurisdictions; and
- standardizing the approach for applying the *Carbon Price Policy* to liquid waste and solid waste system projects.

PURPOSE

To present a proposed *Sewage and Waste: Heat Recovery Policy* for consideration by the GVS&DD Board.

BACKGROUND

On June 23, 2017, the MVRD Board approved a *Carbon Price Policy* for Metro Vancouver that established a Carbon Price (inclusive of any applicable external carbon taxes) of $150 per tonne of CO_2e. On July 26, 2019, the MVRD Board approved the *Climate 2050 Strategic Framework*, which targets 45% reduction in greenhouse gas (GHG) emission by 2030 and a climate neutral region by 2050.

On March 26, 2021, the GVS&DD Board approved the following resolutions:

> *a) approve the revised Liquid Waste Heat Recovery Policy, as presented in the report dated March 2, 2021, titled "Liquid Waste Heat Recovery Policy Amendments to Expand Opportunities for Sewer Heat Recovery"; and*
> *b) direct staff to work with GVS&DD members' staff to assess the range of options available for carbon accounting for liquid waste heat recovery projects; and if appropriate, develop a framework for allocation of carbon offset credits among the GVS&DD members; and report back to the GVS&DD Board by the end of 2021.*

The updated policy included the potential for GVS&DD investment in sewer heat projects considering the GHG emission benefits of the projects.

On May 28, 2021, the GVS&DD Board approved proceeding with development of a district energy system for the Waste-to-Energy Facility that will serve River District in Vancouver along with developments in Burnaby and potentially New Westminster.

This report proposes replacement of the *Liquid Waste Heat Recovery Policy* with an overarching *Sewage and Waste: Heat Recovery Policy* for liquid waste and Waste-to-Energy Facility projects consistent with the *Carbon Price Policy.* The proposed policy supports maximizing energy recovery and GHG emission reduction by offsetting fossil fuel use.

SEWAGE AND WASTE: HEAT RECOVERY POLICY

The purpose of the proposed *Sewage and Waste: Heat Recovery Policy* is to facilitate maximizing heat recovery from the region's liquid waste and solid waste systems. The proposed *Sewage and Waste: Heat Recovery Policy* is attached to this report.

Liquid Waste and Waste-to-Energy Facility Heat Recovery Opportunity

There is enough excess heat energy in the liquid waste collection system to heat 100,000 homes throughout the region, which could reduce GHG emissions by nearly 250,000 tonnes per year. An agreement is in place to provide heat to Lonsdale Energy Corporation, a capital contribution toward the Sapperton District sewer heat project has been approved by the Board, and several additional sewer heat recovery projects are under development or assessment.

The Waste-to-Energy Facility currently generates approximately 20 MW of electricity, sufficient for 16,000 homes. Developing a district energy system in addition to continuing to generate electricity will triple the energy recovery efficiency for the facility compared to electricity generation alone. The Waste-to-Energy Facility district energy system will provide heat and hot water for up to 30,000 homes and reduce GHG emissions by up to 45,000 tonnes per year. An agreement is in place with River District Energy in Vancouver to substitute Waste-to-Energy Facility waste heat for natural gas to provide heat and hot water for the development. Agreements are being negotiated with Vancouver and Burnaby to facilitate access to municipal streets, and in the case of Burnaby to provide energy for district energy systems for developments in Burnaby.

The total emission reduction potential of liquid waste system projects and the Waste-to-Energy Facility district energy system projects equate to the emissions of approximately the annual emissions of 60,000 passenger vehicles.

***Sewage and Waste: Heat Recovery Policy* Elements**

Greenhouse Gas Emission Reduction Calculation: Member jurisdictions have different policies in place with respect to green building requirements. To allow a standardized approach for GHG emission reduction calculations the proposed *Sewage and Waste: Heat Recovery Policy* establishes a baseline for GHG emission reduction calculations as the Provincial regulatory standard for building construction. On that basis, the current baseline for calculating GHG emission reductions would be natural gas heating.

Environmental Attributes: Given the different green building policies in the region, GHG emission reduction credits may vary between projects. To ensure GVS&DD investment can be provided equitably in all member jurisdictions, the amount of GHG emission reduction credits generated by a project will not be a criterion for determining investment in projects. In the event there are GHG emission reduction credits generated by a project, those credits will be allocated between GVS&DD and the other project participants based on financial and non-financial contributions to the project, with the allocation being subject to Board approval as part of any agreement with those parties.

For credits allocated to Metro Vancouver, those credits will be used for the GVS&DD to attain carbon neutrality with any residual credits distributed to member jurisdictions based on population.

Application of Carbon Price Policy: The proposed *Sewage and Waste: Heat Recovery Policy* allows for investment in projects with the maximum investment determined by the *Carbon Price Policy*. Investment would be limited such that the cost to the consumer would not be reduced below the least expensive alternative allowed under Provincial regulatory requirements – currently natural gas.

***Sewage and Waste: Heat Recovery Policy* Implementation Examples:** Under the proposed *Sewage and Waste: Heat Recovery Policy*, GVS&DD capital investments in sewer heat projects would be calculated based on the *Carbon Price Policy*, with heat users paying all operating and maintenance costs. For the Waste-to-Energy District Energy system, GVS&DD would provide heat to member district energy systems with pricing based on natural gas prices with the maximum GVS&DD investment based on the *Carbon Price Policy*.

Municipal Staff Advisory Committee Engagement

An original draft of the policy was provided to municipal staff advisory committees including the Regional Engineers Advisory Committee and the Regional Administrators Advisory Committee. The proposed *Sewage and Waste: Heat Recovery Policy* includes suggestions provided by those committees.

ALTERNATIVES

1. That the GVS&DD Board approve the proposed *Sewage and Waste: Heat Recovery Policy*, as presented in the report dated July 5, 2022, titled “Sewage and Waste: Heat Recovery Policy”.

2. That the Liquid Waste and Zero Waste Committees receive for information the report dated July 5, 2022, titled " Sewage and Waste: Heat Recovery Policy" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

If the Board approves Alternative 1, Metro Vancouver will negotiate agreements for the recovery of waste heat with member jurisdictions consistent with the new policy. Each agreement will be negotiated based on business casing considering the benefit of GHG emission reductions. If Provincial regulatory requirements change or if the price of natural gas increases, future agreements will be based on the new baseline conditions as determined by Provincial regulatory requirements.

CONCLUSION

Metro Vancouver's *Climate 2050* strategy includes targets for regional GHG reductions of 45% by 2030 compared to 2010 levels, and a carbon neutral region by 2050. The proposed *Sewage and Waste: Heat Recovery Policy* supports capital funding for projects that recover energy from liquid and solid waste systems for building heat and hot water. These projects reduce greenhouse gas emissions by offsetting the use of fossil fuels. The policy will replace the *Liquid Waste Heat Recovery Policy*. Staff recommend Alternative 1.

Attachments

1. Proposed *Sewage and Waste: Heat Recovery Policy* (blackline version)
2. Proposed *Sewage and Waste: Heat Recovery Policy* (clean version)

49319410

~~LIQUID~~ SEWAGE AND WASTE: ~~HEAT RECOVERY~~HEAT RECOVERY

Effective Date: June 23, 2017 (revised ~~March 26, 2021~~July 29, 2022)

Approved By: GVS&DD Board

Policy No. UT-008

PURPOSE

To ~~enable~~encourage beneficial use of waste heat from Metro Vancouver's liquid waste and ~~associated~~solid waste systems, and maximize greenhouse gas emission reductions ~~from Metro Vancouver's liquid waste system~~ by ~~external parties~~using the heat to displace fossil fuel use.

DEFINITIONS

"Waste heat" is excess heat that is available from GVS&DD operations, including but not limited to heat from untreated sewage, treated effluent, ~~equipment or processes~~and municipal solid waste processing.

"Heat user" is a third party interested in accessing excess heat from GVS&DD's liquid waste ~~system.~~or solid waste systems. A heat user may be a member ~~municipality~~jurisdiction or other entity.

POLICY

Metro Vancouver is committed to pursuing strategies and actions that mitigate climate change. Waste heat recovery projects that displace the use of fossil fuels result in a reduction in regional greenhouse gas emissions. Recovering waste heat from the liquid waste ~~system contributes~~and solid waste systems contribute to GVS&DD's *Integrated Liquid Waste and Resource Management Plan* ~~goal~~and *Integrated Solid Waste and Resource Management Plan* goals of using waste as a resource.

This policy enables expedient access to waste heat where technically and financially feasible, while ensuring that GVS&DD is able to convey and ~~treat~~process wastewater and municipal solid waste and meet all service objectives. This policy applies to situations where external parties request waste heat from GVS&DD's liquid waste ~~system~~or solid waste systems and to situations where GVS&DD offers waste heat to interested external parties.

LIQUID WASTE COLLECTION SYSTEM PROJECTS

Allocation of Waste Heat

GVS&DD will allocate access to untreated sewage for heat recovery on a first-come first-served basis in response to requests by interested heat users, provided the proposed heat recovery project will not adversely impact GVS&DD services or other established heat recovery projects, as determined by GVS&DD review. If an established heat recovery project that is already in place or approved for development by GVS&DD could be impacted by a proposed new heat recovery project, the established project's heating and/or cooling requirements will have priority. Private entities requesting access to waste heat must provide a letter of support from the host ~~municipality~~member jurisdiction demonstrating support and cooperation including allowance for works within municipal rights of way. Projects that access heat from municipal sewers do not require GVS&DD approval.

Ownership and Responsibilities

GVS&DD owns a sewerage system and is responsible for sewage in its liquid waste system, including any associated resources such as heat. The boundaries of responsibility for heat recovery equipment and infrastructure ~~are primarily tied to property ownership and~~ will be defined in a contract between GVS&DD and the heat user. GVS&DD will in all situations own and be responsible for the portion of the tie-in up to and including a shut-off valve on both the diversion and return lines~~.~~, and may also own and maintain additional supporting infrastructure. GVS&DD will consider an in-line heat recovery system built directly in a GVS&DD sewer if the system will not impair GVS&DD operations.

Cost Recovery

GVS&DD will charge the heat user for all costs incurred to establish and maintain access to sewage. The value of sewage will be assessed using business case processes, including consideration of nominal value of sewage, and incorporated into sewage access contracts. GVS&DD may consider capital investment in heat recovery projects accessing sewage from GVS&DD infrastructure. GVS&DD staff will evaluate heat recovery projects using established life cycle cost analysis and options analysis frameworks and will consider each project on a case-by-case basis. Benefits will include the value of avoided greenhouse gas emissions. ~~GVS&DD does not seek to profit from the provision of heat.~~ A contract with the heat user will be established for each project that assigns the costs and benefits between GVS&DD, the heat user and other funding sources.

All maintenance and operating costs borne by GVS&DD from GVS&DD infrastructure will be recovered from ~~energy purchasers~~heat users.

LIQUID WASTE TREATMENT PLANT AND OUTFALL PROJECTS

Allocation of Waste Heat

When GVS&DD identifies waste heat opportunities in wastewater treatment plants and effluent outfalls, GVS&DD will follow competitive processes in offering available waste heat to potential heat users, to ensure fairness and transparency.

Ownership and Responsibilities

The boundaries of responsibility for heat recovery equipment and infrastructure are primarily tied to property ownership and will be defined in a contract between GVS&DD and the heat user. GVS&DD will own and be responsible for waste heat recovery equipment and related infrastructure installed within its wastewater treatment plants and effluent outfalls, except in cases where ownership by an external party is deemed preferable to the GVS&DD.

Cost Recovery

Heat recovery projects within wastewater treatment plants and effluent outfalls will require capital investment by GVS&DD and will require ongoing operations and maintenance by GVS&DD. ~~GVS&DD will recover the costs incurred in providing waste heat to external parties over the life of the project. GVS&DD does not seek to profit from the provision of heat.~~GVS&DD staff will evaluate heat recovery projects using established life cycle cost analysis and options analysis frameworks and will consider each project on a case-by-case basis. Benefits will include the value of avoided greenhouse gas emissions. A contract with the heat user will be established for each project that assigns the costs and benefits between GVS&DD, the heat user and other funding sources.

SOLID WASTE PROJECTS - WASTE-TO-ENERGY FACILITY

Ownership and Responsibilities

The GVS&DD is developing a district energy system to distribute heat from the Waste-to-Energy Facility. GVS&DD expects to deliver heat to local distribution systems including River District in Vancouver and various developments in Burnaby and potentially New Westminster. GVS&DD expects to own and operate an energy centre at the Waste-to-Energy Facility, and potentially large scale distribution piping delivering heat to the local distribution systems as well.

Allocation of Heat

Heat will be allocated to potential users on a first-come first served basis considering proximity to heat distribution infrastructure and expected heat user load. Modelling of potential heat demand has demonstrated that there is sufficient waste heat available from the Waste-to-Energy Facility to connect River District, Metrotown, Edmonds, and downtown New Westminster.

Cost Recovery

The Waste-to-Energy Facility District Energy system will require capital investment by GVS&DD and will require ongoing operations and maintenance by GVS&DD. GVS&DD staff will evaluate heat recovery projects using established life cycle cost analysis and options analysis frameworks and will consider each project on a case-by-case basis. Benefits will include the value of avoided greenhouse gas emissions. Anticipated lost revenue resulting from any reduction in electricity sales revenue will be included in any business case. A contract with the heat user will be established for each project that assigns the costs and benefits between GVS&DD, the heat user and other funding sources.

ALL PROJECTS

Environmental Attributes

Benefits associated with avoided greenhouse gas ~~reductions~~emissions (such as carbon ~~offset~~ credits) and the costs of administering those benefits will be allocated on a case-by-case basis, in accordance with the costs and risks incurred by the parties involved in developing the heat recovery project. If a project does not create carbon credits, credits will not be allocated.

~~Carbon credits~~GVS&DD will ~~be allocated to the~~negotiate carbon credit allocation with each project participant (including host member jurisdiction ~~as~~) on a ~~project proponent for~~case-by-case basis, based on one or more of (1) contributions to the project that can be financially valued (~~other than Tier 1~~excluding contributions paid as part of GVS&DD liquid waste disposal fees and ~~2 cost apportionments). In recognition of the important role of the host~~levies or solid waste tipping fees) and ~~of impacts~~(2) contributions to the project that cannot be ~~valued~~ financially~~, the host jurisdiction will receive 5% of the~~ valued. GVS&DD credits allocated to ~~GVS&DD, for the initial term of the~~the project participants will be subject to approval by the GVS&DD Board as part of any agreement ~~for~~with the ~~sale of heat~~parties.

Carbon credits from GVS&DD ~~emissions reduction~~waste heat recovery projects that have been allocated to GVS&DD as a project proponent will be retained by GVS&DD, up to the amount needed

for GVS&DD to be carbon neutral in a given year. If GVS&DD achieves carbon neutrality in a given year, excess carbon credits will be transferred to member jurisdictions. The distribution of excess carbon credits among member jurisdictions will be calculated based on ~~capital contribution to~~BC Stats population estimates for the ~~portfolio of GVS&DD liquid waste heat recovery emissions reduction projects.~~previous year. Calculated excess carbon credit distributions less than one tonne will not be transferred~~, but will instead be redistributed among the other member jurisdictions~~.

Life Cycle Cost Analysis Parameters

In determining the quantity of avoided greenhouse gas emissions, GVS&DD will compare greenhouse gas emissions based on Provincial regulatory requirements to greenhouse gas emissions based on the proposed sewer heat or Waste-to-Energy Facility district energy system. On this basis, greenhouse gas emission reductions for a project will be calculated by comparing the emissions following implementation of the project to the emissions assuming building heat and hot water were provided using the lowest cost alternative based on Provincial regulatory requirements – currently natural gas.

GVS&DD's will invest in projects based on the difference between the life cycle project revenues and combination of capital and operational costs of a waste heat recovery project. The investment will be the lower of the value of the avoided greenhouse gas emissions based on Metro Vancouver's *Carbon Price Policy* or the amount required for the end-user of the heat's costs to not exceed their costs using the least expensive option under Provincial regulations – currently natural gas.

SEWAGE AND WASTE: HEAT RECOVERY

Effective Date: June 23, 2017 (revised July 29, 2022)

Approved By: GVS&DD Board

Policy No. UT-008

PURPOSE

To encourage beneficial use of waste heat from Metro Vancouver's liquid waste and solid waste systems, and maximize greenhouse gas emission reductions by using the heat to displace fossil fuel use.

DEFINITIONS

"Waste heat" is excess heat that is available from GVS&DD operations, including but not limited to heat from untreated sewage, treated effluent, and municipal solid waste processing.

"Heat user" is a third party interested in accessing excess heat from GVS&DD's liquid waste or solid waste systems. A heat user may be a member jurisdiction or other entity.

POLICY

Metro Vancouver is committed to pursuing strategies and actions that mitigate climate change. Waste heat recovery projects that displace the use of fossil fuels result in a reduction in regional greenhouse gas emissions. Recovering waste heat from the liquid waste and solid waste systems contribute to GVS&DD's *Integrated Liquid Waste and Resource Management Plan* and *Integrated Solid Waste and Resource Management Plan* goals of using waste as a resource.

This policy enables expedient access to waste heat where technically and financially feasible, while ensuring that GVS&DD is able to convey and process wastewater and municipal solid waste and meet all service objectives. This policy applies to situations where external parties request waste heat from GVS&DD's liquid waste or solid waste systems and to situations where GVS&DD offers waste heat to interested external parties.

LIQUID WASTE COLLECTION SYSTEM PROJECTS

Allocation of Waste Heat

GVS&DD will allocate access to untreated sewage for heat recovery on a first-come first-served basis in response to requests by interested heat users, provided the proposed heat recovery project will not adversely impact GVS&DD services or other established heat recovery projects, as determined by GVS&DD review. If an established heat recovery project that is already in place or approved for development by GVS&DD could be impacted by a proposed new heat recovery project, the established project's heating and/or cooling requirements will have priority. Private entities requesting access to waste heat must provide a letter of support from the host member jurisdiction demonstrating support and cooperation including allowance for works within municipal rights of way. Projects that access heat from municipal sewers do not require GVS&DD approval.

Ownership and Responsibilities

GVS&DD owns a sewerage system and is responsible for sewage in its liquid waste system, including any associated resources such as heat. The boundaries of responsibility for heat recovery equipment and infrastructure will be defined in a contract between GVS&DD and the heat user. GVS&DD will in all situations own and be responsible for the portion of the tie-in up to and including a shut-off valve on both the diversion and return lines, and may also own and maintain additional supporting infrastructure. GVS&DD will consider an in-line heat recovery system built directly in a GVS&DD sewer if the system will not impair GVS&DD operations.

Cost Recovery

GVS&DD will charge the heat user for all costs incurred to establish and maintain access to sewage. The value of sewage will be assessed using business case processes, including consideration of nominal value of sewage, and incorporated into sewage access contracts. GVS&DD may consider capital investment in heat recovery projects accessing sewage from GVS&DD infrastructure. GVS&DD staff will evaluate heat recovery projects using established life cycle cost analysis and options analysis frameworks and will consider each project on a case-by-case basis. Benefits will include the value of avoided greenhouse gas emissions. A contract with the heat user will be established for each project that assigns the costs and benefits between GVS&DD, the heat user and other funding sources.

All maintenance and operating costs borne by GVS&DD from GVS&DD infrastructure will be recovered from heat users.

LIQUID WASTE TREATMENT PLANT AND OUTFALL PROJECTS

Allocation of Waste Heat

When GVS&DD identifies waste heat opportunities in wastewater treatment plants and effluent outfalls, GVS&DD will follow competitive processes in offering available waste heat to potential heat users, to ensure fairness and transparency.

Ownership and Responsibilities

The boundaries of responsibility for heat recovery equipment and infrastructure are primarily tied to property ownership and will be defined in a contract between GVS&DD and the heat user. GVS&DD will own and be responsible for waste heat recovery equipment and related infrastructure installed within its wastewater treatment plants and effluent outfalls, except in cases where ownership by an external party is deemed preferable to the GVS&DD.

Cost Recovery

Heat recovery projects within wastewater treatment plants and effluent outfalls will require capital investment by GVS&DD and will require ongoing operations and maintenance by GVS&DD. GVS&DD staff will evaluate heat recovery projects using established life cycle cost analysis and options analysis frameworks and will consider each project on a case-by-case basis. Benefits will include the value of avoided greenhouse gas emissions. A contract with the heat user will be established for each project that assigns the costs and benefits between GVS&DD, the heat user and other funding sources.

SOLID WASTE PROJECTS - WASTE-TO-ENERGY FACILITY

Ownership and Responsibilities

The GVS&DD is developing a district energy system to distribute heat from the Waste-to-Energy Facility. GVS&DD expects to deliver heat to local distribution systems including River District in Vancouver and various developments in Burnaby and potentially New Westminster. GVS&DD expects to own and operate an energy centre at the Waste-to-Energy Facility, and potentially large scale distribution piping delivering heat to the local distribution systems as well.

Allocation of Heat

Heat will be allocated to potential users on a first-come first served basis considering proximity to heat distribution infrastructure and expected heat user load. Modelling of potential heat demand has demonstrated that there is sufficient waste heat available from the Waste-to-Energy Facility to connect River District, Metrotown, Edmonds, and downtown New Westminster.

Cost Recovery

The Waste-to-Energy Facility District Energy system will require capital investment by GVS&DD and will require ongoing operations and maintenance by GVS&DD. GVS&DD staff will evaluate heat recovery projects using established life cycle cost analysis and options analysis frameworks and will consider each project on a case-by-case basis. Benefits will include the value of avoided greenhouse gas emissions. Anticipated lost revenue resulting from any reduction in electricity sales revenue will be included in any business case. A contract with the heat user will be established for each project that assigns the costs and benefits between GVS&DD, the heat user and other funding sources.

ALL PROJECTS

Environmental Attributes

Benefits associated with avoided greenhouse gas emissions (such as carbon credits) and the costs of administering those benefits will be allocated on a case-by-case basis, in accordance with the costs and risks incurred by the parties involved in developing the heat recovery project. If a project does not create carbon credits, credits will not be allocated.

GVS&DD will negotiate carbon credit allocation with each project participant (including host member jurisdiction) on a case-by-case basis, based on one or more of (1) contributions to the project that can be financially valued (excluding contributions paid as part of GVS&DD liquid waste disposal fees and levies or solid waste tipping fees) and (2) contributions to the project that cannot be financially valued. GVS&DD credits allocated to the project participants will be subject to approval by the GVS&DD Board as part of any agreement with the parties.

Carbon credits from GVS&DD waste heat recovery projects that have been allocated to GVS&DD as a project proponent will be retained by GVS&DD, up to the amount needed for GVS&DD to be carbon neutral in a given year. If GVS&DD achieves carbon neutrality in a given year, excess carbon credits will be transferred to member jurisdictions. The distribution of excess carbon credits among member jurisdictions will be calculated based on BC Stats population estimates for the previous year. Calculated excess carbon credit distributions less than one tonne will not be transferred.

Life Cycle Cost Analysis Parameters

In determining the quantity of avoided greenhouse gas emissions, GVS&DD will compare greenhouse gas emissions based on Provincial regulatory requirements to greenhouse gas emissions based on the proposed sewer heat or Waste-to-Energy Facility district energy system. On this basis, greenhouse gas emission reductions for a project will be calculated by comparing the emissions following implementation of the project to the emissions assuming building heat and hot water were provided using the lowest cost alternative based on Provincial regulatory requirements – currently natural gas.

GVS&DD's will invest in projects based on the difference between the life cycle project revenues and combination of capital and operational costs of a waste heat recovery project. The investment will be the lower of the value of the avoided greenhouse gas emissions based on Metro Vancouver's *Carbon Price Policy* or the amount required for the end-user of the heat's costs to not exceed their costs using the least expensive option under Provincial regulations – currently natural gas.

To: Zero Waste Committee

From: Paul Henderson, General Manager, Solid Waste Services

Date: July 5, 2022 Meeting Date: July 15, 2022

Subject: **Manager's Report**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 5, 2022 titled "Manager's Report".

Bike Re-Use Pilot

Starting in May 2022, a bike-reuse pilot program was implemented at the North Shore Recycling and Waste Centre. Bicycles that may be repairable, or have salvageable components, are collected in a dedicated area to be picked up by third party contractors and professionally refurbished. In the first 1.5 months the program has resulted in 115 bikes being recovered for re-use. Approximately half of the recovered bikes were given away as part of the contractors' charity program and the remainder put on the market for re-sale. Another 219 bikes were collected as part of the program but could not be refurbished. Re-usable components from these bikes were salvaged and the bikes were recycled as metal. Staff will continue to monitor the pilot program and work with contractors to expand the program to other facilities.

Central Surrey Recycling and Waste Centre Opening Plan

Central Surrey Recycling and Waste Centre was originally targeted to open by the end of June. Finalizing construction has taken longer than originally expected, as such opening will occur later than originally anticipated. The precise opening date will be communicated to Zero Waste Committee members, member jurisdiction staff, and the public as soon as the date is confirmed.

Government of Canada Actions on Textile Waste Reduction

At the June 16, 2022 Zero Waste Committee meeting, staff were asked what actions are occurring at the federal level to help reduce clothing waste. The current focus of the federal strategy on tackling plastic waste remains primarily on single-use foodservice ware and recycled content for certain goods. However, the Canadian Council of Ministers of Environment Strategy on Zero Plastic Waste calls for all plastic products to be designed for greater durability, reuse, and recycling, and it specifically identifies textiles as one of the plastic product categories. Environment and Climate Change Canada commissioned a study about the feasibility of textiles recycling in Canada. The research was performed by Fashion Takes Action between January 2020 and March 2021 and includes a number of recommendations including tracking specific import data on textiles and clothing and a Canada-wide Action Plan for Zero Textile Waste to better address the problem. Metro Vancouver staff will continue to monitor federal actions on textile waste and collaborate with the federal government and others on potential future actions.

Government of Canada Harmful Single-Use Plastics Ban

On June 20, 2022, the Government of Canada released its final regulations to prohibit single-use plastics including:

- checkout bags;
- cutlery;
- foodservice ware made from or containing problematic plastics that are hard to recycle;
- ring carriers;
- stir sticks; and
- straws (with some exceptions).

The ban on the manufacture and import of these harmful single-use plastics will come into effect in December 2022. To provide businesses in Canada with enough time to transition and to deplete their existing stocks, the sale of these items will be prohibited as of December 2023. Canada will also prohibit the export of plastics in the six categories by the end of 2025.

Solid Waste Services Capital Program Expenditures Update as at June 30, 2022

Solid Waste Services, in collaboration with Financial Services and the Project Management Office are in the process of updating the format and presentation of the Capital Expenditure Update. This will bring alignment to this reporting and Project Delivery Capital Portfolio Update currently being presented to this Committee. These will be provided Quarterly beginning in the Fall of 2022.

For the Committee's information, the table below provides a brief update on Solid Waste capital expenditures for the first 6 months of 2022 as compared to budgeted expenditures over the same period.

2022 Capital Spending Summary For the 6 months ending June 30, 2022 6/28/2022	Year to Date		
	2022 Budget to June 2022	Actual Expenditures	% of Prorated Budget
Solid Waste Services			
Landfills	1,175,000	58,712	
Recycling and Waste Centres	14,450,000	6,220,371	
Waste To Energy Facilities	8,875,000	1,611,470	
Opportunity	920,000	55,085	
	25,420,000	**7,945,639**	**31%**

The underspend is primarily due to longer than expected pre-construction phases for Waste-to-Energy Facility projects, and the property purchase timing for the North Surrey Recycling and Waste Centre recycling depot development.

Solid Waste Management Plan Public/Technical Advisory Committee Membership Released

Metro Vancouver has released the names of 31 individuals selected by the GVS&DD Board to form the Solid Waste Management Plan Public/Technical Advisory Committee. The committee members represent a diversity of sectors and interests, and bring a variety of personal qualities, perspectives, and experiences to solid waste and recycling issues. Read the biographies of the committee members here.

The inaugural meeting of the committee was held on June 30, 2022, with 23 members in attendance. The next committee meeting is scheduled for September 21. Meeting information, including agendas and meeting notes, will be posted on the Metro Vancouver website. All committee meetings will be open to the public to observe. Participation supports have been made available to any members who may face barriers to participation. A small number of members have indicated interest in supports, and staff are working directly with these members.

2022 Zero Waste Committee Work Plan

The attachment to this report sets out the Committee's work plan for 2022. The status of work program elements is indicated as pending, in progress or complete. The listing is updated as needed to include new issues that arise, items requested by the Committee and changes in the schedule.

Attachment

Zero Waste Committee 2022 Work Plan

53627475

Zero Waste Committee 2022 Work Plan
Report Date: July 5, 2022

Priorities

1st Quarter	**Status**
2021 Integrated Solid Waste and Resource Management Plan Biennial Report	Complete
Central Surrey Recycling and Waste Centre Operations Contract Award	Complete
Invited Presentation from Ocean Ambassadors on East of Seymour Zero Waste Takeout	Complete
Flood Disaster Response Solid Waste Management System Summary	Complete
National Zero Waste Council 2021 Accomplishments and 2022 Projects	Complete
2021 Zero Waste Conference	Complete
2nd Quarter	
2021 Disposal Ban Inspection Program Results	In Progress
2021 Food Scraps Campaign Results	Complete
2022 Single Use Item Campaign	Complete
2021 Waste-to-Energy Facility Financial Summary	Complete
2022 Think Thrice Textiles Campaign Results	Complete
2021 Waste Composition Data	Complete
Alternative Fuel and Recyclables Recovery Procurement Contract Award	Pending
Contingency Disposal Contract Award	Pending
Love Food Hate Waste	Complete
Solid Waste Services Capital Program Expenditures Update as at December 31, 2021	Complete
Waste-to-Energy Facility – Bottom Ash Beneficial Use Pilots	Complete
3rd Quarter	
2021 Waste-to-Energy Facility Environmental Performance Summary	Pending
2022 National Zero Waste Council Projects	Pending
2022 Zero Waste Conference Update	Pending
City of Vancouver and City of Burnaby District Energy Right-of-Way Agreements	Pending
Illegal Dumping Data and Programs	Pending
Innovation and Continuous Improvement	Pending
Repair and Reuse	Pending
Solid Waste Management Plan Engagement	Pending
Solid Waste Residuals Management Options Study	Pending
Solid Waste Services Capital Program Expenditures Update as at April 30, 2022	Pending
4th Quarter	
2021 Solid Waste and Recycling Annual Report	Pending
2022 Abandoned Waste Campaign Results	Pending
2022 Create Memories Not Garbage Update	Pending
2022 Single-Use Item Campaign Results	Pending
2023-2027 Financial Plan – Solid Waste Services	Pending
2023 Tipping Fee Bylaw Revisions	Pending
Solid Waste Services Capital Program Expenditures Update as at August 31, 2022	Pending