

**METRO VANCOUVER REGIONAL DISTRICT  
Zero Waste Committee**

**REGULAR MEETING**

**Friday, September 10, 2021**

**9:00 a.m.**

**28<sup>th</sup> Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia**

**A G E N D A<sup>1</sup>**

**1. ADOPTION OF THE AGENDA**

**1.1 September 10, 2021 Regular Meeting Agenda**

That the Zero Waste Committee adopt the agenda for its regular meeting scheduled for September 10, 2021 as circulated.

**2. ADOPTION OF THE MINUTES**

**2.1 July 16, 2021 Regular Meeting Minutes**

That the Zero Waste Committee adopt the minutes of its regular meeting held July 16, 2021 as circulated.

*pg.3*

**3. DELEGATIONS**

**3.1 Ben Liegley, Co-Founder & Director, Rethink2gether, and Accredited Consultant The PLEDGE on Food Waste**

Subject: The opportunity of food waste prevention in the hospitality industry.

*pg.10*

**4. INVITED PRESENTATIONS**

**5. REPORTS FROM COMMITTEE OR STAFF**

**5.1 2020 Disposal Ban Program Update**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "2020 Disposal Ban Program Update".

*pg.11*

**5.2 Waste-to-Energy Facility Environmental Monitoring and Reporting 2020 Update**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "Waste-to-Energy Facility Environmental Monitoring and Reporting 2020 Update".

*pg.18*

---

<sup>1</sup> Note: Recommendation is shown under each item, where applicable.

- 5.3 Illegal Dumping in Metro Vancouver** *pg.33*  
That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "Illegal Dumping in Metro Vancouver".
- 5.4 Continuous Improvement, Innovation, and Collaboration with Adjacent Regional Districts** *pg.39*  
That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "Continuous Improvement, Innovation, and Collaboration with Adjacent Regional Districts".
- 5.5 2021 Reuse and Repair Initiatives Update** *pg.42*  
That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "2021 Reuse and Repair Initiatives Update".
- 5.6 2021 Update on the National Zero Waste Council Activities** *pg.46*  
That the Zero Waste Committee receive for information the report dated August 3, 2021, titled "2021 Update on National Zero Waste Council Activities."
- 5.7 2021 Zero Waste Conference Update** *pg.51*  
That the Zero Waste Committee receive for information the report dated August 31, 2021, titled "2021 Zero Waste Conference Update."
- 5.8 Manager's Report** *pg.58*  
That the Zero Waste Committee receive for information the report dated September 3, 2021, titled "Manager's Report."
- 6. INFORMATION ITEMS**
- 7. OTHER BUSINESS**
- 8. BUSINESS ARISING FROM DELEGATIONS**
- 9. RESOLUTION TO CLOSE MEETING**
- 10. ADJOURNMENT/CONCLUSION**  
That the Zero Waste Committee adjourn/conclude its regular meeting of September 10, 2021

---

Membership:

Froese, Jack (C) - Langley Township  
Hodge, Craig (VC) - Coquitlam  
Calendino, Pietro - Burnaby  
Elford, Doug - Surrey

Fathers, Helen - White Rock  
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 9:01 a.m. on Friday, July 16, 2021 in the 28<sup>th</sup> Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia.

**MEMBERS PRESENT:**

Chair, Mayor Jack Froese, Langley Township\*  
 Vice Chair, Councillor Craig Hodge, Coquitlam\*  
 Councillor Pietro Calendino, Burnaby\*  
 Councillor Helen Fathers, White Rock\*  
 Councillor Pete Fry, Vancouver\* (departed at 10:31 a.m.)  
 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\*

**MEMBERS ABSENT:**

Councillor Doug Elford, Surrey

**STAFF PRESENT:**

Paul Henderson, General Manager, Solid Waste Services  
 Jerry W. Dobrovolny, Chief Administrative Officer†  
 Janis Knaupp, Legislative Services Manager, Board and Information Services

**1. ADOPTION OF THE AGENDA**

**1.1 July 16, 2021 Regular Meeting Agenda**

**It was MOVED and SECONDED**

That the Zero Waste Committee adopt the agenda for its regular meeting scheduled for July 16, 2021 as circulated.

**CARRIED**

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

† denotes electronic meeting participation

## **2. ADOPTION OF THE MINUTES**

### **2.1 May 14, 2021 Regular Meeting Minutes**

#### **It was MOVED and SECONDED**

That the Zero Waste Committee adopt the minutes of its regular meeting held May 14, 2021 as circulated.

**CARRIED**

## **3. DELEGATIONS**

### **3.1 Tom Land, President & CEO and Christian Dietrich, General Manager, Ecowaste Industries Ltd.**

Christian Dietrich, General Manager, Ecowaste Industries Ltd., spoke to the Committee about seeking an extension to the term and capacity of the Ecowaste Landfill highlighting the Agricultural Land Reserve (ALR) non-farm use permit, remaining landfill life, background and timeline to extend landfill life, ALR regulation changes, and impacts on the ability to plan for the materials and recycling facility.

The delegation requested Metro Vancouver express support for a change to the ALR regulation exempting provincially-permitted landfills from the prohibition to accept construction and demolition waste on lands in the ALR.

#### **Request of Staff**

Staff was requested to report back to the Zero Waste Committee with information, including Metro Vancouver's jurisdiction, in response to the July 16, 2021 delegation from Tom Land, President & CEO and Christian Dietrich, General Manager, Ecowaste Industries Ltd., requesting Metro Vancouver to express support for a change to the Agricultural Land Reserve (ALR) regulation exempting provincially-permitted landfills from the prohibition to accept construction and demolition waste on lands in the ALR.

Presentation material titled "Ecowaste Industries Ltd. Change to Regulation Causing Closure of Landfill" is retained with the agenda.

## **4. INVITED PRESENTATIONS**

No items presented.

## **5. REPORTS FROM COMMITTEE OR STAFF**

### **5.1 Pre-Engagement Results – Solid Waste Management Plan Update**

Report dated July 8, 2021, from Stephanie Liu, Public Engagement Coordinator, Strategy and Stakeholder Relations, Solid Waste Services, providing the Zero Waste Committee with an overview of feedback received during the pre-

engagement phase of the solid waste management plan update process as well as next steps in the engagement process.

Members were provided a presentation on the update to Metro Vancouver's Solid Waste Management Plan (SWMP) highlighting pre-engagement results and next steps.

Independent Consultation and Engagement Panel Chair Andrea Reimer introduced Panel members Peter Fassbender, Veronika Bylicki and Cheryl Brooks who were also in attendance.

Chair Reimer highlighted the panel's role in providing feedback and suggestions to staff on engagement efforts highlighting the following Panel feedback regarding pre-engagement efforts on the SWMP:

- exploring opportunities to rebuild trust with some stakeholders and communicating objective information in a timely, accessible manner including providing statistics and options being considered
- including industry representation on advisory committees moving forward (identified as being important to stakeholders)
- strategizing on how to engage equity-denied and Indigenous groups going forward with consideration being given to provincial legislation guiding Indigenous engagement

Presentation material titled "Solid Waste Management Plan Update Pre-Engagement Results and Next Steps" is retained with the agenda.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Pre-Engagement Results – Solid Waste Management Plan Update".

**CARRIED**

**5.2 Solid Waste and Recycling Industry Advisory Committee Draft Terms of Reference**

Report dated July 9, 2021, from Paul Henderson, General Manager, Solid Waste Services, updating the GVS&DD Board on the formation of the Solid Waste and Recycling Industry Advisory Committee and draft terms of reference.

**It was MOVED and SECONDED**

That the GVS&DD Board receive for information the report dated July 9, 2021, titled "Solid Waste and Recycling Industry Advisory Committee Draft Terms of Reference".

**CARRIED**

**5.3 Solid Waste Services Capital Program Expenditure Update as of April 30, 2021**

Report dated July 8, 2021, from Lynne Vidler, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services, reporting on the status of the Solid Waste Services capital program and financial performance to April 30, 2021.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Solid Waste Services Capital Program Expenditure Update as of April 30, 2021".

**CARRIED**

**5.4 Draft Solid Waste Services 2022 – 2026 Capital Plan**

Report dated July 8, 2021, from Lynne Vidler, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services, presenting the draft Solid Waste Services 2022-2026 Capital Plan for input and feedback, which will then be incorporated into the fall budget approvals.

Members were provided a presentation on the draft Solid Waste Services 2022-2026 Capital Plan highlighting customer service levels of service objectives, drivers, major projects and changes, status of United Boulevard Recycling and Central Surrey Recycling and Waste Centres, biosolids processing, proposed 2022-2026 capital plan expenditures, adjustments made to the 2022-2025 Solid Waste Capital Plan and next steps.

In response to questions, members were informed about consideration given to population and economic growth as part of the long-range capital plan and expenditures related to a western region recycling and waste centre replacement.

Presentation material titled "Solid Waste Services 2022 Zero Waste Committee Capital Presentation" is retained with the agenda.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Draft Solid Waste Services 2022 – 2026 Capital Plan".

**CARRIED**

**5.5 Sea to Sky Soils Organics Management Contract**

Report dated July 9, 2021, from Paul Henderson, General Manager, Solid Waste Services, and Roy Moulder, Director, Purchasing and Risk Management, Financial Services, providing an update on an organics management contract awarded to Sea to Sky Soils.

**It was MOVED and SECONDED**

That the GVS&DD Board receive for information the report dated July 9, 2021, titled "Sea to Sky Soils Organics Management Contract".

**CARRIED**

**5.6 Waste-to-Energy Facility 2020 Financial Update**

Report dated July 8, 2021, from Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services, providing a 2020 financial update for the Metro Vancouver Waste-to-Energy Facility located in Burnaby.

**Request of Staff**

Staff was requested to report back to the Zero Waste Committee with a comparison between waste-to-energy and other modes of waste disposal including associated emissions and air quality for each.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Waste-to-Energy Facility 2020 Financial Update."

**CARRIED**

**5.7 2021 Regional Clothing Waste Reduction Campaign Results**

Report dated May 19, 2021, from Larina Lopez, Division Manager, Corporate Communications, External Relations, and Jay Soper, Communications Specialist, External Relations, providing an update on the results of the 2021 regional clothing waste reduction campaign, "Think Thrice About Your Clothes".

Members were provided a presented on the Textiles Waste Reduction 2021 Campaign Performance highlighting summary, promotional strategy, results, examples of campaign communications, and next steps moving forward to 2022.

Presentation material titled "Textiles Waste Reduction 2021 Campaign Performance" is retained with the agenda.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated May 19, 2021, titled "2021 Regional Clothing Waste Reduction Campaign Results".

**CARRIED**

**5.8 Update on Metro Vancouver's Engagement with the Love Food Hate Waste Canada Campaign**

Report dated May 19, 2021, from Larina Lopez, Division Manager, Corporate Communications, External Relations, and Alison Schatz, Senior Communications Specialist, External Relations, providing an update on Metro Vancouver's engagement with the Love Food Hate Waste Canada behavior change campaign.

Members were provided a presentation on the *Love Food Hate Waste Canada Campaign* highlighting the regional 2020 summer/fall campaign, national research on food waste in Canadian homes in 2020, national summer 2020 "We're Here to Help" campaign, national fall 2020 "Rediscover the Value of Food"

campaign, national food wastes champions, national spring 2021 “5 Ways With” campaign, and further campaign activities planned for 2021.

Presentation material titled “Love Food Hate Waste Canada Campaign Update” is retained with the agenda.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated May 19, 2021, titled “Update on Metro Vancouver’s Engagement with the Love Food Hate Waste Canada Campaign.”

**CARRIED**

**5.9 Manager’s Report**

Report dated July 9, 2021, from Paul Henderson, General Manager, Solid Waste Services, updating to the Zero Waste Committee on the upcoming United Boulevard Recycling and Waste Centre opening, facility hours and tipping fee structure review and engagement, Metro Vancouver’s 2021 PNE activation, CleanBC Plastics Actions funding received by several local businesses, Extended Producer Responsibility, Reuse Workshop and Recycling Council of BC Conference, National Zero Waste Council activities, and the Committee’s 2021 Work Plan.

Members were asked about interest in touring the new United Boulevard and Central Surrey Recycling and Waste Centres.

**Request of Staff**

Staff was requested to explore dates for a full-day Zero Waste Committee tour of regional solid waste facilities to be scheduled in the fall of 2021.

10:31 a.m. Councillor Fry departed the meeting.

Vice Chair Hodge commented on his attendance with the 2021 Reuse Workshop and Recycling Council of BC Conference.

Chair Froese updated members on National Zero Waste Council (NZWC) activities in his capacity as NZWC Chair.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 9, 2021, 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**

**It was MOVED and SECONDED**

That the Zero Waste Committee close its regular meeting scheduled for July 16, 2021 pursuant to the *Community Charter* provisions, Section 90 (1) (g) 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:  
(g) litigation or potential litigation affecting the regional district”.

**CARRIED**

**10. ADJOURNMENT/CONCLUSION**

**It was MOVED and SECONDED**

That the Zero Waste Committee adjourn its regular meeting of July 16, 2021.

**CARRIED**

(Time: 10:40 a.m.)

---

Janis Knaupp,  
Legislative Services Manager

---

Jack Froese, Chair

## Metro Vancouver - Zero Waste Committee - Sept 10th 2021

### Executive Summary from Rethink2gether

#### Why food waste?

- In Canada, **58% of food produced is never eaten**. And avoidable food waste is worth \$49 billion dollars. Every single year! (Second Harvest 2019)
- Food waste has also a huge impact on the environment, representing **8% of total CO2 emissions**. With the wildfires getting more and more intense, it is key to take action.
- In Metro Vancouver, an average restaurant spends **\$51,000** on food that is never eaten. That's 7% of revenues, more than profits! (BC Ministry of Environment and Climate Change 2018). However, most foodservice operators ignore that because they do not measure food waste. And you only manage what you measure.
- The City of Vancouver has committed to become Zero Waste by 2040 and **a leading city in food waste prevention**. Yet food waste data is not made publicly available.

#### About Rethink2gether



- [Rethink2gether](#) Consulting is a food sustainability consultancy based in Vancouver, BC.
- For hotels and restaurants, we offer food waste consulting expertise, technology, and a certification program called [The PLEDGE on Food Waste](#) to improve financial and sustainability performance. We make it easier by applying technology to the problem and supporting them to make the most of every food purchase. When applied together, after a year, our clients can expect to cut food costs by 3 to 7% and food waste by 20 to 40%. On average, that's a savings of \$15,000 and 12 tonnes of CO2! It's good for the bottom line, and good for the environment!
- We are currently developing [e-learning tools](#) to educate the hospitality industry
- The Co-Founders Laure Dupuy & Ben Liegey are both from France, and have 8+ years of experience consulting across the food supply chain. Ben is also a member of the [Vancouver Food Policy Council](#).

#### Suggested actions asked to be taken:

**(1) Be aligned with SDG 12.3:** reducing food waste by 50% (not only diverting food waste to landfill, but reducing food waste generated)

**(2) Report publicly food waste data every year**, including both commercial and residential food waste generated within Metro Vancouver (as suggested in a Food Waste Motion passed by the Vancouver Food Policy Council in Oct 2020)

**(3) Consider The PLEDGE on Food Waste certification program** as an additional way to becoming a leader in food waste prevention. Other areas like Singapore and [Mauritius](#) are leading the way.

---

To: Zero Waste Committee

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

Date: September 2, 2021 Meeting Date: September 10, 2021

Subject: **2020 Disposal Ban Program Update**

---

**RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "2020 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 782,000 loads of garbage in 2020 up 7% from 2019. This increase is associated with an increase in small loads likely resulting from pandemic related impacts. 221,875 garbage loads were inspected (28% of total loads): 27,040 were found to contain banned materials and 6,642 surcharge notices were issued, representing a surcharge rate of 3%. Electronic waste, corrugated cardboard and oversized objects were the top three banned materials identified. The pandemic may have contributed to more electronics in the waste stream due to temporary disruptions in the electronics collection network. Surcharges on mattresses and gypsum decreased in 2020. Total surcharge revenues were \$724,729 and total program expenditures were \$721,902. A temporary disposal ban waiver has been put in place for waxed cardboard as a result of reduced options for recycling waxed cardboard.

**PURPOSE**

The purpose of this report is to update the Zero Waste Committee on the 2020 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 other hazards out of the waste stream.

**2020 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

Metro Vancouver implemented a new paperless disposal ban inspection and surcharge program (eSurcharge) in July 2019. In 2020, all inspectors used mobile tablets with integrated cameras to record inspections. Loads are inspected and recorded as containing no banned materials, containing banned materials but reloaded onto their vehicles, or with banned materials and surcharged. Account customers receive surcharge notices and photos by email as soon as the surcharge is issued.

In 2020, the number of garbage loads received at regional solid waste facilities was 7% higher than in 2019 because of an increased number of small loads. Other communities also experienced increases in small loads in 2020, likely a result of the pandemic. Inspectors identified more loads containing banned materials in 2020 than in 2019. Table 1 provides a multi-year comparison of disposal ban program results. The inspection rate has been consistent over the last three years with an increased number of loads containing banned materials resulting in an increased number of surcharges. In 2020, 221,875 garbage loads were inspected (28% inspection rate), and 27,040 (or approximately 12%) of inspected loads contained banned materials. Inspectors were able to work with customers to prevent 20,398 loads containing banned materials from being disposed as garbage, instead inspectors provided alternative recycling options.

**Table 1: Inspection Statistics for Regional Solid Waste Facilities**

Year	Garbage Loads	Loads Inspected	Inspection Rate	Re-Loads	Surcharge Notices	Surcharge Rate
2018	741,600	188,135	25%	13,153	3,554	1.9%
2019	729,479	202,521	28%	16,578	4,294	2.1%
2020	782,333	221,875	28%	20,398	6,642	3.0%

## 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 35% of surcharged loads, up from 30% in 2019. Corrugated cardboard accounted for 20% of the surcharge notices in 2020, down from 24% in 2019. Large objects accounted for 10% of the surcharge notices in 2020, up from 5% in 2019. 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.

Increased electronic surcharges may be the result of more electronic devices in the waste stream in 2020. Extended producer responsibility programs for electronic and electrical devices, generated lower collection amounts in 2020 for several programs. Extended producer responsibility programs experienced short-term depot closures as well as disruptions to return-to-retail initiatives due to COVID-19 restrictions. Further, consumers may have chosen not to utilize the existing collection network due to personal health reasons. Metro Vancouver staff will continue to engage with these programs to ensure electronic and electrical devices are diverted and returned to the programs for end-of-life management. Metro Vancouver also ran a targeted digital promotion to educate residents on the importance of electronics (e-waste) and battery recycling in fall of 2020 (coinciding with National Waste Reduction Week in October). Digital channels included, Facebook, Instagram, and

YouTube and all messaging directed residents to [www.MVRecycles.org](http://www.MVRecycles.org) to find locations to drop off e-waste and used batteries for recycling.

The proportion of loads surcharged for mattresses and gypsum decreased in 2020 compared to 2019 and 2018. Residential used gypsum disposal program that has been available at all Metro Vancouver solid waste facilities since the fall of 2018. Other banned materials listed in Table 2 remained stable and each accounted for 5% or less of total surcharge notices.

In 2020, there were 198 surcharges issued for waxed cardboard. Metro Vancouver has reviewed the availability of recycling alternatives for waxed cardboard and has temporarily relaxed the disposal ban on waxed cardboard from August 3, 2021 to January 3, 2022 due to limited options for recycling. A similar review in June 2020 identified more options for waxed cardboard recycling.

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

Material	2018	2019	2020
Electronic Waste	25%	30%	35%
Cardboard	19%	24%	20%
Large Objects	4%	5%	10%
Mattresses	16%	14%	9%
Other Banned Materials	4%	6%	5%
Food Waste	2%	4%	4%
Paint (Includes empty containers)	3%	3%	4%
Gypsum	10%	4%	3%
Tires	5%	3%	3%
Clean Wood	6%	2%	3%
Expanded Polystyrene Packaging	1%	1%	2%
Green Waste	2%	1%	< 1%
Oil (Includes containers and filters)	1%	1%	< 1%
Recyclable Containers	1%	1%	< 0.5%
Recyclable Paper	1%	1%	< 0.5%

### **Surcharges by Customer Type**

Table 3 summarizes the number of inspections and surcharge notices by customer type in 2020. The surcharge rate for commercial loads was higher than other customer types, due to the volumes, types of materials and how they are collected. Residential cash 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 2020**

Customer Type	Inspections	Surcharge Notices	Surcharge Rate
Commercial	53,413	5,601	10%
Municipal	9,188	504	5.5%
Non-account	159,274	537	0.3%
<b>Totals</b>	<b>221,875</b>	<b>6,642</b>	<b>3.0%</b>

### **Dispute Resolution**

Customers may dispute a surcharge within 30 days of it being issued by completing a dispute form. Metro Vancouver received 26 surcharge disputes in 2020 related to clean wood, corrugated cardboard, electronics, expanded polystyrene, food waste, large objects, mattresses, and recyclable paper. Ten surcharge notices were rescinded as summarized in Table 4.

**Table 4: Surcharge Dispute Summary**

<b>Year</b>	<b>Surcharge Disputes Received</b>	<b>Surcharge Notices Rescinded</b>
2018	17	9
2019	17	11
2020	26	10

### **Hauler Surcharge Information**

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

### **ALTERNATIVES**

This is an information report. No alternatives are presented.

### **FINANCIAL IMPLICATIONS**

In 2020, surcharge revenues were \$742,729 with \$726,093 from Metro Vancouver solid waste facilities and \$16,636 from City of Vancouver solid waste facilities as shown in Attachment 3. Total program expenditures for regional facilities in 2020 were \$721,902.

### **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 2020, 221,875 loads were inspected, 27,040 loads were found to contain banned materials and 6,642 surcharge notices were issued. The disposal ban program remains an effective tool to encourage waste reduction and diversion.

### **Attachments**

1. 2020 Banned Materials
2. 2020 Solid Waste Surcharge Information at Metro Vancouver Facilities
3. 2020 Solid Waste Surcharge Summary

## 2020 Banned Materials

<b>Banned Hazardous and Operational Materials</b> (\$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

<b>Banned Recyclable Materials</b> (50% surcharge on Items above the threshold)
5% threshold on any combination of the following: <ul style="list-style-type: none"> <li>• Beverage containers</li> <li>• Other recyclable plastic, glass, metal, and composite material containers</li> <li>• Corrugated cardboard</li> <li>• Recyclable paper</li> <li>• Green waste</li> <li>• Clean Wood</li> </ul>
25% threshold on food waste

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

<b>Banned Product Stewardship Materials</b> (\$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	

2020 Solid Waste Surcharge Information Metro Vancouver Facilities		
Hauler (MV Facilities)	Surcharge Amount*	Hauler Surcharge Rate**
Bullseye Environmental Inc.	\$ 1,266	16%
Canada Minibins Ltd.	\$ 7,301	9%
Cascades Recovery	\$ 7,054	13%
City of Burnaby	\$ 33,869	18%
City of Coquitlam	\$ 4,026	11%
City of New Westminster	\$ 1,915	8%
City of Port Coquitlam	\$ 3,265	16%
City of Surrey	\$ 10,268	7%
District of North Vancouver	\$ 5,855	8%
Fraser Health Authority	\$ 1,009	2%
GFL Environmental	\$ 146,144	13%
Halton Recycling Ltd.	\$ 10,735	11%
Mack Kirk Roofing & Sheet Metal Ltd.	\$ 1,382	9%
Maple Leaf Disposal Ltd.	\$ 13,454	10%
Metro Disposal	\$ 3,285	4%
Mini-Load Disposal	\$ 1,108	4%
North Star Waste Management	\$ 2,218	51%
NSD Disposal Ltd.	\$ 6,531	11%
Providence Health Care	\$ 3,604	9%
Revolution Resource Recovery Inc.	\$ 65,632	15%
RJ Disposal Ltd.	\$ 2,535	8%
SF Disposal Queen	\$ 5,558	21%
Super Save Disposal Inc.	\$ 94,890	16%
Total Site Services	\$ 1,662	38%
Urban Impact Recycling Ltd.	\$ 19,823	6%
Vancouver Coastal Health	\$ 2,644	5%
Waste Connections of Canada	\$ 71,980	16%
Waste Control Services Inc.	\$ 27,391	9%
Waste Management of Canada Corporation	\$ 124,201	19%
Wescan Disposal	\$ 2,741	8%
Yellow Fence Rentals Inc.	\$ 1,863	31%

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

\*\* Hauler surcharge rate is equal to the number of surcharges divided by the estimated number of inspections for each hauler. The estimated inspection rate is assumed to be equal to the overall inspection rate for that category of customer.



**ATTACHMENT 3**

<b>2020 Solid Waste Surcharge Summary</b>	<b>Surcharge Amount</b>
Metro Vancouver Facilities (\$ 726,093)	
- Commercial	\$ 633,298
- Municipal	\$ 62,087
- Cash Customers	\$ 30,708
City of Vancouver Facilities	\$ 16,636
<b>Total</b>	<b>\$ 742,729</b>

---

To: Zero Waste Committee

From: Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services

Date: September 2, 2021 Meeting Date: September 10, 2021

Subject: **Waste-to-Energy Facility Environmental Monitoring and Reporting 2020 Update**

---

### **RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "Waste-to-Energy Facility Environmental Monitoring and Reporting 2020 Update".

---

### **EXECUTIVE SUMMARY**

The Metro Vancouver Waste-to-Energy Facility operates well within environmental standards. All air emission related parameters monitored during 2020 were in compliance with the Waste-to-Energy Facility Operational Certificate. Metal emissions are less than 5% of regulatory limits. Dioxins/furans and trace organics are less than 2% of regulatory limits, with the exception of chlorobenzenes being less than 25% of the regulatory limit. Nitrogen oxides and fine particulate Waste-to-Energy emissions represent 0.4% and 0.002% of regional airshed totals. The Waste-to-Energy Facility accounts for less than 1% of regional greenhouse gas emissions.

On December 3, 2020, the Operational Certificate was amended to defer the reduction in discharge limits for hydrogen chloride and sulphur dioxide from December 31, 2022 to March 3, 2025. Metro Vancouver installed a new air quality monitoring station immediately adjacent to the Waste-to-Energy Facility and added air quality monitoring equipment to an existing monitoring station near the Waste-to-Energy Facility. Data collected to date shows ambient concentrations of hydrogen chloride and sulphur dioxide are less than 5% of ambient air quality standards, and well below modelling projections.

### **PURPOSE**

The purpose of this report is to provide the Zero Waste Committee with an overview of the Waste-to-Energy Facility's environmental monitoring program and implementation of Operational Certificate requirements.

### **BACKGROUND**

Metro Vancouver continuously monitors the environmental performance of the Metro Vancouver Waste-to-Energy Facility and since 2010, annual environmental performance summaries have been provided to the Zero Waste Committee for information.

This report provides updates on the facility's 2020 environmental performance and the implementation of the Waste-to-Energy Facility Operational Certificate requirements. The report is identified in the Zero Waste Committee annual work plan and as such is being brought forward at this time.

## ENVIRONMENTAL MONITORING AND REPORTING UPDATE

Since the Waste-to-Energy Facility opened in 1988, Metro Vancouver has striven to continually reduce emissions through assessment, operational and plant infrastructure improvements and environmental controls. All air emission related parameters monitored during 2020 were in compliance with the requirements of Operational Certificate 107051. A summary of historic annual emission performance, including 2020 data, is attached.

To assess regulatory compliance, measurements from the environmental monitoring program are compared to the regulatory limits specified in the Waste-to-Energy Facility Operational Certificate 107051 issued by the BC Ministry of Environment and Climate Change Strategy. Results are reported in the following ways:

- Monthly compliance reports, which provide a summary of all air emissions monitoring results for each month, are provided to the BC Ministry of Environment and Climate Change Strategy, the City of Burnaby and the Fraser Health Authority, and are posted publicly on the Metro Vancouver website;
- Manual stack testing is conducted by an independent stack testing company four times a year for particulate matter, trace metals, and hydrogen fluoride. Results are provided to the BC Ministry of Environment and Climate Change Strategy, City of Burnaby, Fraser Health Authority and are posted publicly on the Metro Vancouver website;
- Manual stack testing for semi-volatile organic compounds is conducted once a year by an independent stack testing company, and results are provided to the BC Ministry of Environment and Climate Change Strategy, City of Burnaby and Fraser Health Authority, and are posted publicly on the Metro Vancouver website;
- Annual reporting of greenhouse gas emissions is provided to the BC Ministry of Environment and Climate Change Strategy and Environment and Climate Change Canada; and
- Annual reporting of substances emitted to air and contained in ash transferred for off-site disposal is provided to Environment and Climate Change Canada for the National Pollutant Release Inventory.

### Environmental Monitoring Program

The 2020 Waste-to-Energy Facility environmental monitoring program consisted of the following:

- Air Emissions Monitoring – Continuous Emission Monitoring System:
  - The Waste-to-Energy Facility is equipped with a real-time flue gas continuous emission monitoring system that measures and records emission parameters at the exit of the air pollution control plant 24 hours per day, seven days a week, using a United States Environmental Protection Agency certified and auditable tracking system.
  - The following parameters are measured: sulphur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen chloride, total hydrocarbons, and opacity.
  - The following key operational parameters are also monitored: furnace temperature, total flue gas flow, flue gas moisture and flue gas oxygen. This monitoring provides

an indication of plant conditions and helps confirm that emissions monitored by manual stack testing are representative of year round conditions.

- Air Emissions Monitoring – Periodic Manual Stack Testing:
  - Triplicate tests are conducted four times per year on each of the three plant lines to measure particulate matter, trace metals, and hydrogen fluoride.
  - A single test is conducted annually on one boiler (rotating between boilers each year) in triplicate to monitor for semi-volatile organic compounds, including dioxins and furans, chlorobenzenes, chlorophenols, polychlorinated biphenyls and polycyclic aromatic hydrocarbons.
- Fly and Bottom Ash Monitoring:
  - Each fly ash load is tested prior to transport and disposal.
  - Bottom ash samples are collected from each truck loaded with bottom ash for transport and disposal. Samples are combined to form a weekly composite sample for analysis.
  - On May 20, 2021 the Ministry of Environment and Climate Change Strategy approved Metro Vancouver's 2020 Bottom Ash Management Plan. The 2020 Plan allows for the potential beneficial use of bottom ash that has been processed through the Waste-to-Energy Facility's non-ferrous metal recovery system. Procurement is underway for the beneficial use of bottom ash.

### **Operational Certificate Implementation**

On December 3 2020, the Metro Vancouver Waste-to-Energy Facility Operational Certificate was amended to defer the reduction in discharge limits for hydrogen chloride and sulphur dioxide from December 31, 2022 to March 3, 2025. Dispersion modelling submitted to the Ministry of Environment and Climate Change Strategy in December 2018 indicated that with current emission and operational certificate permitted levels, maximum ambient air concentrations of hydrogen chloride and sulphur dioxide are not expected to exceed ambient air criteria. The extension allows for additional ambient air monitoring to confirm concentration levels.

In the fall of 2020, Metro Vancouver installed an air quality monitoring station in the northwest corner of the Waste-to-Energy Facility site, which is near the location with the highest expected concentrations identified by the dispersion modelling. The station continuously measures hydrogen chloride, sulphur dioxide and nitrogen dioxide.

Metro Vancouver's existing air quality monitoring station at Burnaby South was put in place in advance of the development of the Waste-to-Energy Facility with the goal of monitoring for any potential impacts of the Waste-to-Energy Facility on air quality. The instrumentation at the station, which already includes sulphur dioxide and nitrogen dioxide monitoring, was upgraded in the fall of 2020 with the addition of a hydrogen chloride monitor.

Monitoring data will be collected for a minimum of two years, and the data will be used to compare ambient concentrations to dispersion modelling results and ambient air quality objectives. Metro Vancouver has initiated procurement for a consultant to evaluate the data for reporting to the Ministry of Environment and Climate Change Strategy. Hydrogen chloride, sulphur dioxide, and nitrogen dioxide data collected from both monitoring stations has been posted monthly on the Metro Vancouver [website](#) since December 2020.

Data collected to date shows ambient air concentrations of hydrogen chloride and sulphur dioxide are less than 5% of ambient air quality objectives, and well below modelling results. Nitrogen oxide levels are within ambient air quality objectives and lower than other monitoring stations within the region. The primary contributor to ambient nitrogen oxides throughout the region is automobile exhaust. One of the objectives of the consulting study will be determining the relative contribution of the Waste-to-Energy Facility to nitrogen oxide levels in the vicinity of the Waste-to-Energy Facility.

### **Greenhouse Gas Emissions Reporting**

In mid-2009, the federal and provincial governments each enacted legislation requiring reporting of greenhouse gas emissions for facilities with annual emissions above specified thresholds 50,000 tonnes (federal) and 10,000 (provincial) tonnes of carbon dioxide equivalent per year. Based on these thresholds, the Waste-to-Energy Facility is subject to federal and provincial reporting on both biogenic (renewable) and anthropogenic (man-made or non-renewable) greenhouse gas emissions.

Greenhouse gas emissions from the Waste-to-Energy Facility are comprised mainly of carbon dioxide with trace amounts of methane and nitrous oxides. 2020 greenhouse gas emissions were verified by PwC Canada, and reported to the provincial and federal governments, at a total of 295,275 tonnes carbon dioxide equivalents, an increase of approximately 8% compared to 2019. This increase is primarily due a change in the composition of the waste stream and increased use of natural gas to meet the response limit requirements of the Operational Certificate. Of these emissions, 47% are anthropogenic and 53% are biogenic. Over the past three years, the anthropogenic portion of greenhouse gas emissions has ranged from 40% to 47%. As in past reporting years, the Waste-to-Energy Facility accounted for less than 1% of all anthropogenic greenhouse gas emissions in the region.

### **National Pollutant Release Inventory Reporting**

The National Pollutant Release Inventory is Canada's legislated, publicly accessible inventory of pollutant releases to air, water and land, as well as from disposal and transfer for recycling. The National Pollutant Release Inventory is managed by Environment and Climate Change Canada and currently tracks over 300 substances and groups of substances. Metro Vancouver is required to report air emissions (e.g., particulate matter, metals, organic compounds and acid gases) and substances transported for off-site disposal, fly ash and bottom ash, for the preceding calendar year to the National Pollutant Release Inventory. Table 1 summarizes the information which has been reported to the National Pollutant Release Inventory.

**Table 1: 2020 National Pollutant Release Inventory Substance Reporting Summary**

Substance	Reported Quantity (tonnes)	
	Stack Emissions	Ash Disposal
Nitrogen Oxides	221.4	N/A
Carbon Monoxide	53.9	N/A
Sulphur Dioxide	111.2	N/A
Hydrogen Chloride/Hydrochloric Acid	93.0	N/A
Aluminum (dust)	0.009	N/A
Arsenic	0.00071	1.70
Cadmium	0.00017	1.58
Cobalt	0.00017	1.40
Copper	0.00041	101.7
Lead	0.00112	25.9
Manganese	0.00083	28.5
Mercury	0.0019	0.056
Phosphorus	0.0021	518.6
Zinc	0.0042	240.9
Particulate Matter $\leq 10\mu\text{m}$	0.79	N/A
Particulate Matter $\leq 2.5\mu\text{m}$	0.63	N/A
Dioxins and Furans	N/A	N/A
Hexachlorobenzene	N/A	N/A

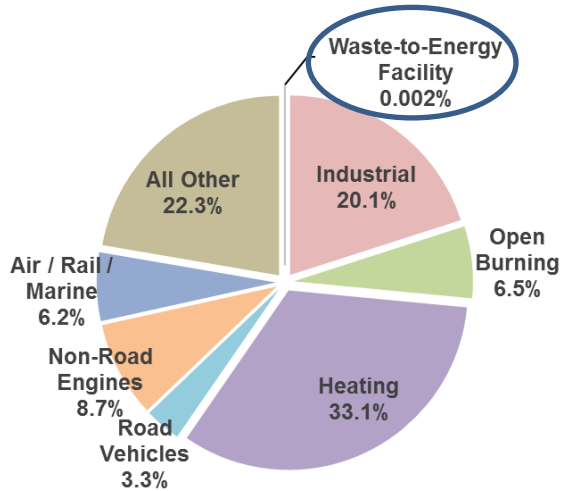
Notes: - All other substances are below the National Pollutant Release Inventory level of quantification and are not required to be reported.  
 - 'N/A' indicates value is either below the level of quantification, below the detection limit, or the substance is not found in ash.  
 - Ash tonnages reported on a dry basis.

### Waste-to-Energy Facility in a Regional Context

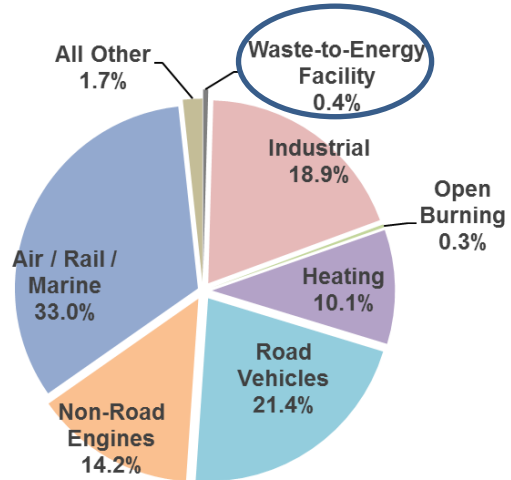
Figure 1 compares Waste-to-Energy Facility emissions to total emissions from all regional sources for two key air contaminants in the Lower Fraser Valley – fine particulate matter and nitrogen oxides (a key smog forming pollutant). In 2020, the Waste-to-Energy Facility accounted for 0.002% of regional fine particulate matter emissions and 0.4% of regional nitrogen oxide emissions. The Nitrogen Oxide Reduction Project, completed in October 2014, reduced nitrogen oxide emissions from 0.9% of the regional total in 2013 to 0.4% in 2020.

**Figure 1: Regional Emissions Distribution (2020) – Fine Particulate Matter and Nitrogen Oxides**

**2020 Lower Fraser Valley Fine Particulate Matter Emission Sources**



**2020 Lower Fraser Valley Nitrogen Oxide Emission Sources**



## ALTERNATIVES

This is an information report. No alternatives are presented.

## FINANCIAL IMPLICATIONS

Activities related to emissions monitoring and reporting are included in the approved Solid Waste Services operational budget.

## CONCLUSION

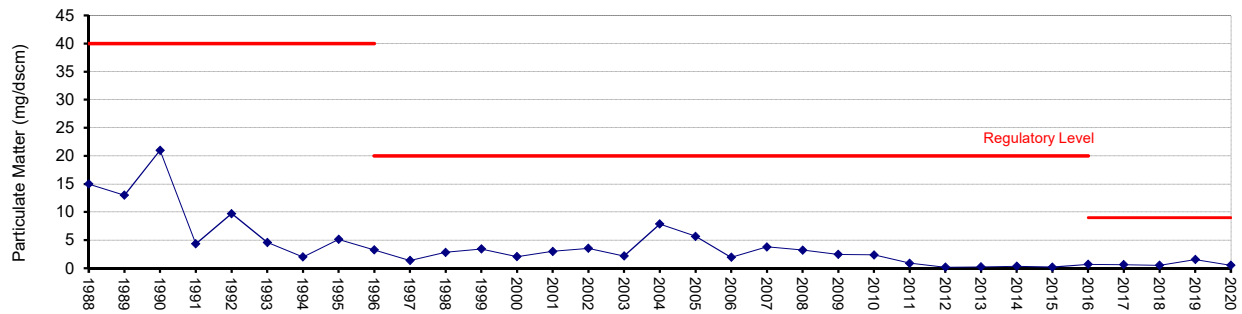
The Waste-to-Energy Facility operates well within environmental standards and regulatory limits. A range of projects that continuously improve the facility's environmental performance have been completed or are underway. All air emission related parameters monitored during 2020 were in compliance with Operational Certificate 107051. Continuous emissions monitoring data and all compliance reports are available on the Metro Vancouver website.

## Attachments (Orbit #46499548)

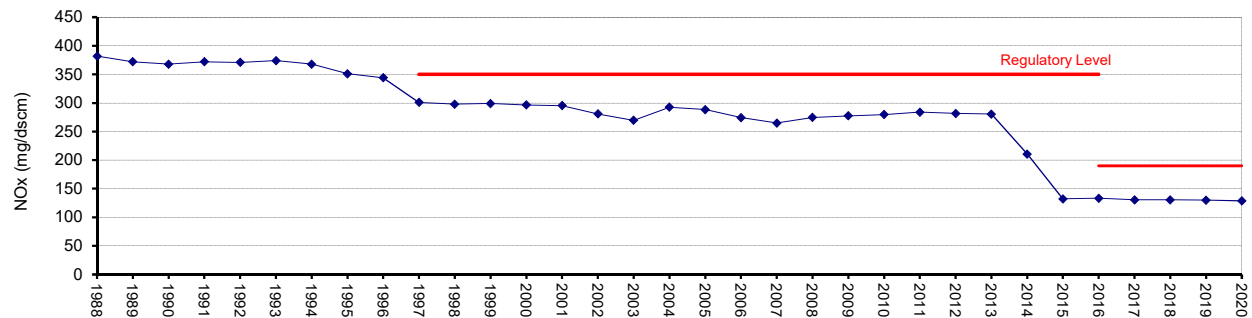
1. Metro Vancouver Waste-to-Energy Facility Summary of Air Emissions 1988-2020
2. Ambient Air Quality Report for Metro Vancouver Waste-to-Energy Facility– July 2021

## Metro Vancouver Waste-To-Energy Facility Summary of Air Emissions 1988 - 2020

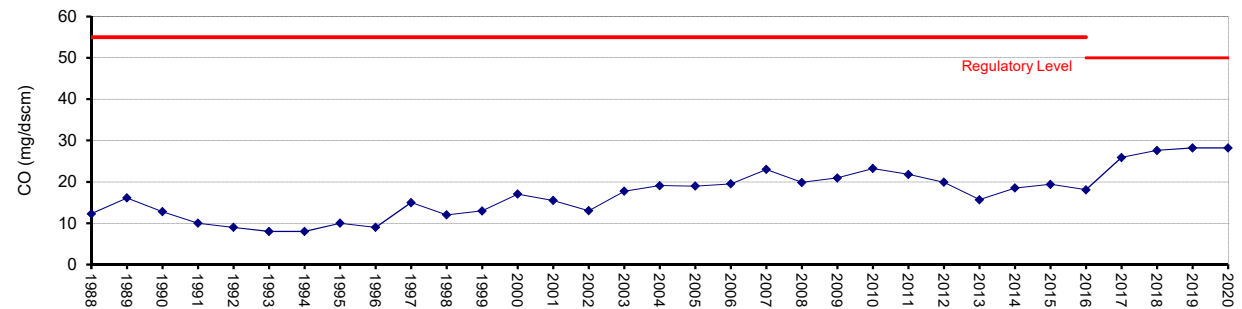
### Particulate Matter



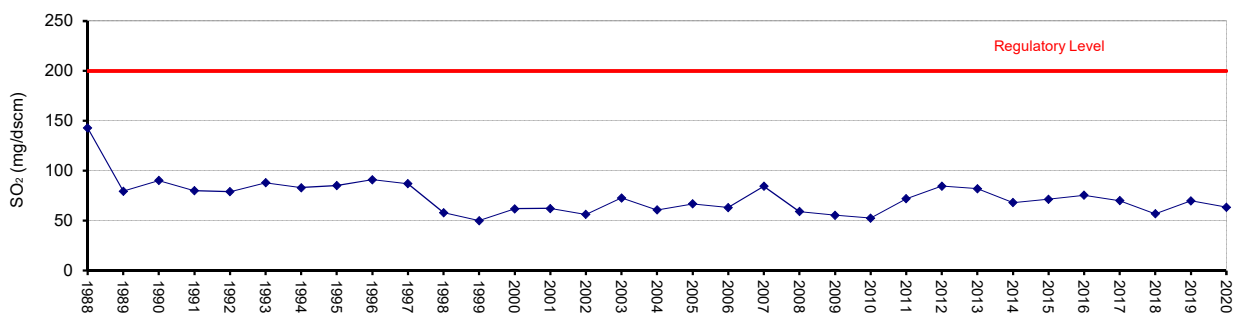
### Nitrogen Oxides



### Carbon Monoxide



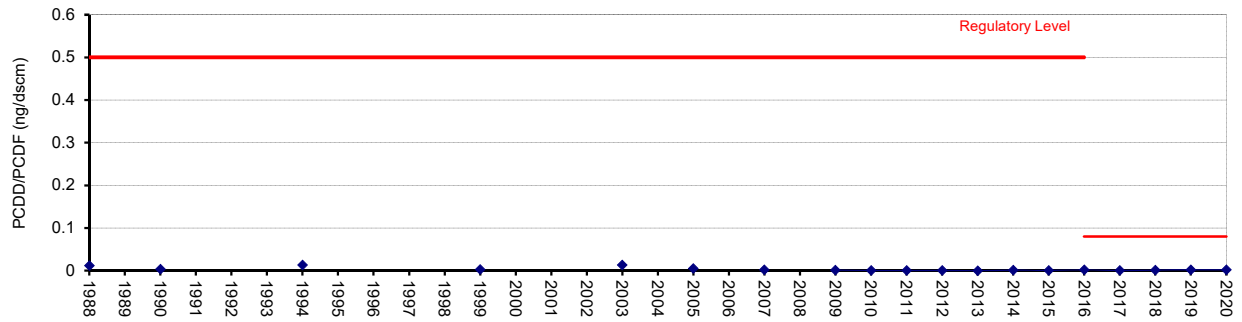
### Sulfur Dioxide



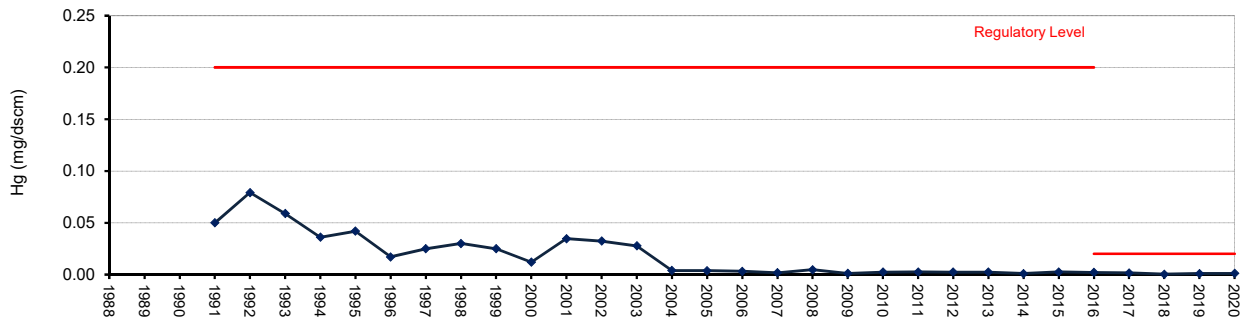


## Metro Vancouver Waste-To-Energy Facility Summary of Air Emissions 1988 - 2020

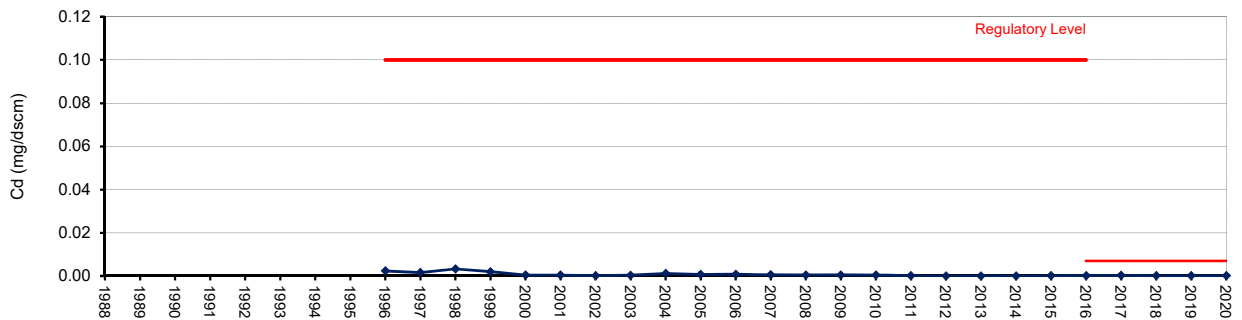
### Dioxins/Furans



### Mercury



### Cadmium



**Ambient Air Quality Report for Metro Vancouver Waste-to-Energy Facility****Monthly Summary Report - July 2021****Prepared August 26, 2021**

Metro Vancouver operates a network of ambient air quality monitoring stations in Metro Vancouver and the Fraser Valley. Two of these monitoring stations Burnaby South (T018) and WTEF (S150) are located near to Metro Vancouver's Waste-to-Energy Facility.

Data in this summary report is considered preliminary. While some preliminary quality assurance and quality control has been applied to the data, it is subject to change, without notice pending the completion of additional quality assurance, quality control and verification procedures by Metro Vancouver at a future time.

Data in this report are compared to ambient air quality objectives. More information on ambient air quality objectives can be found at: <http://www.metrovancouver.org/services/air-quality/about/air-quality-monitoring/ambient-air-quality-objectives/>

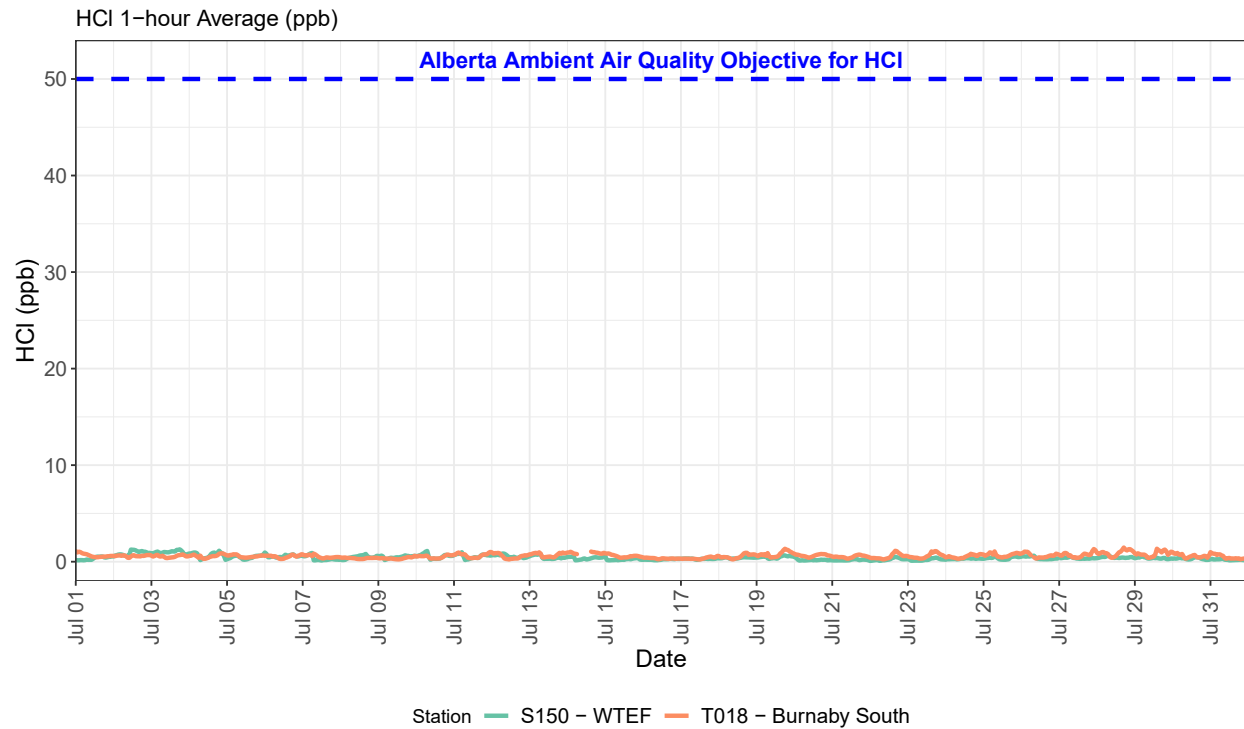
For additional information please see:

Current Air Quality (<http://airmap.ca>)

Air Quality Monitoring (<http://www.metrovancouver.org/services/air-quality/about/air-quality-monitoring>)

## HCl (hydrogen chloride) Monthly Summary - WTEF and Burnaby South

Metro Vancouver does not have an ambient air quality objective for hydrogen chloride (HCl). The Province of Alberta has a 1-hour objective for HCl of 50 ppb.

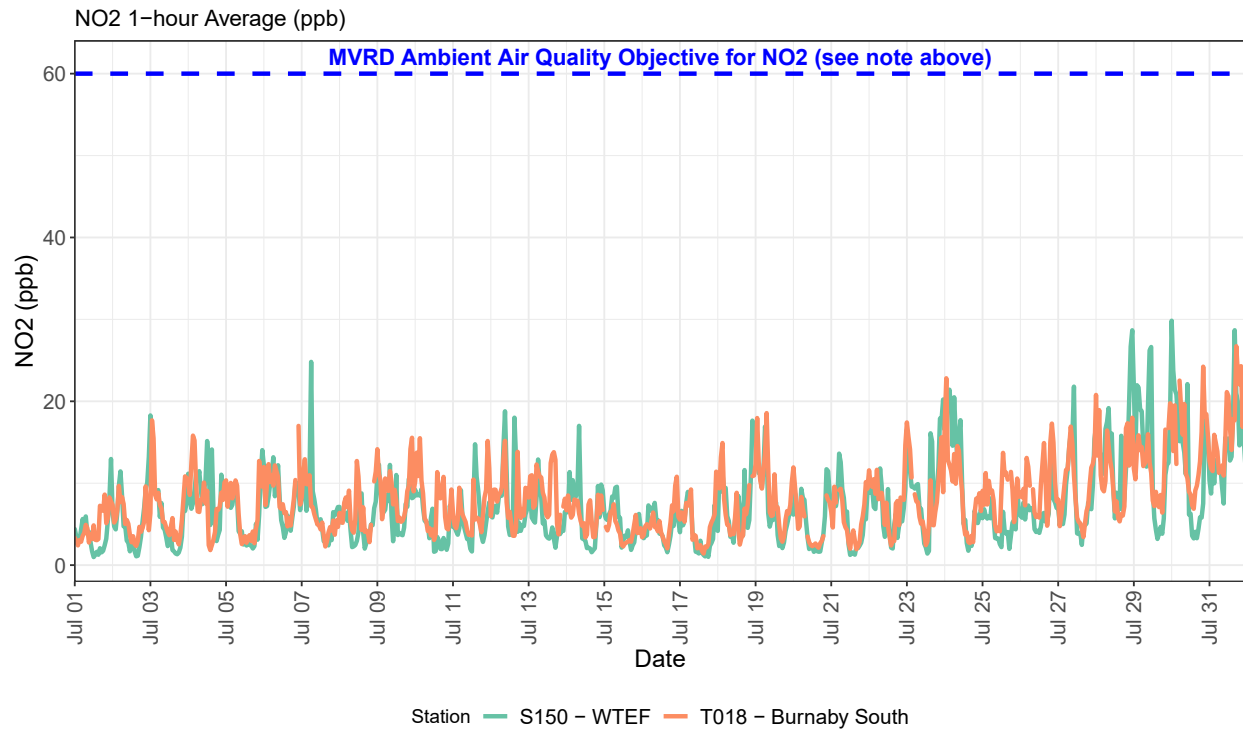


**PRELIMINARY DATA**

Date	Daily Average HCl Concentration (ppb)		Daily 1-hour Maximum HCl Concentration (ppb)	
	S150 - WTEF	T018 - Burnaby South	S150 - WTEF	T018 - Burnaby South
2021-07-01	0.3	0.7	0.6	1.1
2021-07-02	0.9	0.6	1.3	0.7
2021-07-03	1.0	0.6	1.3	0.8
2021-07-04	0.7	0.6	1.1	0.9
2021-07-05	0.5	0.6	0.8	0.8
2021-07-06	0.6	0.5	0.9	0.8
2021-07-07	0.3	0.5	0.9	0.8
2021-07-08	0.5	0.4	0.8	0.4
2021-07-09	0.5	0.4	0.7	0.6
2021-07-10	0.6	0.5	1.1	0.7
2021-07-11	0.6	0.7	1.0	1.0
2021-07-12	0.6	0.6	0.8	1.0
2021-07-13	0.5	0.7	0.9	1.0
2021-07-14	0.4	0.9	0.5	1.0
2021-07-15	0.2	0.6	0.6	0.9
2021-07-16	0.2	0.3	0.3	0.4
2021-07-17	0.3	0.4	0.4	0.6
2021-07-18	0.4	0.6	0.5	0.9
2021-07-19	0.5	0.8	0.7	1.3
2021-07-20	0.2	0.6	0.5	0.8
2021-07-21	0.2	0.5	0.3	0.7
2021-07-22	0.2	0.5	0.5	1.1
2021-07-23	0.2	0.6	0.4	1.1
2021-07-24	0.3	0.5	0.4	0.8
2021-07-25	0.4	0.7	0.5	1.1
2021-07-26	0.4	0.6	0.6	1.0
2021-07-27	0.4	0.7	0.5	1.3
2021-07-28	0.5	0.9	0.7	1.5
2021-07-29	0.4	0.8	0.5	1.3
2021-07-30	0.3	0.6	0.5	1.0
2021-07-31	0.2	0.5	0.3	1.0

## NO2 (nitrogen dioxide) Monthly Summary - WTEF and Burnaby South

Metro Vancouver's ambient air quality objective for 1-hour NO<sub>2</sub> is based on the analysis of three consecutive years of data, the annual 98th percentile of the daily maximum 1-hour concentration is averaged over three consecutive years. The dashed blue line in the figure below shows the numerical value of Metro Vancouver's 1-hour NO<sub>2</sub> ambient air quality objective (60 ppb). If the preliminary NO<sub>2</sub> data shown in this report has a concentration above the numerical value, it does not necessarily indicate an exceedance of the Metro Vancouver objective. Achievement of the objective is determined at the end of each calendar year.

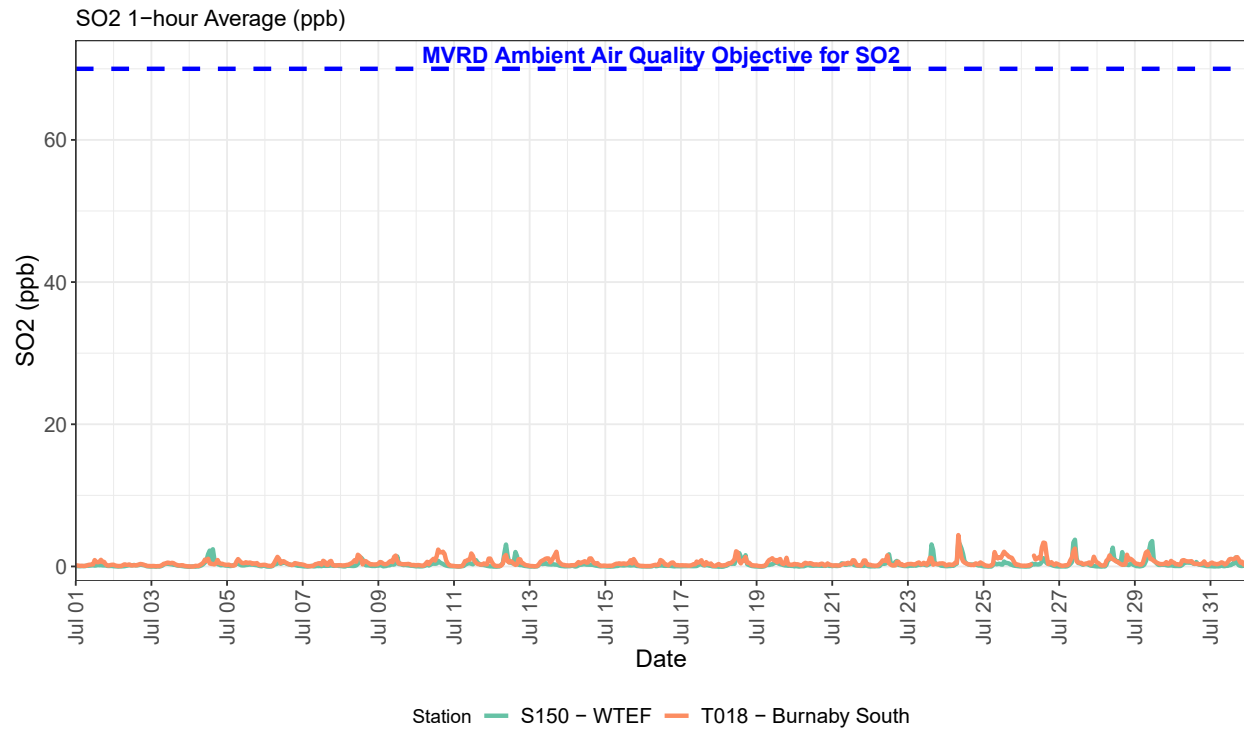


**PRELIMINARY DATA**

Date	Daily Average NO2 Concentration (ppb)		Daily 1-hour Maximum NO2 Concentration (ppb)	
	S150 - WTEF	T018 - Burnaby South	S150 - WTEF	T018 - Burnaby South
2021-07-01	3.7	4.6	13.0	8.6
2021-07-02	5.4	5.5	13.2	9.7
2021-07-03	5.6	6.8	18.3	17.7
2021-07-04	8.8	7.9	15.2	15.8
2021-07-05	5.7	6.5	14.0	12.7
2021-07-06	7.9	8.9	13.2	17.0
2021-07-07	7.0	6.2	24.8	12.9
2021-07-08	5.0	6.6	8.8	12.7
2021-07-09	7.4	9.0	12.3	15.6
2021-07-10	5.0	7.6	9.3	15.5
2021-07-11	5.6	6.6	14.8	15.2
2021-07-12	7.8	7.9	18.8	15.2
2021-07-13	5.6	9.0	12.9	13.8
2021-07-14	6.5	6.2	17.0	8.6
2021-07-15	5.2	4.3	9.6	7.4
2021-07-16	4.8	5.0	8.3	10.8
2021-07-17	4.0	4.8	8.9	11.4
2021-07-18	7.5	7.1	17.6	14.9
2021-07-19	7.7	8.8	16.9	18.6
2021-07-20	5.3	5.1	11.7	11.9
2021-07-21	5.6	5.6	13.6	10.1
2021-07-22	6.6	7.6	11.8	14.6
2021-07-23	10.0	8.5	20.2	17.4
2021-07-24	10.8	9.2	21.4	22.8
2021-07-25	5.0	8.5	8.9	13.7
2021-07-26	6.7	9.9	13.5	17.3
2021-07-27	8.5	9.0	21.8	16.9
2021-07-28	14.0	11.8	28.7	20.8
2021-07-29	13.5	11.9	26.6	19.8
2021-07-30	12.9	14.4	29.8	24.2
2021-07-31	14.2	16.8	28.7	26.7

## SO<sub>2</sub> (sulphur dioxide) Monthly Summary - WTEF and Burnaby South

Metro Vancouver's ambient air quality objective for 1-hour SO<sub>2</sub> is a never to exceed objective. The dashed blue line in the figure below shows the numerical value of the SO<sub>2</sub> objective, 70 ppb.



**PRELIMINARY DATA**

Date	Daily Average SO2 Concentratio (ppb)		Daily 1-hour Maximum SO2 Concentratio (ppb)	
	S150 - WTEF	T018 - Burnaby South	S150 - WTEF	T018 - Burnaby South
2021-07-01	0.1	0.3	0.2	0.9
2021-07-02	0.1	0.2	0.2	0.3
2021-07-03	0.1	0.2	0.5	0.5
2021-07-04	0.5	0.4	2.4	1.1
2021-07-05	0.2	0.4	0.5	1.0
2021-07-06	0.2	0.4	0.6	1.4
2021-07-07	0.1	0.3	0.2	0.8
2021-07-08	0.2	0.5	1.3	1.6
2021-07-09	0.2	0.5	1.4	1.5
2021-07-10	0.2	0.8	0.8	2.4
2021-07-11	0.2	0.5	0.9	1.8
2021-07-12	0.6	0.5	3.1	1.6
2021-07-13	0.2	0.6	0.5	2.1
2021-07-14	0.1	0.4	0.3	1.1
2021-07-15	0.1	0.3	0.2	1.0
2021-07-16	0.1	0.3	0.1	0.9
2021-07-17	0.1	0.3	0.3	0.9
2021-07-18	0.5	0.6	1.9	2.1
2021-07-19	0.2	0.5	0.6	1.2
2021-07-20	0.1	0.3	0.4	0.5
2021-07-21	0.2	0.4	0.4	0.9
2021-07-22	0.3	0.4	1.7	1.6
2021-07-23	0.4	0.4	3.1	1.2
2021-07-24	0.6	0.7	3.5	4.4
2021-07-25	0.2	0.9	0.7	2.1
2021-07-26	0.3	0.9	1.2	3.4
2021-07-27	0.5	0.6	3.8	2.5
2021-07-28	0.6	0.7	2.6	1.7
2021-07-29	0.6	0.7	3.6	2.1
2021-07-30	0.3	0.5	0.6	0.9
2021-07-31	0.2	0.6	1.3	1.3



---

To: Zero Waste Committee

From: Adriana Velázquez, Project Engineer, Solid Waste Services

Date: September 2, 2021 Meeting Date: September 10, 2021

Subject: **Illegal Dumping in Metro Vancouver**

---

**RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "Illegal Dumping in Metro Vancouver".

---

**EXECUTIVE SUMMARY**

In 2020, member jurisdictions reported 47,000 illegal dumping incidents, including 720 incidents of abandoned gypsum. Municipalities spent \$3.6 million on the removal and disposal of abandoned items. In addition, municipalities spent \$2.5 million on large item pick-up programs. COVID-19 restrictions coincided with a temporary decrease in illegal dumping incidents in spring 2020, followed by increases in subsequent months. Overall costs of illegal dumping have increased across the region by on average 4.7% per year over the last three years. Some of the increases in the total number of illegal dumping incidents may be a result of improved reporting practices, rather than a true increase in illegal dumping activity. Illegal dumping of gypsum materials continues to be a challenging and costly issue for municipalities. Receipt of residential gypsum at all Metro Vancouver recycling and waste centres as of the fall of 2018 appears to have provided some benefit with respect to reducing illegal dumping of gypsum materials.

Metro Vancouver and member jurisdictions continue to advance a number of initiatives including education, enforcement and enhanced data management to help reduce illegal dumping. Enhanced extended producer responsibility programs for items such as mattresses would help reduce illegal dumping by reducing costs to residents to manage those materials.

**PURPOSE**

The purpose of this report is to update the Zero Waste Committee on regional illegal dumping trends and related municipal programs in 2020.

**BACKGROUND**

Illegal dumping can result in significant impacts on the environment, wildlife, human health, and communities, and is a considerable financial burden on local governments, businesses and residents. Metro Vancouver and its member jurisdictions have focused on planning, prevention and enforcement efforts to mitigate illegal dumping.

At its January 22, 2021 meeting, the Zero Waste Committee requested more information about illegal dumping in Metro Vancouver. This report provides an update on regional illegal dumping trends and local government initiatives to discourage illegal dumping.

## ILLEGAL DUMPING TRENDS AND PROGRAMS

Metro Vancouver supports member jurisdictions by facilitating data collection, information sharing and collaboration. Metro Vancouver also developed a region-wide campaign, *Waste in Its Place*, to educate residents on legal recycling, donation and disposal options in their communities to help decrease illegal dumping activity. Metro Vancouver provides convenient and accessible recycling and waste drop-off services at its recycling and waste centres. Member jurisdictions manage the clean-up of illegally dumped items, and implement a range of prevention initiatives and enforcement actions.

### Illegal Dumping Monitoring and Reporting Efforts

Over the past five years, some member jurisdictions have made changes to their data collection process and monitoring approach that have helped improve reporting of illegal dumping activity including:

- Upgrades to public reporting software
- Expanded use of mobile devices to track and report incidents and create work orders
- Tracking illegal dumping of household garbage in parks garbage containers
- New tracking sheets clarify the difference between litter and illegal dumping
- Additional staff in the field reporting illegal dumping activity
- Improved location data

Some of the increases in the number of incidents recorded may simply be a result of improved reporting practices, such as the introduction of online reporting tools, rather than a true increase in illegal dumping activity.

### 2020 Illegal Dumping Trends

In 2020, approximately 47,000 illegal dumping incidents were reported by member jurisdictions in Metro Vancouver. Data from 2015 to 2020 shows an overall increase in the annual number of incidents (Table 1). Despite this overall increase in incidents, some municipalities reported a decrease in the number of incidents in their communities. These decreases may be attributed to initiatives like large item pick-up programs, community drop-off events, and increased monitoring and enforcement.

**Table 1: Annual Incidents and Costs of Illegal Dumping in the Region**

Year	Number of Incidents	Total Clean Up Cost*	Average Cost Per Incident
2015	35,300	\$2.74 million	\$78
2016	37,000	\$2.51 million	\$68
2017	39,500	\$3.16 million	\$80
2018	43,800	\$3.40 million	\$78
2019	43,450	\$3.50 million	\$81
2020	47,050	\$3.63 million	\$77

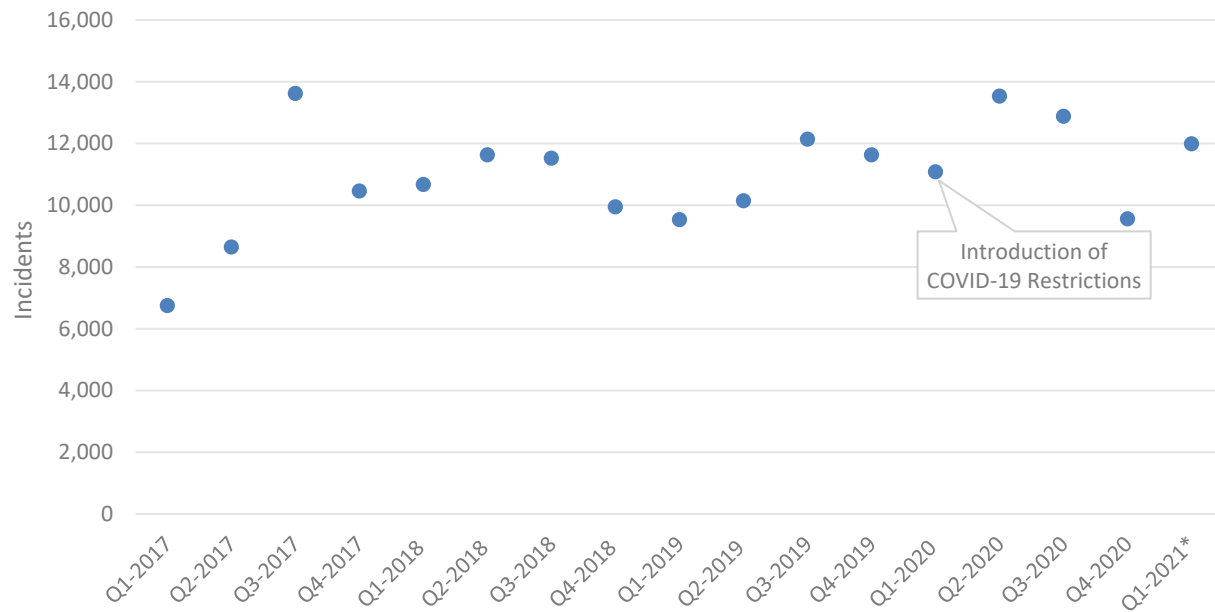
\*Total clean-up cost for City of Vancouver includes cost of investigations

Municipalities report spending approximately \$3.6 million on the removal and disposal of illegally dumped items. Overall costs of illegal dumping have increased across the region by on average 4.7% per year over the last three years. In addition, it is estimated that municipalities collectively spend \$2.5 million per year on large item pick-up programs to allow residents to dispose of bulky items conveniently.

Mattresses, furniture, household garbage, yard trimmings, gypsum, scrap metal, appliances, hazardous household items, electronics and construction materials were the most frequently abandoned items, as reported by municipalities in 2020.

In March 2020, when COVID-19 restrictions were implemented across the region, the number of illegal dumping incidents decreased temporarily. The number of incidents increased in the summer of 2020 and stabilized towards the beginning of 2021 (Figure 1).

**Figure 1: Illegal Dumping Activity in Metro Vancouver**

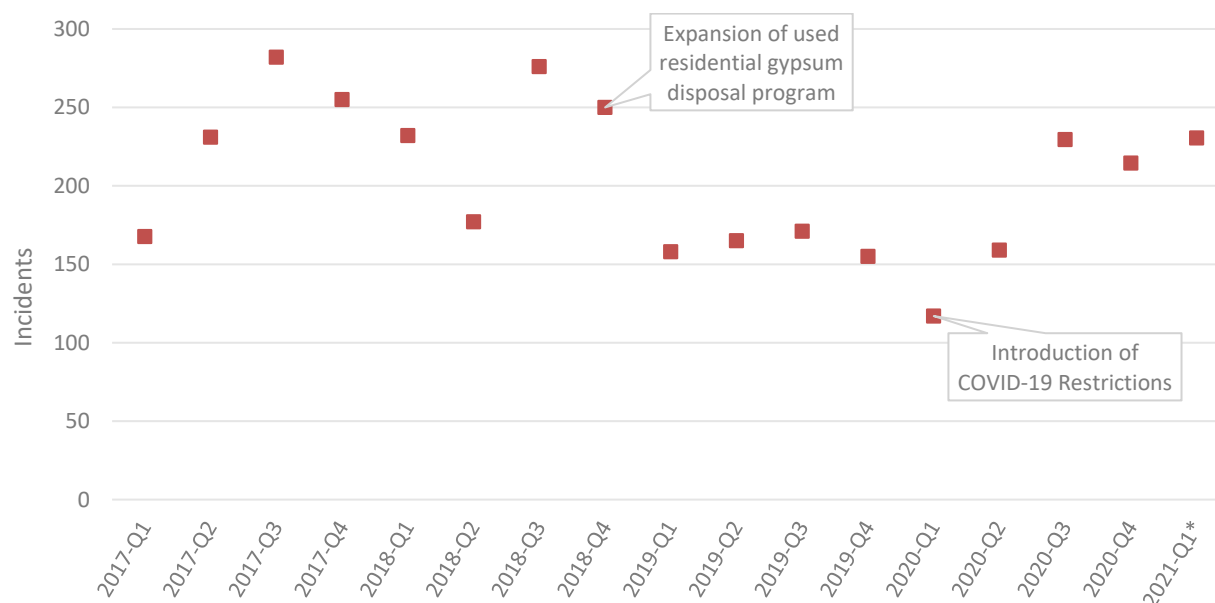


### **Abandoned Gypsum**

Illegally-dumped gypsum is problematic as it may contain asbestos. Asbestos-containing materials represent a health risk to workers and the general public, and is expensive to remediate and dispose of.

Metro Vancouver piloted a residential used gypsum disposal program in the fall of 2016 at the Langley and Maple Ridge recycling and waste centres to provide a safe and convenient option for residents to dispose of small quantities of used gypsum without requiring a laboratory test for asbestos. From 2018 to 2019 abandoned gypsum incidents decreased approximately 31% (Table 2). This decrease coincided with the expansion of the used gypsum program to all regional solid waste facilities including the Vancouver Landfill in late 2018 (Figure 2). New gypsum that has never been installed is also accepted for recycling at all regional solid waste facilities.

**Figure 2: Abandoned gypsum in Metro Vancouver**



In 2020, member jurisdictions reported approximately 720 incidents of abandoned gypsum, an 11% increase from 2019. Table 2 shows annual number of incidents of abandoned gypsum from 2016 to 2020. Unlike general illegal dumping, gypsum clean-up costs reduced initially at the beginning of the pandemic, and increased later in the year.

**Table 2: Annual Incidents of Abandoned Gypsum in the Region**

Year	Number of Incidents
2016	628
2017	936
2018	935
2019	649
2020	720

In March 2020, the number of incidents decreased temporarily, coinciding with the onset of the COVID-19 restrictions, and increased in subsequent months (Figure 2).

### Municipal Illegal Dumping Enforcement Actions

Illegal dumping is regulated through municipal bylaws, and administrative penalties are typically set in municipal ticketing bylaws. In 2020, enforcement actions taken by member municipalities (based on the ten municipalities that reported data) included 963 investigations, 374 warnings, 29 municipal tickets or bylaw notices, and 3 “clean and bill” charges (municipal crews clean up and recover the cost from the owner). Some municipalities also have monitoring cameras in place and have increased enforcement patrols in areas with high illegal dumping incidences.

A key challenge for advancing enforcement action is the collection of evidence, such as good quality video/photos, witness reports and personal contact information found in abandoned waste. A combination of increased monitoring, use of signage and enforcement practices including issuing tickets, has been effective in reducing illegal dumping in some municipalities.

### **Municipal Initiatives for Illegal Dumping Prevention**

In addition to enforcement practices, municipalities have implemented initiatives to discourage illegal dumping, such as signage, large item pick-up programs, restricted access to known illegal dumping sites, addition of streetscape recycling bins, education campaigns, expansion of accepted items at recycling depots and drop-off events. In 2020, some of these activities were cancelled or modified due to COVID-19 restrictions.

### **Illegal Dumping Municipal Workshop**

On July 8, 2021, Metro Vancouver hosted a workshop with member jurisdictions and neighbouring regional districts/municipalities to provide an opportunity for municipal solid waste staff to learn from each other and engage in dialogue about enforcement actions and prevention initiatives.

The workshop presentations from Metro Vancouver outlined recent trends in illegal dumping activity in Metro Vancouver and the 2021/22 *Waste in Its Place* education campaign. Invited presentations from the City of Richmond, City of Chilliwack and Fraser Valley Regional District described municipal programs, clean-up efforts, and operational and communications strategies to discourage illegal dumping. A key finding from the City of Chilliwack is that residents assume disposal of large items is expensive, and that this can easily be resolved by translating fees from \$/tonne to \$/kilogram. Staff are already putting this workshop learning into action by developing an online tool that will help Metro Vancouver residents better understand the cost of proper disposal for commonly dumped items like couches and yard waste.

Additional topics and opportunities discussed at the workshop:

- Prevalence of illegal dumping region wide
- Challenges associated with monitoring remote areas
- Importance of involving the community and empowering volunteer groups
- Access to disposal options, such as large item pick-up programs and free tipping passes
- Innovative, centralized tools for data collection and monitoring
- Need for more standard data reporting and clear definitions of categories for reporting illegally dumped items
- Collaboration on education and messaging on proper disposal options
- EPR programs for commonly reported abandoned waste

Input provided by workshop participants is helping inform subsequent supportive actions to be taken by Metro Vancouver related to data collection and information sharing on illegal dumping in the region.

**Next steps**

Metro Vancouver will explore emerging opportunities identified at the workshop to enhance collection of regional data, develop and host tools to estimate cost of disposal and continue to advocate for expanded producer responsibility programs for commonly dumped materials such as mattresses and furniture.

**ALTERNATIVES**

This is an information report. No alternatives are presented.

**FINANCIAL IMPLICATIONS**

Metro Vancouver's initiatives related to illegal dumping monitoring, reporting and education are carried out within existing budgets for Solid Waste Services and External Relations. Illegal dumping clean-up costs are borne by municipalities and private land owners.

**CONCLUSION**

In 2020, approximately 47,000 illegal dumping incidents were reported by member jurisdictions in Metro Vancouver, with an associated clean-up cost of \$3.6 million. In addition, it is estimated that municipalities collectively spend \$2.5 million per year on large item pick-up programs. Despite an overall increase in illegal dumping activity, cleanup costs have remained relatively stable over time.

Illegal dumping continues to be a problem across the region. A key challenge for advancing enforcement action is the collection of evidence. At the illegal dumping municipal workshop hosted by Metro Vancouver, empowerment of volunteer groups, access to disposal options, improved data collection and monitoring, collaboration on education, EPR programs for commonly abandoned items and communication of disposal costs in more relatable units were identified as key areas to focus on to further reduce illegal dumping.

Metro Vancouver continues to facilitate information sharing and will work with member jurisdictions to explore further strategies to reduce illegal dumping in the region.

46688211

---

To: Zero Waste Committee

From: Maria Lo, Project Engineer, Solid Waste Services

Date: September 2, 2021 Meeting Date: September 10, 2021

Subject: **Continuous Improvement, Innovation, and Collaboration with Adjacent Regional Districts**

---

### **RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "Continuous Improvement, Innovation, and Collaboration with Adjacent Regional Districts".

---

### **EXECUTIVE SUMMARY**

Metro Vancouver applies continuous improvement and innovation to consistently increase the value and effectiveness of its facilities, services, and business processes. In 2021, several continuous improvement initiatives have been implemented resulting in both cost savings and enhanced services. Examples of recent innovations include the recycling depot funding strategy, organics management contracts and modernization of weigh scale software systems. Metro Vancouver collaborates with adjacent regional districts to share information and partner on waste reduction projects. A number of foundational studies are underway to support the development of an updated solid waste management plan. To help answer questions posed by Zero Waste Committee members, Metro Vancouver will initiate a new study to assess options to manage residual garbage.

### **PURPOSE**

The purpose of this report is to provide an update on some of the completed, ongoing, and future continuous improvement and innovation initiatives in Solid Waste Services.

### **BACKGROUND**

As requested by the Zero Waste Committee, this report highlights some of the continuous improvement and innovation initiatives within the solid waste function in 2021.

### **CONTINUOUS IMPROVEMENT & INNOVATIONS**

Solid Waste Services engages in continuous improvement, which is an ongoing effort to improve our facilities, services, and business processes. It also engages in innovation, which is the application of new solutions to meet new and existing needs. As part of this effort, business processes, policies and regulations, education and behaviour change tools, and waste reduction and recycling programs are constantly evaluated and improved to enhance their efficiency, effectiveness, and flexibility.

#### **Continuous Improvement in Solid Waste Operations**

Solid Waste Services strives for operational excellence by continuously improving its business processes, services, and practices.

In 2021, highlights include:

- Implementation of a new recycling depot funding strategy that incorporates the cost of recycling depots located at Metro Vancouver's recycling and waste centres into the garbage tipping fees. It provides an annual garbage tipping fee credit to municipalities operating municipal recycling depots. This change in funding strategy accommodates future recycling depots while reducing municipal costs by over \$1 million per year.
- New contracts for organics management for regional recycling and waste centres. The new contracts save the region approximately \$2 million per year, minimize greenhouse gas emissions by exploiting backhaul opportunities, and increases the regional organics management system's resiliency by contracting with more than one organics processor.
- Modernization of weigh scale software to increase efficiency and convenience while reducing potential errors. New features will include automated license plate recognition, enhanced disposal ban reporting, and electronic invoicing.

### **Innovation towards Zero Waste**

Solid Waste Services periodically identifies and assesses innovative ideas for improving the efficiency of its key functions and services. It also explores innovative solutions to meet new requirements or existing needs.

In 2021, highlights included:

- A Metro Vancouver partnership with the City of Burnaby on the smart bin pilot, which assessed the benefits and limitations of using artificial intelligence-enabled sensors to identify banned items and fullness levels in garbage dumpsters. The sensors had an overall success rate of 43% at identifying banned items in their repertoire and an 88% correlation with the human auditor at measuring fullness levels.
- A scan of additional global innovations and their applicability to our region is currently underway through the Circular Economy and 3Rs study. The consultant team is looking into all types of innovations, including policy and regulation, education and behaviour change, business models, and technology. Results from the study are anticipated for the end of 2021 and will be reported to the Zero Waste Committee.

### **Future Areas of Focus**

The future areas of focus for continuous improvement and innovation in Solid Waste Service are circular economy, waste reduction, and recycling of targeted materials in the waste stream. Examples of current initiatives underway include the Circular Economy and 3Rs study, the bottom ash beneficial use initiative, and the alternative fuel and recyclables recovery procurement process.

Metro Vancouver typically seeks technologies that have demonstrated success at a full commercial scale for general operations. Emerging technologies for processing mixed waste (residential and commercial/institutional municipal solid waste, often described as "black bag garbage") are inherently high risk. North American and international experience shows that these initiatives have an extremely high rate of failure.

Committee members have expressed interest in better understanding opportunities for innovation concerning the processing of residual garbage. To better understand those opportunities, Metro Vancouver will start a review of options to manage garbage. The review will be initiated through a



procurement process to select an engineering consulting firm. It will include both mainstream and emerging technologies and provide information in the following areas:

- The extent of use of technology in North America, Europe and world-wide
- Literature review of comparisons between technologies
- Qualitative assessment of relative characteristics of options: cost, risk, scalability, public perception, environmental considerations etc.

The aim of the review is to provide foundational information that will support the solid waste management plan update conversations rather than rank options.

### **Collaboration with Adjacent Regional Districts**

Metro Vancouver continues to collaborate and share information with adjacent regional districts and communities to advance waste reduction. Examples of collaboration with neighbouring regional districts include:

- Exploring opportunities for co-digestion of food waste with biosolids at a waste-water treatment plant with a municipality in an adjacent regional district.
- To rescue and redistribute surplus food, Metro Vancouver participates in a food recovery network the Fraser Valley Regional District also participates in.
- Metro Vancouver facilitates information sharing with member jurisdictions and neighbouring communities through groups such as the Municipal Waste Reduction Coordinators Committee and events such as the illegal dumping workshop. The workshop attracted attendees outside the region, including the Fraser Valley Regional District, Chilliwack, Abbotsford, Whistler, Squamish, and Sechelt. Metro Vancouver was inspired by the City of Chilliwack's web-based waste disposal cost calculator at the illegal dumping workshop and plans to develop a similar tool. City of Chilliwack staff indicated the simple web-based calculator supports conversations with the public related to estimating disposal costs for small loads of various materials.

### **ALTERNATIVES**

This is an information report. No alternatives are presented.

### **FINANCIAL IMPLICATIONS**

Activities related to continuous improvement and innovation are covered under the approved Solid Waste Services budget. Where cost savings are realized through these initiatives, the funds are incorporated into the 2021 budget. There are no additional financial implications.

### **CONCLUSION**

Solid Waste Services regularly pursues continuous improvement and innovation opportunities to increase the value and effectiveness of our programs and services. By staying current with the rapid advancements in policy and regulation, education and behaviour change, business models, and technology, Metro Vancouver is well-positioned to utilize available tools to move the region towards a circular economy and advance waste reduction.

---

To: Zero Waste Committee

From: Karen Storry, Senior Engineer, Solid Waste Services

Date: September 2, 2021 Meeting Date: September 10, 2021

Subject: **2021 Reuse and Repair Initiatives Update**

---

### **RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated September 2, 2021, titled "2021 Reuse and Repair Initiatives Update".

---

### **EXECUTIVE SUMMARY**

As local governments and businesses grapple with global challenges such as waste reduction, climate change and ocean plastics, reuse and repair initiatives provide an attractive solution. Clothing, household goods, takeout containers, and bags continue to be key sectors for reuse and repair in the region. In addition, the role of reuse in the built environment is an emerging area of interest for waste reduction and climate action. Metro Vancouver continues to help advance reuse and repair initiatives through data collection, information sharing and behavior change campaigns. Although implementation of further reuse and repair initiatives was put on pause in 2020/2021 due to COVID-19 restrictions, planning for the future continued. An expanded pilot for reuse education at regional recycling and waste centres and several regionally supported repair events are anticipated for 2022.

### **PURPOSE**

To provide the Zero Waste Committee with an update on reuse and repair initiatives in the region.

### **BACKGROUND**

At its January 22, 2021 meeting the Zero Waste Committee endorsed the work plan as presented in the report dated January 14, 2021, titled "2021 Zero Waste Committee Priorities and Work Plan". The work plan includes an update on regional reuse and repair initiatives.

### **REUSE AND REPAIR**

Reuse and repair is an increasing area of interest for not only Metro Vancouver and our member jurisdictions, but also for businesses. As we all grapple with global challenges such as waste reduction, climate change and ocean plastics, reuse and repair provides an attractive solution. Reusing and repairing the items we already have is often the lowest cost and lowest carbon option. As businesses explore circular economy business models such as rental and resale, reuse and repair also provides new business opportunities.

The following sections summarize key sector trends and Metro Vancouver work in reuse and repair.

#### **Clothing and Household Goods**

While some donation centres put a pause on donations, Metro Vancouver solid waste facilities continued to collect books, second hand clothing and gently used household goods for donation

throughout the pandemic. This provided an important option for residents that were moving or had limited ability to store donations until other options opened back up. The thrift store sector has not only bounced back to pre-pandemic levels; but fashion brands have also started to look at their role in resale. In 2021, two of the largest locally-based outerwear brands launched clothing resale platforms.

### **Reusable Bags, Cups, and Containers**

The National Zero Waste Council report titled *Opportunities for Reusables in Retail Settings During the COVID-19 Pandemic in Canada*, provided a science-based analysis to confirm that people bringing and using their own cups and reusable bags in to shops and cafes does not have a significant risk of transmitting communicable diseases such as COVID-19. Findings of this report were corroborated by this BC Centre for Disease Control June website update:

“COVID-19 transmission from handling reusable containers such as grocery bags, coffee mugs, dollar bills, coins, bulk bins and other reusable items HAS NOT BEEN DOCUMENTED. Because the risk is LOW, premises may go back to normal activities as long as COVID safety measures known to reduce overall risk are maintained.”

This work is critical to restoring businesses’ and residents’ confidence in using reusable bags, cups and containers. As the Government of BC continues to advance restart plans, we are seeing a return of reusable bags and cups being used by residents at local retailers.

In 2021, we also saw the launch of two new reusable container and cup share businesses in the region. These businesses are important to accelerate reuse because they provide a convenient alternative for residents; and overcome the limitations related to the *BC Food Safety Act* requirements for personal containers. Under the current regulations, customers can use their personal containers for leftovers at their table, but restaurants must wash any personal containers before placing food directly into them. Work to develop safe procedures for restaurants to allow for filling of personal containers was put on pause during the pandemic, but is expected to resume now that health authorities are better positioned to address non-pandemic priorities.

To further advance reusable bag, cup and container use, Metro Vancouver is working with member jurisdictions and the Ministry of Environment and Climate Change Strategy on harmonization of municipal single-use item bylaws.

### **The Built Environment**

The built environment, which includes all man-made structures, is one of the most material and carbon-intensive sectors. A key strategy to reduce materials and carbon in the built environment is reuse. A recent report by the Pacific Institute for Climate Solutions found reuse of existing building stock is almost always more effective in reducing climate impacts than new energy-efficient construction. In step with these findings, recent updates to Metro Vancouver’s construction and demolition toolkit included an increased emphasis on reuse. The updated toolkit includes house moving and salvage as preferred alternatives to recycling.

### **Metro Vancouver Behaviour Change Campaigns**

Behaviour change campaigns continue to be an important activity for Metro Vancouver to encourage reuse and repair.

- *Think Thrice* helps residents with easy clothing repairs and encourages them to buy second hand where possible.
- *Love Food Hate Waste* provides chef-inspired ideas on how to transform food that would otherwise be wasted into delicious meals, and to prevent food waste through better storage and planning.
- *Create Memories Not Garbage* inspires people to use reusable gift wrap, give experiences instead of items that create waste, and give lasting durable gifts.
- *Superhabits* reminds residents to bring their reusable items as it is “our small daily routines will save the day”.

### **Reuse Days at Metro Vancouver Recycling and Waste Centres**

Metro Vancouver hosted a trial reuse education day at the North Shore Recycling and Waste Centre in June 2019. Volunteers from our reuse partner, Urban Repurpose, collected 3,540 lbs (1,609 kg) of resalable goods. Items collected included a vintage teak lamp, books, bed frames, and lumber. Residents were surprised to learn materials they were dropping off as waste or recycling could be given a second life and encouraged staff to hold the event more often. Staff are working to expand on the 2019 trial with a pilot at the North Shore Recycling and Waste Centre starting in the spring of 2022. If the pilot is a success, the long term goal will be to find more reuse partners and build capacity to do the events at as many regional facilities as possible.

### **Community Repair Events**

A handful of community repair events were held during the pandemic. While most were held virtually, some communities were able to host a few in-person outdoor events with limited attendance. Most communities are waiting for COVID-19 restrictions to be lifted as it is difficult to replicate the volunteer-community member interaction and the overall community building benefits of the repair events in a virtual setting. Some communities are already planning for repair events to start later this year. Metro Vancouver is working with municipal staff to develop a joint funding model to help encourage more events throughout the region. As a result, an increased number of repair events are anticipated for 2022. These events will help residents access repair and reuse events to fix a variety of items such as small appliances, electronics and clothing.

### **Measurement**

In 2017, Metro Vancouver published its first high-level estimate of reuse in the region. It is estimated that 87,500 tonnes of material was reused in the region in 2019, a slight increase from the 2017 estimate of 82,000 tonnes. Examples of reused materials include donated or resold clothing, certain minimally-processed EPR materials, donated foods, reused furniture and office equipment, salvaged building materials and other items bought and sold which prevented the need to purchase new items. Reuse in the region is estimated by using data from registered charities’ financial statements, EPR annual reports, published information from reuse program web pages, statistical information and communications with key organizations in the second-hand clothing industry, hospitality sector, food rescue organizations and average number of goods exchanged via online marketplaces. Staff continue to work on expanding and improving the regional reuse estimate. In 2021, Metro Vancouver hired a

UBC Regional Scholar to review the current method and identify potential opportunities for improvement.

In addition to the trends and Metro Vancouver work summarized above:

- The Circular Economy and 3Rs initiatives study is underway. The study will identify reuse and repair initiatives in other jurisdictions that could further advance reuse and repair in the Metro Vancouver region.
- To advance food reuse in the region, Metro Vancouver has procured services from FoodMesh to further develop the regional food recovery network. A more detailed summary of this work is in the Manager's Report.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

Metro Vancouver initiatives described in this report are accommodated within the annual Solid Waste Services budget.

## **CONCLUSION**

Reuse and repair provide an attractive solution to global challenges such as waste reduction, climate change and ocean plastics. Clothing, household goods, takeout containers and bags continue to be key items for reuse and repair in the region. In addition; the role of reuse in the built environment is emerging as a key area of interest. Metro Vancouver continues to help advance reuse and repair through data collection, information sharing and behavior change campaigns. Planning for reuse and repair continued in 2020/2021, though implementation was limited by pandemic restrictions. An expanded pilot for reuse education at recycling and waste centres, as well as increased repair events are anticipated for 2022.

## **References**

1. [Making Embodied Carbon Mainstream \(Pacific Institute for Climate Solution\)](#)

46733788

---

To: Zero Waste Committee

From: Heather Schoemaker, General Manager, External Relations  
Ann Rowan, Division Manager, Collaboration and Engagement, External Relations

Date: August 3, 2021 Meeting Date: September 10, 2021

Subject: **2021 Update on National Zero Waste Council Activities**

---

**RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated August 3, 2021 titled “2021 Update on National Zero Waste Council Activities.”

---

**EXECUTIVE SUMMARY**

In 2021, the National Zero Waste Council has a number of projects and initiatives that will advance waste prevention and circularity within Metro Vancouver and across Canada. Included is the Council’s foundational work in reducing food waste across the value chain and by households and developing pilot projects to divert asphalt and wood waste while working collaboratively to champion a circular economy for plastics packaging and the creation of circular cities and regions in Canada. Research analyzing the public health risks of reusables, confirmed the switch to single use items during the pandemic was not warranted. By being strategic and effective in identifying areas of work, the Council has been able to leverage external funding expanding the capacity of the Council to deliver on its objectives - \$200,000 in 2021 to advance the Council’s work in the circular economy and food loss and waste and \$371,500 in campaign partner service fees for Love Food Hate Waste Canada.

**PURPOSE**

To provide an update on the initiatives and projects of the National Zero Waste Council since the beginning of 2021.

**BACKGROUND**

Created in 2013 to enable cross-sector collaboration in advancing waste prevention and accelerating the transition to a circular economy across Canada, the Council is a leadership initiative of Metro Vancouver. The Council convenes and connects with leaders in waste prevention from the public and private sectors across Canada to advance initiatives and projects that catalyze effective action in waste prevention and circularity. The Council, through relationships with thought-leaders from global organizations and jurisdictions engaged in accelerating the transition to a circular economy, seeks to inform and align its work with “cutting edge” and effective initiatives.

**NATIONAL ZERO WASTE COUNCIL – 2021 UPDATE**

The Council is a cross-sectoral collaboration of 170 members coming from jurisdictions, businesses and NGOs from across Canada who share a common commitment to prevent waste and to accelerate a transition to a circular economy. The Council has two active working groups, composed of members

of the Council, who undertake pilot projects and preliminary research. This complements the work of other projects initiated and led by Secretariat staff as part of an approved annual work plan.

Since the beginning of 2021, there have been several important accomplishments and new projects initiated that are summarized below.

**Reusables during the Pandemic:** The growing trend in the use of reusables had been disrupted during the pandemic. Food retailers adopted a range of policies, often limiting the use of reusable bags, mugs, containers, and bulk food. In response, the Council's Product, Design and Packaging Working Group approached a research team at the University of Toronto's Dalla Lana School of Public Health to learn more about the science behind the risks of using reusables. The result was a report *Opportunities for Reusables in Retail Settings During the COVID-19 Pandemic in Canada: A Review of Guidance and Evidence*.

Their conclusions, based on a scan of scientific research on virus transmission, was that as long as precautions remain in place (like hand washing), reusable items may be used in retail settings during the COVID-19 pandemic. Just this month, the BC Centre for Disease Control updated their guidelines indicating that food businesses may go back to normal activities when handling reusable containers as long as COVID safety measures are maintained. The challenge now is to recover the momentum of the switch to reusables from single use products before the pandemic – this will involve changing the attitude of retailers as well as consumers. The research supports Metro Vancouver's Super Habits campaign.

A webinar on the topic of reusables involving both the research team as well as important leaders in the retail sector was held on June 24 with over 130 participants. The report and recording of the webinar is available on the Council website.

**Construction and Demolition Waste:** Effective action on waste prevention requires good data. The Recognizing this need, the Council's Construction, Renovation and Demolition Working Group of the Council undertook work to support a new waste database and analysis report.

The report, *Watching our Waste: A National Construction Waste Analysis in Canada Using LEED Certified Project Data* was authored by Light House, who collected and analyzed construction and demolition (C&D) waste data from LEED projects across Canada. They compared that information to best practices in the industry and concluded that much higher diversions rates across the construction industry are possible.

A video has also been produced that highlights efforts to advance wood waste diversion across Canada is available on the Council website.

**Canadian Plastics Pact (CPP):** The National Zero Waste Council played a pivotal role in the formation and launch of the CPP which brings together a diverse set of leaders and experts in the national plastics value chain to collaboratively change the way we design, use, and reuse plastic packaging. This will involve goal setting, piloting and innovating new technical, policy and legislative solutions to the barriers. Metro Vancouver and the Council will play a key role in the implementation of the pact and key policy actions of relevance to Metro Vancouver zero waste priorities.

On July 22, 2021, 21 Canadian retail and consumer packaged goods companies announced their support for the Golden Design Rules for Plastic Packaging released by the Consumer Goods Forum Coalition of Action on Plastic Waste. The nine Golden Design rules provide a framework to drive innovation and scalable actions that should result in less plastic packaging overall and easier to recycle plastic packaging by 2025. The CPP will lead the consultation and implementation of the Golden Design Rules in Canada. The National Zero Waste Council welcomes the Golden Design Rules as an important step toward a circular economy for plastics packaging.

**Food Loss and Waste:** The Council's work on food loss and waste prevention continues to evolve both through commissioned research and the ability to convene and connect important stakeholders in the food value chain progresses. The Council has a seat on Canada's National Food Policy Council – an important venue for building support for important actions identified in *A Food Loss and Waste Strategy for Canada*. New collaborative research into circular food systems will identify opportunities to advance circular food practices on-the-ground and will support the growth of circular food systems across Canada.

Through the Love Food Hate Waste Canada campaign, the Council brings jurisdictions and food retailers across Canada into a proven behaviour change campaign focused on reducing household food waste. In 2021, a new "Five Ways with" campaign was rolled out in both official languages to help Canadians rethink avoidable food waste. The campaign gives Canadians easy to implement storage and usage tips on commonly wasted household food items and is being delivered digitally through online ads.

**Circular Cities and Regions Initiative (CCRI):** The CCRI is a one-year national pilot project developed by the National Zero Waste Council, Federation of Canadian Municipalities, Recycling Council of Alberta, and RECYC-QUÉBEC to advance circular economy knowledge sharing and capacity building in the Canadian local government sector. As part of the initiative, five webinars will be delivered that will enable knowledge sharing from the Ellen MacArthur Foundation, Zero Waste Scotland and other global leaders in the creation of circular cities. Two webinars have been delivered and the next one, *Addressing Global Challenges through Innovative Place-based Solutions*, is scheduled for September 15. See the Council website – [nzw.ca](http://nzw.ca) - for details.

A second key program component is the Peer-2-Peer (P2P) network that will enable a pilot of communities to benefit from cohort learning and exchange. The communities involved in this pilot will have access to one-on-one support by the CCRI team and other strategic and global advisors to support them in their journey towards circularity and will culminate in the development of circular economy roadmaps for each community. On June 15, 2021, the fifteen local governments to the P2P network were announced and included the cities of Richmond and Vancouver.

## **LEVERAGING SUCCESS**

Core funding for the National Zero Waste Council is provided by Metro Vancouver; since its launch in 2013 this has been in the form of a budget for in-kind services (2 staff salaries) \$120,700 for project development, translation and administrative expenses.



Over the past three years, there has been an emphasis on attracting external project funding to amplify and expand the work of the Council. The Council has been successful in terms of raising funds for the Love Food Hate Waste Canada campaign, work to reduce food loss and waste throughout the supply chain and for work advancing the transition to the circular economy. On average, the annual amount raised from external sources has been \$500,000; this includes about \$350,000 in service fees collected from project partners in the Love Food Hate Waste Canada campaign.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

The 2021 budget for the National Zero Waste Council is \$434,354, including salaries for two staff and project development funding of \$120,700. In addition, leveraged funding from external project partners is projected to be just under \$200,000 to advance the Council's work in the circular economy and food loss and waste.

Love Food Hate Waste Canada, a self-sustaining program of the Council is funded by service fees from its campaign partners that directly support the development of communications and marketing campaigns, creative materials for the web, social media, and activation initiatives and to leverage the reach of campaign ambassadors and market influencers. The LFHW budget in 2021 is projected to be \$371,500.

## **CONCLUSION**

In 2021, the National Zero Waste Council has a number of projects and initiatives that will advance waste prevention and circularity within Metro Vancouver and across Canada. The Council continues to do foundational work in reducing food waste across the value chain and by households and developing pilot projects to divert asphalt and wood waste while working collaboratively to champion a circular economy for plastics packaging and the creation of circular cities and regions in Canada. Research analyzing the public health risks of reusables, even during the COVID 19 pandemic confirmed that the switch to single use items was not warranted and that, as long as precautions remain in place (like hand washing), reusable items may be used in retail settings. By being strategic and effective in identifying areas of work, the Council has been able to leverage the Metro Vancouver contribution to the Council to raise funds from external sources which expands the capacity of the Council to deliver on its objectives.

## **References:**

1. National Zero Waste Council website [www.nzwc.ca](http://www.nzwc.ca)
2. [\*Opportunities for Reusables in Retail Settings During the COVID-19 Pandemic in Canada: A Review of Guidance and Evidence.\*](#)
3. [\*Watching our Waste: A National Construction Waste Analysis in Canada Using LEED Certified Project Data\*](#)
4. [\*Opportunities to Upcycle Wood Waste Across Canada - video\*](#)
5. [Canada Plastics Pact](#) website
6. [\*A Food Loss and Waste Strategy for Canada\*](#)

7. [Love Food Hate Waste Canada](#) website
8. [Circular Cities and Regions Initiative](#) website
9. [Addressing global challenges through innovative place-based solutions webinar](#)

47011548

---

To: Zero Waste Committee

From: Heather Schoemaker, General Manager, External Relations  
Ann Rowan, Division Manager, Collaboration and Engagement, External Relations

Date: August 31, 2021 Meeting Date: September 10, 2021

Subject: **2021 Zero Waste Conference Update**

---

**RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated August 31, 2021, “2021 Zero Waste Conference Update.”

---

**EXECUTIVE SUMMARY**

The 2021 Zero Waste Conference, taking place October 28, promises to be a full day of dynamic, curated programming bringing together keynote speakers and panelists who will challenge participants to create a resilient, carbon neutral and circular future through inspiring stories of changes and initiatives already underway and encouragement to take the bold steps required in transformative times. The primarily virtual Conference will be co-hosted by Metro Vancouver and the National Zero Waste Council and broadcast from the multimedia studio at the Annacis Research Centre with the opportunity for a small in-studio audience as BC navigates its restart

The overarching theme of the Zero Waste Conference is a “*Future without Waste*”. This year’s subthemes are:

*Unlock the power of imagination and transformation*  
*Step into creative and innovative thinking*  
*Design a resilient, carbon neutral and circular future*

**PURPOSE**

This report provides an update on the planning for the 2021 Zero Waste Conference.

**2021 ZERO WASTE CONFERENCE**

The annual Zero Waste Conference, hosted by Metro Vancouver and the National Zero Waste Council, supports the first two goals of the *Integrated Solid Waste and Resource Management Plan* related to waste prevention. The Conference, in its eleventh year, has become a fixture on Metro Vancouver’s calendar attracting interest from all orders of government, the business sector, sustainability practitioners and academia within the region and across Canada.

Planning for the Conference begins early in the year and given uncertainty about what the COVID 19 pandemic situation would be like and the public health officer’s guidance on public gatherings, two decisions were made early on. First, that this year’s conference would once again be virtual with the opportunity for a small in-studio audience as BC navigates its restart plan. The second decision, given the Conference would primarily be virtual, was that it would be a one-day conference as opposed to

the previously planned move to a two-day event. The 2021 Zero Waste Conference will be held on October 28<sup>th</sup> and will be broadcast from the multimedia studio at the Annacis Research Centre.

In alignment with the conference, the National Zero Waste Council hosts its Annual General Meeting the day prior to the conference allowing Council members to also attend the conference. The 2021 Zero Waste Conference is also bookended by two important global conferences. The 2021 World Circular Economy Forum (WCEF) is scheduled for September 13 to 15 in Toronto and the Conference of the Parties (COP) 26 UN Climate Change Conference will take place from October 31 to November 12 in Glasgow, UK. In response, we have taken this opportunity to develop a program that integrates the transition to a circular economy with climate action and building resilience.

### **Program**

The overarching theme of the Zero Waste Conference is a “*Future without Waste*” with an annual set of subthemes that define the rich experience participants have come to expect. This year the subthemes are:

*Unlock the power of imagination and transformation*  
*Step into creative and innovative thinking*  
*Design a resilient, carbon neutral and circular future*

The Conference will showcase a curated program of high caliber keynotes and panelists who together are inspiring, thought-provoking, providing success stories from the marketplace to decision-tables. Attachment 1 provides an overview of the preliminary program for the 2021 Conference. The Conference website, [www.zwc.ca](http://www.zwc.ca), provides additional information on the program, sessions and speakers.

### **Marketing**

The conference has become a must-attend for many return participants and benefits from a robust marketing strategy, engaging multiple partners and stakeholders locally, nationally and globally. Included are a blend of print and digital media, association notice boards and newsletters and creative networking through Metro Vancouver and the National Zero Waste Council and key affiliated networks and associations such as the Federation of Canadian Municipalities and Circular Economy Leadership Canada

### **Registration**

Last year, just over 500 people attended the Zero Waste Conference. This year we are projecting 600 registrants. Registration fees for virtual participants are \$150 with an early bird rate of \$100 that was in place until the end of July. In addition, we offer students a registration fee of \$89. For the small number of individuals who will be able to watch the conference in the studio, registration will be \$300.

As in prior years, the registration fees are waived for members of the Metro Vancouver Board and the Zero Waste Committee. An email providing more information on the registration process for Board and Committee members will be distributed by September 15<sup>th</sup>.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

The projected cost to host the 2021 Zero Waste Conference is \$301,950 supported through the 2021 General Government Program of \$212,000 and \$89,950 from conference registration fees.

## **CONCLUSION**

The annual Zero Waste Conference, hosted by Metro Vancouver and the National Zero Waste Council, supports the first two goals of the *Integrated Solid Waste and Resource Management Plan* related to waste prevention. Given the uncertain nature of organizing a public event during the COVID 19 pandemic, the 2021 Zero Waste Conference will again be a virtual event, taking place October 28<sup>th</sup> and broadcast from the multimedia studio at the Annacis Research Centre.

The program for the 2021 Conference is designed to bring together important threads for this moment when significant transformations is urgent. We are slowly emerging from a global pandemic at the same time that the impacts of climate change and the problem of waste resources are more evident. The curated program of speakers and panelists integrates the transition to a circular economy with climate action and building resilience.

## **Attachment:**

Tentative Program for ***2021 Zero Waste Conference: A Future Without Waste***

## **Reference:**

[2021 Zero Waste Conference](#)

46922648

## 2021 Zero Waste Conference: A Future Without Waste

*Unlock the power of imagination and transformation*

*Step into creative and innovative thinking*

*Design a resilient, carbon neutral and circular future*

For **11 years**, the Zero Waste Conference has been at the forefront of Canada's circular economy journey bringing together thought leaders, innovators and change makers, surfacing some of the best ideas from the past while presenting pioneering solutions that take us to a future we've only begun to dare dream is possible.

As the world faces unprecedented challenges, we are more committed than ever to accelerating the transition to a circular and zero waste economy, creating solutions that combine economic opportunity with benefits to wider society and the environment.

Join us at this year's Zero Waste Conference to explore the ideas and actions with the greatest potential to transform our communities and economies in support of a future without waste.

### Preliminary Program – subject to change

#### 8:30 Conference Kickoff

- Opening Video – A Ten Year Journey

#### 8:35 Welcoming Remarks

- Sav Dhaliwal, Chair, Metro Vancouver Board
- Province of BC

### **UNLOCK THE POWER OF IMAGINATION AND TRANSFORMATION**

#### 8:45 Opening Keynote Armchair Discussion – Unlocking the Future

- Shivvi Jervis, Futurist and Founder of FutureScape 248 (invited)
- Gerd Leonhard, Futurist and CEO of The Futures Agency (invited)

#### 9:30 Innovation Showcase

- Safia Qureshi, CEO & Founder, CLUBZERO
- Marte Arturo Cázarez Duarte and Adrián López Velarde, Co-founders, Desserto
- Ryan Chetiyawardana, Founder, Mr Lyan Studio

### **A RESILIENT, CARBON NEUTRAL AND CIRCULAR FUTURE**

#### 10:00 Keynote: Are we on track to create a circular future?

- Dr. Janez Potočnik, Co-Chair of the International Resource Panel and Partner at SYSTEMIQ

#### 10:30 Networking Break

**10:45 Keynote Responding Panel**

- Kai Chen, Professor, Institute for Resources, Environment and Sustainability, University of British Columbia
- Ashima Sukhdev, North American Programs Lead, Ellen McArthur Foundation
- Speaker to be confirmed

**11:30 Canadian Milestones**

Learn how the Quebec Circularity Gap Report is helping accelerate action in the Province of Quebec and how leaders in Canada are uniting on a new vision of a circular economy for plastic, in which plastics stay in the economy and out of the environment.

- Sophie Langlois Blouin, Senior Vice President of Operations, RECYC-QUEBEC
- Speaker to be confirmed

***CITIES AND REGIONS - BRIDGING SOCIAL, CLIMATE AND ECONOMIC GOALS*****11:45 Planning for a better future: ideas and inspiration for a post-pandemic urban areas**

The pandemic has changed our production and consumption patterns and impacted our urban fabric. From adaptive reuse, material cycling to ecological restoration and the future of work, explore the role of circular development strategies in creating resilient and prosperous urban systems.

- **Spark Talk:** Joanna Williams, Director of the Circular Cities Hub and Professor in Sustainable Urbanism at the Bartlett School of Planning, University College of London

**12:05 The journey for a circular future – the urban perspective**

- Panel to be confirmed

**12:45 Networking Lunch*****STEP INTO CREATIVE AND INNOVATIVE THINKING*****1:30 Welcome back**

- Jack Froese, Chair, National Zero Waste Council

**1:30 Keynote: Innovation and Investment for System Design**

- Arlene Dickenson, Dragon, Entrepreneur, Partner (invited)

**2:00 Is the future of food and circular food systems found in design?**

Driving down food waste can mean donating more, cooking with less, thriftier procurement. But what if driving down food waste is an even more intentional act of re-imagining? What if the future of food, and circular food systems, is found in design?

Design of food businesses, products, infrastructure, supply chain? Design of relationships and collaboration, of investment that supports innovation? Design of local and global systems – social and economic? A cultural and material design project that simultaneously transforms our economy, our neighborhoods, and our place-based identities?

#### **Innovator Spotlight**

- Adolefami Agunbiade, FoodNerve

#### **Armchair Discussion:**

- Lauren Abda, CEO of Branchfood Ventures
- Speakers to be confirmed

#### **2:45 Innovation Showcase**

- David Côté & Julie Poitras-Saulnier, Co-founders, LOOP Mission
- Garry Cooper, CEO, President & Co-founder, Rheaply
- Miranda Wang, CEO & Co-founder, Novoloop

#### **3:15 Networking break**

#### **3:30 Keynote: Adapt and Thrive - Embracing humanity for transformation**

- Sheila Watt-Cloutier, Environmental, Cultural, and Human Rights Advocate

Sheila reminds us of the human face of climate change and how indigenous worldviews opens an important perspective on how to move forward. Sheila calls on us to harness our imaginations and truly understand the opportunity of collective action to realize the future we all need.

#### **4:00 Achieving Planetary Health Through Human Health**

As industries seek ways to accelerate circularity, healthcare is not often top of mind. A year into a global pandemic the spotlight has been on this vital sector which also creates significant environmental impacts. The Planetary Healthcare Lab is helping researchers understand how we can implement circular solutions to advance environmental and human health gains. And how can the protection of human health result in a healthier planet? In this session, we'll hear about new research and promising opportunities to achieve circularity while protecting public health.

#### **Armchair discussion:**

- Dr. Andrea MacNeill, Planetary Healthcare Lab, UBC
- Speaker to be confirmed

#### **4:30 Closing Keynote: Living in the intertidal zone**

- Billy Almon, Astrobiofuturist



Biology-inspired solutions to improve the human condition for those of us on earth and those who will travel to the stars? A storyteller, Billy draws on his understanding of nature to illustrate the adaptive character of species and ecosystems and the ability to rebound from dramatic events and changes. Share Billy's passion, as we aspire to a future that regenerates systems, communities and people in a dynamic, ever changing environment.

**5:00    Closing Remarks**

---

To: Zero Waste Committee

From: Paul Henderson, General Manager, Solid Waste Services

Date: September 3, 2021

Meeting Date: September 10, 2021

Subject: **Manager's Report**

---

## **RECOMMENDATION**

That the Zero Waste Committee receive for information the report dated September 3, 2021, titled "Manager's Report".

---

### **Greenest City in the World for Recycling Designation**

UK-based waste experts BusinessWaste.co.uk have named Vancouver as the Greenest City in the world for recycling. Congratulations to everyone that has contributed a regional recycling rate of 63%, more than twice the national average.

Full ranking available here: <https://www.businesswaste.co.uk/the-greenest-cities-in-the-world/>

### **Alternative Fuel and Recyclables Recovery Interim Processing Strategy**

As directed by the Board, Metro Vancouver is initiating procurement for the processing of approximately 60,000 tonnes per year of small load waste to recover recyclables and alternative fuel. Key elements of the procurement process will be maximizing alternative fuel and recyclable material recovery; obtaining all information necessary to quantify and, if possible, retain credit for greenhouse gas emission reductions; and ensuring all environmental and regulatory requirements are met. Any alternative fuel created as a result of this initiative will be used to replace fossil fuels at users such as cement plants, industrial biomass facilities or district energy systems. Assuming 40% of small load waste can be recovered, this initiative could result in emissions reductions of up to 20,000 tonnes CO<sup>2</sup> equivalent per year.

### **Food Recovery Network Project Update**

Following a procurement process, Metro Vancouver has contracted FoodMesh to develop a regional food recovery network to help rescue and redistribute surplus food, moving food up the waste hierarchy to feed animals and people. This network will be integrated with existing food recovery hubs across Metro Vancouver and the Fraser Valley to leverage successes and expand the benefits of food recovery. The network is supported by a customized online platform that connects food producers with users to rescue and redistribute edible food products, recruit partners, promote the network, and provide training opportunities and ongoing technical support. Staff will report back on the outcomes of the initiative as it proceeds.

### **Zero Waste Construction Certification Initiative**

Metro Vancouver is working with HSR Zero Waste, in partnership with Zero Waste Canada, Light House Sustainable Building Centre (local green building consultants) and LEDCOR Group (North-America-wide construction contractors) to develop a 'Zero Waste' construction certification program. Completion of the certification program is expected in mid 2022.

### **Bottom Ash Beneficial Use Procurement Update**

Metro Vancouver initiated a procurement process for the beneficial use of bottom ash and RFQ 20-076 was issued in March 2020. Two proponents: Birco Environmental Services Ltd., and GRT Mobile Soil Processing (Canada) Ltd., were shortlisted to participate in the Request for Proposals with both proponent approaches including processing the bottom ash for use as an input to a local cement plant. RFP 21-027 was issued in January 2021 and responses were received from both proponents. Both proponents identified the need for pilot testing before preparing submissions for a full scale project. Metro Vancouver is now seeking proposals from Birco and GRT to conduct pilot testing for use of the bottom ash at a local cement plant. Subject to the pilot testing outcomes, it is anticipated that both Birco and GRT would be invited to submit proposals for full-scale bottom ash processing. The initiative could divert more than 40,000 tonnes per year of bottom ash from disposal, reducing regional disposal requirements by approximately 5% and reducing greenhouse gas emissions associated with mining and transporting raw materials.

### **Single-Use Item Regulatory Harmonization Update**

The Minister of Environment and Climate Change Strategy signed Ministerial Order No. M309 on July 26, 2021. This ministerial order allows local governments in B.C. to enact any or all of the following approaches to single-use item reduction bylaws without seeking approval from the Minister of Environment and Climate Change Strategy:

- Ban plastic checkout bags with set minimum fees for recycled paper and reusable bags;
- Ban polystyrene foam service-ware containers;
- Ban plastic drinking straws not required for medical or accessibility needs, and/or single-use drinking straws provided only on request by the customer; and
- Ban plastic utensils, and/or single-use utensils provided only on request by the customer.

Following discussions with municipal staff, Metro Vancouver continues to work with municipal staff to report back to the Zero Waste Committee and Board with a recommended regional harmonized approach for municipal single-use item reduction bylaws given the provincial approach is an à la carte model whereby individual municipalities decide what materials to ban.

### **2021 Waste in Its Place and Personal Protective Equipment Promotions**

In its fifth year, the 'Waste in its Place' illegal dumping campaign continued to provide education and awareness of safe and legal disposal methods to help reduce instances of illegal dumping across the region. Focused promotions launched March 15, ahead of spring break, and remained in-market through June with a strong digital presence, targeting renters and those in multi-family homes who may struggle with large-item disposal. Through Facebook, Instagram, Snapchat, YouTube and Google Search, the promotions earned 7.5 million impressions. With personal protective equipment (PPE) littering and disposable PPE use emerging as an issue in 2020 and continuing to be a concern, the 2021 Waste in its Place promotions continued to include a PPE component. New 'reusable PPE' creative was developed for the PPE portion of the buy with the objective to increase conversion to reusable PPE.

### **Federal Clean Fuels Fund Project Proposal - Anaerobic Digestion Feasibility Study**

Metro Vancouver (Solid Waste Services & Parks and Environment Departments) is developing a project proposal to the [Federal Clean Fuels Fund](#) to undertake a feasibility study on anaerobic processing of organics. Staff are preparing the project proposal with the following focus areas in mind for the study:

- Organics Processing Technologies and Systems Assessment
- Analysis of Organics Management and Feedstock Availability in the Region
- Anaerobic Digestion Development Opportunities, Partnership Strategies and Ownership Options
- Cost-Benefit Analysis of Scenarios (Small, Mid-Size or Large Facilities)
- Potential Community Impacts and Mitigation Techniques
- System Energy and Digestate Output Analysis
- Greenhouse Gas Reduction Potential Analysis

If the project proposal is approved for federal funding an update will be provided to Committee.

### **Metro Vancouver Compost Quality Study**

Following questions about local compost quality, Metro Vancouver conducted a study to determine the amount and physical nature of foreign debris contamination (e.g. glass, plastic, metal), and the overall characteristics of 50 compost samples available locally.

The results of the study indicate that foreign debris were found in some of the samples, and confirmed all samples meet current and proposed compost quality standards for foreign matter outlined in the Province's Organic Matter Recycling Regulation. In addition, characteristics of foreign matter found in the samples do not appear to present a physical safety hazard.

The study includes a detailed methodology for determining foreign matter content in organic material that could be used in other communities to help standardize measurement of foreign matter content.

The study results are available at the following link: <http://www.metrovancouver.org/services/solid-waste/SolidWastePublications/MetroVancouverCompostQualityStudyReport.pdf>

### **Solid Waste Management Plan Update – Committee Engagement**

Metro Vancouver will be initiating a Solid Waste and Recycling Industry Advisory Committee, which will act as a forum for industry contribution and advice on planning, operations and policy related to solid waste and recycling in Metro Vancouver. The draft terms of reference specify that the Industry Advisory Committee membership will include representatives from private waste and recycling collection and processing companies and their industry associations. Metro Vancouver is seeking feedback on the draft Industry Advisory Committee terms of reference via email to [solidwasteoperations@metrovancouver.org](mailto:solidwasteoperations@metrovancouver.org) by September 15, 2021.

Metro Vancouver will be convening individuals with relevant personal qualities and experiences to sit on public and technical advisory committee(s) for the solid waste management plan update, as required by provincial guidelines. Metro Vancouver is currently engaging on the structure and membership selection criteria of the committee(s) prior to initiating the call for applications. Following the call for applications, Committee members will be selected by the Metro Vancouver Board in a closed meeting. Committee members will provide advice and input on the development of the region's next solid waste management plan. Feedback can be provided via a [questionnaire](#) which is open until September 15, 2021.

**2021 Zero Waste Committee Work Plan**

The attachment to this report sets out the Committee's work plan for 2021. 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 2021 Work Plan

46585991

## Zero Waste Committee 2021 Work Plan

Report Date: September 3, 2021

## Priorities

1 <sup>st</sup> Quarter	Status
2020 Create Memories Not Garbage Results	Complete
2020 Waste Composition Data	Complete
2020 Zero Waste Conference Results	Complete
2021 Food Scraps Campaign	Complete
2021 Think Thrice Textiles Campaign	Complete
Alternative Fuel and Recyclables Recovery Procurement Process	Complete
Contingency Disposal Contract Award	Complete
Disposal Ban Inspections Contract Award	Complete
National Zero Waste Council 2020 Accomplishments and 2021 Projects	Complete
North Shore Organics Agreement and Contract Award	Complete
Single-Use Items	Complete
Solid Waste Management Plan Consultation and Engagement Panel Update	Complete
2 <sup>nd</sup> Quarter	
2020 Disposal Ban Inspection Program Results	In progress
2020 Food Scraps Campaign Results	Complete
2020 Waste-to-Energy Facility Environmental Performance Summary	In progress
2020 Waste-to-Energy Facility Financial Summary	Complete
2021 Single Use Item Campaign	Complete
2021 Think Thrice Textiles Campaign Results	Complete
Commercial Organics Management	Pending
Extended Producer Responsibility Programs	Complete
Love Food Hate Waste	Complete
Recycling Depot Funding Strategy	Complete
Reuse and Repair Initiatives	In progress
Solid Waste Services Capital Program Expenditures Update as at December 31, 2020	Complete
United Boulevard Recycling and Waste Centre Opening	Complete
Waste-to-Energy Facility - Bottom Ash Beneficial Use Contract Award	In progress
Waste-to-Energy Facility – District Energy Business Case	Complete
3 <sup>rd</sup> Quarter	
2021 National Zero Waste Council Projects	Complete
2021 Textiles Campaign Results	Complete
2021 Zero Waste Conference Update	Pending
Adjacent Regional District Collaboration Opportunities Including Emerging Technologies	In progress
Central Surrey Recycling and Waste Centre Operations Contract Award	Pending
Illegal Dumping Data and Programs	In progress
Solid Waste Management Plan - Studies	In progress
Solid Waste Services Capital Program Expenditures Update as at April 30, 2021	Complete

<b>4<sup>th</sup> Quarter</b>	
2020 Solid Waste and Recycling Annual Report	Pending
2021 Abandoned Waste Campaign Results	Pending
2021 Create Memories Not Garbage Update	Pending
2021 Single-Use Item Campaign Results	Pending
2022-2026 Financial Plan – Solid Waste Services	Pending
2022 Tipping Fee Bylaw Revisions	Pending
Solid Waste Services Capital Program Expenditures Update as at August 31, 2021	Pending
Waste-to-Energy Facility - Ambient Air Quality Monitoring	Pending