

**SOLID WASTE MANAGEMENT PLAN
PUBLIC/TECHNICAL ADVISORY COMMITTEE**

Regular Meeting

April 28, 2023

3:00 pm – 5:30 pm

Eaglequest Golf, Banquet Hall
1001 United Boulevard, Coquitlam, BC

A G E N D A

ITEM
1. INTRODUCTIONS
2. AGENDA
3. MEETING NOTES – September 21, 2022
4. ACTION/STANDING ITEMS 4.1 Action tracker 4.2 Incoming/outgoing communications
5. METRO VANCOUVER UPDATES
5.1 2023 Annual Work Plan - DRAFT Speaker: Stephanie Liu
5.2 Solid Waste Management Plan Vision and Guiding Principles - Workshop Speakers: Paul Henderson, Stephanie Liu, Brooke Atkinson, Metro Vancouver
6. OTHER BUSINESS
6.1 Zero Waste Committee Updates Speaker: Paul Henderson, Metro Vancouver 2021 Solid Waste Management Annual Summary
7. INFORMATION ITEMS
7.1 Regional Waste Flows

Attachment 1: [Meeting notes – September 21 – Solid Waste Management Plan Public/Technical Advisory Committee](#)

Attachment 2: Action Tracker

Attachment 3: PTAC 2023 Draft Annual Work Plan

Attachment 4: Solid Waste Management Plan Backgrounder

Attachment 5: Vision and Guiding Principles Discussion Guide

Attachment 6: Regional Waste Flows

SOLID WASTE MANAGEMENT PLAN PUBLIC/TECHNICAL ADVISORY COMMITTEE

Wednesday, September 21, 2022

Zoom Meeting

3:00 pm – 5:00 pm

Meeting Notes

Attendees: Director Jack Froese, Chair; Director Craig Hodge, Vice-Chair; Alice Henry, Ben Liegey, Bill Chan, Brianne De Man, Christian Dietrich, Cody Irwin, Doug Schell, Jake Turek, Jamie Kaminski, Jaye-Jay Berggren, John Doherty, Kevin Huang, Louise Schwarz, Love-Ese Chile, Lyndsay Poaps, Raman Johal, Sue Maxwell, Tara Immell, Ulwiana Mehta-Malhotra, William Selten.

Absent: Brenda Martens, Daniel Rotman, Grant Hankins, Hunter Bergen, Jessica Savoy, Mary Polak, Matthew Morin, Michael Zarbl, Sara Larter, Yasmin Abraham.

Metro Vancouver Staff: Brooke Atkinson, Chris Allan, Chris Chong, Chris Underwood, Jessica Yamamoto, Paul Henderson, Sandy Young, Sarah Evanetz, Terry Fulton, Zeenia Mizan.

1.	INTRODUCTIONS <ul style="list-style-type: none"> • Meeting started at 3:02 pm. 	Chair
	1.1 Welcome from the Chair 1.2 Committee members	Chair
2.	AGENDA <ul style="list-style-type: none"> • Reviewed the September 21, 2022 meeting agenda. 	Chair
3.	MEETING NOTES – June 30, 2022 <ul style="list-style-type: none"> • Reviewed the June 30, 2022 meeting notes. 	Chair
4.	ACTION/STANDING ITEMS	Chair
	4.1 Action items from June 30 meeting <ul style="list-style-type: none"> • No updates from staff. 4.2 Incoming/outgoing communication <ul style="list-style-type: none"> • No new communication. 	

5.	METRO VANCOUVER UPDATES	
	<p>5.1 Regional Recycling and Waste System Overview</p> <ul style="list-style-type: none"> • The current solid waste management plan targets a 10% per capita reduction in waste generation from 2010 levels and an 80% recycling rate. • The region has achieved the 10% per capita reduction target, and is at a North American leading 64% recycling rate. • Metro Vancouver works with many partners to advance waste reduction and recycling, and advance the circular economy. • Metro Vancouver owns and operates six recycling and waste centres and a Waste-to-Energy Facility. City of Vancouver owns and operates the Vancouver Landfill and Vancouver South Transfer Station. • Two new recycling and waste centres opened this year; United Boulevard Recycling and Waste Centre in March, replacing the Coquitlam Recycling and Waste Centre, and Central Surrey Recycling and Waste Centre in September. These new facilities maximize recycling options for customers. • A range of private facilities in the region receive and process source separated recyclables including organics, along with construction and demolition waste. • The Waste-to-Energy Facility manages about 25% of the region’s garbage, and the Waste-to-Energy Facility District Energy project will provide heat and hot water for 30,000 homes through an agreement with River District Energy. • Members were asked: What other information about the regional recycling and waste system would you like to know to be able to contribute on the committee? <p>Members discussed:</p> <ul style="list-style-type: none"> • The flow of waste through the region including points of generation and disposal, composition of waste generated, and related costs • Potential redundancies and vulnerabilities within the waste management system including areas of improvement for reuse efforts 	Paul Henderson, Metro Vancouver
	<p>5.2 Solid Waste and Recycling Data</p> <ul style="list-style-type: none"> • Data is collected on waste generation, disposal and recycling, composition and source, and residuals, but does not include residual rates for recyclables processed internationally or Extended Producer Responsibility (EPR) recycling composition. 	Terry Fulton, Metro Vancouver

	<ul style="list-style-type: none"> • Data is collected through facility scale data, waste composition studies, third-party private facilities, reuse and repair organizations, and municipalities; this informs progress of initiatives, alignment with goals, and potential future targets. • Data is available as waste composition studies and annual reports (available on the Metro Vancouver website), and shows that generation and disposal rates have been decreasing as recycling rates increase; however, progress has plateaued in recent years. 	
	<p>5.3 Zero Waste and Circular Economy</p> <ul style="list-style-type: none"> • Circular economies value material regeneration, through reuse and recycling, over resource extraction, by eliminating waste, which requires community-based collaborations, research, policy, programs, infrastructure and education. • Examples include: <ul style="list-style-type: none"> ○ Textile waste: Much infrastructure for sorting clothing exists in Metro Vancouver; everything can be donated and 25% of collected clothing is resold locally ○ Construction and demolition waste: Toolkits for municipalities and private companies to reduce waste and explore adaptive reuse, deconstruction, etc. ○ Networking: Metro Vancouver created the Regional Food Recovery Network and National Zero Waste Council to focus on waste prevention and creation of circular economies 	<p>Chris Underwood, Metro Vancouver</p>
	<p>5.4 Solid Waste Management Plan Planning and Engagement Update</p> <ul style="list-style-type: none"> • Metro Vancouver is updating its solid waste management plan, building on the strengths of the current plan (2011), and identifying opportunities for accelerated waste reduction and diversion, while reducing greenhouse gases and promoting a circular economy. • Key milestones: Board initiated a review of the solid waste management plan in 2019, Independent Consultation and Engagement Panel formed in 2020, Pre-engagement in spring 2021, and Public/Technical Advisory Committee formed in June 2022. • The next phase of the plan, on vision and guiding principles, will seek to engage broad audiences using a variety of engagement techniques. • Members were asked (via Mentimeter): <ul style="list-style-type: none"> ○ What jurisdictions or organizations should be looked to as part of the solid waste management planning literature review? ○ How would you like to participate in Phase 1 engagement on the guiding principles and vision? 	<p>Sarah Evanetz and Sandy Young, Metro Vancouver</p>

	See attachment 2 for the results.	
6.	MANAGER'S REPORT	
	<ul style="list-style-type: none"> • The Zero Waste Conference occurs on September 28 and 29 with all Public/Technical Advisory Committee members invited. • Director Jack Froese will not be running for re-election as the Mayor of Langley Township meaning the Public/Technical Advisory Committee will receive a new chair and potentially new vice-chair. • Metro Vancouver offers support for Public/Technical Advisory members who may require financial assistance or otherwise. Any members with questions on opportunities for support should email zerowaste@metrovancover.org. 	Paul Henderson, Metro Vancouver
7.	Adjournment <ul style="list-style-type: none"> • Meeting was adjourned at 4:57 pm. 	Chair
8.	NEXT MEETING: Meeting dates for 2023 will be set following the appointment of the Zero Waste Committee chair and vice-chair, who hold the same positions on the Public/Technical Advisory Committee.	

Attachment 1: Meeting Discussion and Chat Comments

Attachment 2: Mentimeter Poll Results

Attachment 1: Meeting Discussion and Chat Comments

Discussion points have been edited for conciseness and clarity. Responses have been provided for questions not addressed during the meeting due to time constraints. Some chat comments have been edited for clarity.

5.1 Regional Recycling and Waste System Overview

Following the presentation, members were asked: What other information about the regional recycling and waste system would you like to know to be able to contribute on the committee?

Discussion:

- **Waste-to-Energy**

Q: I read a bit about the challenges with creating a new Waste-to-Energy Facility. What is important to know?

- A: The 2011 Integrated Solid Waste and Resource Management Plan targeted reducing waste but also included creating new waste-to-energy capacity. A procurement process for new Waste-to-Energy was initiated but later terminated. Metro Vancouver's goal for this solid waste management plan update is to focus on waste reduction and recycling.

- **Material Flow**

Q: We reduced waste generation rates by 11%. How was that achieved? Also, it would be helpful to know where materials go after going through local recycling facilities.

- A: A range of factors affect waste generation. Metro Vancouver has a number of programs that encourage behaviour change related to consumption/waste generation. Current data is limited with respect to ultimate destination of recyclable materials.

Q: What gaps or redundancies exist in the material value chain, and what are the vulnerabilities in the Metro Vancouver solid waste system?

- A: These topics will be important for discussion during the solid waste management plan update process. All of us see the benefits of increasing local capabilities to reduce waste and add value.

- **Calculating Recycling Rate**

Q: Where materials are generated and where they're going is important to minimize distance travelled outside of region. Does recycling mean collection, or recovery and conversion? It's important to know if materials are just sent to the Waste-to-Energy Facility when looking at the 64%.

- Metro Vancouver uses many sources of information to compile recycling statistics, some more complete than others. When counting the 64% recycling rate, garbage managed at the Waste-to-Energy Facility is not counted as recycling with the exception of metal recovered from the ash from the facility. Metro Vancouver strives to provide transparent data with respect to recycling calculations.

- **80% Recycling Rate Aspirational Goal**

Q: Can you offer some reflection or insight on why we haven't reached the 80% reduction?

- The 80% goal was extremely ambitious. Metro Vancouver is a North American leader in waste reduction and recycling. There continue to be opportunities to reduce waste and how we do that is a key opportunity for the new solid waste management plan. Half of multi-family waste is organics and there continues to be large quantities of wood disposed. Reuse is a whole additional layer to push more to reduce materials.

- **Drop-off Recycling Facilities**

Q: How do city-owned recycling and waste centres affect future design if other cities have plans for facilities?

- Metro Vancouver's strategy is to move to a model where every Metro Vancouver recycling and waste centre has consistent services that maximize recycling and reuse options. For cities that have their own recycling depot, Metro Vancouver has put in place a model that provides financial support for the city facilities. As part of that arrangement, the city provides minimum recycling services consistent with the Metro Vancouver system and allows customers from around the region to use their depots.

- **Waste Reduction Targets**

Q: For food waste, do you have data by region, avoidable vs. unavoidable, etc.? What is the new goal for waste reduction?

- Metro Vancouver's [waste composition studies](#) include a breakdown of food waste by what is avoidable and what is unavoidable. We report data for the region as a whole, broken up by sector, but not by municipality. Reporting by municipality would be challenging given how material flows around the region. Setting new targets for waste reduction will be a key action in developing a new plan.

- **Reuse**

Q: I want to know about the waste hierarchy and next level uses of materials, and consider the end of a product's life vs. the end of the consumer's use of it. Could there be opportunities to put reuse facilities first before recycling?

- A: Metro Vancouver has begun to pilot this approach. As an example, Metro Vancouver engaged a local non-profit organization, Urban Repurpose, to divert reusable items that would have been disposed of or sent for recycling at the North Shore Recycling and Waste Centre. In the first event in 2022, Urban Repurpose collected two tonnes of reusable material in four-and-a-half hours. The event included education on the waste management hierarchy and reuse and repair organizations in the region. The learnings from the pilot will help inform future work in this area.

Q: How much resources does Metro Vancouver have to put toward reuse?

- Encouraging reuse is a key priority for Metro Vancouver. Examples include the reuse days, repair café funding, and more. The allocation of resources will also be important in a new plan.

Chat Discussion:

- Q: I would like to get more data. Who picks up what and where does it go? Waste specs. Especially interested in waste that is landfilled. The more data the better.
 - A: Metro Vancouver doesn't have access to data on the specifics of waste collection; however, detail on where waste goes is included in the annual solid waste and recycling summary reports [here](#).
- Q: Also interested in what facilities are planned to be built in the next few years (short term), if any. So we understand what Metro Vancouver is already doing.

- A: Planned capital program expenditures are reported to the Zero Waste Committee and available publicly. The most recent update was on October 14, 2022, and can be accessed [here](#).
- Q: Has any GHG emission calculation been done for the transport and disposal of all waste streams?
 - A: GHG emissions calculations are done when comparing potential transportation and disposal options and considered along with financial and technical information to determine which option to recommend.
- Q: What data is collected and how openly accessible is it? Are there standardized reports that are required for waste generators / processors?
 - A: Data on recycling, disposal, and composition is available in the annual solid waste and recycling summary reports [here](#), and details on how it's collected were provided in the Solid Waste and Recycling Data presentation. Most data is recorded at the facility level, so there are no standardized reports for generators. Processors who are licensed under Solid Waste Regulatory Bylaw 181 provide information to Metro Vancouver's Environmental Regulation & Enforcement division, who then provide aggregated data for inclusion in the annual summary reports.
- Behaviour change was mentioned as a key component to success. Waste-to-energy doesn't seem to hit the mark when trying to reduce waste.
 - A: Metro Vancouver's behaviour change programs focus on encouraging residents and businesses to reduce waste.
- Q: How much material is being sent across the border? And is that material ending up in landfills? Does our accounting end at the border?
 - A: Metro Vancouver's annual report includes amounts of waste management out of region, either through Metro Vancouver's contingency disposal contracts or by private facilities shipping construction and demolition residuals to remote landfills. Information related to which landfill private facilities send construction and demolition waste residuals to is not available to solid waste staff.
- I may hope accounting doesn't end at the border. Waste generator is responsible until the end of the cycle. But, indeed, good question. Transport is a super important part of the waste cycle.
- Q: Are there any plans to tackle the increased usage of 'compostable' plastics? It is to my understanding that compostable plastics cannot be processed in our current waste/recycling streams.
 - A: Plastics labeled as compostable are a cross-jurisdictional issue that is being discussed at all levels of government. Most Metro Vancouver municipalities do not accept compostable plastic in their green bin programs, and we have updated our [website](#) to reflect that.
 - Response from committee member in chat: I can shed some light on the earlier question as I have done trials on compostable plastics. I think there are indeed bad compostable plastics, but I also believe there is usage for it, as long as they are properly tested. BNQ is changing their standard now reducing compostability for compostable plastics from 100 to <45 days. I think that will be a good improvement.
- Vancouver Community Bike Shop Network (VCBN) did a pilot as part of Vancouver's Greenest City Grant program to create the Recycling Program, which removed bikes from the facilities to either properly

recycle them or restore them. I'm not sure if this program has continued. Knowing about programs like that, their success, and their viability to scale would be great information to have for this committee as well.

5.2 Solid Waste and Recycling Data

Chat Discussion:

- Please keep the focus on expanding and supporting reuse networks that includes repair and refurbishment. EPR will always be the main go to for recycling but we need to make sure they are not undermining or competing against the most valuable and ever growing reuse markets, which includes refill. On the bottom end of the Zero Waste Hierarchy, if we can take waste-to-energy out of the conversation and the plan, that would also free up a lot of resources, both time spent arguing why it is not a helpful solution, as well as funds. That would be a huge leap forward in progress.
- My concern is the Vancouver Landfill is due to be full/close in 2030 – 2032 (less than 10 years). They also have a zero waste to landfill policy for 2040. The Waste-to-Energy Facility is aging, at 34 years old. Those two sites probably process over 50% of the material generated in the region (minus C&D and organics). These facilities/sites take years to permit/develop so it worries me when there is no plan other than reduction.
- Q: What is the limit for residential waste reduction? What are the barriers to further reduction?
 - A: Many barriers we face in increasing residential waste reduction are the result of products themselves that have no other option than disposal. Focusing on waste reduction and solid waste management options that help the transition to a circular economy will position us to further decrease residential waste reduction beyond what we may believe the limit is today.

5.3 Zero Waste and Circular Economy

Discussion:

- **Focus of the Committee**

Q: I'm wondering whether we as a committee will be focusing on reuse or just on disposal?

- The Public/Technical Advisory Committee is providing advice on all elements of the solid waste management plan, and its focus on reusing, reducing and recycling. The goal is to advance waste reduction, recycling, and the circular economy.

Chat Discussion:

- Other metrics that would be useful are tonnes exported (from Metro Vancouver but not by Metro Vancouver). For the Waste-to-Energy Facility – total emissions of annual dioxin/furans, heavy metals, NOx, SOx, as well as total time running and % of time spent in start up, shut down and malfunction.
 - A: An annual Waste-to-Energy Facility environmental monitoring and reporting update provides information on the facility emissions. Read the 2021 update that went to the Zero Waste Committee on September 9, 2022, [here](#).

5.4 Solid Waste Management Plan Planning and Engagement Update

Following the presentation, members were asked (via Mentimeter):

- What jurisdictions or organizations should be looked to as part of the solid waste management planning literature review?
- How would you like to participate in Phase 1 engagement on the guiding principles and vision?

See attachment 2 for the results.

Chat Discussion:

- BC Forestry industry (to promote wood reuse)
- I appreciate how clear the presentations have been on the topics in scope. If any of us have mentioned points that might be considered out of scope, it would also be helpful to know what those might be (for instance, I'm assuming there might be limitations around how EPR might be addressed).

What jurisdictions or organizations should be looked to as part of the solid waste management planning literature review?

Amsterdam

Europe, Germany

Montreal (in terms of how the public sector has supported circular economy)

EU Circular bioeconomy policies, specifically around cascading use of organic waste

Academic institutions

organics waste ban scotland

Portland, OR

Denmark's work on the circular economy

Europe

What jurisdictions or organizations should be looked to as part of the solid waste management planning literature review?

King County -wood hierarchy and map for circularity businesses for wood

California organics policies

Waste generators

Vancouver Food Policy Council in The PLEDGE on Food Waste, EcoMeter, Too Good To Go, Vancouver Food Runners, Rethink2gether

Portland -mapping reuse/repair/refill

Schools (age up to 18)

Germany, Amsterdam, London

Consumption based emissions - Scotland/King County/Victoria/city of Vancouver

generally organizations that have been successful in reducing waste created

What jurisdictions or organizations should be looked to as part of the solid waste management planning literature review?

Capannori

UKRI GBP 22.5M government investment into reuse

End users of recycled and upcycled materials

Global Alliance of Waste-Pickers (Global Rec)

Toronto

Examples of leading rural jurisdictions

Zero Waste Grocery Businesses in Vancouver

ISO circular economy standards are in development

Reuse and repair organizations

What jurisdictions or organizations should be looked to as part of the solid waste management planning literature review?

BNQ

Nanaimo -CE and Doughnut economics

Five centres in the UK to receive funding for circularity

IZWTAG (Indigenous Zero Waste Technical Advisory Group)

Kamikatsu, Japan

Cariboo Regional District self-serve re-use locations

How would you like to participate in Phase 1 engagement on the guiding principles and vision?

Working groups in person

Brainstorming ideas

in-person workshops - its easy to get distracted and loose focus in virtual settings

Specific waste stream focus groups

In person workshops, perhaps rotating to make more accessible to different geographic locations

In person workshops by type of waste streams

Base it on existing accepted definitions _Zero Waste Hierarchy for ZW principles, Ellen Macarthur Foundation for CE principles, Doughnut economics to ensure social impacts addressed

workshop for panel members but surveys/webinars for rest of our community

participating in committees

How would you like to participate in Phase 1 engagement on the guiding principles and vision?

echoing specific waste stream focus

specialists involvement in groups

In-person workshops

after learning more, being critical of current policies

How to encourage Industrial symbiosis

Online workshop groups

Groups with experts in those specific areas

Submitting existing resources and programs in the region for review

visits to interesting places (like the incinerator)

How would you like to participate in Phase 1 engagement on the guiding principles and vision?

events that rest of community can attend to learn about waste - to find more people passionate about climate action

connecting circular economy with bioeconomy to address overlaps and gaps and encourage transition to plant and waste based products

Tours, if possible, of waste management / circular innovators in different geographic areas and/or sectors

Retreats on the gulf island :)

In person workshops by commodity/sector

Love the tour of the waste-to-energy facility idea

break out groups tackling a particular aspect with an expert involved in the relate break out group discussion

Engage industry early, and also organizations such as Business Improvement Associations .

Focused committee participation

How would you like to participate in Phase 1 engagement on the guiding principles and vision?

cross pollination between waste types would also be helpful, there may be ideas that people haven't thought of

opportunities to take tangible action

relating this to our respective professions and applying what learn to lead our own workshops / educate others (and inspire subsequent action !)

Facility Tours

human centred design!

Would definitely like to see groups of mixed expertise discuss a variety of questions

For in-person meetings, bring in actual samples of waste put into different streams

2023 SOLID WASTE MANAGEMENT PLAN PUBLIC/TECHNICAL ADVISORY COMMITTEE ACTION TRACKER

To be updated after every Public/Technical Advisory Committee (PTAC) meeting to keep track of the actions or tasks that Metro Vancouver staff are responsible for.

Meeting Date	Requested Action/Item	Assigned Staff	Target / Completion Date	Status
September 21, 2022	<ul style="list-style-type: none"> Investigate organizations/jurisdictions suggested for the solid waste management planning literature review 	Jessica		Complete
	<ul style="list-style-type: none"> Incorporate PTAC engagement preferences into vision and guiding principles phase 	Sandy		Complete

Solid Waste Management Plan Public/Technical Advisory Committee

2023 Draft Annual Work Plan

Report Date: April 28, 2023

An annual work plan for the committee will be developed by Metro Vancouver staff based on deliverables in the solid waste management plan development. The work plan will be reviewed annually by the committee, and will guide development of meeting agendas.

Priorities	
Item	Status
Workshop - Solid Waste Management Plan Update: Vision and Guiding Principles	In progress
Solid Waste Management Annual Summary	In progress
Regional Solid Waste System Assessment Study	Pending
2022 Waste Composition Program Results	Pending
2022 Disposal Ban Program Update	Pending
Performance Metrics Study	Pending
Solid Waste Management Plan Update – Vision and Guiding Principles Report Back	Pending
Circular Economy/ 3Rs Study	Pending
Solid Waste Management Plan Update – Planning for Ideas Generation phase of engagement	Pending

2023 Meetings:

April 28, 2023 – In-person workshop

June 1, 2023 – Online

September 7 – In-person

November 16, 2023 – Online

Solid Waste Management Plan Update Backgrounder

March 2023

**Prepared By:
Solid Waste Services**

Orbit # 56896403

Purpose

The purpose of this backgrounder is provide readers with an understanding of Metro Vancouver’s role in managing garbage and recycling in the region, including work underway to advance zero waste, to allow meaningful participation in engagement on the solid waste management plan update.

The current *Integrated Solid Waste and Resource Management Plan* was approved by the Province in 2011, and focuses on reducing waste, improving reuse and recycling, recovering resources from garbage and disposing of remaining garbage in an environmentally sustainable manner. Provincial guidelines recommend initiating a plan review on or before the 10-year anniversary of the current plan's approval. An updated solid waste management plan will build on the strengths of the current plan, and identify opportunities for accelerated waste reduction and recycling while reducing greenhouse gases and promoting a circular economy.

Metro Vancouver is engaging with governments – including First Nations – government agencies, waste and recycling industry, waste producers, businesses, communities of interest, and Metro Vancouver residents to guide updates to the plan.

What is Solid Waste Management?

Solid waste management is the term used to describe how products, packaging, construction materials, food scraps, yard and garden trimmings, and other materials are managed when they’re no longer needed. It includes the decisions we make when using garbage, recycling and green bins, and the services provided by companies, governments and non-profits to collect, transport and process these materials. It also includes actions we take to prevent or reduce the amount of solid waste we produce, at home, work, school and in our community, such as buying less, sharing, repairing, reusing and repurposing.

Metro Vancouver is recognized across North America as a leader in recycling, composting and reducing garbage. An impressive 65% of waste in Metro Vancouver is recycled and diverted because of its committed residents, innovative businesses, and regional and local authorities, recognizing that responsible management of waste is essential for a sustainable, healthy, and equitable region. Despite these successes, every year, close to 1.25 million tonnes of products, packaging and other materials are disposed of from Metro Vancouver residents and businesses. Metro Vancouver recognizes that the responsible management and disposal of waste is essential for a sustainable, healthy, and equitable region.

Solid waste management plans are policy documents which set out a vision, guiding principles and actions for the responsible management of materials that become solid waste. Metro Vancouver is in the process of updating its solid waste management plan.

Why Update the Solid Waste Management Plan?

The region is guided by its commitment to environmental stewardship and cost-effective and accessible waste management services, including the goals within the [Integrated Solid Waste and Resource Management Plan](#), approved by the BC Minister of Environment and Climate Change Strategy in 2011. Metro Vancouver is updating this plan and is now seeking feedback to help shape how our region manages waste for the next decade.

Metro Vancouver's current solid waste management plan establishes goals and targets for waste reduction and the recovery of materials and energy from waste, and supporting strategies and actions for Metro Vancouver and its member jurisdictions.

Important themes for an updated plan will include reducing greenhouse gases and promoting a circular economy, which considers environmental, social, and economic factors.

The plan update process is expected to take two to three years and will be supported by robust Indigenous and public engagement. Metro Vancouver will engage audiences and gather feedback to support the plan update:

About Metro Vancouver

Metro Vancouver is a federation of 21 municipalities, one Electoral Area and one Treaty First Nation that collaboratively plans for and delivers regional-scale services in the greater Vancouver region of British Columbia. Core Metro Vancouver services include the provision of drinking water, wastewater treatment and solid waste management. Metro Vancouver also provides affordable housing, regulates air quality, plans for urban growth and manages a regional parks system.





Metro Vancouver services

Vision

Metro Vancouver embraces collaboration and innovation in providing sustainable regional services that contribute to a livable and resilient region and a healthy natural environment for current and future generations.

Mission

1. **Serve as a Regional Federation**
 Serve as the main political forum for discussion of significant community issues at the regional level and facilitate the collaboration of members in delivering the services best provided at the regional level.
2. **Deliver Core Services**
 Provide regional utility services related to drinking water, liquid waste and solid waste. Metro Vancouver also provides other core regional services including parks and affordable housing, and acts as the local government for Electoral Area A.
3. **Plan for the Region**
 Carry out planning and regulatory responsibilities related to the three utility services as well as air quality and climate change, regional planning, regional parks, affordable housing, labour relations, regional economic prosperity, and regional emergency management.

About Solid Waste Services

Metro Vancouver is responsible for planning for less waste, improving reuse and recycling systems as well as managing and disposing of the remaining waste generated by residents and businesses in the region. This reflects the public's expectations of high environmental stewardship, as well as the desire to keep waste management affordable.



The Vancouver Transfer Station and the Vancouver Landfill are owned and operated by the City of Vancouver and function as part of the overall regional solid waste system.

Solid Waste Management

The existing solid waste management plan, approved by the Province in 2011, focuses on reducing waste, improving reuse and recycling, recovering resources from garbage and disposing of remaining garbage in an environmentally sustainable manner. Metro Vancouver continually collects and reviews data on municipal solid waste – waste generated by residents, commercial/institutional sources, and construction and demolition activity – to track progress towards waste reduction and recycling goals. Metro Vancouver is updating its current solid waste management plan, building on the strengths of the current plan and identifying opportunities to accelerate waste reduction and diversion while reducing greenhouse gases and promoting a circular economy. We are actively engaging with governments – including First Nations – government agencies, waste and recycling industry, waste producers, businesses, communities of interest, and Metro Vancouver residents to guide updates to the plan.

Regional Solid Waste Facilities

Metro Vancouver operates six recycling and waste centres where residents and businesses drop off recyclable materials, yard trimmings and food waste, and garbage. After recycling, the remaining waste is disposed at the Metro Vancouver Waste-to-Energy Facility and the Vancouver Landfill, and any excess is disposed of at remote landfills.

Education and Outreach

Some of the waste that has to be managed can be prevented in the first place. Wise purchasing, repair and reuse of goods, and better access to recycling could lead to less waste going to disposal. Metro Vancouver works with local governments to develop educational materials and behavior change campaigns that encourage a change in our approach to generating waste.

Waste Reduction – Local and National

Our existing solid waste management plan includes a target of reducing the waste created per person by 10% compared to 2010. The 10% reduction in waste generation target has been achieved, but further reducing the amount of waste generated continues to be an important goal for the region. This means advocating for better product and packaging design as well as more selective purchasing by consumers and businesses. To bring about those changes we're engaging partners from across Canada through the National Zero Waste Council.

An Integrated Waste Management System

The solid waste management system in Metro Vancouver depends on the interconnected operations of many different organizations, including governments, the private sector, non-profit organizations and the public.



How do I fit in?

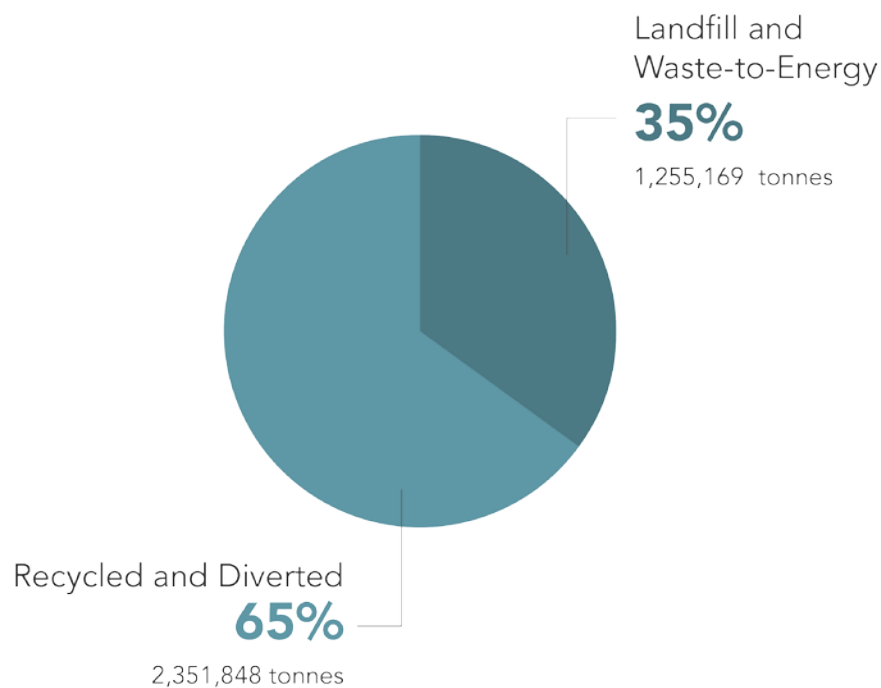
As individuals we can have a huge impact on how much waste is generated in the region. Our habits, such as shopping second hand, repairing and reusing, and putting our food scraps in the green bin have helped Metro Vancouver become a North American leader in waste reduction and recycling. At home, at work, and everywhere we go in between, the choices we make have a big impact on recycling and waste disposal in the region. We can use our voices to advocate for less wasteful practices and increased access to recycling services. Thanks to dedicated Metro Vancouver residents, grassroots movements such as saying no to single-use items have led to policy changes and less waste. Keep up the great work!

How We Are Doing Today

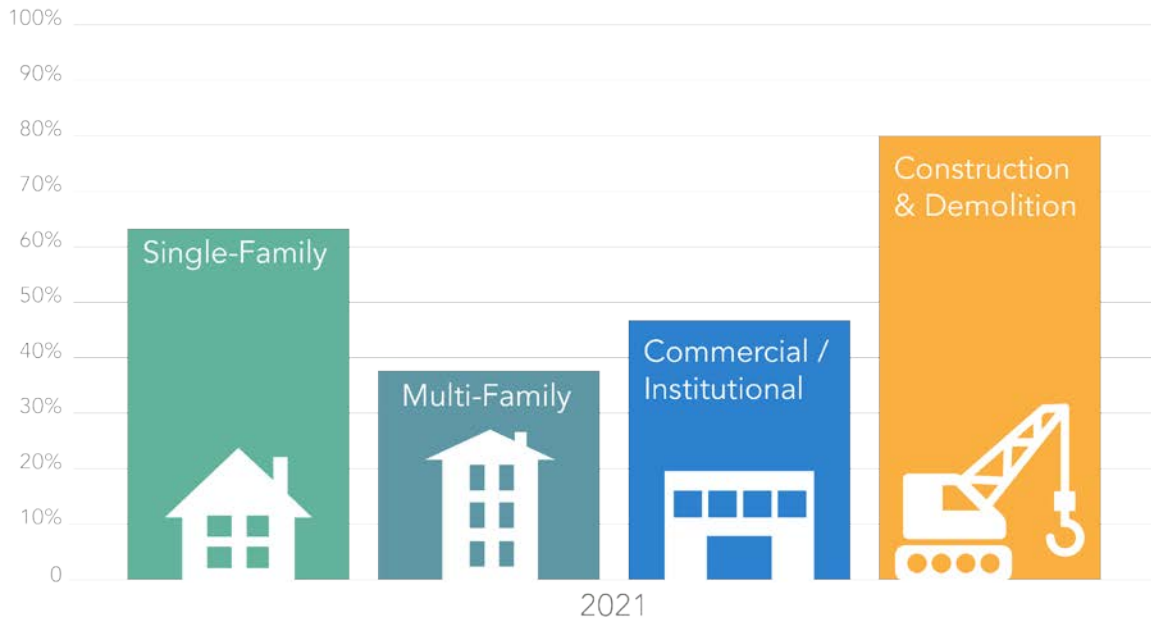
Recycling Rates

Metro Vancouver is a North American leader in waste reduction and recycling because of the committed local residents and businesses who work hard to recycle, policies supporting waste diversion, and a network of publicly and privately operated facilities to maximize recycling opportunities.

Based on 2021 data, 65% of the waste generated in the Metro Vancouver region is recycled (compared to a Canadian average of 26.5%) and the amount of waste generated has decreased by 11% per person since 2010. Even so, Metro Vancouver residents and businesses dispose of close to 1.25 million tonnes of garbage every year, an indication there is much work to be done. Metro Vancouver's annual solid waste and recycling report provides baseline information and data about how garbage and recycling is managed in Metro Vancouver. [View the 2021 report here.](#)



Regional Recycling Rates by Sector



What We've Accomplished Together

A lot has changed over a decade. Together in Metro Vancouver, we've made great strides toward zero waste and are recognized as North American leaders in waste reduction and recycling. Here are some examples of accomplishments in the past decade, thanks to our dedicated residents, businesses, actions by non-profits and governments, progressive waste management policies, programs and regulatory framework:



The National Zero Waste Council, an initiative of Metro Vancouver formed in 2013, is leading Canada's transition to a circular economy by bringing together governments, businesses and NGOs to advance a waste prevention agenda that maximizes economic opportunities for the benefit of all Canadians. The Council acts collaboratively with business, government, and the community, at the national and international level, as an agent of change for waste prevention and reduction in the design, production and use of goods. The council's many initiatives and collaborations have been instrumental in opening a national dialogue on waste reduction, which has impacted not only our region, but the entire nation.



In 2014, Multi-Material BC (now Recycle BC) took over the management of residential packaging and printed paper in the province, which represents the bulk of material that residents recycle. As a result, a consistent province-wide recycling system for these materials is now in place, making it easier to collect, process, and make new products from these materials.



In 2015, food scraps were added to Metro Vancouver's already extensive list of items banned from disposal. This policy supported the organics processing industry in the region to transform food scraps and yard trimmings into compost or energy. This helped pave the way for municipalities to collect food scraps at the curb, and to switch to garbage collection every two weeks, thus effectively reducing the amount of garbage from single-family homes.



Metro Vancouver's many behavior change campaigns have helped educate residents on many zero waste initiatives, including tips for using the green bin ("Food Scraps Aren't Garbage" campaign), how simple habits can help reduce single-use items ("What's Your Superhabit" campaign), ways to make clothing last longer to reduce textile waste ("Think Thrice About Your Clothes" campaign), how to have a less wasteful holiday season ("Create Memories, Not Garbage" campaign) and many more.



Recycling services continued to expand at Metro Vancouver solid waste facilities, and the new United Boulevard and Central Surrey recycling and waste centres feature extended and convenient recycling opportunities for residents and businesses.

Where We Are Headed

Building off the progress of initiatives such as the organics disposal ban, Metro Vancouver strives to continually increase recycling and re-use opportunities in the region. Recent progress on waste reduction, re-use and repair initiatives, as well as investigation into renewable energy opportunities, indicate Metro Vancouver's response to industry trends and efforts to reduce greenhouse gas emissions through effective waste management.

- Waste Prevention Collaborations:
 - FoodMesh: Metro Vancouver 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.
 - Urban Repurpose: Metro Vancouver implemented 'ReUse Days' at recycling and waste centres working with Urban Repurpose, collecting items from customers that can be reused instead of recycled or disposed.
 - Ocean Ambassadors: Metro Vancouver is working with Ocean Ambassadors to expand their successful reusable container program on the North Shore, with the intention to encourage similar programs throughout the region.
- Renewable Energy:
 - Metro Vancouver is developing a district energy system to provide energy for heat and hot water to developments in Vancouver, Burnaby and potentially New Westminister. The project will provide heat and hot water for up to 30,000 homes and reduce greenhouse gas emissions by up to 45,000 tonnes per year.
 - Small load waste, consisting of materials brought to Metro Vancouver facilities by residents and contractors in hand-unloaded vehicles, has been identified as another target for future renewable energy initiatives, with the potential to reduce disposal by up to 120,000 tonnes per year through the recovery of recyclables and alternative fuel.
- Greenhouse Gas Reduction:
 - Metro Vancouver is exploring carbon capture and utilization opportunities to reduce emissions from regional solid waste facilities. Metro Vancouver will revisit opportunities to incorporate new technologies to minimize our carbon footprint

Your Opinion Counts

Metro Vancouver is committed to engaging audiences and governments who may be impacted by or have an interest in the review and update of the solid waste management plan, with additional emphasis on engaging underrepresented and equity-denied communities by reducing barriers to participation.

Pre-engagement was initiated in 2021 to find out how audiences wanted to be engaged in the process to update the regional solid waste management plan. Metro Vancouver established an Independent Consultation and Engagement Panel, consisting of third party engagement experts to guide the development and implementation of a robust and inclusive engagement process.

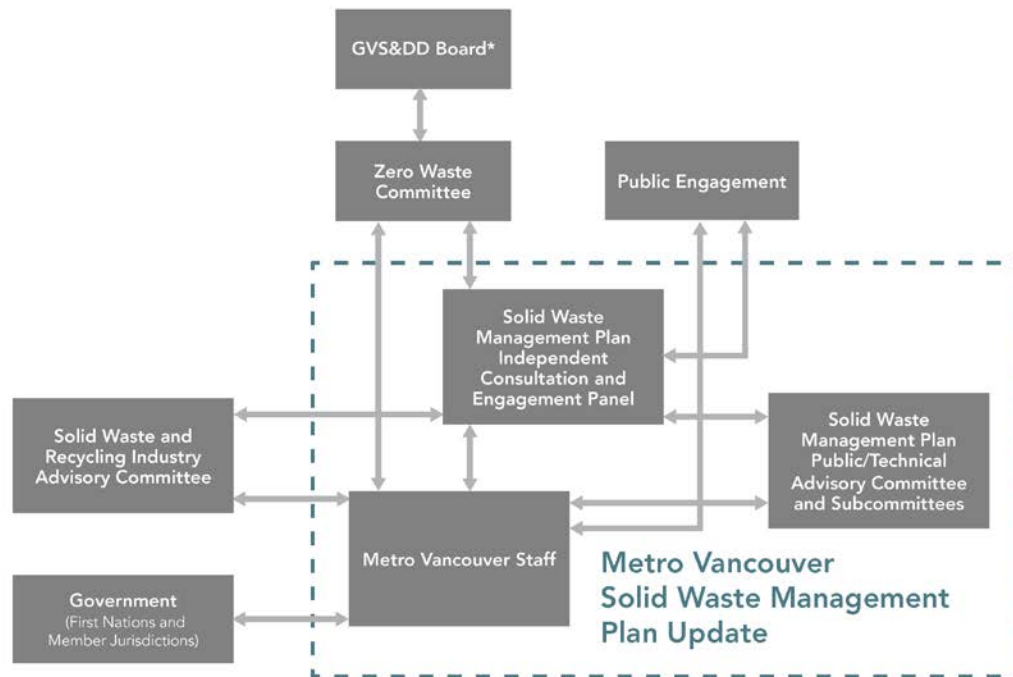
Audiences will be asked to provide feedback during all phases of engagement. Key examples include:

- **Government and regulatory agencies, including Indigenous Peoples**, provincial and federal governments, member jurisdictions, adjacent regional districts, crown corporations, airport and port authorities, and health authorities
- **Waste and recycling industry**, including haulers, processors, producer responsibility organizations, disposal facilities, waste/recycling industry associations, binner community, and reuse/repair organizations
- **Waste producers**, including various sectors such as food service, grocery, construction, tourism, office and property management, real estate, retail, residents, and educational institutions
- **Industry and business associations**, professional associations and academic institutions
- **Community, environmental and non-profit groups**, NGOs, youth and students, and urban Indigenous Peoples
- **Metro Vancouver residents**

In 2022, Metro Vancouver convened two advisory committees that will be heavily involved in providing feedback on the plan update throughout the phases of engagement:

- **Public/Technical Advisory Committee** – members represent a diversity of sectors and interests, who bring various personal qualities, perspectives and experiences to solid waste and recycling issues. [Learn more.](#)
- **Solid Waste and Recycling Industry Advisory Committee** – members represent private waste and recycling collection and processing companies, and their industry associations. [Learn more.](#)

Feedback from these two advisory committees along with input from member staff advisory committees, public engagement efforts, and the Indigenous engagement process, will help shape the updated solid waste management plan over the next 2-3 years.



* Updated solid waste management plan to be approved by Minister of Environment and Climate Change Strategy

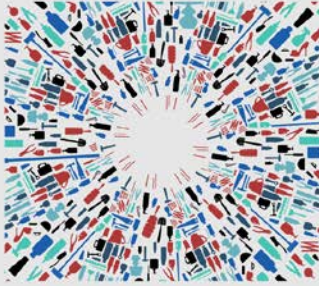
Technical Studies and Planning

Metro Vancouver is also undertaking technical studies that will support engagement on the solid waste management plan update. The studies inspire idea generation and guide the analysis of options to accelerate waste reduction and diversion while reducing greenhouse gases and promoting a circular economy.

The studies will provide information on:

- how various future scenarios could affect the Metro Vancouver solid waste system
- current challenges and opportunities
- global best practices, and new research and technologies
- financial, social and environmental impacts of various future options/scenarios, and
- performance metrics.

Information from the technical studies will be shared as background information during engagement to help participants discuss ideas, compare options and support actions that could be included in the updated plan.



Circular Economy and 3Rs Study

This study introduces the circular economy and highlights opportunities for our region through local and global examples with the potential to reduce waste and address climate change, equity, community cohesion, regional prosperity, ecological health, and air quality.



Solid Waste System Assessment Study

The study assesses the current regional solid waste system by profiling existing programs and facilities, highlighting best practices, and modeling different facility scenarios to forecast future demands and improvements.



Residual Disposal Management Options Review

This study will review options to manage garbage and investigate innovative approaches to managing residual materials.



Solid Waste Management Plan Literature Review

This study will review solid waste management plans from other leading jurisdictions globally and summarize leading initiatives and best management practices.



Solid waste management plan update – planning inputs

Next Steps

Metro Vancouver looks forward to collaborating with you in the coming years to develop and implement a solid waste management plan that reflects your values, priorities and interests. This can be achieved through rigorous technical research and a robust engagement process involving governments – including First Nations – government agencies, waste and recycling industry, waste producers, businesses, communities of interest, and Metro Vancouver residents.

At each phase of engagement on the solid waste management plan, an accompanying Discussion Guide will present themes and issues for consideration, and provide prompting questions for discussion, reflection and feedback. Information and resources related to the current phase of engagement can be found on the [Metro Vancouver website](https://www.metrovancouver.org) (visit [metrovancouver.org](https://www.metrovancouver.org) and search 'solid waste management plan engagement').

We hope that through this process we can accelerate waste reduction and diversion, reduce greenhouse gases, promote a circular economy, and build new goals to advance towards. **Together we make our region strong.**

Metro Vancouver Solid Waste Management Plan Update

Vision and Guiding Principles

DISCUSSION GUIDE

March 2023

**Prepared By:
Solid Waste Services**

1.0 INTRODUCTION

Metro Vancouver is updating its solid waste management plan, building on the strengths of the current plan, and identifying opportunities for accelerated waste reduction and diversion, while reducing greenhouse gases and promoting a circular economy, where products are kept at their highest value. The plan update process will be supported by robust Indigenous and public engagement.

In 2021, Metro Vancouver conducted pre-engagement to learn how audiences would like to engage with Metro Vancouver on the solid waste management plan update. An Engagement Plan was developed, incorporating feedback received from 350 individuals through a questionnaire, written responses, meetings, and presentations, and considering input from a panel of engagement experts. In 2022, Metro Vancouver convened two key advisory committees – the Solid Waste Industry Advisory Committee and the Solid Waste Management Plan Public/Technical Advisory Committee – to provide ongoing advice and support.

This discussion guide focuses on the **vision and guiding principles** for the updated solid waste management plan, which will set the overall plan direction before the next phase, Idea Generation.



This document describes what a vision statement and guiding principles could entail, draws inspiration from existing vision statements and guiding principles from Metro Vancouver, the provincial government, and leading jurisdictions around the world, and seeks feedback through discussion questions.

Vision

A succinct narrative that describes the desired future

"Where are we headed?"

"What do we want the future to look like?"

Guiding Principles

A list of values that guides decision-making and determine how the work is approached

"What do we need to consider as we develop the plan?"

"What should all strategies and actions take into account?"

2.0 ENGAGEMENT ON VISION AND GUIDING PRINCIPLES

The vision and guiding principles will set the plan foundation and direction, and reflect fundamental values that guide plan development and implementation.

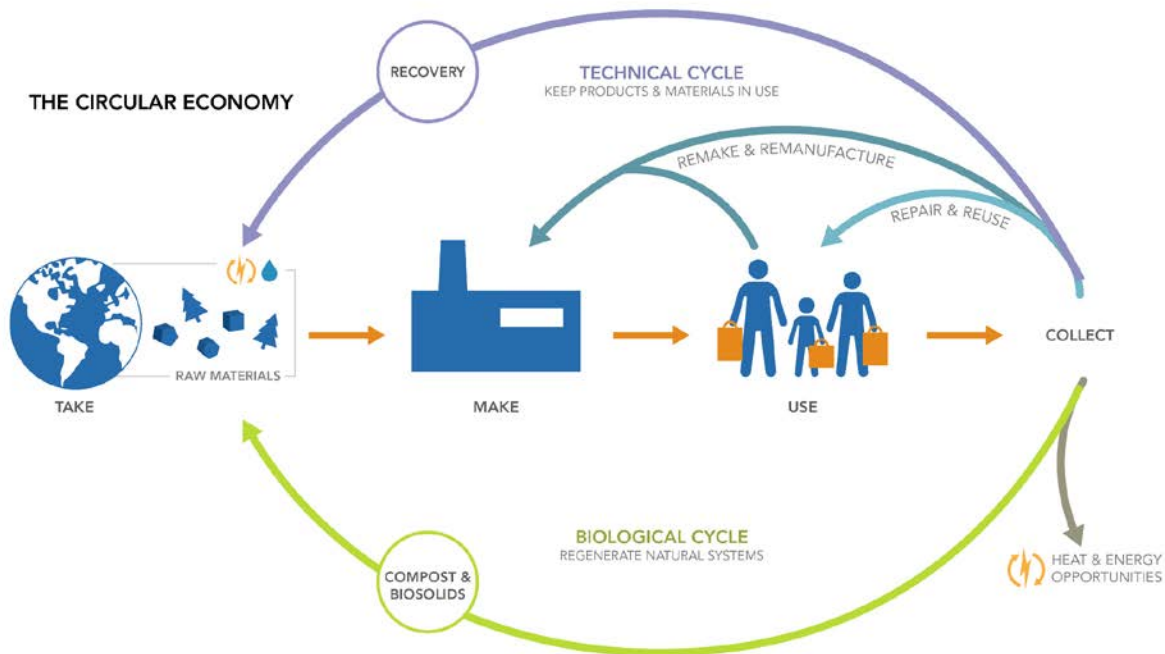
Metro Vancouver is actively engaging with governments – including First Nations and member jurisdictions – government agencies, waste and recycling industry, waste producers, businesses, communities of interest, and Metro Vancouver residents to guide updates to the plan. Engagement feedback will be used to help develop the vision and guiding principles for the updated plan, setting the direction and building the foundation as we enter into the next phase of engagement: Idea Generation.

3.0 SOLID WASTE MANAGEMENT IN METRO VANCOUVER

Metro Vancouver is a North American leader in waste reduction and recycling. Metro Vancouver's solid waste facilities, programs, and policies are known throughout the industry and our 65% recycling rate is among the highest in North America. So where do we go next?

Metro Vancouver's vision and guiding principles for managing solid waste should take into account the vision and principles of the region as a whole, as well as those of the province and of leading jurisdictions around the world. The BC Ministry of Environment and Climate Change Strategy's *A Guide to Solid Waste Management Planning* provides eight provincial principles for solid waste management. Additional guiding principles for the Metro Vancouver solid waste management plan will be developed through this phase of the plan update process.

In addition to waste reduction and diversion, important themes for the updated plan will include reducing greenhouse gases and promoting a circular economy, which considers environmental, social, and economic factors. A circular economy framework is critical to reducing waste and greenhouse gas emissions. A circular economy framework also aligns with the provincial waste management 5Rs hierarchy. In a circular economy the value of products is retained after their initial use through rethink, reduce, reuse, repair, and remanufacture. Keeping products functioning at their highest potential reduces embodied emissions and reduces emissions associated with waste management. Transitioning to a circular economy will gradually decouple economic activity from the consumption of finite resources by designing waste out of the system and helping to regenerate natural systems.



4.0 WHAT IS A VISION STATEMENT?

A vision statement answers the questions “Where are we headed?” and “What do we want the future to look like?” It is a short statement that describes the desired future in relation to the scope of the plan, or a shared understanding of the desired future state or success.

A vision looks to the future and must consider the future context, including but not limited to solid waste management. Themes might include regional growth, affordability, climate change, reconciliation, equity, stewardship, innovation, and resilience, and account for changes that should be expected in the coming years.

5.0 WHAT ARE GUIDING PRINCIPLES?

Guiding Principles outline the values that guide decision making and determine how the work is approached. Guiding principles describe the fundamental values that guide plan development and implementation and can be used to help evaluate goals, strategies, and/or actions.

The Metro Vancouver Board’s cross-cutting themes include principles of regional growth, regulation and legislation, affordability, reconciliation and equity, climate action/resilience, and system stewardship. Guiding principles can also be adapted into short phrases rather than individual words, such as “Provide for ongoing prosperity” (Integrated Solid Waste and Resource Management Plan) or “Promote zero waste approaches and support a circular economy” (BC Ministry of Environment and Climate Change Strategy).

6.0 EXISTING SOLID WASTE MANAGEMENT PLAN

The Integrated Solid Waste and Resource Management Plan, approved by the Province in 2011, sets out Metro Vancouver’s existing waste management and recycling goals and targets. An updated plan will build upon the successes of the current plan, adapting it for the challenges we face today and utilizing the most up-to-date solutions.

6.1. Vision statement: current solid waste management plan

The following is an excerpt from the 2011 approved *Integrated Solid Waste and Resource Management Plan’s* Vision Statement, which adopted the regional vision at the time:

“Metro Vancouver has a vision to achieve what humanity aspires to on a global basis – the highest quality of life embracing cultural vitality, economic prosperity, social justice and compassion, all nurtured by a beautiful and healthy natural environment”

“Building a sustainable, livable region is the overarching regional vision.”

6.2. Guiding principles: current solid waste management plan

The *Integrated Solid Waste and Resource Management Plan* follows the sustainability principles set out in Metro Vancouver’s Sustainability Framework, the principles of Integrated Resource Recovery and the 5R hierarchy of resource management (reduce, reuse, recycle, recover energy or materials, and dispose of residuals).

- Sustainability
 - Having regard for both local and global consequences, and long-term impacts
 - Recognizing and reflecting the interconnectedness and interdependence of systems
 - Being collaborative
 - Protecting and enhancing the natural environment
 - Providing for ongoing prosperity
 - Building community capacity and social cohesion
- Integrated Resource Recovery
 - Enabling the ‘wastes’ from one system to become ‘resources’ for another
- Resource Management Principles: The 5Rs
 - Reducing waste at source
 - Reusing where possible
 - Recycling products at the end of their useful life
 - Recovering energy or materials from the waste stream
 - Managing Residuals in an environmentally sound manner

- Public Health Principles
 - Investing in upstream preventative solutions as opposed to downstream problem management
 - Fairness and equity
 - Transparency
- Process and Consultation
 - Consulting and cooperating with municipalities, senior government, First Nations, health authorities, the business community, and the public
- Aligning with Provincial Initiatives
 - Ensuring environmental and fiscal objectives are mutually supportive and successful
- Aligning with Federal Initiatives
 - Supporting principles of and including actions to accelerate Extended Producer Responsibility (EPR), aligning with the Canadian Council of Ministers of the Environment (CCME) waste management approach

7.0 OTHER METRO VANCOUVER MANAGEMENT PLANS AND OTHER LEADING JURISDICTIONS

Below are examples of vision statements and guiding principles found in other Metro Vancouver plans.

Plan	Vision Statement	Guiding Principles
Integrated Liquid Waste and Resource Management Plan (update ongoing)	<i>Healthy Waters: For All. Forever.</i>	<ol style="list-style-type: none"> 1. Innovate, strive for value and cost effectiveness, be resilient and adaptive to climate change 2. Collaborate closely with a range of organizations to achieve outcomes that are beneficial for all, share data on how we are doing openly and transparently, and align with other initiatives taking place in the region 3. Integrate equity throughout, including fairness and justice, to address any barriers that may keep people from accessing wastewater services 4. Minimize greenhouse gas emissions and contributions of pollutants to the environment, including the ocean and our local rivers and streams

Clean Air Plan	<i>Metro Vancouver is a carbon neutral region where residents experience healthy, clean and clear air.</i>	<ol style="list-style-type: none"> 1. Ambitious 2. Evidence-based 3. Equitable 4. Inclusive & Collaborative 5. Preventative 6. Continuous Improvement 7. Prioritize Co-benefits (improve air quality and educe greenhouse gas emissions) 8. Dynamic 9. Transparent 10. Comprehensive & Integrated
Metro Vancouver Board Strategic Plan *	<i>Metro Vancouver embraces collaboration and innovation in providing sustainable regional services that contribute to a livable and resilient region and a healthy natural environment for current and future generations.</i>	Metro Vancouver Board Strategic Plan Cross-Cutting Themes: <ol style="list-style-type: none"> 1. Regional Growth 2. Regulation & Legislation 3. Affordability 4. Reconciliation & Equity 5. Climate Action/Resilience 6. System Stewardship

*To be updated in 2023

A literature review of vision statements and guiding principles in solid waste management plans from other leading jurisdictions revealed several common themes:

- Social, environmental and economic sustainability
- Waste reduction
- Waste management hierarchy
- Recovery and reuse
- Collaboration at all levels
- Social justice, equity and accessibility

8.0 PROVINCIAL GUIDING PRINCIPLES

Under the *BC Environmental Management Act*, regional districts are required to develop a solid waste management plan for approval by the Minister of Environment and Climate Change Strategy. The BC Ministry of Environment and Climate Change Strategy’s *A Guide to Solid Waste Management Planning* provides eight provincial principles for solid waste management. Engagement will help to inform additional guiding principles, with a focus on areas that are specific to our local region.

The provincial guiding principles are as follows:

1. Promote zero waste approaches and support a circular economy
2. Promote the first 3Rs (Reduce, Reuse and Recycle)
3. Maximize beneficial use of waste materials and manage residuals appropriately
4. Support polluter and user-pay approaches and manage incentives to maximize behaviour outcomes
5. Prevent organics and recyclables from going into the garbage wherever practical
6. Collaborate with other regional districts wherever practical
7. Develop collaborative partnerships with interested parties to achieve regional targets set in plans
8. Level the playing field within regions for private and public solid waste management facilities

9.0 DISCUSSION QUESTIONS

Metro Vancouver is engaging audiences on the creation of **vision and guiding principles** for the updated solid waste management plan, which will set the overall plan direction. A vision describes what we want the future to look like, while guiding principles describe the fundamental values behind the updated plan. To help develop a vision and guiding principles that are reflective of the goals and values of Metro Vancouver residents, the questions below prompt discussion to help us understand what matters to you, and what your hopes are for the future.

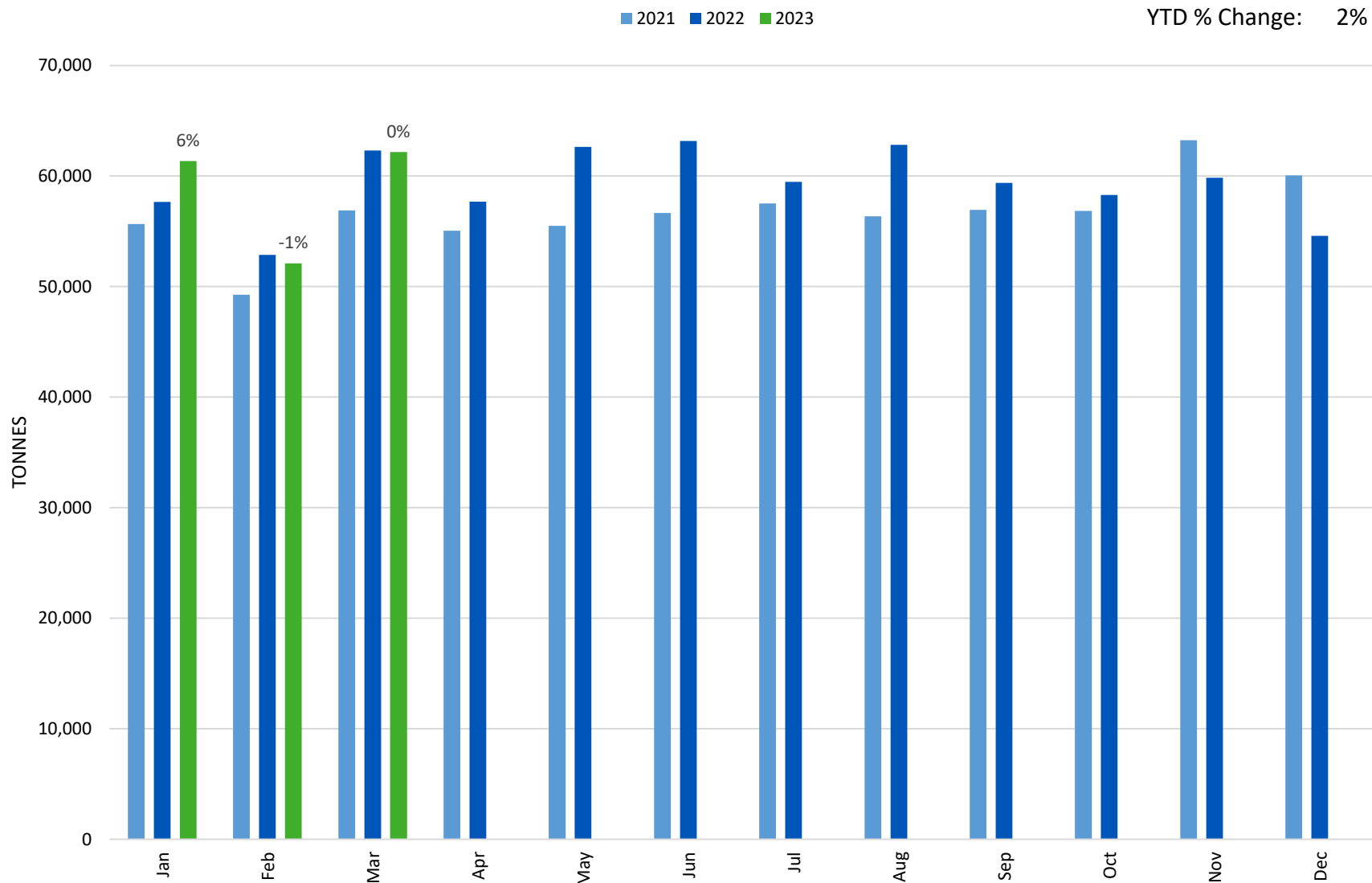
Q1 What waste reduction, recycling and garbage disposal topics are most important, now and into the future?

Q2 List words or phrases that describe what matters, when deciding what to do with products, packaging and materials that are no longer needed.

Q3 The updated solid waste management plan is intended to reflect the values of everyone in the region. What values, interests, and priorities can be considered?

Q4 Thinking of how we purchase, use, reuse, repurpose, recycle and throw things away in the Metro Vancouver region, what could be better in the future than it is today?

Metro Vancouver Waste Quantities* 2021 - 2023**



**Data reconciled to Feb 2023

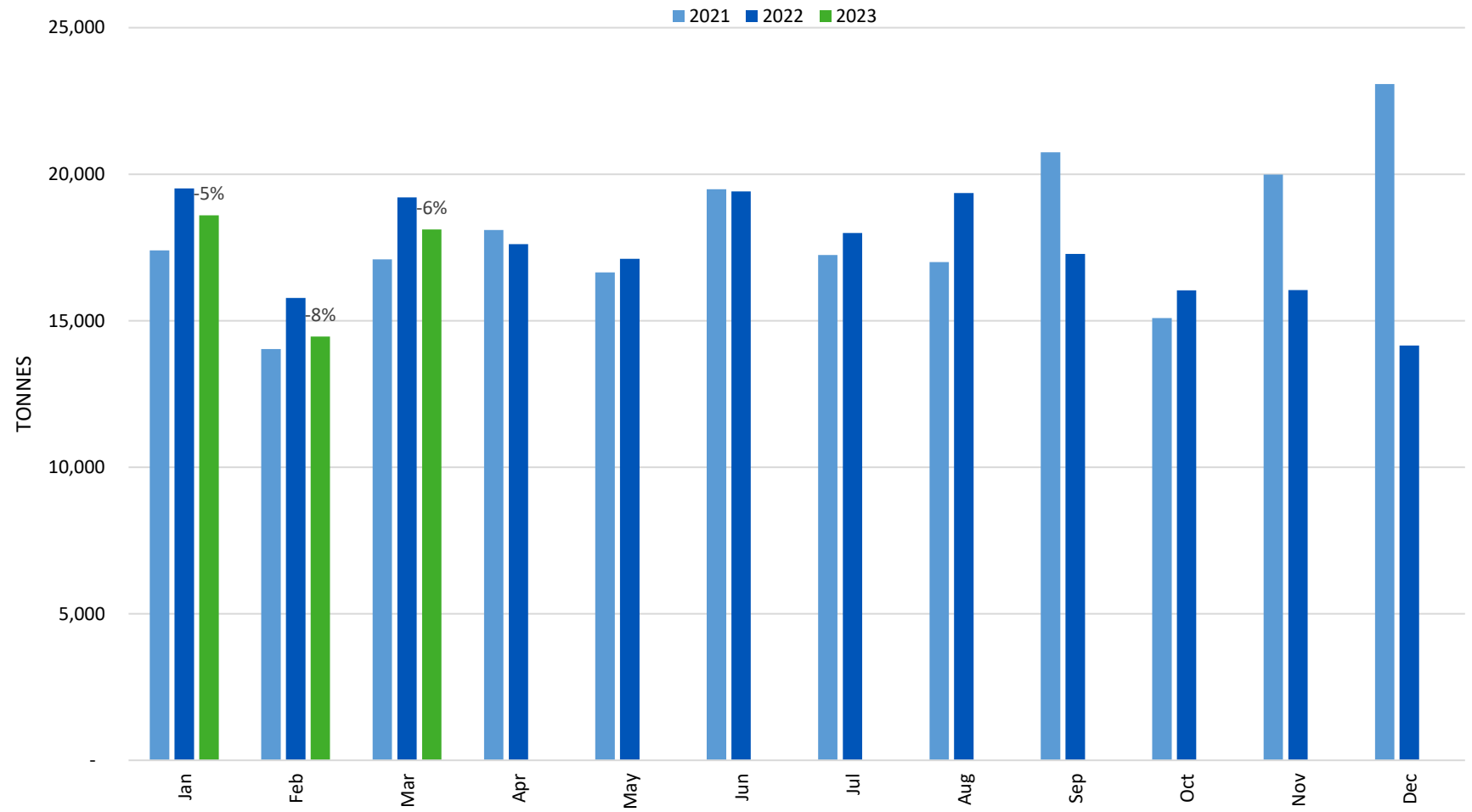
*Metro Vancouver's Recycling and Waste Centres & the Waste-to-Energy Facility

City of Vancouver Waste Quantities*

2021 - 2023

(Demo garbage not included)

YTD % Change: -6%



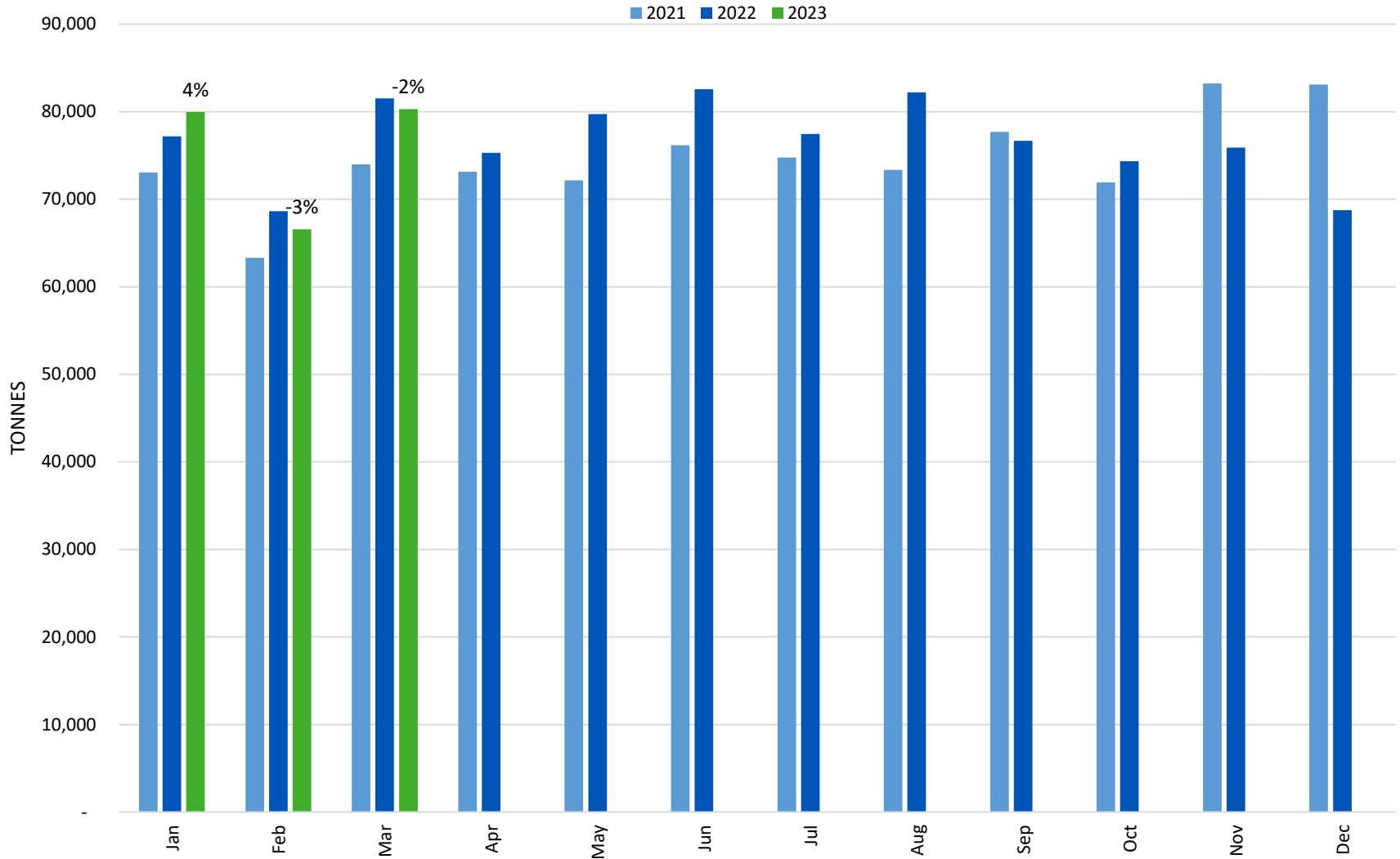
*Vancouver Landfill & Vancouver South Transfer Station

Metro Vancouver and City of Vancouver Waste Quantities

2021 - 2023*

(Demo garbage not included)

YTD % Change: 0%



*Metro Vancouver data reconciled to Feb 2023