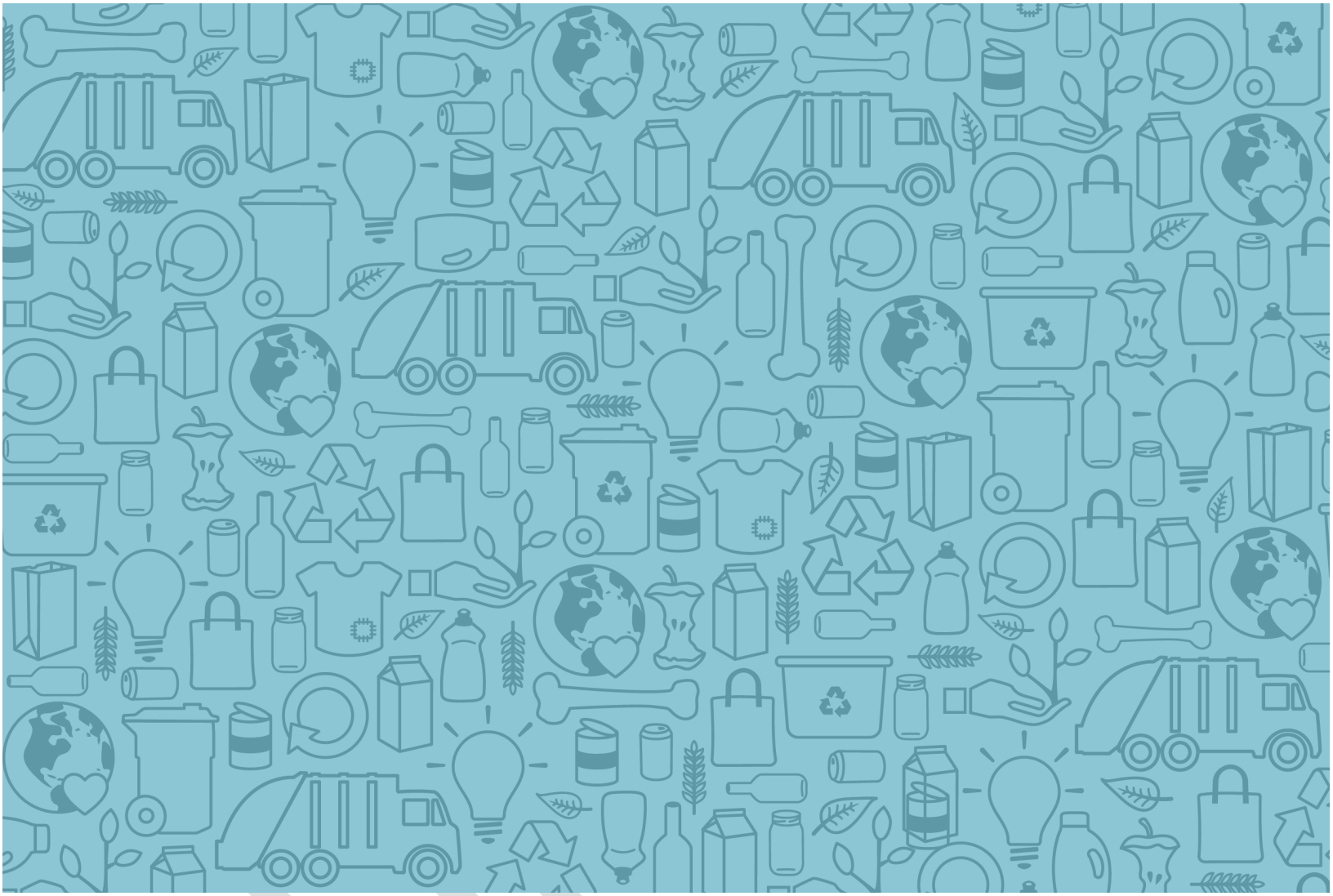
metrovancouver | SOLID WASTE



Initial Draft Solid Waste Management Plan

January 22, 2026

ABOUT METRO VANCOUVER

Metro Vancouver is a diverse organization that plans for and delivers regional utility services, including water, sewers and wastewater treatment, and solid waste management. It also regulates air quality, plans for urban growth, manages a regional parks system, and provides affordable housing. The organization is a regional federation of 21 municipalities, one electoral area, and one treaty First Nation located in the region of the same name. It is made up of four separate legal entities, each governed by a Board of Directors made up of elected officials from the member jurisdictions.

TERRITORIAL ACKNOWLEDGMENT

Metro Vancouver acknowledges that the region's residents live, work, and learn on the shared territories of many Indigenous peoples, including 10 local First Nations: q̓icə̓y̓ (Katzie), q̓ʷɑ:ƛ̓ən̓ (Kwantlen), kʷikʷəƛ̓əm (Kwikwetlem), máthxwi (Matsqui), xʷməθkʷəy̓əm (Musqueam), qiqéyt (Qayqayt), Semiahmoo, Sḵwx̱wú7mesh Úxwumixw (Squamish), scəẇaθən məsteyəxʷ (Tsawwassen), and səlilwətaɬ (Tsleil-Waututh).

JURISDICTIONS IN THE REGION

Jurisdictions in the Region

GVS&DD Members

Village of Anmore
City of Burnaby
City of Coquitlam
City of Delta
Electoral Area A*
City of Langley
Township of Langley
City of Maple Ridge
City of New Westminster
City of North Vancouver
District of North Vancouver
City of Pitt Meadows
City of Port Coquitlam
City of Port Moody
City of Richmond
City of Surrey
City of Vancouver
District of West Vancouver
City of White Rock

*The Director representing Electoral Area A on the Board of the Metro Vancouver Regional District is a member of the GVS&DD Board.

Village of Belcarra
Bowen Island Municipality
Village of Lions Bay
scəwaθən məsteyax* (Tsawwassen First Nation)

Table of Contents

METRO VANCOUVER'S SOLID WASTE MANAGEMENT PLAN

Solid waste management is the term used to describe how products, packaging, construction and demolition materials, food scraps, yard and garden trimmings, and other materials from residential, commercial, and institutional sources are managed when they're no longer needed for their original purpose. It includes the decisions we make when preventing and reducing garbage, using recycling and green bins, and the services provided by companies, governments, and non-profits to collect, transport, and process these materials.

This plan will guide solid waste management strategies and actions, targets, and priorities in the decade ahead while addressing issues anticipated in the next 20 to 25 years. The plan identifies how our region can continue to prevent and reduce waste, increase reuse and recycling, reduce greenhouse gas emissions, and work toward a circular economy. Together as a region, we need to think about how we purchase, use, reuse, recycle, and throw things away in Metro Vancouver to better manage our solid waste.

Vision and Guiding Principles

A vision statement and guiding principles for the solid waste management plan have been established, with input from First Nations, member jurisdictions, neighbouring regional districts, advisory committees, interested parties, and the public.

Vision: A thriving region where nothing is wasted and resources are valued.

These guiding principles are specific to the Metro Vancouver region, and complement the set of guiding principles provided by the BC Ministry of Environment and Parks in *A Guide to Solid Waste Management Planning.*

Goals and Hierarchy

The goals of the solid waste management plan describe the long-term aims to be achieved by the plan. The goals link closely to Metro Vancouver's waste management hierarchy, which builds on the BC Pollution Prevention Hierarchy to outline priorities for solid waste management in the Metro Vancouver region. The highest priorities are at the top of the hierarchy, and are associated with actions that preserve resources, prevent waste, and help transition to a circular economy. Specific terms used within the goals and hierarchy are defined in the glossary, and more context for each goal is provided in the Strategies and Actions section of the plan.

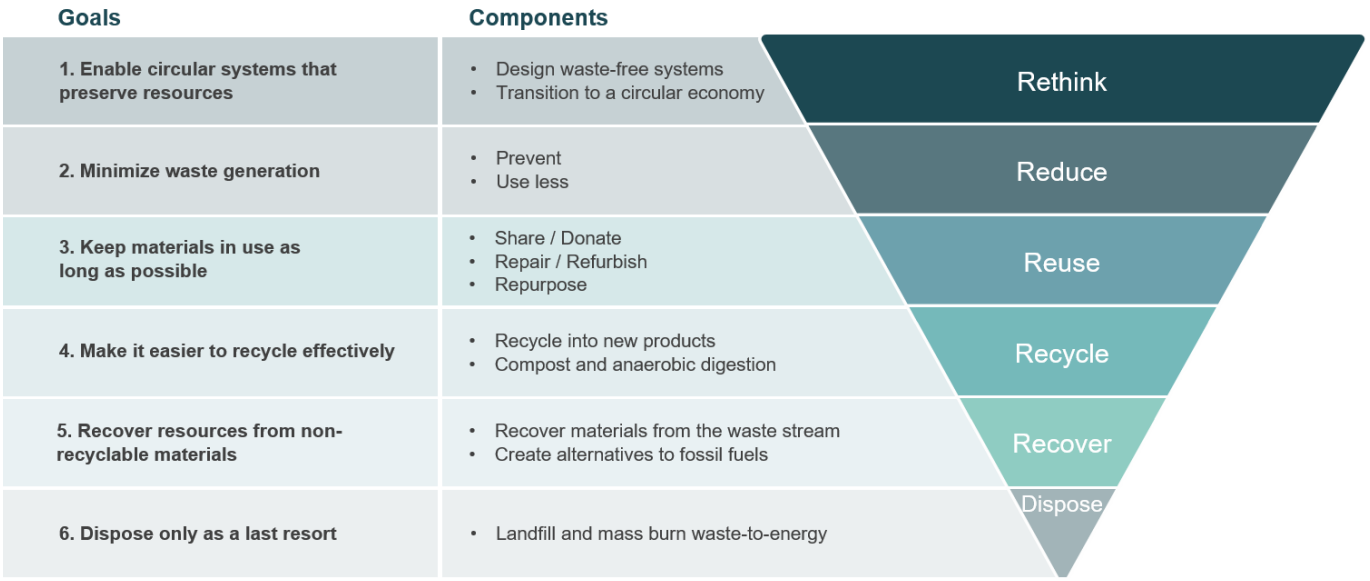


Figure 1: Goals and Hierarchy

Primary Performance Metrics and Targets

Performance metrics for this plan are categorized into primary and secondary metrics. The targets described in this plan correspond to the primary metrics of waste generation, diversion and recycling, disposal, and greenhouse gas emissions. The performance targets set by this plan were developed using existing baseline data and represent progress across all levels of the hierarchy.

To measure progress toward the goals of transitioning to a circular economy where resources are preserved, minimizing waste generation, and keeping materials in use as long as possible, this Plan establishes a target to reduce per capita waste generation in the region by 20% from 2025 levels (less than 1 tonne/capita) by 2050, calculated on a rolling 5 year average. This waste generation target reflects Metro Vancouver's commitment to rethinking consumption and preventing waste.

To align with the goals of making it easier to recycle effectively and recover resources from non-recyclable materials, waste must, as much as possible, be diverted away from landfill disposal and mass burn waste-to-energy into programs aimed at recycling materials back into new materials, before recovering materials as fuel. The second target of the updated plan is to achieve a 75% recycling rate and 80% diversion rate by 2050. The difference between the two can be described as follows:

Recycling rate refers to the tonnes of source separated material recycled into new products, including compost, as a proportion of the total tonnes of all material recycled, recovered and disposed.

Diversion includes all of the material recycled plus any material used to create alternatives to fossil fuels, and any material recovered from the waste stream used for any purpose. The diversion rate refers to

the tonnes of material diverted as a portion of the total tonnes of material recycled, recovered and disposed.

To reflect the goal of disposal only as a last resort, this plan sets a target for the Metro Vancouver region to reduce the waste disposal rate to less than 210 kg per capita: a 50% reduction from 2025 levels by 2050, exceeding the provincial benchmark. As of Spring 2026, the provincial target for disposal rate is 350 kg per capita.

As of 2024, the overall regional diversion rate was 65%. The overall 80% diversion target implies the following approximate diversion rates by sector.

Single Family Residential: 77% (64% achieved in 2024)

Multi-Family Residential: 73% (36% achieved in 2024)

Commercial-Institutional: 73% (47% achieved in 2024)

Construction and Demolition: 92% (81% achieved in 2024)

The per sector rates are calculated based on the estimated practically recyclable or recoverable materials remaining in each of the sector waste streams considering the initiatives included in the solid waste management plan.

Metro Vancouver also aspires to achieve overall carbon neutrality by 2050, as aligned with the Climate 2050 Roadmap which considers Scope 1 and 2 emissions, not embodied carbon.

The four targets, including interim targets for 2040, are summarized in the following figure, using 2025 data as a baseline.

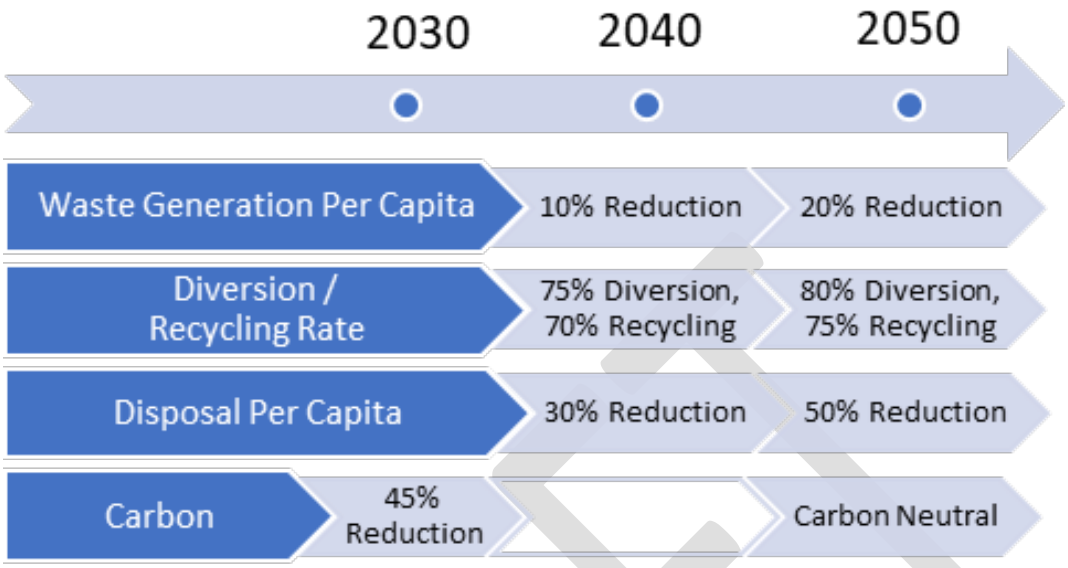


Figure 2: Targets

Following approval of the solid waste management plan, interim 10-year targets will be identified based on a linear interpolation to the 2040 targets. Progress in achieving those targets will be reported to the Ministry of Environment and Parks and publicly annually.

Targets for waste generation and disposal are both on a per capita basis. For reference, total waste generation and disposal will also be tracked and reported annually.

Secondary Performance Metrics

Secondary metrics will provide quantitative or qualitative indicators to support progress measurement in specific areas. To enhance performance monitoring, this solid waste management plan adopts a suite of metrics that provide insight into progress and emerging trends over time. Tracking progress can be challenging where quantitative data is limited such as estimating reuse or assessing performance from waste prevention initiatives (rethink, reduce, and reuse). A suite of secondary metrics provide multiple measures of performance to assist with reviewing plan progress overall.

The secondary metrics reflect the actions and strategies within the plan and will be reported alongside the primary metrics and targets. The following table summarizes the secondary metrics that will be reported. Metrics will be reassessed periodically based on the availability and reliability of supporting data.

Table 1: Secondary Metrics

Goals Categories	Secondary Metrics
1. Rethink	• number of circular jobs • number of circular initiatives supported/introduced • summary of advocacy efforts • number of member jurisdictions with circular procurement policies
2. Reduce	• number of single-use items in garbage • amount of preventable food waste in garbage plus a summary of available information on food loss • percentage of region covered by reusables for dine-in regulations
3. Reuse	• tonnes measurable reuse • number items repaired at repair events • number of buildings relocated or deconstructed • percentage of region by population covered by deconstruction or home relocation requirements • tonnes food rescued
4. Recycle	• recycling rate by sector (single family residential, multi-family residential, commercial, construction and demolition) • recycling rate by material category • trends in availability of and participation in organics recycling programs • organics contamination rates
5. Recover	• ratio of recycling as a portion of diversion
6. Dispose	• energy generated (waste-to-energy and Landfill) • greenhouse gas emissions from disposal facilities

OVERVIEW

Metro Vancouver is responsible for planning for waste prevention, reduction, reuse, and recycling, and operating a series of solid waste facilities located around the region. This work is guided by a commitment to environmental stewardship, and affordable and accessible waste management services. It would not be possible without the continued efforts of committed residents and innovative businesses and non-profits across the region, and the programs and services provided by member jurisdictions. Through contractors, Metro Vancouver operates a series of recycling and waste centres

where residents and businesses can drop off recycling and garbage, and operates a waste-to-energy facility located in Burnaby. Metro Vancouver works closely with the City of Vancouver who owns and operates the Vancouver South Transfer Station and Vancouver Landfill. Metro Vancouver leads educational campaigns and initiatives to encourage waste prevention, reduction, reuse and repair, and recycling.

Metro Vancouver's Strategic Priorities

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. Strategic priorities for Metro Vancouver include:

- Financial Sustainability and Regional Affordability
- Climate Action
- Resilient Services and Infrastructure
- Reconciliation

These strategic priorities guide all of Metro Vancouver's work, including solid waste management. These over-arching strategic priorities, together with the solid waste management plan's guiding principles, guide the implementation of the solid waste management plan.

Governance, Roles and Responsibilities

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

First Nations

First Nations have an important role in stewardship of the region's land, water, and air. This extends to working with all orders of government to advance improvements to solid waste management which can help to protect the health of the environment, and achieve environmental, cultural, spiritual, and economic goals for their communities.

Federal Government

Environment and Climate Change Canada is responsible for protection of the environment through legislation such as the *Canadian Environmental Protection Act*. Many other functions of the federal government can influence solid waste management in Metro Vancouver, including policies and national strategies related to food loss and waste through Agriculture and Agri-Food Canada, solid waste infrastructure and innovation funding through Infrastructure Canada and Sustainable Development

Technology Canada. Statistics Canada supports solid waste data collection and reporting, allowing for comparison of certain key performance indicators across the country.

Provincial Government

British Columbia sets the provincial framework for waste management through legislation such as the *Environmental Management Act*. The Ministry of Environment and Parks approves solid waste management plans for regional districts in BC. The provincial government is responsible for setting the requirements for extended producer responsibility programs through the *BC Recycling Regulation*. Product stewardship programs are a cornerstone of the provincial regulatory framework to promote recycling.

Regional Districts

Regional districts including Metro Vancouver are responsible for developing and implementing solid waste management plans. Provincial guidance for the development of those plans is contained in *A Guide to Solid Waste Management Planning.* Metro Vancouver carries out this responsibility through the Greater Vancouver Sewerage and Drainage District (GVS&DD), with the authority of the GVS&DD described in the *GVS&DD Act***.** Policy and funding decisions with respect to Metro Vancouver's solid waste management plan development and implementation are made by the GVS&DD Board, a board of directors composed of representatives of the member jurisdictions of the region.

Member Jurisdictions

Metro Vancouver member jurisdictions collect garbage and organics from residents and some businesses, either directly or through service agreements with service providers in the region, and provide education and outreach in support of these services. Member jurisdictions provide street cleaning, abandoned waste and public realm litter and recycling collection services to protect the environment and public. Some member jurisdictions also own and operate recycling depots or organics facilities in the region. Member jurisdictions have regulatory authority to enact and enforce specific bylaws at the property level and for the public realm, that directly influence requirements for recycling and garbage collection, and for controlling littering.

Waste and Recycling Industry

The waste and recycling industry in Metro Vancouver includes waste, recycling, and organics haulers as well as facility operators and material processors. The industry provides services to all sectors and is involved at every stage of waste management including education, collection and transportation, sorting, and processing of materials. Collaboration with industry is essential to the system's success, its investment and innovation have contributed to the success of waste management and diversion goals in the region.

Producer Responsibility Organizations

Producer responsibility organizations are non-profit organizations that producers engage with to carry out their responsibilities to recycle materials listed in the BC Recycling Regulation. One example, RecycleBC, is responsible for the collection and recycling of residential packaging and paper products in the province. As such, residential recycling collection in Metro Vancouver is typically provided directly by Recycle BC, or member jurisdictions under contract with Recycle BC.

Businesses and Institutions

Businesses and institutions in Metro Vancouver generate waste, and many also have influence on how products and packaging are designed, manufactured, distributed and used. Some businesses provide waste reduction or circular economy related goods or services, such as zero waste stores or thrift stores, repair shops, and rental businesses. The region also has several established reuse businesses, and the network continues to grow and evolve. Metro Vancouver businesses that are helping transform our linear economy into a circular one are collaborating with others in their supply chain, strengthening our local economy, demonstrating innovation, building resiliency, and role modeling behavior shifts

Environmental Non-Profit Organizations

Environmental non-profit organizations also play an integral role in the management of solid waste in Metro Vancouver, specifically with respect to waste reduction, reuse, repair and recycling. Some organizations facilitate donation and redistribution of specific materials like textiles or rescued food, while others work on amplifying the voices of underrepresented and equity-denied communities, so their priorities are considered around accessibility, affordability and availability of services. Others mobilize volunteers to contribute to waste reduction, the circular economy, and a clean public realm, often through programs supported by Metro Vancouver and its members.

Residents

Residents make decisions with respect to the purchase of products and services that contribute to the amount of waste in the region. Residents participate in waste reduction, reuse and repair initiatives, and organics and recycling programs, and are critical in minimizing the amount of contamination in these programs. Residents also have a critical role in ensuring materials that are harmful to the environment and public health are not disposed of in the garbage.

Neighbouring Regional Districts

Materials may flow between regional districts for recycling or disposal. Metro Vancouver works collaboratively with adjacent regional districts to discuss consistency in solid waste management to work toward shared priorities on waste reduction and recycling.

Working Collaboratively with First Nations

Metro Vancouver recognizes and respects the existing Aboriginal and treaty rights of Indigenous peoples in Canada, as recognized and affirmed by section 35 of the Constitution Act, 1982 In 2007, the United Nations General Assembly adopted the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The governments of Canada and British Columbia have enacted legislation to contribute to the implementation of UNDRIP.

In its preamble, UNDRIP states that "respect for Indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment." [1]

As part of our continued reconciliation efforts, Metro Vancouver is committed to meaningful engagement, dialogue, and collaboration with First Nations on our plans, programs, and projects, as outlined in Metro Vancouver's Board Strategic Plan, 2022-2026. We also continue to build and strengthen respectful and reciprocal relationships with First Nations, guided by the principles of UNDRIP "as a standard of achievement to be pursued in a spirit of partnership and mutual respect."[2]

The provincial *A Guide to Solid Waste Management Planning* provides guidance on developing and renewing solid waste management plans. The guide notes that a First Nations engagement strategy should outline an approach for sharing information and inviting participation in the preparation or review of a solid waste management plan.

The First Nations engagement strategy supporting Metro Vancouver's solid waste management plan update outlines a collaborative government-to-government engagement approach with First Nations identified as having interests within the Metro Vancouver region[3] as well as a community engagement approach inviting further dialogue with Indigenous peoples[4].

Metro Vancouver expresses deep appreciation to the First Nations who contributed their time, insights, and expertise throughout the engagement process to update the solid waste management plan. The conversations and knowledge shared have provided understandings that extend well beyond this plan and will continue to guide Metro Vancouver's work in the years ahead.The solid waste management plan seeks to honour the Board's commitment to reconciliation. The strategies and actions in the plan reflect key themes heard during engagement with First Nations. These themes include:

- Improving access to solid waste programs and services for First Nations communities

[1] UNDRIP Preamble paragraph 11

[2] UNDRIP Preamble paragraph 24

[3] Metro Vancouver engages with First Nations whose consultative area overlaps with a project location. A Consultation Area is an area in which a First Nation claims their Aboriginal Rights. There are 34 First Nations with interests in the Metro Vancouver Regional District. First Nations' Consultation Areas can be found using the "Consultative Areas Database," a Provincial mapping tool available to the public.

[4]

- Increasing education and awareness on how to reduce waste and recycle
- Highlighting economic opportunities where possible and considering affordability of services
- Continuing to share solid waste and recycling data to promote transparency and confidence in the solid waste system
- Focusing on environmental stewardship
- Encouraging innovation and collaboration
- Supporting the expansion of the Extended Producer Responsibility programs
- Maintaining high air quality standards and goals for emissions reductions monitoring
- Committing to meaningful engagement with First Nations on projects and plans that may affect their rights and interests
- Recognizing First Nations have an important role in stewardship of the region's land, water, and air
- Seeking to incorporate Indigenous knowledge and actively involve First Nations in regional solid waste management

These and other themes discussed with First Nations have been embedded in the vision statement, guiding principles, and strategies and actions of the solid waste management plan. Metro Vancouver recognizes that all First Nations are unique, and we seek to work with each First Nation to determine how best to move forward together. Metro Vancouver looks forward to working in collaboration with First Nations to achieve the goals of the solid waste management plan.

Regional Solid Waste System

Metro Vancouver and the City of Vancouver operate a network of solid waste facilities across the region that offer recycling and reuse drop-off and waste disposal services, as shown in Figure 3.

Figure 3: Regional Solid Waste System

Additional solid waste facilities operating in the region include municipal recycling depots and private solid waste facilities (recycling, compost, disposal, construction and demolition transfer stations, and material recovery facilities plus facilities exempted from licensing such as concrete processing facilities).

The primary purposes of Metro Vancouver solid waste facilities are to receive a range of recyclables and reusables from residents and businesses delivering those materials in small hand-unloaded vehicles and to receive primarily residential, commercial, institutional and residential garbage.

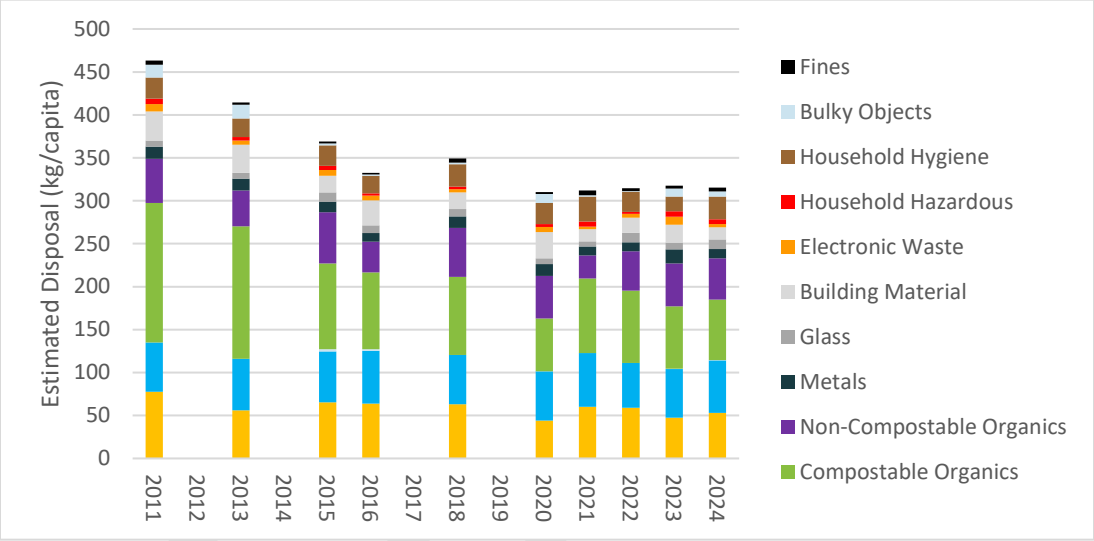
Metro Vancouver is committed to encouraging private sector solutions to increase waste reduction and recycling in the region. Expansion of recycling and reuse drop-off services are expected to be primarily for the purpose of expanding services for customers delivering loads in small vehicles. Metro Vancouver may consider further expansion of services in some circumstances, including but not limited to:

- Instances when private sector solutions may not be sufficient or adequate due to market disruptions, gaps, or failures, particularly in relation to services provided to member jurisdictions,

- Changes to extended producer responsibility regulations that may impact the ability of the private sector to provide sufficient or adequate service,
- Supply chain impacts, including temporary disruptions to facility access or use due to extreme weather,
- Opportunities for cost savings by collocating services at recycling and waste centres or other Metro Vancouver facilities, or
- Pilot studies evaluating the feasibility of collecting and processing recyclable materials which currently do not have a viable market.

Composition of Regional Waste Disposed Over Time

Figure 4: Waste Composition Over Time



As part of the process to update the solid waste management plan, Metro Vancouver reviewed progress since the previous 2011 *Integrated Solid Waste and Resource Management Plan* was implemented, including trends in waste composition (Figure 4), disposal, and recycling and waste generation data, to identify topic areas representing key issues and opportunities. 2025 will serve as the baseline year from which to assess future progress.

Circular Economy

The concept of a circular economy is embedded in this solid waste management plan and particularly as part of Goal 1: Enable Circular Systems. Strategies and actions under this goal aim to rethink solid waste management to shift toward a system in line with the plan's vision: a thriving region where resources are valued and nothing is wasted.

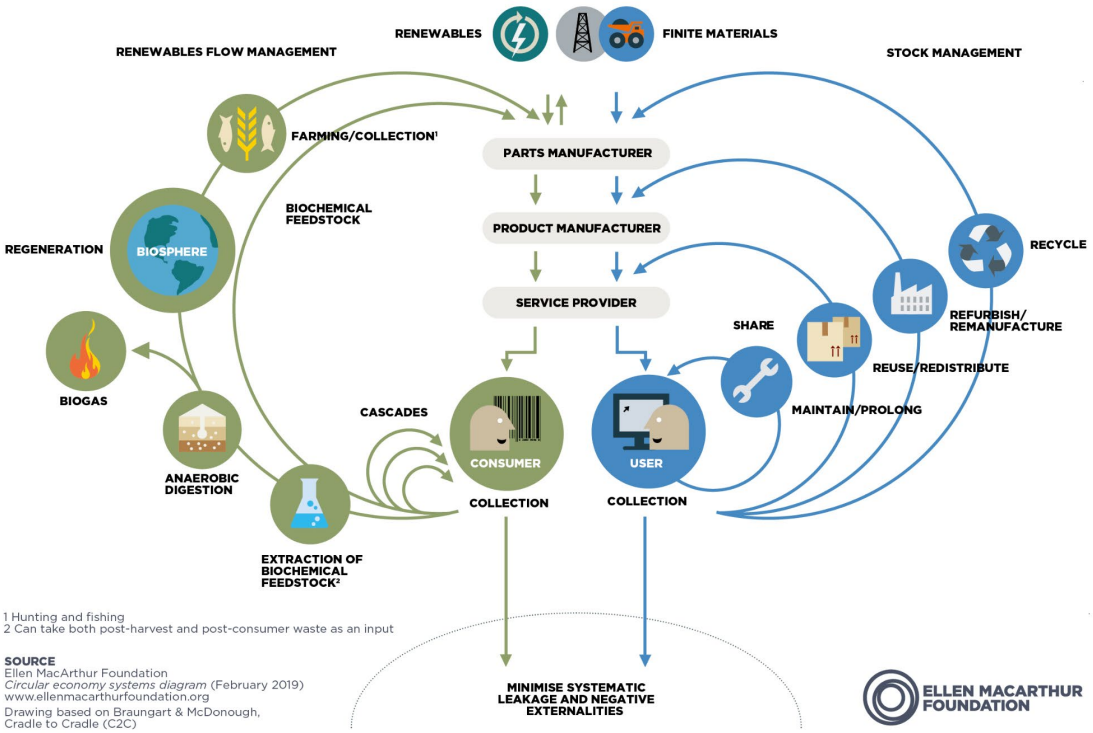
A circular economy is an alternative to the linear economy (make, use, dispose) and is restorative and regenerative by intention and design. Transitioning toward a circular economy means designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

The concept of a circular economy has gained momentum since the first Ellen MacArthur Foundation publication in 2012 which presented the circular economy as an opportunity for significant sustainable economic growth, creating jobs, increasing resilience, and fostering innovation while reducing greenhouse gas emissions. Moving toward a circular economy is a crucial step to addressing the impacts of climate change and has the potential to significantly reduce global emissions related to the products we create and consume.[5] It launched the Ellen MacArthur Butterfly, which presented strategies for technical and biological cycles (Figure 5). It presented three guiding principles:

1. **Eliminating waste and pollution:** developing effective systems that minimize the volume of waste that ends in landfills and negative externalities
2. **Circulating products and materials at their highest value:** enhancing the usefulness of products, components and materials, and keeping them circulating in the economy.
3. **Regenerating Nature:** preserving natural capital and promoting the effective use of finite resources and balancing the use of renewable resources.

[5] *Completing the picture: How the circular economy tackles climate change* (2019).

Figure 5: The Ellen MacArthur Butterfly Diagram



Waste Prevention and Advocacy

Waste prevention consists of actions that prevent or reduce waste from being created in the first place. Recycling is not waste prevention. While recycling is important, it is an activity that occurs after a product or material is used or consumed. The linear economy has created a system where decisions made in the early stages of a product's lifecycle (e.g. during the design, manufacturing and packaging stages) are disconnected from the cost and challenges of managing those materials at end-of-life.

A focused effort to prevent the creation of waste will mean fewer natural resources are extracted and less energy is used in the production, distribution, and consumption of products. It also means that less spending, public or private, will be needed for recycling and disposal programs. Waste prevention provides many opportunities to create jobs and grow a low-carbon economy while mitigating pollution including greenhouse gas emissions.

Waste prevention efforts require systemic change, which Metro Vancouver cannot achieve alone. Progress depends on collaboration across sectors and jurisdictions, including governments, national agencies, and organizations, along with strong, coordinated advocacy to provincial and federal governments, to advance waste prevention and accelerate the transition to a circular economy.

The National Zero Waste Council was developed following the approval of the 2011 solid waste management plan to support success in waste prevention. The work of the council emphasizes circularity as a solutions framework, and seeks cross-jurisdiction and cross-sector approaches to reducing waste through changes in design and behaviour. Finding solutions to waste prevention requires knowledge-building, knowledge-sharing, collaboration, advocacy, and implementing system changes at scales ranging from local to national and beyond.

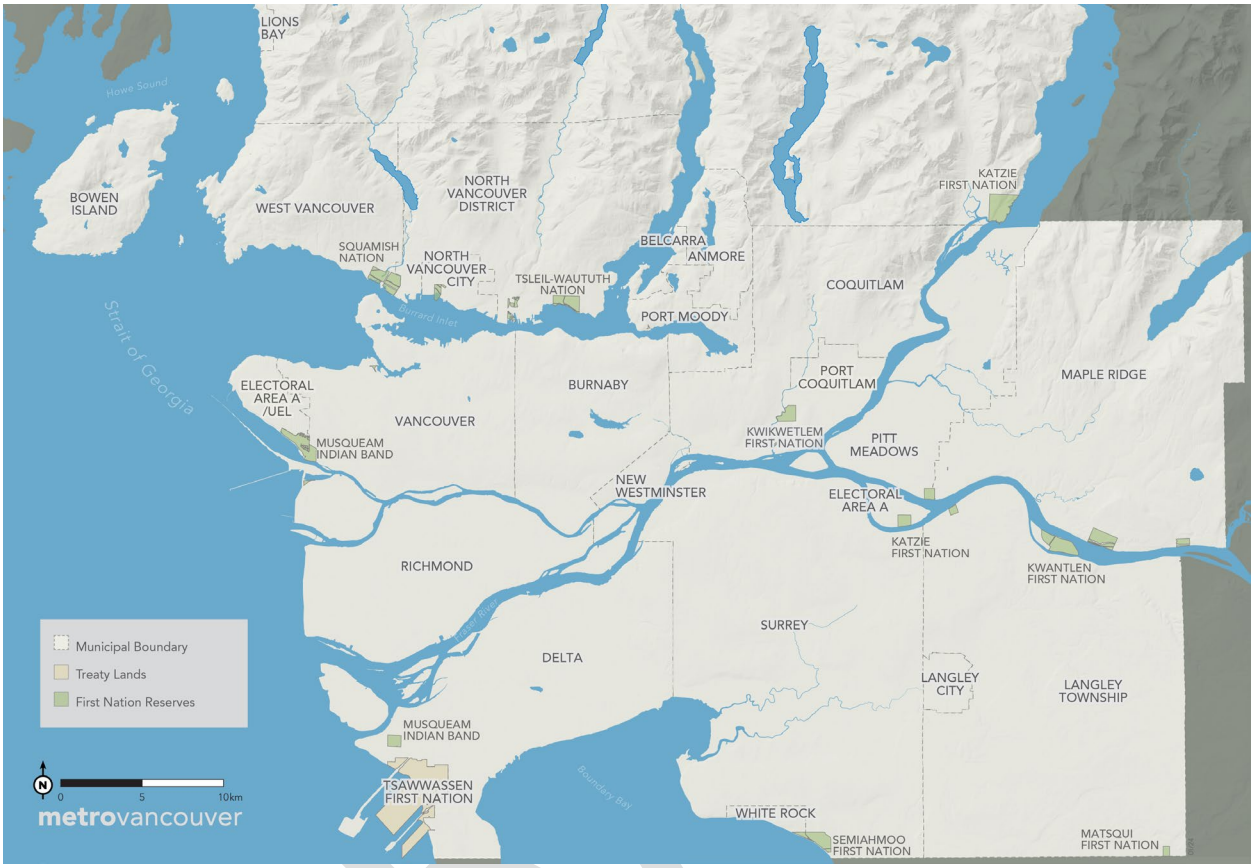
Scope of the Plan

The plan covers actions that Metro Vancouver, often in collaboration with its members or other organizations, can undertake to further advance waste prevention, reduce greenhouse gases, transition to a circular economy, and responsibly manage materials that are left over, in accordance with the waste hierarchy and the plan goals. This includes strategies for advocacy efforts to rethink the system, outreach and education, implementation or expansion of programs and policies, and offering services at Metro Vancouver facilities. The plan contemplates strategic priorities for regulation and recycling and waste centre development, as well as technical criteria for assessing residual management options as a framework for future decision making in those areas.

Actions in the plan focus on municipal solid waste: discarded solid material that originates from residential, commercial, institutional, demolition, land clearing or construction sources. Waste from agricultural and industrial sources are out of scope for this plan; however, waste prevention efforts may extend to these sectors.

Geographically, the plan covers the extent of the Metro Vancouver Regional District, including Belcarra, Bowen Island, Lions Bay, and sc̓əwaθən məsteyəxʷ (Tsawwassen First Nation), which are not a part of the GVS&DD. Figure 6 shows the boundaries of the Metro Vancouver Regional District.

Figure 6: Metro Vancouver Regional District



Alignment and Linkages

Alignment with National Initiatives

Various aspects of Metro Vancouver's solid waste management plan align with national initiatives. For example, under the Federal Sustainable Development Strategy 2022-2026, Environment and Climate Change Canada has outlined indicators and associated targets to achieve the goal (Goal 12): "Reduce waste and transition to zero-emission vehicles". The following table identifies two related Environment and Climate Change Canada targets, and comments on how Metro Vancouver's solid waste management plan will help meet those targets.

Table 2: Alignments and Linkages

Environment and Climate Change Canada Target	Metro Vancouver's Solid Waste Management Plan
By 2030, the amount of single-use plastics that is entering the environment as pollution will be reduced by 5% and that are sent to landfill by 3%	The updated solid waste management plan outlines efforts to continue Metro Vancouver's ongoing work to reduce single-use items, which is supported by a robust provincial regulatory framework and efforts by member jurisdictions. Metro Vancouver's targets are based on a 30% reduction in single-use items by 2050.
Reduce the amount of waste Canadians send to disposal from a baseline of 699 kilograms per person in 2014 to 490 kilograms per person by 2030 (a 30% reduction); and to 350 kilograms per person by 2040 (a 50% reduction)	Metro Vancouver's per capita disposal target is 260 kg/person by 2040, below the federal target of 350 kg/person.

Alignment with Provincial Initiatives

This plan was completed in accordance with the provincial document, *A Guide to Solid Waste Management Planning*, and as required by the *Environmental Management Act*. One of Metro Vancouver's targets is to reduce per capita disposal to 170 kg/person by 2050, which is less than provincial target of 350 kg/person.

Metro Vancouver's hierarchy aligns with the BC Pollution Prevention Hierarchy, with some exceptions:

- "Rethink" has been added as an additional tier above "Reduce" in response to feedback received on including a strong circular economy and waste prevention focus.
- "Recover" includes all material used as an alternative fuel, and does not include mass burn waste-to-energy, reflecting that mass burn waste-to-energy is defined as a disposal method to manage residual garbage, similar to landfilling; and
- "Dispose" replaces "Residuals Management" and includes both landfill and mass burn waste-to-energy.

Metro Vancouver's guiding principles complement the provincial principles in *A Guide to Solid Waste Management Planning*, and were developed based on the unique characteristics and conditions of the region.

Alignment with other Metro Vancouver plans

There is interdependence between the goals, strategies, and actions in this plan and those in other regional plans.

Board Strategic Plan (2022-2026) – provides a framework for regional decision-making, setting goals and priorities across service areas like utilities, planning, and environment, to guide staff, ensure sustainable growth, and foster a livable, resilient region for current and future generations

Clean Air Plan (2021) – The Clean Air Plan (2021) is Metro Vancouver's plan for reducing air contaminant emissions and managing air quality this decade. The Clean Air Plan includes key actions to effectively reduce greenhouse gas emissions in this region, in pursuit of 2030 emissions targets. It also includes actions to reduce health harming air contaminants, as well as greenhouse gas emissions. Linkages with the solid waste management plan include strategies to shift to zero carbon district energy systems, accelerate the transition to lower embodied emissions in buildings, accelerate emission reductions from industrial facilities, and implement leading management practices to continually improve regional air quality and reduce greenhouse gas emissions.

Climate 2050 (2019) – Climate 2050 is a long-term region-wide strategy to guide the region toward a low-carbon, climate-resilient future by 2050, with actions for all orders of government and other agencies. It focuses on reducing greenhouse gas (GHG) emissions and adapting to climate impacts through specific roadmaps for areas like energy, transport, buildings, nature, and health, aiming for carbon neutrality and protecting ecosystems.

The *Climate 2050 Solid Waste Primer* was developed to provide a linkage between the Climate 2050 strategic framework and the solid waste management plan. It provides an overview of the sources of greenhouse gas emissions from disposal of solid waste generated in the Metro Vancouver region since 2010 and offers a summary of actions taken to date to reduce climate impacts and offset over 35 per cent of annual emissions related to solid waste disposal by 2050. Future actions to reduce and offset emissions from solid waste disposal are not included in the primer but instead are identified within this solid waste management plan with the goal of achieving carbon neutrality for solid waste disposal by 2050.

Metro 2050 (2022) – Metro 2050 is the region's collective vision for how growth will be managed to support the creation of complete, connected, and resilient communities, while protecting important lands and supporting the efficient provision of urban infrastructure like transit and utilities. Linkages with the solid waste management plan include a strategy to advance land use, infrastructure, and human settlement patterns that reduce energy consumption and greenhouse gas emissions, create carbon storage opportunities, and improve air quality.

Liquid Waste Management Plan (2026) – Metro Vancouver's liquid waste management plan (provincial approval pending at the time of writing) includes community-specific solutions for Metro Vancouver and its member jurisdictions to manage wastewater and rainwater, and to address growing pressures in the region, while protecting public health and the environment. Key linkages with the solid waste management plan include strategies to diversify options for biosolids and implement proven resource recovery technologies.

Regional Food Systems Strategy (2025) – Metro Vancouver's Regional Food Systems Strategy supports a collaborative approach to creating a sustainable, resilient, and healthy food system that contributes to the well-being of all residents, the economic prosperity of the region, and the conservation of our ecological legacy. The Regional Food System Strategy has key intersections with the solid waste management plan with respect to food waste prevention and food recovery.

STRATEGIES AND ACTIONS

The following strategies and actions are specific initiatives to be pursued to achieve the goals and targets of the solid waste management plan. They are organized according to the waste hierarchy, and reflect the themes and priorities heard from residents and businesses throughout the region.

Metro Vancouver's member jurisdictions have an important role to play in accomplishing the goals of the solid waste management plan. While each member has unique goals and priorities reflecting their own community the strategies and actions include opportunities for Metro Vancouver and members to collaborate. Member jurisdiction actions presented in the solid waste management plan are intended as potential areas of focus for members to consider – they are not requirements.

Goal 1: Rethink

To meet the region's ambitious waste reduction goals, systemic change is needed through a broad shift toward a circular economy that conserves resources by keeping them in use longer and eliminates unnecessary or problematic products and packaging that cannot be reused or recycled. Achieving this transformation will require new circular policies, designs, and business models. Metro Vancouver will act as a catalyst for this transition by implementing the following strategies:

STRATEGY 1.1
Advocate for circular economy policies and programs

To enable a systems level shift from a linear to a circular economy, policy leadership from senior levels of government is essential. A consistent set of policies and programs will allow the business community to create innovative and circular waste prevention solutions. Priority areas for advocacy include food systems, the built environment, durable and repairable consumer goods, data collection, and reducing short-lived or unnecessary products and packaging – especially plastics. Metro Vancouver will work to align with international efforts and join voices with local governments and business leaders across Canada to amplify the message that circular policies are urgently needed to transition away from the current take-make-dispose economy.

1.1.

1.1.1. Advocate for incentives and funding programs for key circular activities:

1.1.1.1. Circular built environment solutions such as design for disassembly, buildings as material banks, and incorporation of used building materials for new construction.

1.1.1.2. Low-waste local food production such as vertical farms, gleaning, food remanufacturing, and industrial symbiosis opportunities.

1.1.1.3. Circular products and services.

1.1.2. Advocate for the phase-in of regulations that eliminate unnecessary, problematic, non-recyclable products and packaging.

1.1.3. Work with other municipalities and regions across Canada to develop and advocate for implementation of priority circular economy policies.

1.1.4. Advocate for policies and programs to improve:

1.1.4.1. Circular built environment solutions

1.1.4.2. Circular food systems

1.1.4.3. Circular products and services

STRATEGY 1.2

Help lead the transition to a more circular regional economy through waste prevention

To support the transition to a more circular regional economy, Metro Vancouver will draw on the circular innovation potential of regional businesses by connecting them with the resources and expertise they need to decouple their growth from waste, reduce their supply chain risk and carbon impacts, and keep valuable materials in circulation for longer.

1.2.

1.2.1. Lead by example by integrating additional waste prevention policy and programs within Metro Vancouver's corporate operations and share learnings with other jurisdictions.

1.2.2. Work with economic development agencies to:

1.2.2.1. Identify and implement circular business opportunities.

1.2.2.2. Co-develop industry-supported standardized methods of tracking waste prevention performance.

1.2.2.3. Develop a recognition program to celebrate businesses in the region leading the adoption of new circular economy practices.

1.2.2.4. Increase low barrier employment opportunities that support a circular economy.

1.2.3. Increase circular economy curriculum and training

1.2.3.1. Embed circular economy into professional development

1.2.3.2. Improve circular economy education in schools through field trips, hands-on learning, and co-developed innovative approaches

1.2.4. Work with trade schools, industry associations, practice leaders, and senior government to identify and implement solutions to fill skills training gaps required to:

1.2.4.1. Scale circular food systems.

1.2.4.2. Rethink approaches to a circular built environment, such as design for disassembly.

1.2.4.3. Equip small and medium-sized enterprises with practical guidance to operationalize circular economy practices.

1.2.4.4. Improve access to circular products and services including reuse and repair

Metro Vancouver and member jurisdictions will collaborate to:

1.2.5. Work with members to develop, test and share consistent approaches for tracking progress on circular policies and programs.

1.2.6. Work with businesses to implement solutions to support circular products and services

STRATEGY 1.3

Collaborate to advance a circular economy

Moving away from a linear economy to one that is circular requires a shift in mindset and a commitment to systems level change. This transformation also requires leadership by, and collaboration between, government, business, and non-governmental organizations. Metro Vancouver will help facilitate this work through a national platform for shared learning, collaboration, and leadership.

1.3.

1.3.1. Bring together ideas and facilitate discussions across sectors to create circular economy solutions that accelerate waste prevention

1.3.2. Collaborate with external groups to identify and implement new circular economy initiatives in the community

1.3.3. Work with national waste reduction and circular economy organizations to learn and share circular practices with a focus on the following priority sectors, and other sectors and materials as they emerge:

1.3.3.1. Textiles

1.3.3.2. Procurement

1.3.3.3. Cities

1.3.3.4. The built environment

1.3.3.5. Plastics

1.3.4. Collaborate on research projects and pilots to further advance waste reduction and a circular economy, and share the findings broadly

1.3.4.1. Collaborate with governments and industry to develop digital tools that map how buildings are constructed and what materials they contain, enabling better tracking and forecasting of used building materials for reuse

Metro Vancouver and member jurisdictions will collaborate to:

1.3.5. Develop, test and share circular procurement approaches, tools and templates (ID030/ID160).

STRATEGY 1.4

Collect and share data to track progress toward a circular economy

Clear and consistent reporting frameworks and metrics are vital for advancing the circular economy. They provide data to measure and track progress, help inform decisions, and demonstrate the value of

circular business models. Metro Vancouver will work across sectors to help develop and share best practices and results to enable a shared understanding of circular economic progress.

1.4.

1.4.1. Work toward annual solid waste management reporting by material type on all levels of the waste hierarchy, starting with organics, wood, and textiles

1.4.1.1. Explore feasibility of complementing this data with comprehensive materials flows for key sectors every 5-10 years to better track progress toward keeping materials in circulation for longer.

1.4.2. Continue to develop and improve key performance indicators to track progress on circular economy through rethinking and reducing waste.

1.4.3. Develop methods for estimating and reporting environmental and economic benefits for waste prevention actions such as reduction of greenhouse gas emissions (potentially including embodied carbon), potential cost savings, affordability, and life-cycle impacts.

1.4.4. Explore new data collection technology.

1.4.5. Strengthen waste composition data to improve actionable insights.

1.4.6. Research and pilot ways to measure success of collaborations.

1.4.7. Explore ways to measure diversity, equity, and inclusion in solid waste data starting with current practices and gaps.

Goal 2: Reduce

STRATEGY 2.1

Collaborate with businesses and institutions to reduce waste at the source

Businesses deliver products and services that meet the daily needs of Metro Vancouver residents. Starting with the construction, demolition, textiles, and hospitality sectors, Metro Vancouver will work with businesses and institutions to reduce waste generated in delivering these products and services.

2.1.

2.1.1. Collaborate with member jurisdictions and the construction and demolition sector to develop solutions for waste reduction that can be implemented at the regional level:

2.1.1.1. Co-host events with the construction and demolition industry, housing and development sectors, and member jurisdictions to help build awareness, share success stories and workshop solutions to reduce waste.

2.1.1.2. Update the Metro Vancouver Construction and Demolition Waste Reduction Toolkit starting with refreshed case studies that follow a format developed collaboratively with industry and member jurisdictions.

2.1.2. Research and summarize the challenges and opportunities related to reducing construction and demolition waste.

2.1.3. Connect with member jurisdictions and the textiles sector to develop solutions for textile waste reduction.
2.1.4. Support reduction of waste from business with practical tools and education:
    2.1.4.1. Co-develop education tools with business leaders and associations to help businesses reduce waste, motivate customers to participate, and comply with evolving waste reduction regulations.
    2.1.4.2. Increase in-person education where businesses and others can talk directly with experts on how to reduce waste.
2.1.5. Host forums with large generators of waste to co-develop waste reduction solutions.
2.1.6. Work with high waste generation sectors to develop and promote circular procurement tools and templates.

Metro Vancouver and member jurisdictions will collaborate to:

2.1.7. Develop, test and share approaches to further measures and reduce commercial and institutional waste.
2.1.8. Develop, test and share definitions and approaches for zoning and development bylaws to clarify siting requirements for waste reduction and recycling activities.

STRATEGY 2.2

Encourage residents to reduce and prevent waste

Many materials and products in British Columbia can be recycled, which has contributed to Metro Vancouver's high recycling rate. However, to achieve the waste reduction goals outlined in this plan, we need to go beyond recycling and focus on preventing waste before it is created. The everyday waste prevention habits of residents add up to make a big difference. Metro Vancouver will encourage residents to prevent waste by implementing the following actions:

2.2.

2.2.1. Increase in-person education where residents can talk directly with waste reduction educators.
2.2.2. Educate residents on affordable everyday waste prevention actions, measure and communicate the estimated impact, and celebrate high performers.
2.2.3. Expand education tools to help residents of multi-family buildings to reduce waste, increase participation, and comply with evolving waste reduction regulations.

STRATEGY 2.3

Prioritize food waste reduction initiatives for the commercial and institutional sectors

Food production requires significant resources — land, water, and energy — and often involves long-distance transportation before reaching local stores, restaurants, and businesses. Yet, much of this food is still wasted. Through the actions below, Metro Vancouver will support residents and businesses to

reduce the amount of food that is wasted. This will help reduce waste locally and decrease the global environmental impacts associated with food loss from food production.

2.3.

2.3.1. Work with businesses, industry associations, and non-profits to reduce food loss and waste by improving distribution, purchasing, storage, and preparation methods.

2.3.2. Share learnings through resources with a particular focus on the hospitality and entertainment sectors.

Goal 3: Reuse

STRATEGY 3.1

Support consistent approaches to reuse

Consistent approaches to government reuse policies and programs can reduce confusion for residents, improve efficiency for businesses, and help enable widespread adoption. Metro Vancouver will play a convening role to develop, test, and share guidance around aligning programs and policies for reusable food service ware and salvaged building materials through the following actions:

3.1.

3.1.1. Advocate for the phase in of reusable food service ware requirements for non-residential sectors.

Metro Vancouver and member jurisdictions will collaborate to:

3.1.2. Develop, test and share improved tools and approaches for house relocation and deconstruction programs and policies including data review.

3.1.3. Update the regionally harmonized approach to reducing single-use items and phasing in reuse measures.

STRATEGY 3.2

Enhance extended producer responsibility programs

Since the development of extended producer responsibility programs in British Columbia, Metro Vancouver has supported shifting recycling, reuse, and repair responsibilities to producers while advocating for continued expansion to include more sectors and material types. Metro Vancouver will continue to participate in discussions with the province, producer responsibility organizations, and member jurisdictions to build on the success of these programs. These actions focus on the role of extended producer responsibility programs in advancing recycling and their potential to facilitate the implementation of reuse and repair systems.

3.2.

3.2.1. Identify and advocate for additional products to be added to extended producer responsibility programs such as mattresses, textiles, household furniture, and packaging from sectors such as care homes and schools with similar materials to residential recycling programs.

3.2.2. Advocate for accelerated implementation of residential collection of an expanded suite of materials including soft plastics and foam.
3.2.3. Explore opportunities for expanded recycling drop-off options for products, including mobile options to improve convenience and accessibility.
3.2.4. Advocate for consistent extended producer responsibility programs across Canada.
3.2.5. Advocate for collection programs that reduce barriers for recycling large items.
3.2.6. Participate in extended producer responsibility program engagements and advocate for:
- 3.2.6.1. Improvements to existing programs and the implementation of new programs.
- 3.2.6.2. Increased financial incentives for local government to participate in collection of producer responsibility programs.
- 3.2.6.3. Expansion of residential-only packaging drop-off programs to small businesses.
- 3.2.6.4. The inclusion of reuse and repair in extended producer responsibility programs.

STRATEGY 3.3

Increase reuse of used building materials

To accommodate a growing region, more single-family homes are being removed to make way for higher density housing. As a result, construction and demolition waste - already a significant portion of the region's waste - is expected to continue to grow. Salvage and reuse of building materials can support affordability and reduce the strain on disposal capacity from increased densification of the housing stock. Building relocation, salvage, and reuse of building materials remains relatively uncommon. Metro Vancouver will work to increase these activities through the following actions:

3.3.

3.3.1. Advocate to increase the use of used building materials in new projects.
3.3.2. Foster further development of second-hand building material markets.
- 3.3.2.1. Encourage the development of facilities and collection programs for triaging building materials to their best and highest use
- 3.3.2.2. Explore options for implementing an online marketplace for salvaged construction and demolition materials.
- 3.3.2.3. Encourage residents to incorporate more used building materials into their home renovation projects.

3.3.3. Work collaboratively with industry and member jurisdictions to:
- 3.3.3.1. Increase reuse in the construction and demolition sector.
- 3.3.3.2. Research and explore innovative solutions to meet land use needs for key waste reduction activities such as house moving, deconstruction, and building material resale.

STRATEGY 3.4

Work with event organizers, businesses, and institutions to increase reuse

The public's ability to reduce waste often depends on the choices made by businesses, institutions, and event organizers — many of which increasingly rely on single-use products and packaging. In the hospitality and entertainment sectors, items such as disposable cups, containers, utensils, and food

accessories are used briefly before being disposed or recycled. For electronics and appliances, repair can be costly or difficult to navigate. Metro Vancouver will work collaboratively with other levels of government, event organizers, businesses, and institutions to expand reuse, repair, and refill options that are convenient, affordable, and easy for residents to participate in.

3.4.

3.4.1. Advocate for funding for the expansion and development of reuse and repair infrastructure such as borrowing of items and products at public libraries, refill at retail, packaging reuse systems, furniture reuse, and a community reuse options database.

3.4.2. Explore the feasibility of a business funding program to support the transition to reuse, refill, repair.

3.4.3. Collaborate with event organizers, event venues, and institutions to implement reusable food service ware, bag reuse programs, and food recovery.

Metro Vancouver and member jurisdictions will collaborate to:

3.4.4. Develop, test and share best practices for waste reduction and recycling for public realm events, prioritizing surplus food redistribution, use of reusable food service ware, and litter reduction.

STRATEGY 3.5

Increase access to and foster the broad adoption of reuse, refill and repair

Sharing and repairing are already happening in a grassroots capacity through community fridges, repair cafés, thrift and vintage stores, buy-nothing groups, and lending libraries. However, access and reliability of these options vary across the region. Metro Vancouver will work to expand these opportunities and make it easier for residents to access reliable reuse, refill, and repair options through the following actions:

3.5.

3.5.1. Continue to scale up reuse drop-off at Metro Vancouver recycling and waste centres.

3.5.2. Work collaboratively with food recovery and product reuse organizations to develop a where to reuse, refill, repair data set that can be displayed in universally accessible maps.

3.5.3. Support multi-family buildings to increase donation collection options for reusable items such as clothing and books.

3.5.4. Research and trial additional ways to scale reuse and repair.

- 3.5.4.1. Support community-based waste reduction and reuse programs for schools, non-profits organizations and community groups
- 3.5.4.2. Expand and improve convenience of online and in-person second-hand marketplaces.
- 3.5.4.3. Facilitate expansion of community-based solutions like community share fridges and buy-nothing groups.

Metro Vancouver and member jurisdictions will collaborate to:

3.5.5. Facilitate opportunities to increase the size, number, and frequency of repair and reuse events such as community garage sales, repair cafes, and clothing swaps.

STRATEGY 3.6

Scale efforts to recover food

Some businesses and organizations in the region produce surplus food, while others need donations as one way to support those who are experiencing food insecurity. Surplus food can also be turned into food products for human and animal consumption. Developing efficient ways to connect those with surplus food to those that need food can reduce waste and help address food insecurity. Metro Vancouver will strengthen and expand the regional food recovery network to help ensure food is put to its highest best use.

3.6.

3.6.1. Maintain and scale a regional food recovery network.

3.6.1.1. Further map out food recovery assets/food waste solutions for each stage of the food supply chain, including a focus on clarifying what foods can be donated to people and animals.

3.6.1.2. Work toward developing a complete set of food recovery data for the region and consider incentives to encourage reporting.

3.6.1.3. Continue to share results of food recovery network initiatives across Metro Vancouver to foster cross-department collaboration on food security and waste reduction.

3.6.2. Work with industry experts and food related sectors to develop a practical guide to measuring and reporting food waste reduction efforts to facilitate development of a complete set of regional food recovery data.

STRATEGY 3.7

Celebrate residents and businesses that prioritize reuse and refill and encourage more residents to participate in these activities

Early adopters who prioritize reuse and refill can help normalize these practices for the general population. Metro Vancouver will support the shift toward reuse and refill by celebrating leaders in reuse and refill, and encouraging more residents to participate through the following actions:

3.7.

3.7.1. Develop waste prevention and reuse programs and education targeting specific sectors that may be unfamiliar with regional waste reduction practices such as newcomers and tourists.

3.7.2. Promote the use of reusable items such as cups and bags, incorporating co-developed messaging that resonates with a diverse audience.

Goal 4: Recycle

Make it easier to recycle effectively

When products and materials are no longer suitable for reuse, recycling is the preferred option. The Metro Vancouver region has made significant progress in recycling, and separation of recyclables, including organics, is now common practice. Despite this success, recycling faces unique challenges through new and changing material types, shifting markets, contamination, and a decrease in public trust. Metro Vancouver aims to address these barriers through the strategies and actions below, making

it easier for residents and businesses to recycle in a way that maximizes benefits while reducing contamination.

STRATEGY 4.1

Promote design for recyclability and the use of recycled content in products and packaging

Effective recycling depends on the presence of robust markets for recycled material, and those markets need both a steady supply of material that can reliably be recycled and strong demand for products and packaging containing recycled content. Although the marketing of recyclable commodities is traditionally managed by producer responsibility organizations or the private sector, Metro Vancouver and its members can help play a role through their own operations, as well as through strategic partnerships with organizations working to increase recycled content in consumer materials.

4.1.

4.1.1. Explore solutions to improve the recyclability of products and packaging, and incorporate recycled content.

4.1.1.1. Work with national plastics waste reduction organizations to understand barriers and advocate for increased recycled content in plastic products and packaging.

4.1.1.2. Research and advocate for improvements to the recyclability of multi-material products including coffee cups.

4.1.1.3. Enhance partnerships with the provincial government, industry, academia, and community groups to research, develop and share solutions.

Metro Vancouver and member jurisdictions will collaborate to:

4.1.2. Work with engineering design and construction organizations to include recycled asphalt and concrete in roads, fill, and other applications.

4.1.3. Develop, test, and share educational materials, procurement tools and templates for recycled products including asphalt, concrete, and compost.

STRATEGY 4.2

Encourage the development of new recycling infrastructure

Recycling depends on facilities to sort materials into marketable commodities and to process those commodities into new products. As actions in this plan help to increase the amount and types of material recycled, Metro Vancouver must continue to work with its members and the private sector to help ensure that collection and processing capacity keeps pace. Ongoing conversations will ensure the region can accommodate the growing volume of recyclables.

4.2.

4.2.1. Convene recycling industry and member jurisdictions to explore how to maintain and increase recycling infrastructure that services the region.

4.2.1.1. Explore opportunities to reduce barriers for siting of private sector recycling activities.

4.2.2. Estimate organics processing capacity requirements and work collaboratively to improve existing collection and processing programs.

4.2.3. Advocate for funding programs to help scale recycling infrastructure and innovation for challenging materials such as food for remanufacturing, anaerobic digestion feedstock, wood waste, and plastic-lined paper products.

STRATEGY 4.3

Improve participation in green bin programs and alternatives for residents and businesses

Since Metro Vancouver's organic disposal ban came into effect in 2015, residents and businesses have made significant progress in diverting food scraps and yard waste from disposal. However, compostable organics remain the largest component of the waste stream and not all residents and businesses participate in green bin programs. Metro Vancouver will aim to improve participation through the actions outlined under this strategy.

4.3.

4.3.1. Research technology options and support pilot programs to improve organics recycling in the commercial and institutional sectors.

4.3.2. Work collaboratively to increase participation and reduce contamination in organics programs focusing on sectors with the lowest participation rates and highest contamination rates.

4.3.3. Continue to provide tools and tips to residents to reduce green bin related concerns such as odours and cleanliness.

Metro Vancouver and member jurisdictions will collaborate to:

4.3.4. Promote and provide education on worm bins, home composting, proper use of green bins, and use of compost products.

STRATEGY 4.4

Make recycling easier by improving convenience

To make recycling easier for residents and businesses, options for recycling should be widely available. Homes, recycling depots, and public spaces are three areas where Metro Vancouver and its members can help provide better, more convenient access to recycling services.

4.4.

4.4.1. Work with businesses, recycling depot operators, and producer responsibility organizations to improve consistency of recycling collection.

4.4.2. Improve access to textile donation and recycling collection services

Metro Vancouver and member jurisdictions will collaborate to:

4.4.3. Update, test, and share multi-family residential (including small scale multi-unit housing) waste and recycling container space and access technical specifications to support adequate space for expanded recycling

4.4.4. Advocate for, test, and share consistent approaches to improve public space waste reduction and recycling.

STRATEGY 4.5

Make recycling more effective by simplifying sorting

Recycling is most effective when the materials are placed in the correct receptacles since this reduces contamination and results in more efficient processing. Clear and consistent instructions, effective signage, and accessible information can help simplify recycling sorting to improve recycling outcomes.

4.5.

4.5.1. Explore the development of a signage standard and customizable signage creation tool in collaboration with producer responsibility organizations.

4.5.2. Explore the feasibility of digital tools that allow users to scan waste items and receive clear, multilingual instructions on options for reuse, repair, recycling, or disposal.

4.5.3. Centralize and improve awareness of recycling information and resources.

STRATEGY 4.6

Provide tailored recycling education for the residential, commercial and institutional sectors

Metro Vancouver has one of the highest recycling rates in North America thanks to the efforts of residents and businesses. However, survey data indicates that some recyclers – especially in multi-family buildings, commercial and institutional settings – are unsure about how to handle certain packaging and products. Metro Vancouver aims to improve recycling accuracy, consistency, and participation by providing tailored resources for different sectors and individual recyclers.

4.6.

4.6.1. Provide tailored education to businesses by:

4.6.1.1. Developing practical online resources for specific business types

4.6.1.2. Working on understanding recycling data and challenges in specific sectors including events, film, tourism, food service, and health care.

4.6.1.3. Hosting industry specific dialogues to better understand and co-solve recycling and waste prevention challenges.

4.6.2. Collaborate with producer responsibility organizations to support tailored education for multi-family.

4.6.3. Research and test technologies and share approaches to providing tailored public education on proper residential recyclables sorting.

STRATEGY 4.7

Increase transparency of what happens to materials from recycling and green bin programs

Transparency about what happens to garbage and recycling is a guiding principle for this plan, since transparency helps build confidence that materials are actually recycled. Metro Vancouver will work to provide more information about where materials end up and make it easier for residents and businesses to access this information.

4.7.

4.7.1. Organize tours of recycling facilities so that residents can see what happens to their materials.

4.7.2. Show where recycling goes and how it's processed to provide more transparency about the recycling system.

4.7.3. Add information about what happens to recyclable materials in online recycling database/search tools.

STRATEGY 4.8

Enhance approaches to Metro Vancouver's disposal ban program

At Metro Vancouver's solid waste facilities, loads are inspected for materials banned from disposal such as recyclables. Surcharges apply if these banned materials are found. The disposal ban program helps encourage separation of recyclables by creating a financial disincentive for disposing of banned material. By strengthening this program Metro Vancouver can keep more recyclable material out of the garbage.

4.8.

4.8.1. Explore options to enhance disposal ban inspection efficacy such as innovative technology solutions.

4.8.2. Create incentives for waste and recycling collectors to work with their customers to adopt additional recycling services and reduce waste.

4.8.3. Review and expand materials included in Metro Vancouver's disposal ban program when viable markets exist.

4.8.4. Explore the potential to increase the number of disposal ban inspections at Metro Vancouver and City of Vancouver solid waste facilities.

Goal 5: Recover

Recover resources from materials not currently recycled

Not all materials are currently recycled into new products due to the nature of the source separation constraints, materials, technology, market, or capacity limitations. While Metro Vancouver will work on increasing reuse and recycling for these materials, there is an opportunity to recover some of their value in the meantime. This can be done by recovering materials that would otherwise be disposed or by recovering energy through the creation of fossil fuel alternatives.

STRATEGY 5.1

Recover materials and energy from materials collected at regional facilities that are not currently recycled

Metro Vancouver and City of Vancouver facilities receive source-separated loads of clean wood, which are banned from disposal, as well as mixed loads containing a high proportion of engineered wood products which currently lack robust recycling markets within or near the region. While Metro Vancouver works to increase the capacity to recycle these materials, opportunities currently exist within the region for displacing fossil fuel use by utilizing energy recovered from these materials as an alternative. Opportunities also exist to recover bottom ash, a by-product of waste-to-energy disposal, to be used beneficially in cement production.

5.1.

5.1.1. Continue to collect clean dimensional lumber not currently reused or recycled due to insufficient processing capacity or technical constraints at existing facilities, to process into fuel to replace fossil fuels in district energy systems and other decentralized heating and agricultural/industrial systems.

5.1.2. Continue to pursue processing of small load waste to recover wood and other materials.

5.1.3. Continue to pursue the beneficial use of bottom ash from the Waste-to-Energy Facility in cement plants.

STRATEGY 5.2

Encourage recovery of materials and energy from construction and demolition materials that are not currently recycled

Licensed private facilities manage most of the construction and demolition material generated in the region. A significant portion of this material is wood or other products that are currently challenging to recycle. Through research and collaboration with the construction and demolition industry, Metro Vancouver aims to decrease the amount of material that would otherwise be disposed, by helping to develop markets for energy and material recovery where reuse or recycling is not currently viable.

5.2.

5.2.1. Share information on construction and demolition waste characteristics and quantities to support the potential to recover materials from construction and demolition waste that are currently reused or recycled.

5.2.2. Encourage recovery of recyclable materials and fuels from construction and demolition material currently not reused or recycled

5.2.3. Advocate for and explore the potential for piloting technologies to convert wood waste into energy and fuel while potentially reducing greenhouse gas emissions.

Goal 6: Dispose

Dispose only as a last resort

Despite the region's success in reducing and recycling waste, approximately one million tonnes of garbage requires disposal each year. The Vancouver Landfill and the Waste-to-Energy Facility serve the

region as cost effective and environmentally responsible local disposal options for residential and commercial and institutional garbage, with remote landfill disposal available to dispose of any garbage that cannot be managed at the Waste-to-Energy Facility. Other materials such as construction and demolition waste, liquid waste system residuals, and soil are an important consideration as optimizing the management of these materials helps to preserve disposal capacity for garbage.

STRATEGY 6.1

Continue to use Vancouver Landfill and the Waste-to-Energy Facility as primary disposal systems

The cost of disposing garbage at the Vancouver Landfill and the Waste-to-Energy Facility is roughly half the cost of remote disposal options. Continuing to use these facilities benefits the region economically and also allows Metro Vancouver to continue to maximize associated environmental benefits, such as energy recovery and utilization, while closely monitoring environmental performance and providing education for the public.

6.1.

6.1.1. Vancouver Landfill

6.1.1.1. Continue to work with the City of Vancouver to maximize landfill gas utilization and greenhouse gas emission offsets at the Vancouver Landfill through projects such as renewable natural gas development.

6.1.1.2. Continue to work with the City of Vancouver to improve environmental performance at the Vancouver Landfill including minimizing discharge of clean surface water into the liquid waste system and maximizing landfill gas recovery.

6.1.1.3. Report annually on the remaining disposal capacity at the Vancouver Landfill and generate projections for the timing of eventual closure of the facility.

6.1.1.4. Work with the City of Vancouver and the City of Delta to maximize opportunities for early use of the Western 40 Hectares at the Vancouver Landfill, an area of the landfill that is no longer being filled.

6.1.1.5. Continue to work with the City of Vancouver to raise awareness about the role of the Vancouver Landfill and the importance of waste reduction and recycling over disposal through open houses, tours, and other public education

6.1.2. Waste-to-Energy

6.1.2.1. Maximize utilization of energy generated at the Waste-to-Energy Facility through projects such as district energy.

6.1.2.2. Continue to further enhance environmental performance of the Waste-to-Energy Facility exploring options to further reduce emissions and increase environmental monitoring.

6.1.2.3. Continue to ensure environmental performance data compared to regulatory requirements for the Waste-to-Energy Facility is publicly available.

6.1.2.4. Continue to provide and expand opportunities for education and public awareness on the Waste-to-Energy Facility and associated infrastructure such as interactive displays and tours, and the importance of waste reduction and recycling over disposal.

6.1.3. *Optimized Use of Local Disposal Facilities*

6.1.3.1. Explore opportunities to reduce reliance on remote private contingency disposal facilities through optimized use of the Vancouver Landfill and the Waste-to-Energy Facility.

STRATEGY 6.2

Use suitable procurement processes for any contingency disposal requirements

Garbage received at recycling and waste centres that cannot be accommodated at the Waste-to-Energy Facility or Vancouver Landfill must be managed under contracts with remote disposal facilities. These contingency contracts are awarded through fair and transparent competitive procurement processes.

6.2.

6.2.1. Consider, among other factors, the following as part of the procurement process(es) for contingency disposal: cost, greenhouse gas and other emissions, regulatory compliance, environmental impact, availability, and reliability.

STRATEGY 6.3

Explore additional long-term disposal capacity if required

According to Metro Vancouver's current waste generation projections, there is sufficient capacity to manage most garbage through the Vancouver Landfill and Waste-to-Energy Facility, with some contingency disposal currently required. If new long-term disposal capacity is required in the future, Metro Vancouver will research, review, and evaluate options. In Canada, landfilling is expected to continue to be the most common approach to managing residual waste for the foreseeable future. Mass burn waste-to-energy is the primary alternative to landfilling around the world with communities choosing between the two options based on local and national circumstances. Technical criteria have been developed to help guide decisions for selecting the most appropriate approach to managing residual waste, if new long-term capacity is required in the future.

6.3.

6.3.1. If additional long-term disposal capacity is required

6.3.1.1. consider the residuals management technical criteria outlined within the solid waste management plan to explore options for securing the required capacity

6.3.1.2. facilitate broad and inclusive regional engagement on options. Findings and recommendations will be reported publicly before any decision to proceed.

STRATEGY 6.4

Monitor disposal options for waste that requires specialized disposal

Some types of waste require specialized disposal. Licensed private facilities exist in the region for managing and disposing construction and demolition material, which is considered a component of municipal solid waste. Other materials, such as asbestos, liquid waste system residuals, and international waste, must be managed according to specific regulations and procedures. Soil disposal at the Vancouver Landfill consumes space that would otherwise be used for disposal of garbage. By monitoring these materials, Metro Vancouver minimizes operational impacts to regional facilities and ensures effective management of these materials.

6.4.

6.4.1. Engage with industry representatives to monitor disposal capacity and options for construction and demolition materials generated.

6.4.2. Work with adjacent regional districts to better understand the flow of mixed construction and demolition material between regions.

6.4.3. Work with the City of Vancouver to ensure convenient and appropriate disposal at Metro Vancouver or City of Vancouver solid waste facilities for materials which require dedicated handling and/or disposal requirements such as asbestos, liquid waste system residuals, international waste, and materials generated outside of the region where appropriate.

6.4.4. Work with the City of Vancouver and health authorities to review disposal options for hospital garbage, the non-biomedical garbage generated from health care facilities.

6.4.5. Work with the City of Vancouver and the City of Delta to pursue opportunities for beneficial use of soil within the Vancouver Landfill property so as not to displace garbage disposal capacity.

STRATEGY 6.5

Complete closure activities at the former Coquitlam Landfill

Metro Vancouver owns the land previously used as the Coquitlam Landfill, which stopped receiving waste in 1983. A portion of the site is occupied by the United Boulevard Recycling and Waste Centre, a portion is leased to a private entity for operation of a golf course, and the remainder of the site, Lot 3, is currently being used for temporary uses such as house storage. Metro Vancouver is responsible for completing all closure and post-closure activities at the site under Ministry of Environment and Parks requirements.

6.5.

6.5.1. Undertake closure activities within Coquitlam Landfill Lot 3 to minimize leachate production and landfill gas migration and prepare the area for end-use.

6.5.2. Continue to use Lot 3 to support waste reduction initiatives until final closure.

STRATEGY 6.6
Prevent litter and illegal dumping

Litter and illegal dumping impact the environment and wildlife and result in significant costs for member jurisdictions to collect and dispose of these materials. Efforts to prevent litter and illegal dumping are already underway, but Metro Vancouver can amplify these efforts through the actions listed under this strategy.

6.6.

6.6.1. Explore increasing the number of community drop-off events to provide options for large or difficult to manage materials and prioritize diversion over disposal.

6.6.2. Support community clean-up initiatives through reduced disposal fees.

6.6.3. Enhance litter and illegal dumping data.

6.6.4. Review approaches in other jurisdictions to reduce illegal dumping and consider implementation of initiatives proven effective elsewhere.

Metro Vancouver and member jurisdictions will collaborate to:

6.6.5. Develop, test, share and advocate for approaches to minimize litter from residential recycling containers.

PLAN IMPLEMENTATION

The strategies and actions of this plan will be implemented in alignment with the guiding principles, goals and targets. This plan is meant to be a living document, meaning that as new priorities emerge and the relative priority of each strategy and action changes in the coming decade, Metro Vancouver will assess the relevancy of each action prior to implementation to verify each action continues to respond to emerging issues and opportunities in solid waste management.

Regulatory Strategic Approach

Purpose

The solid waste management plan Regulatory Strategic Approach outlines the types of regulatory initiatives, such as bylaws, that Metro Vancouver may consider over the lifespan of the solid waste management plan, including how potential Metro Vancouver regulations are assessed, engaged on, and implemented. Recognizing that future changes to regulation require dedicated engagement beyond the scope of this solid waste management plan update, the regulatory strategic approach aims to clarify Metro Vancouver's outlook with respect to any future regulatory actions that advance solid waste management plan goals and targets.

Overview

The Greater Vancouver Sewerage and Drainage District (GVS&DD) Board enacts bylaws to manage waste and protect public health and the environment. This authority is granted to the GVS&DD by the province under the *Environmental Management Act* S.B.C. 2003 c.53, and the *Greater Vancouver Sewerage and Drainage District Act* S.B.C. 1956 c.59, Section 7A and 7B.

The primary bylaws related to solid waste management in the Metro Vancouver region are the following:

(1) The *GVS&DD Tipping Fee and Solid Waste Disposal Regulation Bylaw No.379,2024,* as amended (Tipping Fee Bylaw), which sets garbage and recycling fees at Metro Vancouver solid waste facilities, identifies recyclable and hazardous materials banned from disposal, specifies surcharges, and establishes the requirements of the generator levy;
(2) The *GVS&DD Municipal Solid Waste and Recyclable Material Regulatory Bylaw No.181, 1996,* as amended (Bylaw 181), which specifies requirements for private solid waste facilities, including reporting, inspection, and enforcement provisions.
(3) The *GVS&DD Notice of Bylaw Violation Enforcement and Dispute Adjudication Bylaw No.378, 2024,* as amended (Notice of Bylaw Violation Bylaw),which allows the issuance of penalties up to $500 per contravention of specified provisions of Bylaw 181 and the Tipping Fee Bylaw. It also establishes a process for dispute adjudication.

Existing Regulations

Table 3: Existing Regulations

Bylaw	**Key Components**
GVS&DD Tipping Fee and Solid Waste Disposal Regulation Bylaw No.379, 2024, as amended	• Fees and surcharges • Recyclable and hazardous materials banned from disposal • Generator levy • Hauler records
GVS&DD Municipal Solid Waste and Recyclable Material Regulatory Bylaw No.181, 1996, as amended	• Facility licensing • Powers of Solid Waste Manager and Officers • Fees
GVS&DD Notice of Bylaw Violation Enforcement and Dispute Adjudication Bylaw No.278, 2024, as amended	• Bylaw violations and penalties • Dispute adjudication

Since approval of the Metro Vancouver's 2011 solid waste management plan, the generator levy has been implemented and new bylaw enforcement tools have been added. The generator levy was added to the Tipping Fee Bylaw in 2017 (effective January 2018). It encourages the use of Metro Vancouver and City of Vancouver solid waste facilities where disposal bans for recyclable materials are in place. This levy also ensures that all garbage generators contribute to funding the cost of the regional solid waste

system – a system that provides reliable and resilient services that benefit and are available to all residents and businesses in the region. The generator levy is included in the garbage tipping fee charged at Metro Vancouver and City of Vancouver solid waste facilities; however, if garbage is delivered to other facilities, haulers must pay the per-tonne generator levy directly to Metro Vancouver. The generator levy is a key contributor to Metro Vancouver's continued success in advancing waste reduction and recycling.

Metro Vancouver's Regulatory Role

At its solid waste facilities, Metro Vancouver provides convenient garbage drop-off for residents and businesses, determines the final disposal destination of that material, and provides both free and paid recycling opportunities primarily for materials delivered in small hand-unloaded vehicles. Recycling sorting and processing facilities are managed by the private sector in accordance with requirements set out in Bylaw 181. This system allows and encourages private sector innovation in recycling.

Metro Vancouver's regulatory authority does not currently include the ability to enforce bylaws at the generator or property level. Generally, that authority resides with municipalities. Also outside of Metro Vancouver's regulatory authority are extended producer responsibility programs and regulations impacting the sale and distribution of specific products, eco fees or refundable deposit fees charged for some products, which may be implemented at the provincial or federal level. Metro Vancouver plans to advocate for continuous improvement of extended producer responsibility programs and regulations at the federal and provincial level that will help rethink waste and transition to a circular economy, including design for recyclability, the right to repair, and waste prevention legislation.

Compliance and Enforcement

Metro Vancouver's Environmental Regulation & Enforcement group is responsible for enforcing the provisions of Bylaw 181, including reviewing licence applications and ensuring compliance with licence terms and conditions. Officers appointed under Bylaw 181 have authority to issue notices of bylaw violation under the *GVS&DD Notice of Bylaw Violation Enforcement and Dispute Adjudication Bylaw No.378, 2024*, as amended, which includes penalties of up to $500 per contravention of specified provisions of the generator levy and Bylaw 181. Bylaw 181 also allows for penalties for each day an offence is committed under the Bylaw, as well as suspension or cancellation of a licence. All active solid waste licences are available on Metro Vancouver's website, as well as Notices of Bylaw Violation issued to corporate entities since March 13, 2024, that have been paid, upheld, or are no longer in a dispute process. The appointment of enforcement officers is reported publicly.

Reporting and Continuous Improvement

Metro Vancouver publicly reports annually on the top surcharges under the Tipping Fee Bylaw. In addition, Metro Vancouver publishes information from the Smart Waste Program to help understand the movement of waste around the region. This information is used to assess the effectiveness of the

disposal ban and generator levy programs, respectively, and helps inform decisions on how these programs can continue to be improved.

Strategic Approach

Regulatory Priorities

Metro Vancouver's regulatory priorities for the solid waste management plan align with the vision and guiding principles and can help to achieve the plan's strategies and actions. These priorities and their linkage to the guiding principles are listed below, in alphabetical order. Priorities are numbered for reference in the subsequent table but the numbering does not indicate relative importance.

Table 4: Regulatory Priorities

Regulatory Priority	**Solid Waste Management Plan Guiding Principle**
1. Improve data accuracy, transparency and availability	• Changes to reporting requirements in regulations can help improve **transparency about what happens to garbage and recycling**
2. Increase reuse and recycling	• Continuing to increase reuse and recycling demonstrates Metro Vancouver's commitment to **environmental stewardship and climate action**
3. Reduce barriers to participation	• Reducing barriers to participation helps in delivering **inclusive solid waste services and programs**
4. Support effectiveness of the facility licensing system	• The facility licensing system helps maintain **accountability from residents, businesses and governments to prevent waste**
5. Support effectiveness of the generator levy	• By ensuring all generators contribute to the fixed costs of the system, the generator levy supports **a solid waste and recycling system that is affordable, convenient, and consistent across the region**
	• Similarly, the generator levy enables Metro Vancouver to maintain **a solid waste system that is resilient to climate change and future challenges**
6. Support innovation, particularly for reuse and repair	• Embedding reuse and repair into regulations can spur **innovation and collaboration to support a vibrant regional economy that keeps products and materials in circulation**

Example Future Regulatory Enhancements

The following table provides examples of regulations that Metro Vancouver could consider implementing in support of the priorities above. Potential future regulations are organized by what sector they would apply to. Some of these regulatory undertakings would require an amendment to provincial legislation.

Sector	Example Regulation
Generator	Mandatory source separation
Hauler	Hauler Licensing including mandatory source separation and separate management of streams
	Reduced disposal ban surcharges for collectors that meet minimum requirements
	Additional disposal ban categories and increased surcharges
Licensed Private Facilities	Updated reuse and recycling minimums in licences
	Expanded types of facilities that require a licence
	Incentives for innovation within licenses
	Administrative improvements to licensing bylaw including updating definitions

Considerations

For any proposed regulations during the implementation of the solid waste management plan, at a minimum the following will be considered:

- What is the objective of the proposed regulation, and are there other options for achieving the same objective?
- Does GVS&DD currently have authority to implement the proposed regulation, and if not, what would be required to obtain that authority?
- What are the resource requirements for developing, administering, and enforcing the proposed regulation?
- Which sectors, businesses, or individuals would be subject to the proposed regulation, and what is the estimated impact of the proposed regulation on helping the region meet the solid waste management plan goals and targets?
- What are the expected operational consequences to the solid waste system overall?
- What are the expected financial implications resulting from the proposed regulation, such as tipping fee changes or other costs borne by residents, businesses, Metro Vancouver or member jurisdictions?
- At which level of government would this regulation be most effective? Does this conflict with any existing regulation at another level of government?

- If amending an existing regulation, how does this amendment impact those currently regulated?
- Are there any unintended consequences of implementing the proposed regulation?

Engagement

Any new regulatory measures will be accompanied by a transparent and meaningful engagement process. Engagement will follow Metro Vancouver's Public Engagement Board Policy and Public Engagement Guide. Metro Vancouver will also comply with any provincial requirements related to engagement.

Recycling and Waste Centre Strategic Approach

Purpose

The solid waste management plan recycling and waste centre strategic approach outlines Metro Vancouver's plans for continuous improvement of Metro Vancouver's network of recycling and waste centres. This approach sets key priorities and associated considerations in line with the vision and guiding principles of the solid waste management plan.

The focus of this strategy is to inform future upgrades, replacements and additions to the Metro Vancouver recycling and waste centre network. This network and the region rely on other public and private solid waste facilities that directly support the regional network, and in addition provide valuable services to public and private generators of municipal solid waste and recyclable materials.

Background

Metro Vancouver provides a range of recycling and waste drop-off services before and after the weigh scales at its recycling and waste centres, conveniently located to serve residents across the region. This regional network of recycling drop-off services supports and enhances the programs and services provided by other levels of government, member jurisdictions, producer responsibility programs, non-profits, and the private sector, all together forming one of the most successful and resilient recycling systems in North America. Approximately 88,000 tonnes of recyclable and reusable materials are collected at Metro Vancouver solid waste facilities including, for example, organics, mattresses, and extended producer responsibility materials such as packaging and paper.

Recycling depots located before the weigh scales at recycling and waste centres allow customers to drop off recyclable materials for free. Currently, recycling depots are in place at the North Shore, United Boulevard, Maple Ridge, and Central Surrey recycling and waste centres. The 2026 - 2030 Financial Plan identifies new recycling depots for the Langley and North Surrey recycling and waste centres. Recycling

depots provide convenient, accessible, and free drop-off of a wide range of recyclable materials including metal, paper, plastic, glass, and other producer responsibility materials such as electronics, batteries, paint and pesticides.

As recycling and waste centre infrastructure ages and service needs evolve, Metro Vancouver seeks to identify system upgrades or new developments to increase reuse and recycling and ensure system resilience while accommodating the region's growing population.

Metro Vancouver owns six recycling and waste centres in the region, which provide convenient drop-off of recyclables and garbage for residents, member jurisdictions, and businesses, and incorporate opportunities for reuse:

- Central Surrey Recycling and Waste Centre
- Langley Recycling and Waste Centre,
- Maple Ridge Recycling and Waste Centre,
- North Shore Recycling and Waste Centre,
- North Surrey Recycling and Waste Centre, and
- United Boulevard Recycling and Waste Centre.

The facility locations are depicted below in Figure 7, which also includes the Metro Vancouver Waste-to-Energy Facility and City of Vancouver owned facilities (the Vancouver South Transfer Station including the Vancouver Zero Waste Centre, and the Vancouver Landfill):

Figure 7: Regional Solid Waste System

**Owned and operated by the City of Vancouver*

Metro Vancouver uses the term "recycling and waste centres" to reflect the priority to maximize recycling drop-off services. Improvements to the system since 2014 include:

- 2014: Establishment of a recycling depot ahead of the weigh scales at the historic Coquitlam Transfer Station
- 2017: Redevelopment and integration of the previous municipal recycling depot into the North Shore Recycling and Waste Centre
- 2021: Implementation of a recycling depot funding strategy to recognize the contribution of municipally operated depots to the regional system
- 2022: Opening of the United Boulevard Recycling and Waste Centre, including expanded opportunities for recycling before the scale
- 2022: Opening of the Central Surrey Recycling and Waste Centre, reducing overall system drive times;
- 2023: Initiation of design to upgrade the Langley and North Surrey Recycling and Waste Centres to add recycling depots ahead of the scales

Various recyclable and reusable materials have been added at recycling and waste centres of the years. Metro Vancouver will continue to add new materials at facilities, and ensure sufficient space is available at recycling and waste centres for this purpose.

Municipal Recycling Depots

Metro Vancouver provides funding to municipalities operating recycling depots, to recognize the contribution of municipal depots to the regional system. The funding is contingent on municipalities accepting a core suite of recyclable materials at the depots, and making the depots available to all residents in the region. Municipalities continue to independently manage and operate the depots.

Strategic Approach

Recycling and Waste Centre Priorities

Future continuous improvements and upgrades to facilities aim to improve consistency of services at all recycling and waste centres, maximize opportunities for reuse and recycling, minimize drive times for residents, increase accessibility, and optimize the layout of any new facilities or facility upgrades according to best practices. Cost effective and affordable operations are a key focus in delivering the service. The following table outlines priorities for continuous improvement of the recycling and waste centre network, presented in alphabetical order. Collectively, the considerations under each priority reflect the seven guiding principles of the plan and help ensure that the evolution of the recycling and waste centre system is consistent with the direction and values of the updated solid waste management plan.

Table 5: Recycling and Waste Centre Priorities

Priority	Considerations

Best practices in facility design, construction, and operation	• Incorporate best practices in facility design that maximize reuse and recycling, and improve convenience and safety for users such as:
	  ○ Recycling before the scale at all facilities
	  ○ Flat tipping floors (instead of pits) for improved safety and flexibility
	  ○ Sufficient on-site queuing space to mitigate back-ups of traffic onto public streets
	  ○ Access considerations for cyclists and pedestrians
	  ○ Containers designed to improve accessibility and safety during access
	  ○ Flexibility to add additional materials and space to host temporary events or pilots
	  ○ Traffic flow design that reduces the probability of accidents
	  ○ Separating public and service/operating areas for improved safety.
	• Reduce greenhouse gas emissions through low or zero carbon equipment and fuel
	• Consider greenhouse gas emission implications potentially including embodied carbon when selecting construction materials and methods for the development and maintenance of facilities.
	• Incorporate sustainability features, such as reused or recycled construction materials such as concrete, asphalt, and wood for construction where possible
	• Consider resilience in facility design and construction, including use of robust, low maintenance building materials
	• Continue to align with regulations and published industry best practices such as the BC Building Code and Master Municipal Construction Documents
	• Design for worker and customer safety, accessibility, and inclusivity.
	• Consider incorporating new technologies to improve operational and customer efficiencies, and to maximize material diversion from disposal
	• Consider overall aesthetics of the design to improve user experience and reduce operational and environmental impacts such as noise, odour, and dust.

Consistent and maximized reuse and recycling opportunities	• Provide consistent services across locations • Continue to expand the types of materials accepted including planning for expanded extended producer responsibility programs • Maximize opportunities for reuse • Ensure clear and consistent communication of services available to increase participation, educate, and build confidence in the solid waste management system • Consider inclusivity in the development of each program • Include flex space at facilities to expand or trial new opportunities for reuse and recycling

New facilities developed in areas with expected future growth	• Account for population growth patterns when assessing new facility locations • Incorporate population growth estimates into drive time analyses • Assess facility accessibility for cyclists and transit users as the region continues to develop and transportation methods continue to diversify
Reasonable and consistent drive times	• Site future facilities close to areas that experience relatively high drive times, accounting for population density (see Figure 8) • Aim to reduce overall greenhouse gas emissions through reduced drive times
Resilient and cost-effective service delivery	• Consider replacement or upgrades to aging and outdated facilities • Secure public land at market rates where possible • Design and operate facilities in such a way to minimize risk of disruptions due to extreme weather events,or other unexpected occurrences. • Continue to strive for best value solutions for operating facilities and providing convenient drop-off services that maximize service level and waste reduction potential • Ensure that extended producer responsibility programs' contributions are consistent with cost of managing materials

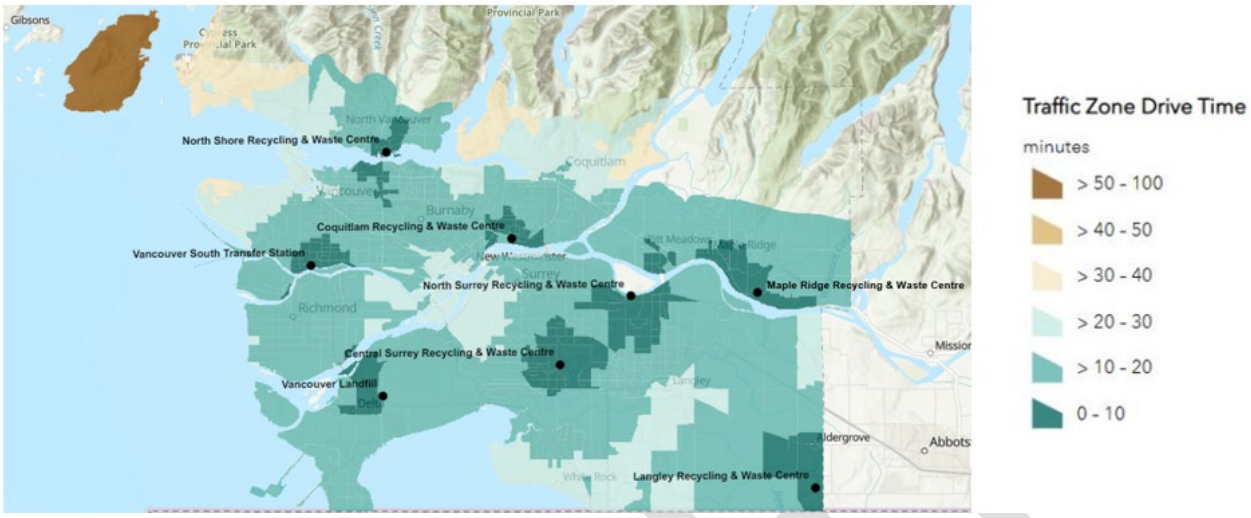
Drive Time Analysis

Metro Vancouver completed a study to evaluate the current regional solid waste system and analyze future system service and infrastructure needs and opportunities over the next 30 years. To evaluate the current recycling system, access to regional, municipal, and private depots were mapped to understand how the system meets service level standards.

The study reviewed tonnage and vehicle data to understand system capacities and developed a model to evaluate the impact to regional drive times, kilometres (kms) driven, and greenhouse gas emissions using a 2050 population and provide insight to potential future facility upgrades, replacements, or relocations to best achieve service level standards. An example of the model output in a heat map for small loads and baseline waste (current system) is shown in the below figure.

Drive time analysis will continue to be used in evaluating locations for future recycling and waste centre development.

Figure 8: Comparative Drive Time Analysis



Residual Management Strategic Approach

Purpose

The solid waste management plan residual management strategic approach outlines Metro Vancouver's plans for continuing to manage residual solid waste (garbage) remaining after reduction and recycling, in a cost-effective and environmentally responsible manner. This approach describes the existing process for managing garbage in the region and sets out technical criteria for assessing future disposal capacity if required. As of 2025, Metro Vancouver has no plans to actively pursue additional capacity.

Background

Metro Vancouver manages the disposal of residential and commercial/ institutional garbage generated within the region. Despite the region's success in reducing waste, approximately 1,000,000 tonnes of garbage require disposal each year. Existing disposal methods as of 2025 are as follows:

- Vancouver Landfill
- Waste-to-Energy Facility
- Private contingency disposal landfills

Vancouver Landfill

The Vancouver Landfill is owned and operated by the City of Vancouver. The Landfill has been operating since 1966, and currently receives approximately 65% of the region's residential and

commercial/institutional garbage. Under the Provincial Landfill Operational Certificate, the annual tonnage of garbage received at the Landfill is capped at 750,000 tonnes.

A 2026 agreement between Metro Vancouver, the City of Vancouver, and the City of Delta establishes the responsibilities of the three parties with respect to the Vancouver Landfill. Under the agreement, the Landfill will operate until as late as 2050.

The Landfill provides opportunities for drop-off of recyclable materials and beneficial use of materials such as construction and demolition material for road building. , Landfill gas collected from the Landfill is recovered as renewable natural gas, and leachate is collected and discharged to the regional liquid waste system for treatment.

Waste-to-Energy Facility

Metro Vancouver's Waste-to-Energy Facility has operated in Burnaby since 1988 and currently handles about 240,000 tonnes of garbage per year — roughly a quarter of the region's garbage. It is a mass-burn facility that turns waste into electricity — approximately 180,000 MWh/year, (enough to power 16,000 homes) — and recovers about 5,000 tonnes of metal annually. Metro Vancouver sells the electricity to BC Hydro and the metals to a local recycler. Approximately 12,000 tonnes of fly ash and 45,000 tonnes of bottom ash are generated annually at the Waste-to-Energy Facility. Fly ash is disposed out-of-region and bottom ash is disposed at the Vancouver Landfill. Metro Vancouver is exploring options for beneficial use of bottom ash.

Metro Vancouver is developing a district energy system to supply heat and hot water resulting from the operation of the Waste-to-Energy Facility, for up to 50,000 homes in Vancouver and Burnaby. This project will reduce greenhouse gas emissions by up to 70,000 tonnes per year and aligns with Metro Vancouver's goals for a resilient region. The Waste-to-Energy Facility District Energy System project will triple the energy recovery of the Waste-to-Energy Facility by using some of the steam generated through the combustion of garbage to heat water and deliver it through an underground piping network to nearby neighbourhoods.

Contingency Disposal

Garbage in excess of what can be managed at the Waste-to-Energy Facility and the Vancouver Landfill is sent to remote contingency disposal. Contingency disposal contracts with remote landfills are awarded following procurement processes based on overall best value which consider cost, greenhouse gas and other emissions, regulatory compliance, general environmental impact, availability, and reliability. Metro Vancouver seeks to minimize the amount of garbage sent for contingency disposal, as it is approximately twice the cost of in-region disposal.

Construction & Demolition Waste

Construction and demolition material is generated at construction sites across the region and is typically managed by private processing and disposal facilities. Residual construction and demolition material

that cannot feasibly be recycled is sent for disposal at a licensed private landfill within the region, or the Vancouver Landfill.

Strategic Approach

Future Disposal Capacity

In Canada, landfilling is expected to continue to be the most common approach to managing residual waste for the foreseeable future. Mass Burn Waste-to-Energy is the primary alternative to landfilling around the world with communities choosing either landfilling or mass burn waste-to-energy. Waste-to-energy technologies, other than the mass burn and two-stage waste-to-energy technology, such as gasification and pyrolysis, have not been successfully implemented at a commercial scale to process residual waste. Commercial-scale mixed waste processing has also not been implemented successfully, with studies showing that current source-separated recycling programs are more cost effective and more likely to help the region meet recycling targets.

Metro Vancouver commissioned a report titled *Residuals Waste Management Options Review*[6] which includes an overview of considerations of all potential residuals management options and technical criteria to consider for evaluating residual waste management options, should additional long-term disposal capacity be required. Table 6 summarizes these criteria.

Table 6: Technical Criteria for Evaluation Residual Waste Management Options

Criteria Category	Criteria for Evaluating Residual Waste Management Options
Economic	• Overall cost, including initial capital construction, operational, closure and post closure costs. • Opportunities and risks related to revenue generation through selling recovered materials or energy to markets. • Opportunities for efficient or reducing transport costs (e.g. backhauling) • Potential variability in waste volumes over time. • Opportunity cost in comparison to alternative investment options. • Financial risk from geopolitical or regulatory environment.

[6] Stantec. (2025). *Residual Waste Management Options Review*.

Environmental	• Potential to emit pollutant emissions/discharges to air, land and water. • GHG emissions - direct and indirect contributions and offsets (avoided GHGs). • General environmental factors such as dust, odour, litter, noise, vectors etc. • Risk and mitigation potential from climate change and natural disasters. • Geotechnical considerations (e.g. slope failure, flooding risk). • Groundwater, surface water and ambient air quality protection and monitoring systems.
Regulatory Compliance	• Meets or exceeds all current or anticipated environmental and waste management regulations. • Permitting and approval processes required for implementing the system.
Resource Use	• Land requirements for facilities and operations. • Energy generation and use potential and proximity. • Opportunities for co-locating complimentary operations, such as public reuse and recycling depot services, processing of specific materials streams.
Social	• Potential impact on public health and safety. • Public perception, cultural considerations and community acceptance of the system. • Job creation during construction and operation.
Technical Feasibility	• Maturity, reliability and degree to which the system has been proven on a commercial scale.

	• Compatibility with residual waste as the feedstock material and ability to adapt to changing waste streams. • Capacity and scalability to handle expected volumes of waste consistently and meet future needs. • Pre-processing requirements. • Percentage of the residual waste stream effectively processed by the system.

Education and Outreach

Metro Vancouver's behaviour change campaigns are valuable tools for encouraging waste prevention habits and are expected to continue as a core component of Metro Vancouver's approach. Many strategies in the plan have dedicated education and outreach components. Metro Vancouver will continue to:

- Share knowledge and collaborate with member jurisdictions to amplify the reach of education and outreach initiatives and support consistency
- Leverage expertise and lessons learned from others, including not-for-profits, institutions, and businesses
- Explore opportunities to increase the public's familiarity with the waste management system by practicing accessible engagement and meeting people where they are at like in-person interactions, such as public events, tours, and conversations with experts
- Continue to use research to develop communications strategies that align with the strategies and actions in the solid waste management plan
- Continue to assess the effectiveness of waste reduction and recycling messaging among target audiences
- Strive to make resource, education, and engagement materials as inclusive and accessible as possible, considering the barriers faced by underrepresented and equity-denied groups, and opportunities to provide material in a way that works best with them
- Continue to use varied communications and outreach tactics that keep pace with evolving technology and trends
- Work with academia on opportunities to test evidence-based approaches to influence waste reduction and recycling behaviours

Accessibility and Inclusion

Guiding Principle

Inclusive solid waste services and programs is a guiding principle of the updated solid waste management plan. Metro Vancouver will consider accessibility and inclusivity in the implementation of all actions under this plan and will take into consideration the ideas provided when developing new programs, communications, and policies.

Commitment

Metro Vancouver's approach is guided by the Accessibility Plan (2023–2026), which emphasizes universal design, adaptability, and collaboration. These principles will be integrated into implementation of the plans strategies and actions to remove barriers and foster participation by people of all abilities.

The potential actions listed under each principle are illustrative examples intended to demonstrate possible approaches. Metro Vancouver will continue to explore and adapt programs and services based on community needs, feedback, and emerging best practices.

1. Accessible Infrastructure
    - Continue to provide clear visual indicators at Metro Vancouver recycling and waste facilities.
    - Ensure Metro Vancouver recycling and waste facilities are wheelchair accessible and meet universal design standards.
2. Inclusive Service and Program Delivery
    - Explore support options for individuals with mobility limitations.
    - Consider adding programs and services for underserved areas and residents facing barriers.
    - Identify and address gaps in accessibility across the region for reuse, recycling, and disposal service access.
3. Community Support and Engagement
    - Foster the development of volunteer networks to assist seniors, residents without a personal vehicle, and people with disabilities in recycling and waste reduction efforts.
    - Collaborate with community organizations to provide training and resources for inclusive waste practices.

4. Education and Awareness
    - Provide signage and resources designed to help reduce complexity for residents with disabilities or other barriers to communication.
    - Offer training for staff on accessibility to aid in service and program development.
5. Continuous Improvement
    - Conduct regular assessments to identify barriers and opportunities for improvement.
    - Seek feedback from people with lived or professional experience in program and service design and evaluation.
    - Commit to ongoing adaptation in alignment with the Accessibility Plan.

Financial Overview

Overview

Metro Vancouver is committed to reflecting the public's high expectation of environmental stewardship while keeping waste management resilient, affordable, and accessible. "A solid waste and recycling system that is affordable, convenient, and consistent across the region" is a guiding principle of the plan.

Metro Vancouver's solid waste management system is funded primarily by garbage and paid recyclables tipping fees, with additional funding from energy sales from the Waste-to-Energy Facility, and other external revenues such as recyclables material sales, extended producer responsibility revenues and disposal ban surcharges. This total revenue funds the Metro Vancouver Solid Waste system, including contracted operations of the solid waste facilities, debt servicing for capital expenditures, waste reduction and recycling planning and programs, and the net cost of environmental regulation & enforcement. Most of the actions within the plan are initiated and managed by Metro Vancouver working collaboratively with member jurisdictions, operations contractors, non-governmental organizations, and the private sector.

The majority of residential and commercial garbage flows to recycling and waste centres prior to transfer to disposal sites including the Vancouver Landfill and the Waste-to-Energy Facility. Any garbage that can't be managed at either the Vancouver Landfill or the Waste-to-Energy Facility is sent to remote private contingency disposal landfills in central British Columbia and the United States. After accounting for proportional recycling and waste centre and transportation expenditures, the Vancouver Landfill and Waste-to-Energy Facility are comparable in cost per tonne. In contrast, contingency disposal is nearly double the cost, as shown in the table below.

The Waste-to-Energy Facility and Vancouver Landfill are finite resources with each facility having maximum annual disposal capacity, and for the Vancouver Landfill overall long-term capacity. For near term future planning, the only practical alternative to the Waste-to-Energy Facility and the Vancouver Landfill would be contingency disposal at remote private landfills. Therefore, closing either facility would lead to significant disposal cost increases.

Table 7: 2024 Disposal Costs

	Vancouver Landfill	Waste-to-Energy Facility	Contingency Disposal
Total Costs / Tonne	$123.10	$122.90	$230.60

A new agreement between the City of Vancouver, the City of Delta, and GVS&DD was signed in 2026 and outlines the terms for continued operation of the Vancouver Landfill. Under this agreement, the landfill continue to operate until approximately 2050 without increasing the previously agreed height and area of the Landfill. Without the new agreement, the landfill was expected to close as early as 2030. Extending the life of the landfill results in more than $300 million in avoided future tipping fees for residents and businesses.

Solid Waste Planning and Waste Reduction and Recycling Initiatives

The strategies and actions in this updated plan prioritize rethinking, reducing, and reusing materials to advance a circular economy and account for changes in the solid waste management system.

Gross expenditures by Metro Vancouver for waste reduction and recycling are approximately $25 million per year, roughly 14% of the solid waste services operating budget. Some of these expenditures are recovered through recycling drop-off fees, material revenues, and through contributions from Extended Producer Responsibility programs. This includes solid waste planning and engagement staff, research projects, and the delivery of waste prevention and recycling initiatives.

Metro Vancouver Five-Year Financial Plan

Metro Vancouver's solid waste budget is approved by the GVS&DD on an annual basis as part of the overall GVS&DD Budget. A five-year financial plan is endorsed by the Board at the same time as the budget is approved.

Actions in the solid waste plan requiring Metro Vancouver expenditures will be brought forward for consideration by the GVS&DD Board through the regular budget process prioritizing actions where business casing shows the highest potential to advance solid waste management plan primary and secondary metrics. Annual reporting on progress to achieve the targets of the solid waste management plan will assist in prioritizing funding and informing where investments are most appropriately allocated.

Metro Vancouver solid waste capital expenditures are approved by the GVS&DD Board on a similar basis to operating expenditures. Capital expenditures for the solid waste system are related to new facility development, facility upgrades, maintenance and replacement. Project specific business cases are prepared for any significant expenditures as part of the identification, planning and conceptualization for those projects.

On October 31, 2025 the GVS&DD Board approved the 2026 solid waste budget and endorsed the five-year solid waste capital plan. Key actions included in the 2026 operating budget include:

- Complete the solid waste management plan update. Submission of an updated plan to the BC Ministry of Environment and Parks, following Board approval.
- Continue to enhance customer service and monitoring including investigating continuous feedback mechanisms.
- Continue to expand reuse and repair opportunities in partnership with member jurisdictions.
- Leverage the National Zero Waste Council to advance the circular economy and waste reduction at a national level.

Key Capital plan initiatives included in the five-year financial plan include:

- Constructing recycling depots at North Surrey and Langley recycling and waste centres to provide consistent services at all recycling waste centres maximizing opportunities for waste reduction and recycling
- Biosolids processing at the Waste-to-Energy Facility
- Waste-to-Energy Facility District Energy system construction
- Acid gas reduction system construction
- Funding for land acquisition for future solid waste facilities.

The 2026 operating budget for the solid waste function is $170 million dollars. The five-year financial plan capital budget is $390 million. The Waste-to-Energy Facility Operational Certificate issued by the Ministry of Environment and Parks on September 23, 2025 may result in the acid gas reduction system requirements changing, which if occurs would be reflected in future capital budgets.

The weighted average tipping fee for 2026 is $156 per tonne with garbage tipping fees projected to increase at 5% per year over the five-year financial plan. Tipping fees in Metro Vancouver are less than public system tipping fees in comparable jurisdictions such as Toronto and Seattle. Both the budget and five-year financial plan are updated on an annual basis based on expected expenditures and revenues. Annual budget reviews will continue to explore opportunities to reduce expected future tipping fees through innovation and expenditure reduction.

The 2026-2035 solid waste operating and capital detail is included in Appendix 2.

Regional District Collaboration

Metro Vancouver is bordered by the Squamish-Lillooet Regional District to the north, the Fraser Valley Regional District to the east, and the Sunshine Coast Regional District to the northwest. Materials for recycling, recovery, and disposal regularly flow between Metro Vancouver and these adjacent regional districts, as well as to recycling and disposal facilities in the Thompson-Nicola Regional District and Regional District of Okanagan-Similkameen.

Collaboration with these regional districts helps to further shared priorities, including advancing a circular economy, advocating for expanded extended producer responsibility programs, and managing construction and demolition material. This plan was developed with input from adjacent regional districts, including discussions on opportunities for continued communication and coordination.

Not all priorities are shared between adjacent regional districts. During development of this plan, the Fraser Valley Regional District expressed concern about environmental impacts related to ongoing use of the Waste-to-Energy Facility. Waste-to-energy continues to be a cost effective and environmentally responsible method to manage residual garbage, and the facility's contributions of nitrogen dioxide, fine

particulates, and anthropogenic (human caused) greenhouses gases are less than 1% of regional emissions. Metro Vancouver will continue to engage in open dialogue with Fraser Valley Regional District staff on opportunities to collaborate, and welcomes additional feedback from all regional districts during plan implementation.

Risk Analysis

The strategies within this plan were developed based on engagement feedback and selected based on their ability to help achieve the plan's goals. Each strategy focuses on a specific part of the goal, such as the type of material, the sector involved, or the method for making progress in each area.
If the full list of strategies and actions are not initiated, the plan may fall short of its goals and targets. This can also affect strategies in other parts of the waste hierarchy. For example, if construction and demolition waste is not reduced as outlined in Strategy 2.4, it will impact the reuse of building materials in Strategy 3.3.

Metro Vancouver will work to implement actions from multiple strategies at the same time under each goal. This approach will help ensure meaningful and measurable progress.

Plan Monitoring

Metro Vancouver will continue to report annually on solid waste management statistics including the targets and applicable secondary metrics outlined in the solid waste management plan. At the five year mark, Metro Vancouver will complete an effectiveness review detailing the status of each initiative in the plan. This will be shared publicly, and all feedback received will be submitted along with the results of the review to the Ministry of Environment and Parks.

In the event new regulations, facilities, or residuals management options are considered, Metro Vancouver will use the corresponding section of this plan to guide the process. The plan will be maintained as a living document, with schedules added as necessary. Any updated schedules will be highlighted in the submission to the ministry as part of the corresponding effectiveness review or submitted for approval as required.

"Innovation and collaboration to support a vibrant regional economy that keeps products and materials in circulation" is a guiding principle of the plan, and many strategies and actions reference collaboration with First Nations, member jurisdictions, adjacent regional districts, residents, businesses and the solid waste and recycling industry. Continued collaboration is essential both for implementation and monitoring of the plan.

Plan progress will be reviewed with a Plan Monitoring Advisory Committee representing a variety of interests, experiences and expertise. The purpose of the Plan Monitoring Advisory Committee will be to provide feedback on:

- plan progress in conjunction with annual progress reports

- planned implementation of strategies and actions
- advancement of measures contemplated in the regulatory, residuals, or recycling and waste centre strategic approaches.

Committee members will be recruited through an application process. Where possible, the Plan Monitoring Advisory Committee will include members of the Solid Waste Management Plan Public/Technical Advisory Committee. Applications will be reviewed by staff and membership recommendations will be made to the GVS&DD Board.

In addition to the Plan Monitoring Advisory Committee, Metro Vancouver will continue to participate in working groups and committees that operate at a provincial, national or international level to develop solutions on topics such as producer responsibility, products and materials, and the circular economy. Locally, Metro Vancouver will continue to report progress and evaluate opportunities for collaboration and share information through the following committees and/or new committees with overlapping responsibilities:

Table 8: Committees

Committee	Membership
Zero Waste Committee	Elected officials from Metro Vancouver member jurisdictions, as appointed by the Board Chair
Solid Waste and Recycling Industry Advisory Committee	Representatives from the solid waste and recycling industry including waste haulers and facility operators
Regional Engineers Advisory Committee Solid Waste Subcommittee	Solid waste management staff from member jurisdictions
Regional Waste Reduction Coordinators' Committee	Solid waste management operations and communication staff from member jurisdictions and adjacent regional districts and communities

Additional plan monitoring activities include the following:

- Exploring increasing transparency and access to data through a public dashboard of solid waste management plan performance indicators;
- Continued provision of data to the province to support updates to the BC Disposal Calculator;
- Meeting with Ministry of Environment and Parks staff routinely to discuss plan progress and other topics of shared interest; and
- Completion of regular waste composition studies to determine the types and quantities of material disposed to help monitor progress and inform implementation of programs.
- Reporting out on progress in implementing actions and strategies in the solid waste management plan

SCHEDULE

All actions within the plan are important, however some strategies within the plan are best initiated early on to facilitate the implementation of others. For example, many of the advocacy initiatives described in the plan, if successful, will simplify implementation of related programs and policies within the region.

As part of reporting on progress in implementing the solid waste management plan, a list of actions currently underway will be included along with new actions expected to be implemented in the next reporting period. This approach will ensure that the scheduling of actions is dynamic based on both the goals and targets of the plan, as well as emerging issues and success in implementing actions currently underway.

GLOSSARY

Anaerobic Digestion is the biological process by which organic matter (e.g., Food Scraps), is broken down in the absence of oxygen, producing raw biogas and other byproducts. The raw biogas is commonly used to generate electricity through cogeneration or upgraded to natural gas.

Backyard Composting means the composting of Food Scraps or Yard Trimmings, or both, at a site where (a) the Food Scraps or Yard Trimmings are generated by the residents of a residential dwelling unit, and (b) the annual production of compost does not exceed 20 cubic metres.

Biosolids are treated solids recovered from wastewater. The solids have been treated by microorganisms and heat to eliminate pathogens and reduce odours. The final product is similar to soil and is rich in nutrients and organic matter.

Bottom Ash is a residual from the incineration of municipal solid waste, largely comprised of slag (stony waste separated from metals), ceramic, glass, ferrous and non-ferrous metals, and un-combusted organics.

Built Environment refers to all human-made physical structures, spaces, and associated infrastructures, including buildings, urban infrastructure, private and public spaces, and built assets, that provide settings for human habitation, work, mobility, and social life. This encompasses all life-cycle phases from planning and construction through use, maintenance, renovation, and deconstruction.

Buy-Nothing Group refers to an online group where residents can share and obtain items for free from other residents, rather than purchasing new items. The goal is to empower people to keep more items in use, while building strong communities and sustainable livelihoods for the makers, fixers, and others who transform old into new, over and over again.

Bulky Objects includes any household item that is too large to be disposed of via regular household garbage and recycling pick-up programs. Bulky household items include, for example, furniture, large

appliances (e.g., dishwasher, refrigerator), domestic construction materials, exercise equipment, and mattresses.

Circularity refers to a waste management approach that keeps materials and products in use for as long as possible by prioritizing Waste Prevention, Reuse, Repair, refurbishment, remanufacturing, and recycling, while minimizing the extraction of new resources and reducing environmental impacts throughout the entire lifecycle of materials.

Circular Economy is an alternative to a traditional linear economy (make – use – dispose). The circular economy keeps resources in use for as long as possible, extracts the maximum value from them while in use, then recovers and regenerates products and materials at the end of their service life.

Climate Change is a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere, and which is in addition to natural climate variability observed over comparable time periods.

Commercial/Institutional means Municipal Solid Waste originating from commercial and institutional sources.

Compostable Plastic includes any type of plastic that is certified or labeled compostable regardless of its actual performance in organics processing systems.

Construction and Demolition Waste means Municipal Solid Waste that originates from demolition or construction sources that has not been handled, managed or mixed with Municipal Solid Waste from other sources.

Deconstruction is the systematic dismantling of buildings or other structures to maximize the recovery of reusable and recyclable materials, as opposed to traditional demolition which focuses on rapid removal and often results in different types of materials being mixed together.

Design for Disassembly is an approach to designing buildings, products, or systems so that their components can be easily taken apart at the end of their useful life, allowing materials and parts to be reused, refurbished, or recycled rather than ending up as waste.

Disposal Ban means the regulatory tool by which defined materials are banned from being disposed of in regional facilities. Surcharges are levied if banned materials are present in the loads, at levels beyond thresholds defined in the Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 379.

District Energy is a system where energy from a central generation facility is converted to energy, typically in the form of electricity, steam, or hot water, and distributed through underground piping to supply energy to a larger area.

Dispose/Disposal refers to landfilling and mass burn waste-to-energy.

Embodied Carbon refers to the greenhouse gas emissions associated with the life cycle of a product or system. Embodied carbon is typically measured in kilograms of carbon dioxide equivalent (kgCO2e).

Environmental Stewardship is the protection, preservation and enhancement of natural spaces and resources in an environmentally responsible manner.

Extended Producer Responsibility (EPR) is a management system based on industry and consumers taking life-cycle responsibility for the products they produce and use.

Fly Ash consists of fine particulates that are captured in a Waste-to-Energy Facility's air pollution control system. These particulates are a mixture of ash from the combustion process and lime and carbon which are added to capture acid gases and mercury.

Food Loss refers to losses in the stages between production and distribution of food, including spoilage as a result of production and processing technologies.

Food Recovery involves taking good and healthy food products, considered surplus or not marketable by food industry standards, and redirecting it to food programs who redistribute it to individuals and households in need.

Food Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy lifestyle.

Food Scraps means Municipal Solid Waste that is comprised of food, including meat, fish, fat, dairy products, bread, baking products, fruits and vegetables, whether cooked or uncooked.

Food Waste is the loss of edible and inedible food parts at the point of retail or consumer use.

Generator Levy means the levy payable by a Generator pursuant to the Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 379 at the rate set out at section 7.1 of the Bylaw.

Gleaning refers to harvesting leftover crops from a farmers' field after the commercial harvest.

Green Bin Program is a Municipal Solid Waste collection program that targets organic waste collection including food scraps and yard waste.

Greenwashing means any environmental claims that are deceptive because they are false, misleading, or not adequately and properly tested or substantiated where required.

House Relocation is an alternative to demolition and involves the lifting and transport of part, or all, of an existing house.

Household Hazardous Waste is a term used to describe a broad range of potentially hazardous products, including flammables, gasoline, pesticides, toxics, corrosives, all of which are not Municipal

Solid Waste. It is critical that they are collected and disposed of responsibly, so they do not endanger humans, wildlife, or our environment.

Industrial Symbiosis is a collaborative approach in which the residues from one industrial process serve as nutrients for another, creating a closed-loop system that mimics natural ecosystems. This concept aims to enhance resource efficiency and reduce environmental impact by forming integrated industrial networks that share materials, energy, and information.

Illegal Dumping is the deliberate abandonment of waste on public or private property. Illegal dumping happens in both rural and urban environments (e.g., furniture left in back alleys, construction waste dumped on farmland).

Landfilling is the process of disposing of waste in or on the land in an organized manner while establishing engineered systems and approaches for minimizing impacts from things like leachate, landfill gas and vectors.

Linear Economy a system where resources are extracted to make products and materials that eventually end up as waste and are thrown away; materials move in one direction, from raw material to waste.

Low Barrier Employment refers to opportunities that are available to persons with persistent and multiple barriers (long-term barriers) and that are not expected to be overcome in the short-term.

Material Banks (buildings) are systematic inventories or databases that document and track building materials and components throughout their lifecycle, particularly focusing on their potential for reuse, recycling, or recovery at the end of a building's life.

Multi-Family refers to residential buildings containing more than four dwelling units. This includes typical building types like apartment buildings, condominium blocks, townhomes/row-housing, or other multiple-unit residential developments.

Municipal Solid Waste refers to Recyclables, compostable materials, and Residuals that originate from residential, commercial, institutional, demolition, land clearing or construction sources or Solid Waste included in the Solid Waste Management Plan. It excludes agricultural and industrial waste.

Organics is unpackaged Food Scraps, Yard Trimmings, Clean Wood, Recyclable Paper that has been soiled by or comingled with food residue, tissue paper, paper napkins or paper towels.

Performance Targets are specific, measurable and time-bound objectives that can be used to assess progress toward a goal (e.g., 80% reduction from 2010 waste generation levels).

Performance Indicators are specific performance metrics that indicate progress toward a given target (e.g., recycling rate).

Performance Metrics are data that can be used to track progress (e.g., tonnes of waste recycled).

Producer Responsibility Organizations refers to not-for-profit organizations or industry associations that are the entity designated by a producer or producers to act on their behalf to administer an extended producer responsibility or product stewardship program. In Canada, a PRO may also be referred to as a "stewardship organization," an "industry funding organization" or a "delegated administrative organization".

Recycling is the collection, transportation and processing of products that are no longer useful in their present form and the subsequent use, including composting or anerobic digestion, of their material content in the manufacture of new products for which there is a market.

Recycling Depot is a facility where residents and businesses can drop off a variety of recyclable materials.

Recycling and Waste Centre refers to Metro Vancouver owned facilities throughout the region where residents and businesses drop off garbage, Yard Trimmings and a variety of other recyclable materials.

Reduce means decreasing the amount of Municipal Solid Waste generated at source. It includes activities which result in more efficient reuse or Recycling of primary products or materials but does not include only compacting or otherwise densifying the waste.

Reuse refers to at least one further use of a product in the same form (but not necessarily for the same purpose).

Recover is the reclaiming of recyclable components and/or energy from Municipal Solid Waste. This does not include composting, anaerobic digestion, or mass-burn waste to energy.

Residuals is the fraction of Municipal Solid Waste that is left after prevention, reuse, and recycling and is destined for Disposal.

Single-Family refers to detached homes generally comprised of six units or less. In the context of this plan, single-family waste typically refers to waste that is collected at curbside.

Single-Use Item means the item is designed to be disposed of after a single use or short-term use, whether or not it could be reused.

Small Load Waste is a load of Municipal Solid Waste that is under 1 tonne.

Tipping Fee means the fee charged by the Greater Vancouver Sewerage and Drainage District (GVS&DD) for disposing of Municipal Solid Waste at a Solid Waste Facility, as set out in Table 1 of Schedule "B" of the Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 379.

Waste Generation is the total amount of disposed Municipal Solid Waste and diverted Recyclables or recovered material. This does not include material that is reused.

Waste hierarchy is a framework that ranks waste management practices by environmental impact, from most to least favourable.

Waste Prevention refers to actions that avoid waste from being created in the first place.

Mass Burn Waste-to-Energy refers to the combustion of residual waste using single mass burn process that typically includes energy recovery through the production of electricity or heat.

Worm Bins are containers used in vermicomposting in which worms live and are used to break down food scraps and other organic matter.

Yard Trimmings includes Municipal Solid Waste that comprises vegetative matter resulting from gardening, landscaping or land clearing

Zero Waste as both a philosophy and a goal, aims to reduce and ultimately eliminate Municipal Solid Waste.

APPENDIX A – DRAFT DISPUTE RESOLUTION PROCEDURE

DRAFT SOLID WASTE MANAGEMENT PLAN DISPUTE RESOLUTION PROCEDURE

BACKGROUND:

A. As part of preparing and updated a solid waste management plan under the Environmental Management Act, the Ministry of Environment and Parks recommends that Metro Vancouver should establish a dispute resolution procedure

B. Section C.1.1 of the Ministry of Environment's "A Guide to Solid Waste Management Planning" (2016) (the "Guide") describes the Plan Implementation Dispute Resolution Procedure as follows:

32. Plan Implementation Dispute Resolution Procedure

(1) Every regional district should establish its own dispute resolution procedure for dealing with disputes arising during implementation of the plan.

(2) The procedure should be limited to disputes involving

(a) an administrative decision made by the regional district in the issuance of a license,

(b) interpretation of a statement or provision in the plan, or

(c) any other matter not related to a proposed change to the actual wording of the plan or an operational certificate

NOW THEREFORE the Board hereby adopts this Plan Implementation Dispute Resolution Procedure in satisfaction of Section 32 of the Guide:

PART A - DISPUTES INVOLVING AN ADMINISTRATIVE DECISION MADE BY THE GVS&DD IN THE ISSUANCE OF A SOLID WASTE FACILITY LICENCE

1. This Part A of the Plan Implementation Dispute Resolution Procedure applies to disputes relating to an administrative decision made by the Solid Waste Manager or the Deputy Solid Waste manager, as such terms are defined in GVS&DD Solid Waste & Recyclable Material Regulatory Bylaw 181, as amended or replaced from time to time ("Bylaw 181"), in connection with the issuance, amendment, suspension, refusal or cancellation of a licence pursuant to Bylaw 181 (a "Decision").
2. Pursuant to Bylaw 181 any person who considers himself or herself aggrieved by a Decision (a "Disputing Party") may dispute the Decision by delivering written notice ("Written Notice") to the Solid Waste Manager within 21 days after the disputed Decision is made.
3. In the Written Notice, the Disputing Party may indicate that he or she wishes to participate in a non-binding mediation with GVS&DD.
4. If the Disputing Party does not indicate that he or she wishes to participate in non-binding mediation, the Disputing Party may proceed with the appeal process specified in Bylaw 181.
5. If the Disputing Party indicates that he or she wishes to participate in a non-binding mediation process:

a. The Commissioner will, as permitted under Bylaw 181, extend the time for commencing the appeal under Bylaw 181 until such time as the non-binding mediation has concluded; and
b. The parties will proceed to non-binding mediation in accordance with the process specified in section 6 below.

6. The following process applies to non-binding mediation under this Part A:
   a. The Disputing Party and GVS&DD will mutually agree on a mediator, and agree on a date for a mediation meeting;
   b. The Disputing Party and GVS&DD will each prepare and submit a written brief for the mediator. The Disputing Party will provide its brief to the mediator (with a copy to GVS&DD) four weeks prior to the date of the mediation and GVS&DD will provide its brief to the mediator (with a copy to the Disputing Party) two weeks prior to the mediation;
   c. The Disputing Party, GVS&DD and the mediator will meet for the purposes of mediation;
   d. The Disputing Party and GVS&DD may each bring up to four representatives to the mediation. The GVS&DD representatives may include the Solid Waste Manager, the Deputy Solid Waste Manager, the General Manager of Solid Waste Services, or other representatives. The Commissioner will not participate in the mediation meeting; and
   e. The Disputing Party and GVS&DD will share equally all costs of the mediation (such as for example, the mediator's fees and the costs of facility rental if applicable) and each party will pay its own costs.
7. If the Disputing Party and GVS&DD are not able to resolve the dispute through mediation, the Disputing Party may either:

   a. Terminate the dispute; or

   Proceed with the appeal in accordance with the process specified in Bylaw 181.

PART B - DISPUTES INVOLVING INTERPRETATION OF A STATEMENT OR PROVISION IN THE PLAN OR ANY OTHER MATTER NOT RELATED TO A PROPOSED CHANGE TO THE ACTUAL WORDING OF THE PLAN

8. This Part B of the Plan Implementation Dispute Resolution Procedure applies to disputes involving interpretation of a statement or provision in the solid waste management plan or disputes of any matter connected to the solid waste management plan other than proposed changes to the wording of the solid waste management plan.
9. Any person who disputes the GVS&DD's interpretation of a statement or provision in the solid waste management plan or who disputes any matter connected to the solid waste management plan other than proposed changes to the wording of the solid waste management plan (a "Complainant") may commence a dispute under this Part B.
10. A dispute under this Part B is commenced when the Complainant delivers written notice ("Part B Written Notice") to GVS&DD's Commissioner indicating that the Complainant wishes to resolve a dispute, and summarizing the nature of the dispute.
11. In the Part B Written Notice, the Complainant may indicate that he or she wishes to participate in a non-binding mediation process with GVS&DD.

12. If the Complainant does not indicate that he or she wishes to participate in non-binding mediation, the dispute will proceed in accordance with the process specified in section 15 below.
13. If the Complainant indicates in the part B Written Notice that he or she wishes to participate in a non-binding mediation process the following process applies:
    a. The Complainant and GVS&DD will mutually agree on a mediator, and agree on a date for a mediation meeting;
    b. The Complainant and GVS&DD will each prepare and submit a written brief for the mediator. The Complainant wilt provide its brief to the mediator (with a copy to GVS&DD) two weeks prior to the date of the mediation and GVS&DD will provide its brief to the mediator (with a copy to the Complainant) one week prior to the mediation;
    c. The Complainant, GVS&DD and the mediator will meet for the purposes of mediation; d. The Complainant and GVS&DD may bring up to four representatives to the mediation. The GVS&DD representatives may include the Commissioner, the Solid Waste Manager, the Deputy Solid Waste Manager, the General Manager of Solid Waste Services, or other representatives; and
    e. The Complainant and GVS&DD will share equally all costs of the mediation (such as for example, the mediator's fees and the costs of facility rental if applicable) and each party will pay its own costs.
14. If the Complainant and GVS&DD are not able to resolve the dispute through non-binding mediation, the Complainant may:
    a. Terminate the dispute; or
    b. Proceed with the dispute resolution process specified in section 15 below.
15. The process for dispute resolution under this Part B is as follows:

    a. The Complainant will submit a non-refundable payment of $2,000 to the GVS&DD to cover a portion of the GVS&DD's costs of this dispute resolution process;
    b. GVS&DD will appoint 3 members of its Board to form an ad hoc dispute resolution select committee ("Committee");
    c. Changes in the membership of the Committee may only be made prior to the presentation of oral submissions to the Committee and such changes can only be made by the Board;
    d. Committee members will be remunerated in accordance with the provisions of Metro Vancouver Regional District Remuneration Bylaw No. 1425, 2025as amended or replaced from time to time as if they were attending a Board meeting;
    e. The Committee may set its own procedures for considering the dispute, which procedure will include the hearing of the dispute on a date set by the Committee. In addition, the Committee may:
        i. ask questions of the Complainant and the GVSⅅ
        ii. determine that the dispute resolution hearing will be closed to the public;
        iii. adjourn to consider its decision;
        iv. provide its decision at the conclusion of the hearing, or may specify a future date on which it will deliver its oral decision; and
        v. determine any other matter that the Committee considers necessary.

f. The Complainant and GVS&DD may each bring up to four representatives to participate in the dispute resolution hearing. The GVS&DD representatives may include the Commissioner, the Solid Waste Manager, the Deputy Solid Waste Manager, the General Manager of Solid Waste Services, or other representatives;
g. The Complainant and GVS&DD will each prepare and submit a written brief for the Committee. The Complainant will provide its brief to the Committee (with a copy to GVS&DD) four weeks prior to the date of the dispute resolution hearing and GVS&DD will provide its brief to the mediator (with a copy to the Complainant) two weeks prior to the hearing; and
h. The Complainant and GVS&DD will each have a maximum of 45 minutes to make oral submissions to the Committee.

APPENDIX B

Item E2

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
SOLID WASTE SERVICES
2026 BUDGET
2026 — 2030 FINANCIAL PLAN

	2025 BUDGET	2026 BUDGET	% CHANGE	2027 PLAN	% CHANGE	2028 PLAN	% CHANGE	2029 PLAN	% CHANGE	2030 PLAN	% CHANGE
REVENUES											
Solid Waste Tipping Fees	$148,874,301	$160,039,613	7.5%	$172,609,790	7.9%	$180,406,743	4.5%	$195,533,526	8.4%	$204,605,382	4.6%
Energy Sales	6,250,000	6,250,000		6,250,000		6,000,000		6,000,000		6,060,000	
Other External Revenues	4,928,890	3,614,141		6,571,114		9,525,103		9,956,322		9,864,813	
TOTAL REVENUES	**$160,053,191**	**$169,903,754**	**6.2%**	**$185,430,904**	**9.1%**	**$195,931,846**	**5.7%**	**$211,489,848**	**7.9%**	**$220,530,195**	**4.3%**
EXPENDITURES											
Operating Programs:											
Solid Waste Operations											
Allocated Quality Control	$ 25,407	$ 26,274		$ 26,752		$ 28,940		$ 28,098		$ 29,216	
Ashcroft Ranch	616,197	–		–		–		–		–	
Engineers in Training	123,306	130,788		135,225		138,156		141,142		144,205	
Landfills	44,458,053	43,979,138		43,510,599		39,077,120		41,168,681		41,974,607	
Recycling and Waste Centre	53,831,557	59,376,424		61,990,346		65,782,042		67,917,393		69,714,518	
Waste to Energy Facility	28,523,685	33,334,956		37,909,430		38,127,313		41,644,844		43,189,540	
	127,578,205	136,847,580	7.3%	143,572,352	4.9%	143,153,571	(0.3%)	150,900,158	5.4%	155,052,086	2.8%
Solid Waste Planning											
Policy and Facility Development	609,217	616,462		636,684		650,077		663,730		677,687	
Zero Waste Implementation	2,956,614	2,796,643		2,773,676		2,836,540		2,900,630		2,965,817	
Zero Waste Collaboration Initiatives	–	745,254		1,214,548		746,986		1,237,652		770,551	
Community Engagement	1,364,396	1,366,358		1,297,990		1,305,098		1,360,327		1,365,871	
	4,930,227	5,524,717	12.1%	5,922,898	7.2%	5,538,701	(6.5%)	6,162,339	11.3%	5,779,926	(6.2%)
Administration and Department Support	756,095	778,512	3.0%	805,059	3.4%	822,777	2.2%	840,841	2.2%	859,305	2.2%
Environmental Regulation and Enforcement	1,616,473	1,679,330	3.9%	1,724,461	2.7%	1,758,251	2.0%	1,796,541	2.2%	1,827,863	1.7%
Allocation of Centralized Support Costs	5,828,516	5,666,647	(2.8%)	6,924,633	22.2%	7,117,539	2.8%	6,957,975	(2.2%)	6,959,443	0.0%
Total Operating Programs	140,709,516	150,496,786	7.0%	158,949,403	5.6%	158,390,839	(0.4%)	166,657,854	5.2%	170,478,623	2.3%
Allocation of Project Delivery Cost	397,060	360,015	(9.3%)	349,668	(2.9%)	356,880	2.1%	362,811	1.7%	367,801	1.4%
Debt Service	17,138,153	18,431,056	7.5%	25,029,164	35.8%	33,687,060	34.6%	41,662,467	23.7%	49,311,167	18.4%
Contribution to Reserve	1,808,462	615,897	(65.9%)	1,102,669	79.0%	3,497,067	217.1%	2,806,716	(19.7%)	372,604	(86.7%)
TOTAL EXPENDITURES	**$160,053,191**	**$169,903,754**	**6.2%**	**$185,430,904**	**9.1%**	**$195,931,846**	**5.7%**	**$211,489,848**	**7.9%**	**$220,530,195**	**4.3%**

APPENDIX B

Item E2

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
SOLID WASTE SERVICES

	CAPITAL BUDGET FOR APPROVAL	2026 CAPITAL EXPENDITURES	2027 CAPITAL EXPENDITURES	2028 CAPITAL EXPENDITURES	2029 CAPITAL EXPENDITURES	2030 CAPITAL EXPENDITURES	2026 TO 2030 TOTAL CAPITAL EXPENDITURES	ACTIVE PHASE	PRIMARY DRIVER
CAPITAL EXPENDITURES									
Landfills									
Coquitlam Landfill Maintenance	$ 24,050,000	$ 6,600,000	$ 3,500,000	$ 740,000	$ 250,000	$ 250,000	$ 11,340,000	Multiple	Maintenance
Total Landfills	**$ 24,050,000**	**$ 6,600,000**	**$ 3,500,000**	**$ 740,000**	**$ 250,000**	**$ 250,000**	**$ 11,340,000**		
Recycling and Waste Centres									
Langley Recycling and Waste Centre Depot Development and Site Reconfiguration	$ 20,500,000	$ 8,250,000	$ 4,000,000	$ 4,000,000	$ –	$ –	$ 16,250,000	Construction	Upgrade
Maple Ridge Recycling and Waste Centre Upgrades	1,500,000	750,000	650,000	–	–	–	1,400,000	Construction	Upgrade
Site Reconfiguration	44,100,000	2,500,000	9,750,000	6,000,000	–	–	18,250,000	Construction	Upgrade
Recycling and Waste Centre Maintenance	11,500,000	1,000,000	4,500,000	3,500,000	500,000	500,000	10,000,000	Construction	Maintenance
Solid Waste Facility Land Purchase	–	–	–	–	40,000,000	40,000,000	80,000,000	Design	Resilience
Total Recycling and Waste Centres	**$ 77,600,000**	**$ 12,500,000**	**$ 18,900,000**	**$ 13,500,000**	**$ 40,500,000**	**$ 40,500,000**	**$ 125,900,000**		
Waste To Energy Facility									
Acid Gas Reduction	$ 5,450,000	$ 5,000,000	$ 55,000,000	$ 40,000,000	$ –	$ –	$ 100,000,000	Design	Upgrade
Biosolids Processing	24,250,000	5,000,000	7,000,000	6,400,000	1,200,000	–	19,600,000	Construction	Resilience
Waste-to-Energy Facility Maintenance	72,150,000	6,850,000	6,850,000	6,850,000	6,850,000	6,850,000	34,250,000	Construction	Maintenance
Waste to Energy Facility District Energy	84,000,000	5,000,000	20,000,000	20,000,000	25,000,000	28,600,000	98,600,000	Multiple	Resilience
Total Waste To Energy Facility	**$ 185,850,000**	**$ 21,850,000**	**$ 88,850,000**	**$ 73,250,000**	**$ 33,050,000**	**$ 35,450,000**	**$ 252,450,000**		
TOTAL CAPITAL EXPENDITURES	**$ 287,500,000**	**$ 40,950,000**	**$ 111,250,000**	**$ 87,490,000**	**$ 73,800,000**	**$ 76,200,000**	**$ 389,690,000**		
CAPITAL FUNDING									
New External Borrowing	$ 252,390,000	$ 16,331,000	$ 103,646,000	$ 80,018,000	$ 69,057,000	$ 73,043,000	$ 342,095,000		
Reserve	18,810,000	19,619,000	604,000	1,072,000	3,543,000	657,000	25,495,000		
External Funding - Interagency	16,300,000	5,000,000	7,000,000	6,400,000	1,200,000	2,500,000	22,100,000		
Total	**$ 287,500,000**	**$ 40,950,000**	**$ 111,250,000**	**$ 87,490,000**	**$ 73,800,000**	**$ 76,200,000**	**$ 389,690,000**		
SUMMARY BY DRIVER									
Growth	$ –	$ –	$ –	$ –	$ –	$ –	$ –		
Maintenance	$ 107,700,000	$ 14,450,000	$ 14,850,000	$ 11,090,000	$ 7,600,000	$ 7,600,000	$ 55,590,000		
Resilience	108,250,000	10,000,000	27,000,000	26,400,000	66,200,000	68,600,000	198,200,000		
Upgrade	71,550,000	16,500,000	69,400,000	50,000,000	–	–	135,900,000		
Opportunity	–	–	–	–	–	–	–		
Total	**$ 287,500,000**	**$ 40,950,000**	**$ 111,250,000**	**$ 87,490,000**	**$ 73,800,000**	**$ 76,200,000**	**$ 389,690,000**		