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metro vancouver
zero WASTE
CHALLENGE
STRATEGY

Metro Vancouver's proposed new management plan for garbage (currently with the Provincial Government for approval) commits the region to increase the proportion of waste diverted from disposal from the current 55 percent to 70 percent by 2015 and 80 percent by 2020. The Zero Waste Challenge Strategy represents a range of actions that, subject to further consideration by the Metro Vancouver Board of Directors, are available to meet the region's aggressive waste diversion targets. The strategy served as a discussion guide at the Metro Vancouver 2011 Zero Waste Challenge Conference.

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A. Introduction

Metro Vancouver's Integrated Solid Waste and Resource Management Plan has a commitment to Minimize Waste Generation (Goal 1) and Maximize Reuse, Recycling and Material Recovery (Goal 2). It also establishes a set of targets to be achieved by the region:

- a minimum of 70% waste diversion by 2015
- an aspirational target of 80% diversion by 2020
- a minimum of 10% reduction in per capita waste generation by 2020

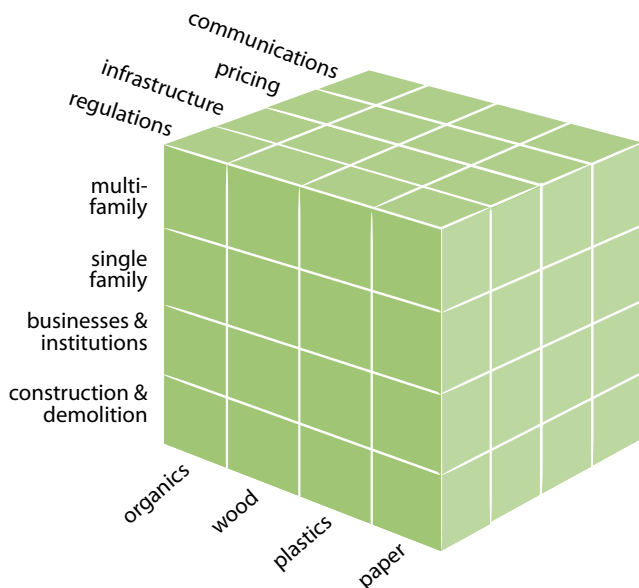
The Zero Waste Challenge Strategy builds from the Management Plan by presenting a series of priority initiatives and actions. In particular, the strategy focuses on sectors and materials with immediate opportunity for change and success.

This strategy will evolve over time as detailed plans for implementation are developed and decision points are identified.



B. Key Considerations of the Strategy

Solid waste management is a complex process. It involves a web of stakeholders, materials, residential and business sectors, and regulatory and voluntary tools (levers), all affecting the outcome of waste diversion initiatives.



Waste and recyclables are generated from four sectors: single-family homes, multi-family complexes, businesses and institutions, and the construction and demolition industry. The main recyclable materials targeted for diversion from the waste stream are: organics, paper, wood, and plastic.

Four basic tools or levers can be utilized to reduce waste and influence recycling rates.

- **Imposing new regulations that require materials to be diverted or recycled**
- **Providing the infrastructure to divert, collect and process recyclable material**
- **Setting differential pricing that provides incentives for the desired behaviours**
- **Enhancing communications programs to encourage the desired behaviour changes**

Strategic communications are assumed throughout this strategy in order to help facilitate the necessary changes. Educational and outreach programs will be vitally important in providing information on new practices and programs, working at the community level to remove barriers to change and reinforcing new habits, and gradually building a public appetite for the more fundamental changes needed to approach higher waste reduction and diversion rates. However, these programs alone will not deliver the desired objectives. Regulations, infrastructure and pricing strategies are necessary to achieve the targets, particularly in the short term.

The strategy implementation will have cost implications, particularly in the short term. However, greater spending on reduction and recycling initiatives, as well as private and public investments in infrastructure, will be offset by lower overall costs for disposal.

Priority Sectors

	Multi-Family	Single Family Homes	Business & Institutions	Construction & Demolition
Total Generation	260,000	800,000	1,200,000	1,250,000
Diversion Rate	16%	46%	44%	76%
Quantity Recycled	40,000	370,000	530,000	950,000
Quantity Disposed	220,000	430,000	670,000	300,000

The four sectors (single family homes, multi-family homes, businesses and institutions, construction and demolition) differ in terms of their current and potential diversion rates, as well as the composition of the recyclable materials and the tactics needed to divert those materials.

Three sectors are considered priorities and are targeted for action in this strategy:

- Multi-family (lowest recycling rates at 16%).
- Businesses and institutions (waste contains the greatest volume of recyclable materials)
- Construction and demolition sector (recycles more than three quarters of its waste, but still disposes large quantities of wood, a largely homogenous and valuable material that can be diverted from disposal for reuse and recycling)

The strategy addresses the major approaches needed within each priority sector to reach the targeted reduction and diversion rates.

Single family homes are not targeted explicitly because significant actions are already underway in this sector.

Targeted Materials

The region's existing waste stream contains many materials that can be recovered for better use. Currently 40% of the materials that are disposed as garbage are organics. These materials – largely food waste, soiled paper and yard waste – could be recovered and processed into useful products, such as compost or biofuels, instead of creating methane in landfills. To meet the 70% diversion target, about 265,000 tonnes of organics will need to be recycled annually by 2015, in addition to those that are currently being composted. These materials alone represent almost half the quantity that is needed to achieve the 70% diversion target. A comprehensive approach to recycle organic materials is therefore an important element of the Zero Waste Challenge Strategy.

About 15% of the waste stream is wood. To meet the 70% diversion target, about 155,000 tonnes of wood will need to be recycled annually by 2015. This material is addressed as part of the Construction and Demolition sector outlined in the strategic priorities below.





Manufacturing and Distribution Considerations

In the longer term, to reach the more aggressive reduction and diversion targets set for 2020, the generation of waste needs to be reduced at its source – the manufacturing and distribution of the products used by society. Currently, products are designed with consumers in mind, with little consideration for end-of-life disposition. To reduce waste and facilitate more effective and economic recycling, products will need to be redesigned to meet cradle-to-cradle goals, where at the end of their useful life they can be efficiently reused, repaired or remanufactured into new products. While these processes are mostly outside of the jurisdiction of local governments, the importance of product design is an important component of the Zero Waste Challenge Strategy.

C. Strategic Priorities

The Management Plan identified a wide range of actions to meet the waste diversion targets. This strategy focuses on the priority actions needed to achieve the 70% diversion target by 2015. The priority areas are as follows:

1. Organic materials
2. Multi-family housing complexes
3. Construction and demolition industry
4. Businesses and Institutions

Additionally, in order to begin the more fundamental changes needed to achieve the 2020 targets of a 10% per capita reduction in waste generation and an 80% diversion rate, the strategy also includes a set of initiatives aimed to:

5. Influence product design

1. Organics

Forty percent of the materials that are disposed as garbage are organics. These materials such as food scraps, yard trimmings, and soiled paper could be recovered and processed into useful products, such as compost or biofuels, instead of creating methane in landfills. To meet the 70% diversion target, about 265,000 tonnes of organics will need to be recycled annually by 2015, in addition to those that are currently being composted.

Recycling of organics from single-family homes is largely established. Almost all member municipalities already have backyard-composting programs, and have programs to collect yard trimmings at depots and at the curb. Many municipalities collect food scraps together with the yard trimmings from single-family residences. The remaining municipalities are in the process of implementing the necessary infrastructure to collect single-family food scraps. Processing capacity for handling this single-family material has been established in the region.

Very few multi-family homes and businesses are recycling organics. The major barriers are a lack of space, limited access available for recycling collection vehicles and tenants, and a lack of processing facilities that can accept large amounts of food scraps.

Businesses are the largest generators of organic wastes and food scraps are the majority of the organic materials they generate. The region will need additional composting and biofuel facilities in order to process the increased amount of organic waste. In particular, new processing facilities will need to manage business food scraps which will be the largest part of organics diverted from disposal in the future.

Priority Actions

1. Implement a disposal ban on food scraps and soiled papers

a. Single-family residents

Metro Vancouver will ban the disposal of organics from single-family homes when all member municipalities have single-family organics collection in place. This is expected to occur in the next 12 to 18 months.

The cost to comply with a ban will depend on the transition from a municipality's existing method and frequency of collecting yard trimmings to the collection of all organics. Food scraps collection uses the same containers and vehicles that are already in place for collecting yard trimmings, and the cost per tonne to process mixed organics at the regional composting facility is much lower than the cost per tonne to dispose of garbage. As food scraps are increasingly diverted from garbage, municipalities will be able to further reduce costs by switching garbage to a bi-weekly collection.

b. Multi-family residents and businesses

Metro Vancouver will announce a ban on commercial and multi-family organics, to take effect by 2015. Private companies have been slow in investing in new processing facilities primarily because of the lack of an assured supply of feedstock. Other reasons include the regulatory environment, technology, and siting. This announcement will provide investors with the desired assurance of future feedstock, and provide advance notice to the business sector so that they can prepare infrastructure to separately collect, deliver and process their organic material.

c. Enforcement of disposal bans

At waste disposal sites, Metro Vancouver will strengthen the enforcement of disposal bans using methods such as increasing the frequency of disposal ban inspections, increasing fines for infractions, and barring repeat offenders from accessing regional waste facilities.

To ensure effectiveness of the disposal bans, the waste generators must be affected by the enforcement. This is achieved by enforcing bans



not only at the disposal sites, but also at the source, through ticketing of violators by municipalities, or by using hauler licenses or franchised contracts to require haulers to inspect and refuse loads that are in violation of bans.

2. Mandate the separation and collection of organics from multi-family homes and businesses

a. Mandating space and access for recycling organics

Metro Vancouver member municipalities have the legal authority to enact bylaws requiring sufficient space for recycling organics in multi-family and commercial buildings.

Municipalities and key stakeholders have developed a sample municipal bylaw and specifications for new building construction and major renovations which municipalities can customize and implement. Municipalities will begin implementing their municipal bylaws within 2011.

For existing buildings, Metro Vancouver will work with stakeholders to develop a sample municipal bylaw and performance specifications for multi-family and commercial buildings. Existing buildings will have options such as reallocating existing spaces currently used for garbage collection or parking, increasing the frequency of waste removal service, collecting organics from within tenant suites, managing organics through on-site composting/digestion, or arranging with nearby buildings to share a neighbourhood collecting/processing facility. This bylaw will take about a year to develop.

b. Mandating organics collection and recycling

Metro Vancouver will add organic waste to the list of banned materials when the organics processing capacity is established.

Municipalities will in turn need to enact bylaws that require businesses and multi-family residences to collect organics separately and transport them to a processing facility for recycling, or alternatively, to manage organics on-site.

Metro Vancouver will work with stakeholders to develop an appropriate sample municipal bylaw.

In the event that further regulatory and pricing incentives are still needed, a specific requirement for the collection and transportation of organics could be included in hauler contracts.

The annual business licence renewal process will require existing businesses to prove that adequate recycling infrastructure or appropriate collection service is in place for organics and other recyclables by 2013.

To a degree, municipalities will be able to enforce these new bylaws using existing bylaw enforcement staff. However, there will be an incremental increase in the municipal enforcement costs.

3. Ensure that appropriate infrastructure for processing organics is established

Existing organics processing facilities in the region are a mix of private and publicly owned contracted facilities. Metro Vancouver has contracted for a regional composting facility owned and operated by Fraser Richmond Soil and Fibre, the City of Vancouver operates its own yard trimmings composting site, and a few private companies also provide composting services to the region. Several private companies are also actively building or planning to build new composting and biofuel facilities within Metro Vancouver.

Organics processing facilities can produce compost or biofuels, and it is best to have both types of facilities serving the region. Biofuel production has a better future market potential, and is better suited for pure food scraps of the type generated by businesses. Composting is better suited for pure yard trimmings and is still required for processing

the residues from biofuel production.

Metro Vancouver is developing a regional framework for organics processing facilities that will provide greater detail on criteria and a proposed business model for establishing future capacity.

4. Ensure that the price of processing organics is significantly lower than disposal

There will be a cost for most businesses and multi-family residences to collect organics separately from their garbage and in particular a cost to transport them to a processing facility. However, once materials are received at an organics processing facility, the tipping fee will be significantly lower than the fee charged at waste disposal facilities (currently \$97 per tonne).

A strong differential between the garbage and organics tipping fee is a significant driver. It will result in an overall saving for many businesses, like restaurants, food processors, and supermarkets for which a large part of their waste is food scraps, as well as providing processing facilities with additional assurance of future supply of feedstock.

Other Actions

- Engaging the food industry to modify products and marketing so as to reduce over purchasing and other habits that generate food waste by vendors and consumers.
- The largest fraction of the multi-family waste stream is food, of which several studies in large cities have found 30%-40% is "over purchased" and thrown away without ever being used. The UK's Waste and Resources Action Programme (WRAP) implemented a successful "Love Food, Hate Waste" campaign that encouraged the food industry to modify products, packaging, and storage to reduce food waste generation. Metro Vancouver will work with major food processors and retailers to undertake similar initiatives.
- Local government may provide equipment, training, and operational support for composting in or near multi-family complexes.



2. Multi-Family Sector

The multi-family sector has a diversion rate of only 16%, compared to about 55% for the region as a whole. Furthermore, as the region densifies, the majority of the population will live in multi-family households.

Multi-family household recycling has unique challenges to overcome. Residents in multi-family complexes share garbage bins, which reduces the incentives for individual residents to divert wastes. This sharing also provides anonymity to those who choose not to recycle. In addition, many multi-family complexes have limited space for adding containers to collect recyclables or organics, and limited access for recycling collection vehicles.

Priority Actions

1. Mandate sufficient and accessible space for recyclable materials and organics at multi-family complexes

A major barrier to increased recycling from multi-family homes and businesses is a lack of space assigned for recycling and the limited access available to recycling collection vehicles and tenants.

For new buildings and major renovations, the Management Plan calls for municipal bylaws to set minimum standards for space and

access for recycling. Metro Vancouver, member municipalities and key stakeholders have already developed a sample municipal bylaw and specifications, which municipalities can customize and implement. Member municipalities will begin implementing their municipal bylaws by 2012.

For existing buildings, Metro Vancouver will work with stakeholders to develop a sample municipal bylaw template and performance specifications for multi-family and commercial buildings. To meet the recycling performance specifications, existing buildings will have options such as reallocating existing spaces currently used for garbage collection or parking to collect organics, increasing the frequency of waste removal service, collecting recyclables from within tenant suites, managing organics through on-site composting/digestion, or sharing facilities with nearby buildings. Municipalities may also consider allocating public space for these purposes.

2. Mandate the separation and collection of organics from multi-family homes

Metro Vancouver will mandate recycling of all banned materials, and will add organic waste to the list of banned materials when the organics processing capacity is established. Mandatory organics recycling bylaws will coincide with the start of the regional disposal ban on organics.

Municipalities will need to enact bylaws that require multi-family residences to have organics collected separately and transported to a processing facility, or alternatively, to be managed onsite. This bylaw will work in unison with the municipal bylaws that establish minimum requirements for recycling space and access, as well as interim performance specifications.

In the event that further regulatory and pricing incentives are still needed, a specific requirement for the collection and transportation of organics could be included in hauler contracts.

Metro Vancouver will work with stakeholders to develop an appropriate municipal bylaw template that will take effect at the same time as the regional disposal ban on organics (2015).

3. Increase the effectiveness of material disposal ban enforcement

Despite the fact that materials such as paper, cardboard and plastics and other “blue box” materials are already banned from disposal, they continue to be disposed as waste.

Metro Vancouver will strengthen the enforcement of disposal bans at disposal sites, using methods such as increasing the frequency of disposal ban inspections, increasing fines for infractions, and barring repeat offenders from accessing regional waste facilities.

To ensure effectiveness of the disposal bans, the waste generators must be affected by the enforcement. This is achieved by enforcing bans not only at the disposal sites, but also at the source, through ticketing of violators by municipalities, or by using hauler licenses or franchised contracts to require haulers to inspect and refuse loads that are in violation of bans.

Other Actions

- New waste reduction regulations from the provincial and federal levels, such as opt-in programs for unsolicited mail and industry stewardship programs.



3. Construction and Demolition Waste

Construction, renovation and demolition activities are the source of over 1.3 million tonnes of waste materials generated in Metro Vancouver each year. Waste from these activities consists of, in order of magnitude: wood, concrete, carpet, asphalt roofing and plastic. Because the material is relatively homogeneous compared with typical mixed solid waste, the recovery and recycling of useable materials is well developed through private sector initiatives. Nearly 900,000 tonnes of the waste generated annually is recycled – a diversion rate of almost 70%. An additional 155,000 tonnes annually of construction and demolition materials – primarily wood – has been targeted to reach the 2015 diversion goal identified in the Management Plan.

Reuse and recycling of clean wood has been very successful within the private sector due to the high commodity value associated with wood. This strategy builds upon this success by increasing the supply of wood for reuse and recycling by the private sector. This will be achieved through increasing the processing capacity for large quantities of mixed materials, and establishing convenient collection facilities for small loads of source separated wood. Demand for recycled materials is well established at market prices well below the cost of disposal.

Increased processing capacity, provided by the private sector, will be encouraged through mandatory waste reduction and recycling on construction and demolition sites. Convenient collection facilities for small loads will be provided by the public sector at transfer stations or recycling depots, by the private sector at building supply stores, or a combination of these. Use of these facilities will be supported through expansion of material disposal bans to include wood.

Priority Actions

1. Mandate waste reduction and recycling on construction and demolition projects

Mandatory recycling at construction and demolition jobsites will be imposed through revisions to municipal bylaws. These revisions will require waste diversion requirements to be included in demolition and building permits issued by municipalities. Applicants for demolition and building permits will be required to provide estimates of the quantity and types of material generated and identify where it will go. Deposits will be required based upon the size or value of the project, with the deposit returned if the prescribed diversion rate has been met.

A recommended bylaw has been developed by Metro Vancouver in consultation with member municipalities and industry players. The bylaw will be provided to member municipalities in 2011 with the expectation that a policy be adopted and implemented by all municipalities.

Permitting and enforcement may be accommodated by existing municipal staff with minimal additional cost depending upon level of enforcement required. Any additional cost incurred by this program transferred to permit applicants may be recovered through cost savings of recycling programs – which will vary based on market value of recyclable materials.



2. Provide depots for the convenient collection of wood

To provide convenient collection infrastructure for small loads of wood, local government will establish additional facilities to collect source separated wood by 2015. This can be accomplished directly through separated areas at existing transfer stations, municipal recycling depots, or potentially at new eco-centres. They may also be provided indirectly by working with building material retailers to provide depots for wood. Use of wood recycling facilities will be supported by new material disposal bans introduced for wood.

3. Ban wood waste from disposal

The Management Plan outlines specific actions targeting the reduction of wood waste, including the implementation of a ban on the disposal of wood by 2015. Notification of the intention to implement the ban and the associated schedule will encourage greater waste reduction, reuse, recycling and the expansion of existing markets and the development of new uses. This action will complement mandatory recycling regulations to

ensure generators utilize the recycling programs that are established as part of these regulations.

Material disposal bans are enforced at regional disposal facilities under the authority of Metro Vancouver's Tipping Fee Bylaw. Materials banned from disposal have convenient alternatives for recycling – in the case of wood, convenient alternatives will be provided either at transfer stations, or at nearby recycling depots. At private sector facilities, material disposal bans are enforced through provisions in Metro Vancouver's solid waste regulatory bylaw and associated facility licences.

Changes in waste composition and quantities will be closely monitored for the effectiveness of bans. Disposal bans may result in the unintended consequences of waste export and illegal dumping. The magnitude of these actions will be monitored, with additional preventative measures developed and implemented as necessary.

Material disposal bans for other materials will be announced once infrastructure and material pricing allow for successful implementation.

Other Actions

Other actions will be implemented to encourage market development and behaviour change. The short term benefits are not easily quantified, but are essential elements to achieve long term waste reduction and alignment of actions with the highest and best use consistent with the waste hierarchy. These other actions include:

- Metro Vancouver will provide financial incentives to recycle through license fees under its solid waste regulatory bylaw.
- Municipalities can provide incentives for "deconstruction" rather than demolition of buildings and other structures. Incentives could include permit fast tracking and lower permit fees.
- Metro Vancouver will advocate that the provincial government allow the use of salvaged lumber through revisions to the BC Building Code.

- Municipalities will encourage reuse through mechanisms such as green procurement practices and municipal green building programs.
- Local governments will advocate for minimum recycled content legislation to encourage market development and demand for recycled materials. This may offset federal or provincial subsidies or economic incentives for virgin resource industries that undermine the use of recycled materials.

4. Businesses and Institutions

Businesses and institutions generate the greatest volume of recyclable materials, including organics, paper, cardboard, and plastic materials, contributing about 40%, or 1,200,000 tonnes annually, of the overall waste generated in the region. The current diversion rate is 44%. Key sub-sectors include hospitality (restaurants, hotels and events), schools and healthcare, offices, manufacturing, warehousing and retail.

Changing solid waste management practices is often a low priority compared to core business or institutional goals. Other barriers include a lack of space and the limited access available for recycling collection vehicles and tenants. Also, current recycling services available to business and institutions have not evolved sufficiently to provide efficient, cost-effective service.





Priority Actions

1. Mandate the separation and collection of recyclable materials and organics at businesses and institutions

a. Mandating space and access for recycling collection

The Management Plan calls for municipal bylaws to set minimum standards for space and access for recycling in new construction and major renovations of multi-family and commercial buildings.

For new buildings and major renovations, member municipalities will amend the development permit process that requires adequate infrastructure for recycling and organics collection by 2012. Metro Vancouver, member municipalities and key stakeholders have already developed a sample municipal bylaw and specifications for new building construction and major renovations which municipalities can customize and implement.

For existing buildings, Metro Vancouver will work with stakeholders to develop sample performance specifications for commercial buildings. To meet the recycling performance specifications, existing buildings will have options such as: reallocating existing spaces currently used for garbage collection or parking to collect recyclables, increasing the frequency of waste removal service, collecting recyclables from within tenant suites, managing organics through onsite

composting/digestion, or sharing facilities with nearby buildings. Municipalities may also consider allocating public space for these purposes.

b. Mandating collection recyclables and organics

Metro Vancouver will mandate recycling of all banned materials and will add organic waste to the list of banned materials when the organics processing capacity is established.

Municipalities will in turn need to enact bylaws that require businesses and multi-family residences to collect organics separately and transport them to a processing facility for recycling, or alternatively, to manage organics on-site. All municipalities need to enact their respective recycling bylaws by 2012, or there will be inconsistencies throughout the region. A bylaw template is being drafted by Metro Vancouver staff.

In the event that further regulatory and pricing incentives are still needed, a specific requirement for the collection and transportation of organics could be included in hauler contracts.

c. Enforcement of mandatory recycling requirements

To ensure effectiveness of the mandatory recycling, the waste generators must be affected by the enforcement. This is achieved by enforcing mandatory recycling bylaws at the source, through ticketing of violators by municipalities, or by using hauler licenses or franchised contracts to require haulers to inspect and refuse loads that are in violation of bans.

Also, the annual business licence renewal process will require existing businesses to prove that adequate recycling infrastructure or appropriate collection service is in place for organics and other recyclables by 2013.

To a degree, municipalities will be able to enforce these new bylaws using existing bylaw enforcement staff. However, there will be an incremental increase in the municipal enforcement costs.

2. Enforce existing disposal ban on paper, cardboard and plastics and implement new disposal ban on food scraps and soiled paper

a. Implement new disposal ban on organics

Metro Vancouver will announce a ban on commercial and multi-family organics, to take effect by 2015.

There will be a cost for most businesses and multi-family residences to collect organics separately from their garbage and in particular a cost to transport them to processing facilities. However, once materials are received at a processing facility, the tipping fee will be significantly lower than the fee charged at waste disposal facilities (currently \$97 per tonne).

A strong differential between the garbage and organics tipping-fee is a significant driver. It will result in an overall saving for many businesses, like restaurants, food processors, and supermarkets for which a large part of their waste is food scraps.

b. Enforcement of all disposal bans

Despite the fact that materials such as paper, cardboard and plastics and other “blue box” materials are already banned from disposal, they continue to be disposed.

Metro Vancouver will strengthen the enforcement of disposal bans at disposal sites, using methods such as increasing the frequency of disposal ban inspections, increasing fines for infractions, and barring repeat offenders from accessing regional waste facilities.

To ensure effectiveness of the disposal bans, the waste generators must be affected by the enforcement. This is achieved by enforcing bans not only at the disposal sites, but also at the source, through ticketing of violators by municipalities, or by using hauler licenses or franchised contracts to require haulers to inspect and refuse loads that are in violation of bans.

To a degree, municipalities will be able to enforce these new bylaws using existing bylaw enforcement staff. However, there will be an incremental increase in the municipal enforcement costs.

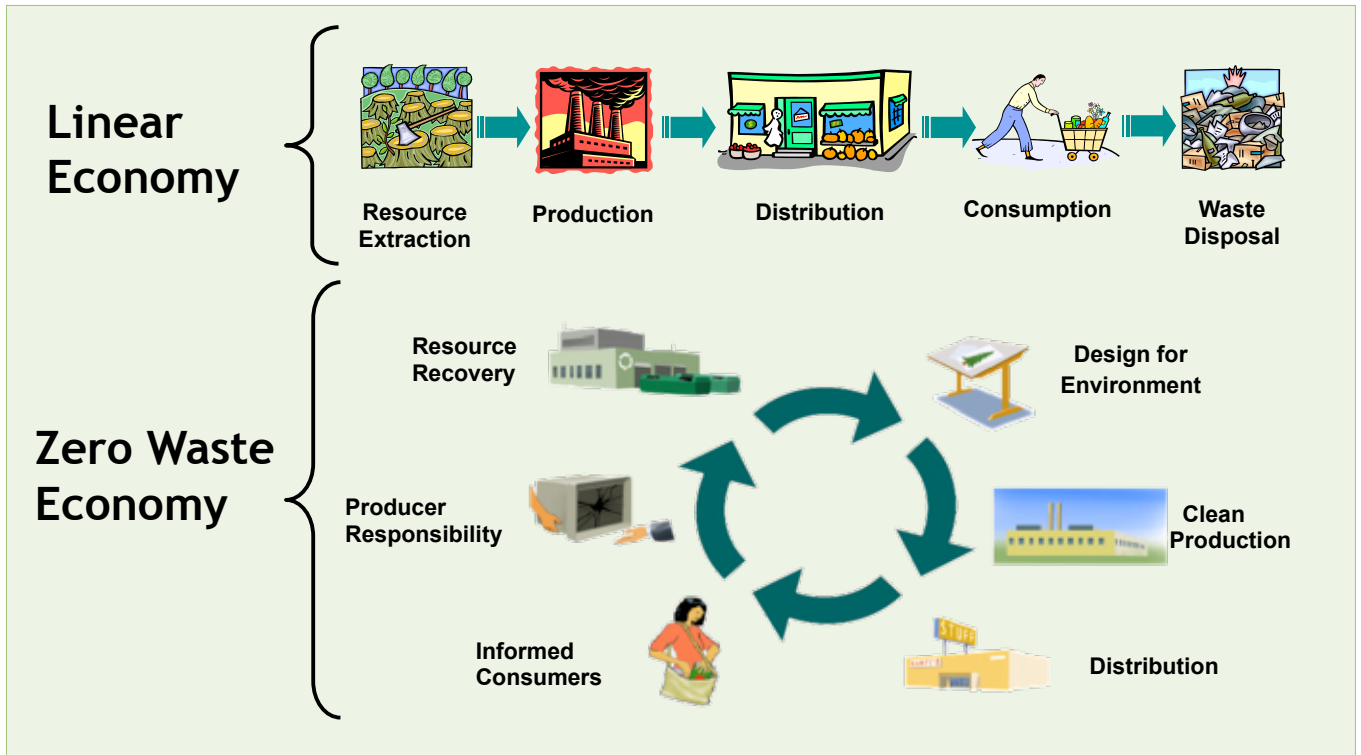
Other Actions

- Business outreach to improve waste management practices and reduce waste generation. Metro Vancouver will work with priority business sub-sectors to develop and implement practices that will reduce waste generation and improve diversion. Priorities are set by waste composition data.
- Consider establishing an agency to develop markets for reused and recycled materials.
- Develop model purchasing-policies for municipalities and government institutions to strengthen demand for products made from recycled materials.
- New waste reduction regulations from the provincial and federal levels, such as opt-in programs for unsolicited mail and industry stewardship programs.



5. Influencing Product Design

To achieve the aggressive waste reduction and diversion targets and reduce waste management costs, changes of an entirely different magnitude will be required. As long as products are made that are difficult to reuse or recycle, municipalities and society will be burdened by the significant efforts and high costs needed to manage waste. As we approach the limits of what can be practically and economically recycled, society will likely face diminishing returns in efforts to reach the 80% diversion level and the 10% per-capita reduction in waste generation.



To overcome these limits, products and their packaging will need to be designed with “cradle-to cradle” principles, so that at the end of their useful life, they can be repurposed or economically recycled into similar products. With those changes, the volume of waste that becomes the responsibility of local governments would be reduced, and local recycling initiatives would be more effective.

However, those responsible for product design and manufacturing currently have little or no responsibility for designing products that minimize waste. Product development, marketing and distribution are global businesses, largely beyond the direct control of local governments and citizens.

Therefore, the strategy to influence product design requires that manufacturers, distributors, retailers and consumers become engaged in the process of reducing waste at its source.

Priority Actions

1. Improve the effectiveness of Extended Producer Responsibility programs in influencing product design, and accelerate their implementation

Extended Producer Responsibility (EPR) is a policy initiative which seeks to shift the responsibility and costs of managing products at end-of-life from taxpayers and municipalities to consumers and producers. In theory, this approach could provide an incentive to redesign products along cradle-to-cradle principles.

In practice, however, EPR has been mostly focused on collection and recycling. The current approach in BC allows producers to collectively manage an entire category of products and pass the cost to customers. For example, when buying a television, the purchaser pays a fee to handle its end-of-life management. The fee is the same for all brands, regardless of their design and the degree to which each product can be recycled. This practice removes the incentive for individual companies to redesign their products, since the overall program must operate at the level of the lowest performing manufacturer in that sector.



To address this issue, Metro Vancouver will:

- Offer, in 2011, staffing support for and partnership with the BC Ministry of Environment on their Extended Producer Responsibility Programs to enhance and accelerate EPR programs so that they reduce waste disposal by mandating design-for-environment principles.
- Participate on Federal EPR initiatives to advocate that manufacturing and distributing nonrecyclable packaging be prohibited and develop national guidelines for sustainable packaging.

2. Develop national and international organizations to advocate for improved material, product and packaging design

The objective is to bring cities and regions around the world together through networks and relationships to provide greater leverage in discussions with designers, manufacturers, distributors, retailers and consumers on the need for changes in the design of materials, products and packaging.

The approach will involve both national and international collaborations.

National:

In 2011 Metro Vancouver will initiate discussion to develop a national zero waste marketing council that will:

- Build relationships among local governments across Canada, including the Federation of Canadian Municipalities, to leverage limited resources.
- Create an environment to share, on a national scale, communication and education campaigns and resources.

- Develop greater awareness among the Canadian public and businesses on the need to reduce waste, resulting in informed and educated citizens on waste reduction opportunities.

International:

Working through existing international bodies such as the World Business Council on Sustainable Development, United Cities and Local Governments and others, to promote and assess interest in the concept of an international initiative on sustainable solid waste management. Actions include:

- Work to establish partnerships with select cities (Canadian and International) to articulate a clear purpose and set of objectives and activities.
- Advocate that senior governments on a global scale use incentives and regulations to promote the design of products and materials that reflect principles of cradle-to-cradle design.
- Open discussions with key representatives of the design, manufacturing, distribution and retail industry on shifting toward cradle-to-cradle design principles.



D. Conclusions

In order for the Zero Waste Challenge Strategy to be successful and sustainable, it must be financially affordable within the context of all financial pressures facing the region.

The strategies that have been presented are consistent with the Management Plan. As part of its development, Metro Vancouver and individual municipalities prepared cost estimates for each action in the Plan. On a regional basis, overall expenditures on solid waste management have been estimated to understand the net impact of the strategies. Detailed financial analyses will be conducted where appropriate in conjunction with the detailed development and implementation of each strategy.

A broad and aggressive series of changes is needed across society to achieve the targets. Responsibilities for these changes are shared among various groups:

- Residents and businesses need to be actively engaged in separating recyclable materials from garbage.
- Municipal governments have responsibility for establishing regulations, collecting recyclables, providing recycling infrastructure and connecting with residents and businesses with educational materials.
- Metro Vancouver develops overall strategies and guides the implementation of recycling activities and infrastructure with municipalities.
- Senior governments develop Extended Producer Responsibility programs for industry to implement and have jurisdiction over manufacturing and trade (the processes that produce the goods and packaging that eventually end up as garbage).

