



Zero Waste Strategy – Update and Considerations

COTW – November 7, 2019



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PURPOSE

Provide Council with an update on the development of the Zero Waste Strategy and present an initial suite of implementation actions to advance zero waste.



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Zero Waste Defined

"The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, waste, or air that threaten the environment or human health."

- Zero Waste International Alliance

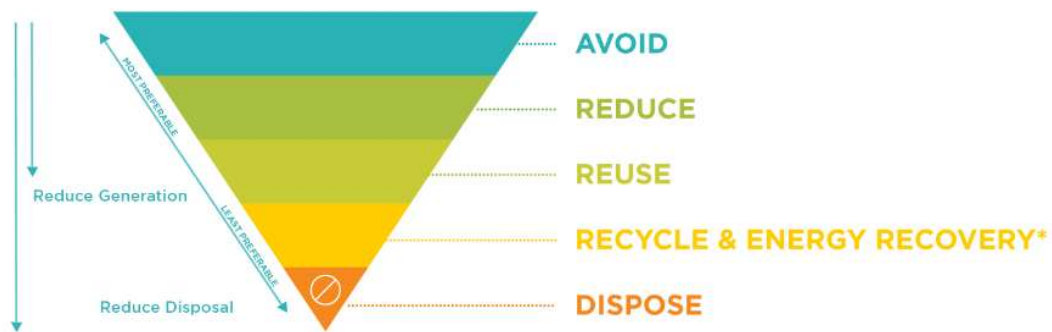


Image Source: Zero Waste 2040. City of Vancouver

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OUTLINE OF A CIRCULAR ECONOMY

PRINCIPLE 1

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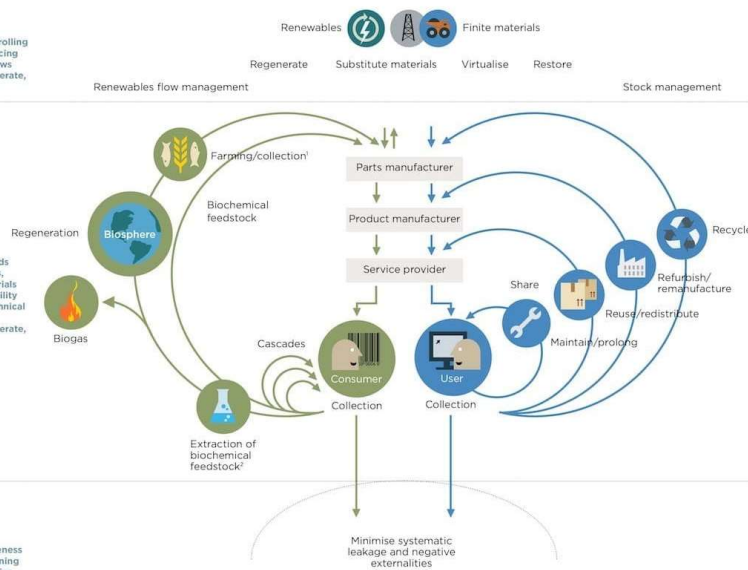
Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows
RESOLVE levers: regenerate, virtualise, exchange

PRINCIPLE 2

Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles
RESOLVE levers: regenerate, share, optimise, loop

PRINCIPLE 3

Foster system effectiveness by revealing and designing out negative externalities
All RESOLVE levers



1. Hunting and fishing
2. Can take both post-harvest and post-consumer waste as an input
Source: Ellen MacArthur Foundation, SLP, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

Image Source: Ellen MacArthur Foundation

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Government Roles and Responsibilities

FEDERAL

- hazardous waste movement
- waste management guidance for toxic materials
- infrastructure funding

PROVINCIAL

- landfill operation requirements
- producer recycling responsibility
- regional waste planning requirements

REGIONAL

- waste facility operations/licensing
- waste management planning
- plan implementation (various tools)

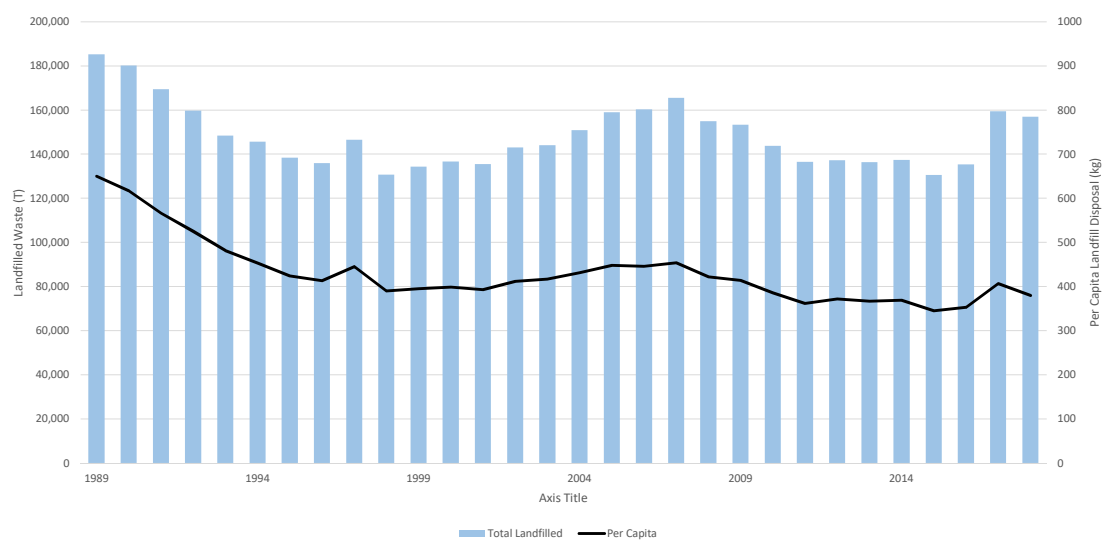
MUNICIPAL

- service provision
- community considerations (various tools)



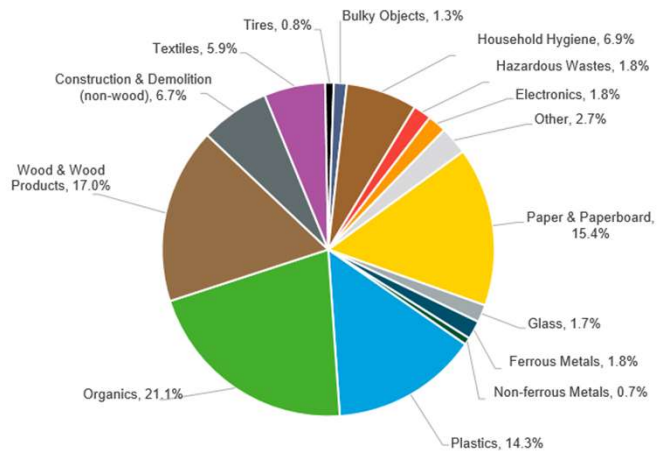
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Regional Waste Trends - Disposal



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Regional Waste Trends – Material Composition



- >50% of materials could have been diverted
- >50% of materials are composed of biogenic materials that produce methane when landfilled

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CRD – Solid Waste Management Plan (draft)

Target

- 33% reduction by 2030

Strategies

- 15 strategies and 73 actions

Municipal Opportunities

- Policies
- Services and programs
- Educations and advocacy (shared)



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City of Victoria Waste Services

- Residential garbage and kitchen scraps collection
- Yard and garden waste drop-off and seasonal pickup
- Public realm bin collection
- Cigarette butt collection/recycling
- Corporate facilities collection/diversion



2020 Pilot Design Concept – City of Vancouver



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Zero Waste Strategy – Phase 1

Objectives

- Design, implement and manage waste infrastructure, operations and services that promotes a transition to zero waste
- Align with and support the efforts of the CRD to divert waste from the landfill
- Demonstrate leadership in corporate waste reduction

Phase 1 Scope and Analysis

- Literature survey and scan of leading practices
- Estimate Victoria's waste sources and destinations
- Study of materials in public realm bins
- Planning for phase 2

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Material Source and Destination - Insights

- **Commercial sector** is a significant source of waste generation – Office, Retail, Hospitality and Health Services
- More than 50% of the region's **multifamily buildings** are in Victoria presenting a unique opportunity to engage with property owners and occupants
- Some materials are **exported** out of the region for disposal
- Regulations, health and safety requirements, and environmental considerations need to be understood and managed to improve **cruise ship** waste diversion
- **Compostable plastics** present challenges



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2019 Public Realm Bin Audit (Summer)

Material/Product	Daily Collection	
	Kg	Count
Cups	330	13,000
Takeout Containers	150	6,300
Straws	30	5,800
Checkout Bags	30	600
Checkout Bags	3	200
Food Waste	550	-
Pet Waste	320	-
Glass	120	-
Household Garbage	280	-
Newsprint/Bound	80	-

- 25,000 single use items disposed a day in City's bins during tourism season
- ½ tonne of food is being disposed in garbage instead of composted across the public realm



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Zero Waste Strategy – Development Phase 2

- Close key information gaps
- Develop metrics and targets
- Targeted engagement with stakeholders
- Develop strategies and actions
- Public engagement
- Finalize Zero Waste Strategy



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Zero Waste Strategy – 2020 Implementation Actions

- Engage with CRD on:
 - Organics and recycling diversion
 - Construction waste diversion
 - Single use items
 - Education and information
- Initiate a plan to enhance City's residential waste collection program
- Plan public realm bin design and deployment to improve diversion
- Planning, policy and program considerations for sustainable building demolitions
- Plan on reusable takeback food-ware pilot with businesses



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RECOMMENDATION

Direct staff to:

1. Proceed with the next development phase of the City's Zero Waste Strategy.
2. Advance zero waste priority actions focused on enhancements to City waste management services and plans to support the sustainability of the food service sector and construction industry.

Consider:

- Allocating \$200,000 and one new zero waste staff resource as part of the 2020 financial planning process.



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Example Policies and Programs

Transformational Policies and Programs	
<i>Proven</i>	<i>Experimental</i>
<ul style="list-style-type: none"> • Municipal or single-source contracts for solid waste collection services for multifamily buildings • Purchasing policies for municipal products and services that direct the market to incorporate considerations for zero waste and a circular economy 	<ul style="list-style-type: none"> • Partnerships to support textile recycling • Repair programs and services for appliances and electronics • Tax breaks to organizations participating in food redistribution • Financial incentives to support local innovation • Pay as You Throw (PaYT) programs to encourage increased recycling and composting
Incremental Policies and Programs	
<i>Proven</i>	<i>Experimental</i>
<ul style="list-style-type: none"> • Building demolition material diversion requirements • Regulations for unnecessary and problematic single-use items • Building standards that facilitate material reuse and recovery • Regulations for mandatory separation of recycling, organics and landfill waste for all sectors and at events • Development standards for space requirements for recycling, composting and landfill waste bins 	<ul style="list-style-type: none"> • Litter abatement fees for items commonly littered such as cigarettes • Downsizing of waste collection bins/totes • Mobile technology applications that provide sorting tools and drop-off depot and donation locations • Piloting and testing the implications of new technologies and operational models with corporate solid waste programs



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Example Takeback Reusable Foodware

GoBox

- App for container checkout and return
- \$3.95/month or \$21.95/year
- 140 vendors in Portland and San Francisco
- GoBox team collects, cleans, sanitizes and redistributes containers



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Example Deconstruction Services

Unbuilders

- 50 t of material per house
- Deconstruction diverts 95-99% of materials
- 10 t of material salvageable (e.g. finishes, wood)
- 5-8 days longer than demolition
- Tax credits available



Deconstruction

vs

Demolition



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