

Resource Use and Waste reduction action plan Last revised September 26, 2011

GOAL

Proposed goal: Reduce resource consumption and the generation of waste*

*Rational: The Waste Advisory Committee has suggested this revised goal feeling that it is stronger and more clear than the original goal.

1. BACKGROUND

1.1 National and Provincial Context¹

Canadians produce more solid waste than just about any other country in the world. Harvesting, mining, pumping and refining these wasted resources contributes to some of the most pressing environmental issues of our time. Climate change, deforestation, species extinction, and pollution – these and other issues stem from over-consumption and waste.

Partly in response to environmental concerns, waste management is evolving in an exciting new direction that will not only reduce waste, but also catalyze the green economy. Discarded products and packaging comprise over three quarters of the waste we generate. Increasingly, the province is transferring the responsibility for these wastes to the companies and consumers that produce and use them, rather than local governments and taxpayers. This approach is called extended producer responsibility (EPR), also known in British Columbia as industry-led product stewardship or takeback programs. Over the life of this action plan, there will be major advancements towards producer responsibility.

British Columbia endorses a Canada-wide plan for EPR recently published by the Canadian Council of Ministers of the Environment. The plan recommends producer responsibility for all forms of packaging, printed materials, hazardous wastes, and electronics by 2015, followed by building products, carpet, furniture and textiles by 2017. Together, these product categories cover more than 60% of waste currently incinerated or landfilled.

Zero waste aims to prevent waste and keep resources in circulation. The Zero Waste International Alliance defines zero waste as a goal “to guide people to emulate sustainable natural cycles, where all discarded materials are resources for others to use. Zero waste means designing products and processes to reduce the volume and toxicity of materials, conserve and recover all resources, and to not burn or bury them.” Practically, zero waste can be expressed as a long-term goal to decrease garbage to landfills or incinerators by 90%. This is no small task, and requires changing behaviours and broader social norms. More importantly, it requires changing systems so that the least wasteful choices are also the most convenient and cost effective choices. Ultimately, zero waste is a guiding principle for moving to a closed-loop, cradle-to-cradle economy where all resources are put to their highest best use.

¹ Adapted with permission from the COV zero waste Greenest City Action Plan.

1.2 Regional and Municipal Context

In British Columbia, regional districts are required to develop solid waste management plans and meet diversion targets. The regional district of Metro Vancouver recently updated its Integrated Solid Waste and Resource Management Plan, with a near-term goal of 70% diversion by 2015 and an aspirational goal of 80% by 2020.² The City of Vancouver works with Metro Vancouver to carry out the regional plan. The City's Greenest City Zero Waste Action Plan aligns with Metro's regional waste plan and is aimed at achieving the regional Zero Waste Challenge.

Furthermore, by 2015 Metro Vancouver plans to ban compostable organics, such as food scraps and paper towels, from the waste generated by all businesses and institutions, including schools.

1.3 VSB CONTEXT

1.3.1 Key Result Areas of the VSB Sustainability Framework

Resource Use and Waste reduction is a stand alone Key Result Area (KRA) of the VSB's Sustainability Framework, as well as one of the themes in our Sustainability Action Plan. Action on this theme connects readily to 3 of the VSB's 5 other KRA's which are: Education and Organizational Culture, Procurement & Supply Chain Management and Technical and Design Standards. This action plan connects goals, strategies and actions on waste reduction to the above noted KRA's.

1.3.2 VSB operations – the main focus of this action plan

The things that end up as waste in the VSB have two main sources. The first source is waste generated through basic VSB operations such as paper use, toner for copiers, office supplies, waste from our cafeterias and food programs, construction debris, wood waste from our shops, etc. The second source is waste that people bring into schools with them on a daily basis, such as waste from lunches or other materials from home. This action plan contains strategies and actions to target both of those sources, with a primary focus on the former. The main areas of action are *procurement policies and practices* (addressing resource use and consumption) and recycling and *waste management policies and practices* (addressing diversion from disposal). The waste generated outside of VSB operations will require a separate behaviour-based approach to shifting actions and attitudes on what people bring into schools and what is done with the waste from those items.

1.3.3 A collaborative effort

The Districts role in this action plan is to set goals and targets and to establish the overall operational systems (policy, infrastructure, training and support) that will be needed to meet targets of reduced resource use and increased waste diversion. For this plan to work, it needs to be a collaborative effort involving all of the stakeholder groups within the school district involved. These include VSB staff, as well as individual schools, staff, students, facilities/custodians and parents. Establishing the systems for feedback, input and participation from all groups will be important when implementing the action plan.

1.3.4 Baseline data & focus on compostable organics and paper

In 2010 the VSB and Metro Vancouver worked together to conduct Waste Composition Studies of 9 VSB schools. (5 elementary and 4 secondary schools) The findings from those studies have influenced our targets and actions and provide some of the baseline data for this plan. The Waste Composition Studies indicate that 38%* of the waste generated at VSB schools is

² Metro submitted its plan to the Minister of Environment in September 2010, and it is still under review.

compostable organics and 29% is recyclable paper. Combined, these two categories account for 67%* of the VSB's school waste stream. Focused action on these two waste categories can provide the Vancouver School District with substantial reductions in the amount of waste produced. Therefore, this plan focuses efforts in the first 3 years on taking action to tackle compostable organics and paper in the VSB's waste stream.

The development of this plan was influenced by two main approaches. The first approach is to reduce our consumption of resources as a district and the second is to improve the rates of diversion of waste that the district does produce, from the incinerator or landfill.

2.0 Strategies and actions linked to KRAs in VSB Sustainability Framework

2.1 KRA: Education and organizational culture

Goal: Nurture a zero waste culture within the VSB

Target: By 2015, VSB will have a complete database of current consumption of recyclable paper and diversion of recyclable paper and compostable organics

Strategy: Make Reducing and Reusing a Priority

Challenges

At this point we do not know the amount of resources, including recyclable paper and compostable organics that the VSB consumes and generates as waste each year. We must establish the metrics and collect the information that we need so that we can set meaningful goals and track the results of our actions in this area. A clear understanding of our current performance is the foundation of a successful educational and organizational culture that can set meaningful goals and put the systems in place to achieve them.

Zero waste is a philosophy based on preventing waste and keeping resources in circulation. The long-term vision is to avoid burning or burying waste by redesigning products and packaging, reducing, reusing, and recycling as much as possible, recovering energy from niche waste streams where appropriate, and constantly striving to put resources to their highest best use. Practically speaking, zero waste can be expressed as a long-term goal to decrease garbage to landfills or incinerators by 90%. This is no small task, and requires changing behaviours and broader social norms. More importantly, it requires changing the system so that the least wasteful choices are also the most economic ones. Ultimately, zero waste is a guiding principle for moving from a one-way, resources-to-waste economy to a closed-loop, cradle-to-cradle economy.

Reducing and reusing are more important than recycling and energy recovery in a zero waste society. By avoiding the need to extract raw resources and extending the life of products, the top 2Rs conserve energy, and as a result, greenhouse gas emissions. The VSB will elevate the importance of reducing and reusing, primarily through programs that create new opportunities and raise awareness.

1-3 year actions

Information gathering

- Establish metrics and methods for tracking waste and establish baseline data within the VSB for compostable organics and recyclable paper.
- Establish an ongoing advisory committee that would meet periodically to receive information and give the Board advice on better practices in building a culture of zero waste





- Continue to promote in-school waste composition studies as an educational tool to teach factual information about waste and promote a zero waste culture.

Pilot programs

- Start a zero waste pilot program with two of the schools assessed through the waste composition studies.
- Communicate measurable targets and establish feedback systems to pilot schools on waste reduction efforts.

District-wide communications

- Educate staff and students on the zero waste principles, plan and actions, and the results of actions. (quantitative reduction from baseline resource consumption & waste disposal)
- Disseminate hierarchy of best resource use (reduced resource consumption, diversion from landfilling/incineration) to all schools.
- Work with the City and Metro Vancouver to promote waste reduction and recycling in our schools, as described in Metro's regional waste plan and in the Greenest City Action Plan.
- Provide Pro-D opportunities for zero waste training and 'waste watcher' teams in VSB schools.
- Communicate and celebrate annual achievements in progress towards zero waste at the district and school level.

Enhanced services

- Ensure all classrooms, lunch rooms, meeting rooms, foyers and other public spaces have paper recycling and composting containers. This infrastructure will enable the zero waste habits we want students to ingrain into their daily activities.

3-9 year actions

- Work with Metro Vancouver and The City of Vancouver to establish criteria and a process for VSB schools to become zero waste Schools.
- Establish zero waste programs in all schools.
- Establish a district wide share program for reusable items such as office furniture and supplies.
- Establish neighbourhood posting boards for reuse of items
- Establish a 'waste watchers' volunteer program as part of our zero waste effort in the VSB for people to coach and share "how-to" information within their schools, including knowledge transfer networks, provide education and outreach materials developed with support from the City. Particular emphasis on cafeterias as waste hubs
- Develop a poster/plaque for all schools with the action plan's themes and goals
- Provide zero waste stations at all sporting and cultural events.

2.2 KRA: Procurement, supply and disposal chain management

Goal: To prioritize waste avoidance in our use of resources in our supplier contract arrangements

Target: Reduce paper consumption in the district by 10% by 2020 from 2010 – 2011 baseline

Strategy: Eliminate unnecessary paper consumption

1-3 year actions

- Determine district paper consumption levels for 2010-2011 as baseline data.
- Determine the paper consumption levels for 2010-2011 in 2 schools (one elementary and one secondary school) as baseline data.
- Develop and implement a pilot paper reduction strategy in these 2 schools.
- Develop and implement a pilot program to reduce the number of stand alone printers in at least two VSB schools and track paper use in those schools before and after change.
- Mandate the purchase of paper through the VSB's e-pro system district-wide. This will enable better tracking of paper consumption across the district and facilitate the best possible price for paper purchasing through bulk paper contracts.
- Eliminate the purchase of paper without recycled content and adopt a policy to purchase paper with a minimum 30% recycled content.

3-9 year actions

- Move to electronic forms to replace paper forms within the VSB.

Target: Complete (100%) separate collection of compostable organics and recyclable paper from waste by 2015

Strategy: Prioritize diversion of compostable organics and recyclable paper

1-3 year actions

- Establish metrics to catalogue the amount of recyclable materials diverted from the landfill.
- Include sustainability language in all VSB RFP's.
- Identify opportunities in our procurement and contracting practices to enhance and promote zero waste practices.

Compost

- Establish metrics to catalogue the amount of compostable material diverted from landfill.
- Establish a district-wide system in the VSB to collect compostable materials like food scraps and paper towels (approx. 40% of our current school waste stream) from all VSB sites.
- Continue to promote small-scale on-site compost systems (this is not a replacement for a district-wide system – but will provide educational and hands-on engagement opportunities for schools.)

Recycling

- Combine waste and recycling operations in one department. Currently the VSB splits the responsibility for waste and recycling between two different departments. Waste is held with Facilities and Operations and recycling programs are held with Purchasing.
- Establish language in RFP's requiring our waste service provider to give the board data on the weight of waste collected from VSB sites.
- Reduce the number of dumpster pick-ups at VSB sites through reduced production of waste.
- Expand the battery recycling pilot program to all VSB sites.
- Ensure the VSB is taking advantage of current recycling opportunities offered by EPR programs and commit to recycling everything that can be recycled through EPR.
- Work with the City to advocate for expanded EPR requirements.

Other reduction opportunities

- Provide training for staff in the district goals and targets and partner with others in better practices.
- Stop the sale of bottled water within the VSB.
- Examine the feasibility of shifting the provision of beverages from beverage bottled products to fountain based systems.
- Prioritize the purchase of products made from recycled and recyclable products and materials. Look to our procurement and contracting practices as a key opportunity to enhance and promote zero waste practices.

3-9 year actions

- Look to our procurement practices as opportunities and work with our vendors and contractors to take back their products for reuse and recycling, targeting products that are illegally dumped in Vancouver and priorities for new EPR programs: packaging, electronics, mattresses, couches, other furniture, carpet, and large appliances. Add language into our RFP's that account for waste reduction.
- Lead by example with a first-class corporate waste reduction and recycling program for the VSB's operations. Reinforce the program with a strong target to reduce VSB generated waste to landfill or incinerator by 2020, and publish annual reports on progress towards this goal. Phase out non-recyclable or non-compostable products at all VSB facilities, starting with disposable cups, dishes and utensils. Adopt closed-loop supply chain policies for items ranging from recycled paper to re-refined oil, along with a green events policy.

3. ADDITIONAL ACTIONS

Future Research

- Work with partners to develop methods to quantify greenhouse gas impacts of reduced waste production, specifically in the area of composting.
- Establish a hierarchy of incoming waste.
- Moving forward: survey the schools to see who is/is not participating (i.e. putting out mixed recycling totes regularly) and find out why. Are they still diverting but through a PAC or student initiative; custodial staff etc. and VSB will need to track those numbers as well. Ask schools/student green teams to monitor and record approx volumes to assist in expanding student participation in diversion programs etc. and establishing as comprehensive a baseline as possible.

Acknowledgment- Processes and documents that have influenced this action plan

- City of Vancouver Zero Waste Strategy
- Metro Vancouver Zero Waste Challenge (June 2010)
- Government of BC EPR Program (March 2010-February 2015)
- Working in partnership with the City of Vancouver through the Greenest City Action Planning Process (September 2010 - onward)
- Participation on the GCAP advisory committee's specifically the Zero waste committee and the Lighter Footprint Committee
- Waste Composition Studies of 7 VSB sites conducted in 2010 with the support of Metro Vancouver
- VSB sustainability café on waste (October 2010)
- Draft plan engagement sessions April 9, 12 and 15. Committee I April 24.
- The VSB Waste Advisory Committee

A special thanks is owed to the members of the VSB Waste Advisory committee for the expertise and advice in the development of this plan

- Rueban Anderson - Sustainability Consultant, Metro Vancouver
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- Lindsay Cole – Greenest City planner, City of Vancouver
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- Kevin Millsip – Sustainability Coordinator, Vancouver School Board
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- Louise Shwartz – Recycling Alternatives,
- Darla Simpson - Destination Conservation
- Helen Spiegelmen – Founder, Zero Waste Vancouver
- Ian Wind - Manager Purchasing and Food Services, Vancouver School Board

Appendix 1.0 Timeline of recent VSB waste and recycling actions

- Pre 2000 - Paper and cardboard collection implemented
- 2010 – District wide recycling program for bottles, cans and other containers begins
- 2010 - Battery recycling pilot begins in 3 families of schools totaling 22 schools. (Tupper, Churchill & Windermere)
- 2010 - 3 Earth Tubs installed as a compost pilot program. (Grandview, Windermere & Thompson). Guidelines are developed for smaller scale school based composting systems.
- Dec 2011-Feb 2012 Organics pilot program conducted at the Education Centre.
- Jan – March Organics pilot program conducted at Brock and Tupper.

Appendix 2.0

Table: Metro Vancouver Region Solid Waste (2008)

Sector	Recycled (tonnes)	Disposed (tonnes)	Generated (tonnes)	Diversion Rate
Residential (single family)	360,040	417,690	777,730	46%
Industrial, Commercial, Institutional (ICI)	526,446	815,498	1,341,944	39%
Demolition, Landclearing & Construction (DLC)	862,804	266,043	1,128,847	76%
Extended Producer Responsibility (EPR)	117,602	-	-	-
Total	1,866,892	1,499,231	3,366,123	55%

In the Metro Vancouver region, we generate over 3 million tonnes of solid waste a year. The good news is that about 55% of this is recycled, composted, or recovered for energy in niche waste streams. The bad news is that 1.5 million tonnes is still sent to landfill or incinerator. The City of Vancouver’s share of landfilled or incinerated waste is about 480,000 tonnes – enough to fill a line of garbage trucks end-to-end from Vancouver City Hall to Kamloops.

Historically, local governments have been responsible for dealing with what’s traditionally referred to as *municipal solid waste* (MSW). Producer responsibility redefines the “M” in “MSW” from *municipal* to *manufactured* solid waste. Manufacturers are in a better position than cities to manage product and packaging waste, since they control how products and packaging are designed in the first place. With a direct connection between design and disposal, manufacturers can ensure their products and packaging are durable, recyclable and less toxic.

On the disposal side, Metro Vancouver is responsible for overseeing the final disposal infrastructure for residential and industrial, commercial and institutional (ICI) waste. This includes a network of transfer stations, an incinerator and the Cache Creek landfill, which currently take about 1.2 million tonnes a year. The City of Vancouver contributes to this network with the Vancouver South Transfer Station and the Vancouver Landfill in Delta.

Metro Vancouver’s regional plans target is to reduce the amount of waste generated per person to 90% or less of 2010 volumes by 2020, from roughly 1.5 to 1.35 tonnes. (Waste “generation”

refers to the combined total of waste disposed in landfills or incinerators, plus diverted through recycling and composting, and recovered for energy in separate streams).

DRAFT