

SUMMARY

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A Zero Waste Agenda for BC

BRITISH COLUMBIA IS AHEAD OF MOST NORTH AMERICAN jurisdictions in implementing composting and recycling programs. And yet, our lives are systematically burdened by endless amounts of packaging, with the mass proliferation of plastic, in particular, an environmental tragedy of our times. The core problem is not unique to BC: a culture of consumption and an extraction-oriented economic system that contributes to solid waste, pollution and climate change.

This study looks at the possibilities for upstream, proactive solutions to dramatically reduce the volume of materials that flow through the economy, and therefore also reduce the associated energy consumption and carbon emissions. We believe the time has come to move beyond conventional recycling and get serious about well-designed material conservation and management policies that can simultaneously support local economic development and social justice goals. We discuss how BC can get there by building on existing strengths, changing systems and abandoning wasteful consumption habits.

With a focus on redesign, innovation and shifting culture, we propose zero waste as a goal for 2040. The overall directions of our zero waste approach include:

- Dramatic reductions in waste production, including banning single-use packaging and embracing reusable packaging and containers.

The time has come to move beyond conventional recycling and get serious about well-designed material conservation and management policies that can simultaneously support local economic development and social justice goals.

- Bold policies in support of repair and maintenance to give much longer lifespans to electronics and appliances.
- Tougher regulations to ensure more coordinated and effective materials management (recycling and compost collection) at the end of life, as well as greater local processing and high labour standards.
- A public presence, through a new Crown corporation, to fill in gaps in the system and serve as a coordinator and market maker.
- Stronger public procurement and minimum recycled content requirements that generate local demand for recycled materials.
- A green jobs and just transition framework to ensure high employment standards and decent work across the sector.
- Phasing out incineration as an option for waste materials and closing other loopholes for waste disposal.
- New regulatory frameworks in two pressing areas, plastics and construction/demolition waste.
- More system-wide planning and data collection in the public domain to shine a light on where materials are flowing after consumption, including recycling and composting, landfills and incineration, as well as greenhouse gas (GHG) impacts.

We estimate that BC generated 6.59 million tonnes of waste in 2018, of which 59 per cent was recycled. Most of the remainder was disposed of in landfills, except for the 260,000 tonnes incinerated at Metro Vancouver’s Waste-to-Energy facility in Burnaby (more than one-quarter of the region’s waste is incinerated).

BETTER RECYCLING AND COMPOSTING

BC’s recycling activities are heavily integrated into global markets where recycled materials are just another low-value commodity. Recycling in BC is comprised of many Extended Producer Responsibility (EPR) programs, including curbside collection and many others that rely on consumers to return the product in a particular way or to a specific location. A high level of awareness is needed about what can be returned and where—and the default may often just be the trash. To drive larger local economic benefits and to ensure high-quality, equitably assessed and fairly priced service across BC, a stronger public presence is needed.

Develop a Crown corporation for zero waste

A Crown corporation, funded by EPR programs, would be engaged to ensure higher levels of collection and recycling, and a more coherent collection system, including:

- Coordinating community-level collection depots (including rural areas) where all recycling that is not currently picked up at curbside could come to be collected and sorted, while repaying deposits. The one-stop resource recovery depots could also include long-lived products that are bulky (e.g., mattresses), complex (e.g., electronics) or that need special handling (e.g., batteries, tires).

- A more effective and easy-to-use collection system for bins on the street and in public and private buildings. These would benefit from standardization of receptacles (e.g., consistent colour-coding and signage) across all settings.
- Take up collection responsibilities for BC government operations and underserved rural areas, and provide competition to private collection companies when time for renewal of contracts with municipalities and the industrial, commercial and institutional (ICI) sector.
- Improved collection and processing infrastructure for organics and compost management.

Create local markets for recycled materials

The BC government should implement a “step code” of increasingly stringent minimum recycled content requirements to increase demand for recycled materials. The BC government has failed to leverage its own large presence to help shape purchasing decisions across government. A coordinated approach could use aggregated procurement policies to drive demand for recycled materials, including those collected by the new Crown corporation. This could be integrated with bans on materials that do not fit into this system (such as single-use plastic films) or the addition of surcharges for disposal in landfills.

The provincial government should add more stringent performance and reporting requirements for all EPR programs.

Raise the bar for Extended Producer Responsibility (EPR) programs

Outstanding categories under the *Canada-wide Plan for EPR* need to be regulated, including packaging and printed paper (offices and commercial buildings), textiles, furniture, and construction and demolition materials.

The provincial government should add more stringent performance and reporting requirements for all EPR programs including:

- *Higher targets for product-subcategory-specific collection, consumer awareness and access to collection.* Add targets for re-use and refillables and incentives to eliminate packaging, and fines for materials not recovered. Ensure producers pay the full costs for the services.
- *Reduce, reuse and repair goals, including program and product-specific targets for local processing and warranties.* These could serve to dramatically increase the market share of reusable or refillable products, especially those with a single owner and short lifespan. Economic incentives, such as the proven deposit-and-return system or other measures, could be mandated where collection rates lag. Programs should fund innovation.
- *Bans of products and packaging materials going to incinerators and cement kilns, and the rejection of using plastics to make fuel.*
- *Better labelling for products, particularly packaging, to assist end-users in determining what can be collected for recycling.* Easy to identify labels with intuitive colours and symbols could help to achieve high diversion rates. Ideally, labelling would be standardized on a national basis.

- *More stringent reporting requirements*, such as data gathering across BC from EPR program-funded waste composition audits.
- *High labour standards to ensure that the programs result in decent jobs with fair compensation*. Systems to allow participation in programs by a broader array of service providers (including private sector ones), as long as they meet the standards.
- *High environmental standards and consideration of other social benefits and impacts*. Differential fees for products and packaging based on environmental performance would be applied based on factors such as repair availability, warranty length, energy use, life-cycle GHG emissions, upstream environmental impacts, ease of recycling and disassembly, and type of materials used.
- *Broadening of the membership of boards of non-profit stewardship organizations to stakeholder groups beyond industry participants*. Current programs are fully managed by producers (board members are often not even residing in BC) and so lack any insight or oversight from customers, local governments, workers or NGOs.

Better composting and organics management

To date, companies have not had to design their products and packaging with re-use in mind.

Organic materials and compost management is more inherently local. Public policy should aim to shrink food waste while deepening local demand for finished compost.

- *Set rigorous food waste reduction and organics capture targets*. BC should adopt food waste reduction targets and a comprehensive program for food waste prevention across sectors with measurement and accountability built in.
- *Use education, monitoring and enforcement to reduce food waste and diversify how food scraps are managed across sectors*. Reduce and divert organics using robust behaviour change programs, source separation bylaws and enforcement across sectors.
- *Develop comprehensive organics processing infrastructure*. Land use management plans should be aligned to foster local and regional composting efforts, from home and community composting to larger infrastructure development. Support improved collection and infrastructure development by including it in our proposed zero waste Crown corporation and establishing a province-wide organics disposal ban by 2030.
- *Strengthen end-market development for finished compost*. Public sector procurement policies can play a pivotal role in mandating and promoting the use of compost (e.g., construction projects, land development, roadside stabilization, civic landscapes).

BEYOND RECYCLING

Much of what we call recycling is, in fact, less desirable “downcycling,” meaning that materials collected from one use (e.g., yogurt containers made of high-grade food-quality plastic) are made into a lower-grade material (e.g., plastic wood made from mixed plastics). While downcycling plastics is an improvement over incineration, it ultimately creates waste because after several cycles the degraded materials can no longer be recycled. To

date, companies have not had to design their products and packaging with re-use in mind, and relying only on a recycling model has major limitations.

Transform consumer waste through innovative re-use and better product design

- *Eliminate materials.* Collaborative consumption or sharing is another practice that has been around for a long time, with public libraries being a prime example. The growth of car-sharing options in Vancouver has been notable, including point-to-point service, Evo, and the car co-op, Modo, while the bike-sharing service, Mobi, offers another shared transportation option.
- *Emphasize re-use and refilling.* Shift toward banning single-use containers, from soft drinks to product packaging to food containers. An innovation agenda for BC could focus on developing a supportive regulatory framework for the re-use of quality goods and refillable systems.
- *Facilitate repair and maintenance.* The Right to Repair movement is growing in Canada, and in the EU it has been successful in getting regulation changes where washing machines, dishwashers and fridges must have spare parts available for seven to ten years, where spare parts must be delivered within 15 days and repair information made available to professional repair people. In addition, we should require much longer warranties on products and companies should be required to service and maintain the products.

Deal with plastics

Plastic waste has become a huge environmental problem, with half of plastics being made for single-use applications and only 20 per cent of plastics in BC being recycled. The eventual goal should be to substitute all plastics with non-toxic materials that can be reused for a long time before being recycled or composted.

- *Ban single-use plastics.* People are ready to change the wasteful single-use culture associated with plastics, in favour of more bulk options, reusable containers and packaging, and tap water. Care must be taken to ensure the switch is to reusable products and not another form of single-use product. Change the cultural expectations around disposable, convenience, health and sanitation through campaigns that bring in thought leaders and cultural players (e.g., marketing, media).
- *Cap the amount of virgin plastics that can enter the economy and set timelines for reduction to zero by 2050.* Plastic manufacturers would then need to acquire the rights to produce or import plastics, and pass on any higher costs to consumers. Such an approach would value plastics more and treat plastic as a resource. This would also allow us to set priorities about where plastics are most beneficial and hard to replace.
- *Tax virgin plastics.* The price of plastic should include associated environmental costs and resource management costs (i.e., disposal, recycling and re-use costs) at the outset. Higher prices would induce innovation and conservation in terms of consumers and industry, and would level the playing field vis-à-vis recycled plastics. This could be part of deposit-and-return systems so that each piece of clean plastic has value.

The eventual goal should be to substitute all plastics with non-toxic materials that can be reused for a long time before being recycled or composted.

- *Streamline the number of plastics in circulation.* A successful plastic recycling system would need to focus on a narrower range of resin types that are source-separated after consumption. There would also be restrictions on certain contaminants, like labels and inks. A more harmonized approach would make it easier for consumers and industry alike.
- *Stimulate our small- and medium-sized businesses to reuse and recycle plastics or use alternates.* This could include support in the pre-competitive space for developing standardized reusable containers and products, alongside work to ensure that plastic and pellet processing occurs in BC. Shift from a global economic system that focuses on plastic materials to a more local economy based on reusable materials such as glass. Require recycled content in plastics that are used, but ensure that the first priority is reduction in plastic used and longevity of the product over a mere change in source material.

Develop systems for construction and demolition materials

The construction and demolition sector represents 50 per cent of waste generation and 30 per cent of disposal in Metro Vancouver.

The construction and demolition (C&D) sector represents 50 per cent of waste generation and 30 per cent of disposal in Metro Vancouver. The province should create model municipal solid waste policies and regulations that can be adopted at variable rates, but with a provincial “backstop” in the spirit of the BC Energy Step Code.

- *Set provincial targets for this waste sector* along with robust measurement and reporting. Targets should then be integrated into regional district solid waste management planning with requirements for differential tipping fees to drive change. Requirements for municipalities would likely include model demolition permits, deconstruction checklists, monitoring and reporting requirements, as well as a deposit and refund system based on audited tipping fee receipts, permit applications and site waste management plans.
- *Mandate stronger overview, monitoring, and reporting of all private and public waste processing and recycling facilities.* This will help to ensure high quality data and remove challenges in verifying material flows. Review trade regulations to ensure proper processing of materials and no leakage of waste. Ensure all local solid waste plans work towards progressively more strict sectoral diversion targets.
- *Develop a comprehensive policy and regulatory framework,* including building code changes to encourage design for disassembly, deconstruction-ready design standards, and provincial regulation for embodied carbon. Research will be required, as will collaboration among multiple ministries that look at climate and environment, housing, procurement, labour and economic development. In addition to policy and regulatory changes, investments in technology and workforce training will also be needed.
- *Use public sector procurement to build a salvaged and reused materials marketplace.* Provincial and other public sector procurement could take the lead in catalyzing the demand for salvaged materials, and other circular building practices. Provincial demonstration of best practices can help drive government entities to use salvaged materials and meet embodied carbon targets, further helping to drive markets for the materials.

- *Ensure the infrastructure needed is in place.* Invest in the creation of salvaged materials and re-sale hubs and processing facilities. Investments in industrial symbiosis approaches and networks can ensure that materials are efficiently moved between users in the province.

Use zero waste policies to reduce carbon emissions and support a just transition

Recycling of materials reduces the need for emissions-intensive extraction and processing of virgin materials, although such emissions reductions may well be offshore. Reduction, dematerialization and re-use strategies go even further by displacing the need for new emissions-intensive manufacturing and transportation.

- *Reduce emissions from upstream resource extraction.* We modelled GHG reductions associated with our zero waste program. By 2030, reduced generation and more aggressive recycling and composting will lead to 3.4 million tonnes CO₂e savings by displacing organics from landfills and reducing the need for energy-intensive extraction and processing activities. By 2040, this will rise to 7.1 million tonnes CO₂e.
- *Phase out incineration.* Emissions from the Burnaby incinerator in 2017 totalled 288,000 tonnes CO₂e, of which 40 per cent was from fossil-fuel-derived products (e.g., plastics, certain textiles, rubber) and 60 per cent from biomass and organic materials (wood and compost in particular). For the moment, the region has put off looking at adding a new incinerator. As we move to zero waste, the existing facility should be phased out.

Zero waste practices as detailed above in areas like re-use, repair and maintenance are more inherently local than the current model and, with proactive policy, could develop thousands of high-quality, long-term stable jobs in BC. In reducing the material and energy throughput of our economy, we must also simultaneously seek to improve wages and working conditions for workers, reduce inequality and boost quality of life for all, and contribute to racial, gender and social justice.

- *Invest in re-use and repair for local, green jobs.* Managing waste for resource recovery has the potential to create jobs in more sophisticated collection and sorting systems, and there will also be additional jobs to educate, develop systems and policy, gather data and manage programs and staff. Repair activities create as much as 200 times more jobs than landfilling and incineration—recycling creates 50 times and remanufacturing creates 30 times more jobs. Requirements for reusable containers would create jobs in more localized plants by keeping materials circulating in BC.
- *Put high employment standards at the core of a jobs plan.* Much work in the waste sector in the past has also given rise to health and safety challenges, while shifts in policy may lead to challenging labour transitions for existing workers. A sector-wide labour framework is thus advised, given the significant potential for new sub-contractors and changes in approach to collection and processing. This should include collective bargaining rights, successorship protections to ensure appropriate preservation of work, advanced skills training and other transitional supports as part of the move forward.

Reduction, dematerialization and re-use strategies displace the need for new emissions-intensive manufacturing and transportation.

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Zero Waste BC is a non-profit society working to drive systemic change towards Zero Waste in BC. It provides research, analysis and guidance to inform policies and practices related to materials consumption, solid waste and more.

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