



A REPORT ON EPR PRIORITIES

Submitted to: BC Ministry of Environment and
Climate Change Strategy

Abstract

The Recycling Council of British Columbia (RCBC) engaged in a multi-step initiative to gather feedback on current and future Extended Producer Responsibility (EPR) programs in the Recycling Regulation. Stakeholders identified priority materials for EPR inclusion, suggested improvements and refinements in existing programs, and voiced a need for new solutions in solid waste diversion from the Industrial, Commercial, and Institutional (ICI) sector.

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1. INTRODUCTION

The Recycling Council of British Columbia (RCBC) engaged in a multi-step process to collect feedback from a wide range of stakeholders on improvements and priorities for current and upcoming Extended Producer Responsibility (EPR) programs in the Recycling Regulation.

This initiative comprised engagement through two online surveys, a town hall session at the 45th annual RCBC Conference on the Circular Economy, and a public forum held at UBC Robson Square. Comments and feedback were recorded, summarized, and compiled for the Ministry's consideration. Financial support for this report was generously provided by Metro Vancouver.

2. 2017 PRELIMINARY SURVEY

In 2017, RCBC conducted a public, province-wide survey exploring attitudes towards recycling in BC. In total, 304 participants participated and provided answers on the following areas:

- Awareness and access to recycling programs in urban/suburban/rural areas;
- Attitudes towards recycling and priority items for inclusion in programs;
- Existing EPR program awareness and participation.

This set of preliminary survey results was used to identify key areas that warranted more in-depth examination of existing and possible recycling programs.

A detailed list of findings can be found in Appendix 1.

3. PRE-CONFERENCE SURVEY

An online survey was sent to the delegates of the 45th Annual RCBC Conference on the Circular Economy in February, 2019, to gain insight into the issues faced by BC's recycling and solid waste management sector. The objective was to gather comments from non-profits, government, business, and concerned citizens and inform a Town Hall session where delegates from different sectors could come together and voice the challenges they faced in reducing and diverting waste, capturing and collecting recyclables, and transitioning towards a circular economy. The survey comprised the following questions:

- Each delegate's representative sector(s);
- Whether their community is urban, suburban, rural, or a combination;
- The top three issues faced by each delegate.

SURVEY RESULTS

Approximately 40 delegates completed the survey; just over 32% of the issues people identified pertained to Extended Producer Responsibility (EPR) programs.

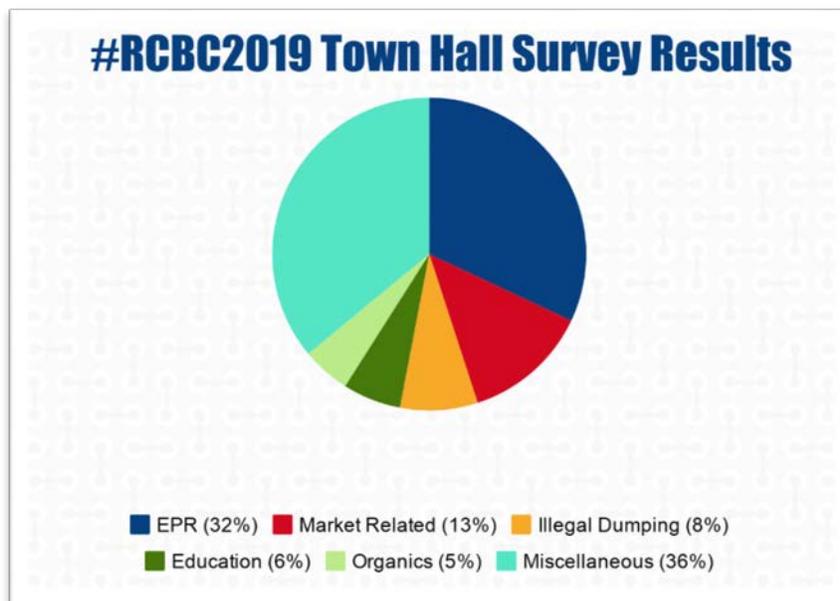


Figure 1: Raised Topics Related to Waste Reduction by Conference Delegates

The following keywords were identified in their comments:



Figure 2: Common Keywords Identified in EPR comments

Figure 3 provides a more specific breakdown of the raised issues around EPR programs:

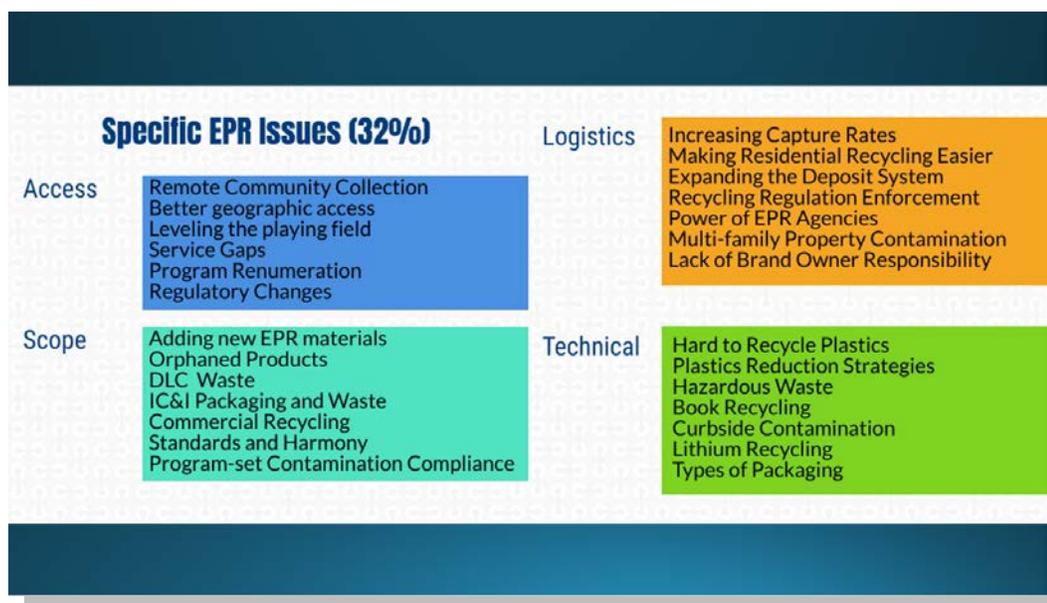


Figure 3: Specific wording used to describe EPR topics and issues

Particular areas of interest included EPR expansion into new products and materials, extending the Recycling Regulation to cover Industrial, Commercial, and Institutional (ICI) materials, and improving program access, particularly in remote and rural communities.

These survey results were presented at the Town Hall session to kick off an hour-long, multi-sector discussion between government, industry, non-profits, and individuals.

4. TOWN HALL SESSION

Approximately 150 delegates at the 45th RCBC Conference on the Circular Economy participated in the Town Hall session on May 8, 2019.

PRIORITY ITEMS PROPOSED FOR FUTURE EPR INCLUSION

- Phase 2 product categories from the Canadian Council of the Ministers of the Environment (CCME) Canada-wide Action Plan on EPR not already included in existing programs, encompassing
 - Construction materials;
 - Demolition materials;
 - Furniture (including mattresses);
 - Textiles and carpet; (along with microfiber products)
- Agricultural plastics;
- Marine sector plastics (rope, buoys, fishing equipment, and derelict gear);
- Cigarette butts;

- Medical sharps;
- Propane tanks;
- Household hazardous waste (cleaning agents, fertilizers, mercury);
- Durable plastics (patio furniture, outdoor kids toys, housewares).

TOWN HALL EPR-RELATED COMMENTS

A wide range of EPR-related issues were explored during the discussion:

4.1 WEAK EPR FEEDBACK LOOPS

A comment was made that insufficient incentives exist to drive material redesign towards more sustainable options. As British Columbia is a small market influencer on a global level, it is difficult for local consumers to drive design decisions made by multi-national corporations. A comment was made for the need for political leadership to act in conjunction with EPR, which can serve as a complementary tool but cannot be the primary solution.

4.2 FOCUS ON REUSE AND REPAIR

These higher-tier levels on the pollution prevention hierarchy were cited as areas that should be given more emphasis in EPR programs. A comment was made for looking into establishing specific targets around reuse and repair.

4.3 ACCOUNTING FOR EXTERNALITIES

Because sending materials overseas had made recycling artificially cheap, a comment was made to reconsider how to make responsible material management more competitive. Manufacturers should integrate full lifecycle costs into their products. Established provincial EPR programs have the advantage of providing consistent and standardized streams of recyclables.

4.4 LEVERAGING EXISTING INFRASTRUCTURE

“Can we use what is available to start recycling now, or do we have to wait for official EPR programs?”

Examples of facilities for items like textiles and mattresses already operating and diverting the material from the municipal solid waste stream were cited. Comments were made for the need to convey the benefits of EPR as a platform and a policy mechanism for innovation. BC should also look to working programs in other jurisdictions so it does not have to reinvent the wheel.

4.5 BENEFITS OF TRANSPARENCY

Accountable and timely reporting can also serve as an opportunity for education. Greater transparency may help residents who have lost trust in recycling in recent times take interest again. It is crucial that people know materials get recycled because someone paid to recycle it.

4.6 ON NATIONAL EPR HARMONIZATION EFFORTS¹

¹ RCBC officially supports national EPR harmonization efforts that are based on BC’s model.

Diversion programs across Canada currently employ different material definitions and metrics. Benefits of harmonization include increased scale, which can put pressure on global manufacturers towards more sustainable product design. Guidelines should be set to the highest common denominator, with clear consensus-based guiding principles that factor from the transition to new product planning stages.

Difficulties around harmonization involve navigating the complicated array of products that exist in the marketplace, and the barriers entrenched in political culture. A harmonized program could also be unwieldy and prove resistant to change and innovation. Smaller, local programs can be nimbler and are able to try new things/phase out elements that do not work.

A complete list of Town Hall comments can be found in Appendix 2.

Based on the survey results and the significant interest garnered during the conference town hall discussions, RCBC organized an additional forum dedicated exclusively on EPR issues at UBC Robson Square, Vancouver.

5. FORUM FOR FUTURE EPR PRIORITIES

A free consultation and feedback session was organized by RCBC on June 26, 2019, at Robson Square in downtown Vancouver. The objective was to solicit additional feedback for future EPR program priorities from the public and other interested stakeholders. Approximately 100 individuals attended the session.

PRIORITY ITEMS FOR FUTURE EPR INCLUSION

- Carpeting and flooring material (underlay, vinyl tile, hardwood, and laminate);
- Residential-scale demolition and home restoration materials;
- Construction materials (ICI sector);
- Drywall;
- Mattresses;
- Sofas and other furniture items;
- Marine plastics;
- Household hazardous waste (mercury, diesel fuel, acid, household cleaners, garden products, pesticides);
- Compostable and biodegradable plastics;
- Propane tanks (refillable and disposable) and pressurized tanks (helium tanks, fire extinguishers, butane);
- Durable plastics (toothbrushes, PVC piping, vinyl siding);
- Baby seats and car seats;
- Automotive plastics (bumpers, headlamps/tail lamps, interior/exterior panels, gas tanks);
- Electric vehicle (EV) lithium-ion batteries;
- Craft and commercial paints;
- Tar-based products;
- Hardcover and softcover books;
- New and trending products like e-vapes.

FORUM COMMENTS

A wide range of EPR-related comments were raised and recorded during the live forum. Additional written feedback was collected from the public via email until July 3, 2019. The following categories summarize the major topics and discussion points.

5.1 EPR AND THE BIG PICTURE

5.1.1 EPR AS A PANACEA

The point was raised that EPR can create an illusion that materials are handled out of sight and out of mind. For example, a carpet EPR program may be established where only the nylon component can be recycled—the rest of the material may need to go for disposal or incineration. Given an EPR solution, people may start to feel good about their consumption and think that EPR is the ultimate solution, not exercising behavioral change geared towards reduction.

There was also concern on how new “sustainable” designs are designed for energy recovery (e.g. laminates), which is considered a low tier on the pollution prevention hierarchy. The comment was made that the provincial government should place stronger emphasis and incentives on moving up the hierarchy, towards reduction, reuse, and repair.

5.1.2 EPR AND THE CIRCULAR ECONOMY

A comment was raised on the need to look at the ecological footprints and impacts of hazardous materials, and how society can incorporate these materials into the local circular economy.

A point was raised that the opportunity to create new EPR programs can serve as a chance to revisit existing practices. Is it possible that EPR can be utilized to incentivize/disincentivize manufacturer product design to go beyond compliance and end-of-life management? Can future programs push producers to stop making something? That might be a desirable outcome.

There may also be a need to create new infrastructure for compostable and biodegradable materials from the ground up. Building something new may lead to an easier transition towards a circular economy.

5.1.3 EPR-FRIENDLY POLICIES

The following policies were suggested for complementing and supporting EPR in BC:

- Recycled content requirements;
- Investing in local recycling infrastructure and capacity;
- Green infrastructure incentives/grants;
- Design directives (refer to the EU);
- Material disposal bans;
- Federal level initiatives (similar to the Government of Canada’s Zero Plastic Waste Action Plan).

5.2 EPR IMPLEMENTATION/OPERATION/LOGISTICS

5.2.1 PROGRAM PRIORITIZATION

The question was raised on how new EPR programs are prioritized. While the CCME has a tool related to cost, product impact, and public/political demand, another layer of analysis going forward may be useful. Suggestions were made for a matrix based on the following factors:

- Ecological footprint (to produce + dispose);
- Toxic footprint (to produce + dispose);
- Safety concerns (health hazards);
- Disposal costs;
- Market evaluation/potential (do end markets exist?);
- Degree of similarity to existing program/streams;
- Space the product takes up in landfill;
- Disposability (can it be reused, recycled, incinerated, or requires special disposal/storage/treatment).

5.2.2 DATA COLLECTION AND IMPROVED METRICS

A comment was made on working to develop more effective data collection systems to determine the nature and source of problem waste streams, such as ocean plastics, and inform potential EPR solutions. Is the material local or international? Is the main source packaging or product?

On the provincial or regional district level, government participants expressed the need for a more consistent waste composition tracking system that allows for regional comparisons and a more granular-level analysis when it comes to observing trends and areas of focus.

5.2.2 REVISITING THE RECYCLING REGULATION

Participants provided suggestions on improving the existing definitions and guidelines within the Recycling Regulation:

- Programs should have 100% collection coverage—“access” should be grounded in behavioral psychology, not the 30-60-minute drive that producers determined is cost effective.
- Recovery rate needs to be reframed in light of the goal of zero waste, an increase from the current 75%.
- Enforcement of the high end of the pollution prevention hierarchy, especially on reduction, reuse, and redesign.

5.2.3 RE-EVALUATING PROGRAM INCENTIVES

The point was raised that currently, some EPR programs are subsidizing others in terms of collection sites. For example, product A has a lot of handling requirements for the collector and are offered poor incentives, while Product B has low handling requirements with high incentives. The comment was made for the need to re-examine fees to see if they are representative of costs and processing and safety expenses. Operators are trying to run programs and do the right thing, but given the expense of some programs they are having difficulty making money or even operating at cost.

5.2.4 HAZARDOUS WASTE MANAGEMENT

Multiple comments were made around the issue of household hazardous waste (HHW) management, which poses significant safety and environmental challenges. Several participants echoed that such materials should have proper management solutions even if there are no viable end-markets, and that industry must take responsibility for generated materials.

On the operational end, feedback was given that human health and safety should be prioritized over environmental issues. The current collection system in the form of municipal or private depots are not suitable for collection of hazardous waste, as these products pose a higher level of risk for all personnel through the collection and management supply chain. Handling requires specially-trained technicians and equipment, and considerations must also be made with regards to existing WorkSafe and Transportation of Dangerous Good regulations.

5.3 EPR EXPANSION INTO THE ICI SECTOR

There were dissenting opinions on whether EPR expansion into the ICI sector, particularly pertaining to printed paper and packaging (PPP), is desirable. Several municipal government and regional district representatives view the present lack of commercial recycling options in their jurisdictions as a sign that EPR expansion is necessary:

“ICI recycling is a priority of the most recent solid waste management plan. However, the challenges with the processor rejecting loads due to high contamination or operational issues makes this priority a challenge to implement. We are even seeing loads of clean cardboard going to the landfill on a regular basis. The City has sent multiple loads of cardboard to landfill simply because the processor is unable to accept the material on a given day; the same goes for private haulers.”

Some representatives from the private sector believe instead that the current lack of options is due primarily to low commodity prices and that an ICI EPR program will not provide a reliable solution for addressing the inherent market challenges:

“As was mentioned a number of times in the forum, BC is ‘great at collecting material, but not great at processing’ material. Creating an EPR program for shopping bags does not guarantee that better bags, of higher value plastic with better recyclability properties, will be produced. The end destination for these low-grade plastic shopping bags would need to continue to be, as discussed in the forum, Lehigh or a similar facility for Alternative Energy Recovery.”

There were also comments on whether the definition of ICI is overly broad to the point of being useless, as waste generated by a hospital (institution) and a soft drink factory (industry) are so vastly different in terms of composition that any newly established EPR program for ICI materials must have more narrowly defined parameters.

A complete list of live forum comments can be found in Appendix 3.

A complete list of email comments can be found in Appendix 4.

6. CONCLUSION

The Recycling Council of BC (RCBC) engaged in a multi-step initiative to gather information on future improvements and priorities for current and upcoming extended producer responsibility (EPR) programs in the Recycling Regulation. Three chief areas came out of feedback offered by engaged stakeholders during this consultation process.

6.1 PRIORITY MATERIALS LIST FOR INCLUSION

Throughout the consultation process, several categories of materials were raised repeatedly as priority targets for EPR inclusion. These included the following material categories:

- Household hazardous waste not covered under existing programs;
- Pressurized tanks and cylinders for fuels and gases;
- Furniture items (including mattresses);
- Medical sharps;
- Durable plastic goods (including derelict or unwanted marine gear).

6.2 IMPROVEMENTS FOR CURRENT AND FUTURE PROGRAMS

With 22 operational stewardship programs, British Columbia is seen as a global leader in extended producer responsibility. Feedback was given for updating and refining existing metrics and definitions within the Recycling Regulation to improve program accessibility, increase diversion targets, and place greater emphasis on elements higher up on the pollution hierarchy, like repair and reuse.

Insights gleaned from operating 25 years of EPR can also help inform the creation and implementation of new stewardship programs that feed into the growing circular economy, providing new models and opportunities for innovation and collaboration between sectors in the solid waste and recycling sector.

6.3 SOLUTIONS NEEDED FOR THE ICI SECTOR

While there were differing opinions on whether EPR expansion into the ICI sector, particularly pertaining to printed paper and packaging (PPP), is desirable, there seems to be agreement that the status quo is not working in diverting recyclable materials from landfills.

Suggestions included the incorporation of ICI materials into existing programs, investment in local recycling infrastructure so that diversion is not so dependent on global markets and trends, operating smaller-scale and more agile programs to target specific problem materials. Suggestions also included redefining ICI to better reflect the highly variable material streams that comes out from the sector.

APPENDIX 1: 2017 SURVEY RESULTS

RESPONDENT INFORMATION (TOTAL PARTICIPANTS = 304)

- Largest percentage of respondents from urban areas (46.6%), followed by suburban areas (28.5%), and then rural areas. (24.8%) *n=298*
- Overwhelming majority (95.3%) describe themselves as being aware of recycling programs in BC. (Medium awareness = 43.7%, High awareness = 51.7%) *n=302*
- More than three-quarters of respondents (76.7%) have access to curbside recycling collection. *n=303*
- Majority aware of the RCBC Online Recyclepedia (76%) and the RCBC Hotline Service (71.9%). Less than half aware of the RCBC Recyclepedia mobile app. (41.8%) *n=146*

ATTITUDES TOWARDS RECYCLING

- Slim majority of respondents (53.8%) found recycling convenient in their communities. (All cases = 14.2%, Most cases = 39.6%) *n=303*
- Most popular suggestion for increasing recycling convenience was for “one stop depots” (71.1%), followed by curbside collection. *n= 291*
- Most requested items to add for curbside collection include plastic bags, soft plastics, “Styrofoam”, glass, and batteries. *n=257*
- Two-thirds of respondents (66.4%) interested in what happens to materials in recycling programs. *n=298*
- Priorities during product purchase = Durability (weighed average = 2.65) > Cost (2.61) > Convenience (2.50) > Location (2.21) > Recyclability (2.11) > Eco Fee considerations (1.63) *n=303*

STEWARDSHIP PROGRAMS PARTICIPATION & AWARENESS

- Stewardship program participation (Top 5): Used beverage containers (98.0%), packaging and printed paper (95.0%), beer containers (86.0%), electronics (84.7%), household batteries (68.4%) *n=301*
- Stewardship program participation (Bottom 5): Old thermostats (16.3%), electrical outdoor power equipment (23.6%), smoke alarms (33.2%), motor oil (38.2%), and tires (38.5%) *n=301*
- Steward brand awareness (Top 5): Return-it (93.6%), Recycle BC (85.2%), EPRA BC (70.3%), Brewers Distributors Ltd. (65%), Medications Return (58.0%) *n=283*
- Steward brand awareness (Bottom 5): Switch the Stat (20.9%), OPEIC (23.0%), AlarmRecycle (29.7%), MARR (36.0%), Canadian Battery Association (40.6%) *n=283*
- Perceived ease of access to stewardship program (Top 5): Beer containers, packaging and printed paper, used beverage containers, expired medication, end-of-life electronics *n=154*
- Perceived ease of access to stewardship program (Bottom 5): Smoke alarms, thermostats, light bulbs, motor oil, large appliances *n=154*

APPENDIX 2: RCBC TOWN HALL SESSION COMMENTS

RCBC TOWN HALL SESSION

Moderated by Harvinder Aujala, RCBC, and Dr. Christina Seidel, Recycling Council of Alberta

GENERAL RECYCLING AND SOLID WASTE REDUCTION COMMENTS

- Lack of consumer choice in packaging (overwhelmed with plastics) limits behavior change.
- Seeing a gradual change towards fewer single-use plastics.
- Seeing the rise of zero packaging stores: 20% of hands went up indicating they have local access.
- 3 other areas to focus on: Sustainable lifestyles (keynote to world circular economy forum), repair (repurposing materials), and innovation (focus on scale and innovation, e.g. stores with zero waste aisles)
- Better design choices upfront in packaging PLUS political leadership to complement consumer choice is necessary to drive global consumption changes.
- Prevention may be the best solution, but in reality it's about the economics. Solutions that directly impact companies, like a waste tax, can change design or production.
- There is a need to expand the conversation out to politicians and economists. The challenge of implementing a consumption tax is that it's a blunt instrument, but would reflect the true disposal costs.
- Manufacturers should do a better job of integrating costs into products.
- The problem of separating ICI and residential material streams is that economies of scale don't work in small communities. There needs to be an integration of policy between local operations and chambers of commerce. These are not segregated issues and should be considered across the spectrum. Consider province-wide program for subsidies.
- 60% of food in developed countries is wasted. Food preservation value of packaging should be considered (food waste is 10x more impact on environment than packaging).
- Local governments can play a role by instituting in post-consumer recycled content purchasing policies.
- Post consumer recycled content can complement EPR. Would like to see closing EPR gaps, in particular for compostable plastics. Seeing many businesses switch to compostable plastic and pressuring governments for solutions; there needs to be engagement and investment from that industry.
- A holistic approach/lifecycle approach should be adopted so the whole system can benefit.
- There is a need to develop local markets to use and process materials.
- Put policies in place to use material locally first. (domestic markets)
- Developing a "killer app" for recycled plastics either locally or internationally.
- Funding is always an issue: Districts don't have money; policies take time, support or templates to get going on a local level.

FINANCIAL CONCERNS AND MARKET DISRUPTION

- Optimistic that the disruption to recycling will make things better in the long term. Sending waste overseas has made recycling artificially cheap; we must reconsider costs to make us more competitive. EPR can provide consistent stream of materials.
- Media focus on markets has raised consumer awareness (are recyclables actually being recycled?), which is a benefit. Residents want to know how to recycle properly.
- Post-consumer content requirements need provincial and federal leadership; it's hard for local governments to mandate and not all have capacity.
- Perhaps requirements for packaging entering Canada? Need right policies at the right level.
- Would greater transparency help residents? Yes. Example of 100-Mile House doing a presentation focused on EPR. Message: "It gets recycled because manufacturers paid for it." More information helps residents take interest.
- Want to see standards on what information is reported; it needs to be comparable. What and how data is reported for accurate comparison within provinces and for Canada? A potential road block for analysis.
- What should be the mandated % post consumer content? Determine this with collaboration with industry and stakeholders.
- Back to outcomes: Residents and government not rational economic / environmental thinkers, connection between concerns and act of consumption (i.e. Refusing to purchase a product) are important considerations.
- Contamination: Residents and businesses need to be educated on the issue. This is incumbent on local and provincial governments to help industry work towards circular economy.

EPR TRANSPARENCY AND ACCOUNTABILITY

- Do we need some targets around reuse and repair?
- Make sure benefits of EPR don't discourage innovation
- EPR is a platform for innovation, need to engage industry. Still big opportunities to pursue. EPR can be a policy mechanism to encourage innovation.
- Example with textiles: have existing network for recycling – do we need to wait for regulation or EPR or can we use infrastructure to divert now?

WHAT ARE POSSIBLE CATEGORIES UNDER THE EPR UMBRELLA?

- CCME Plan Phase 2 materials
- Agricultural plastics
- ICI materials
- Marine sector plastics – rope, buoys, fishing equipment, and derelict gear.
- Recommendation on pricing cigarette butts
- Longevity and repairability requirements under EPR,
- Sharps, propane tanks, mattresses
- EPR to pay for what is needed to deal with microfibers from textiles – can it be done for textiles?
- Household hazardous waste – cleaning products, fertilizers – things without BC programs
- Rigid plastics – patio furniture, outdoor kids toys, durable plastics
- Example: California passed EPR for sharps and pharmaceuticals

- Comment on charity donation bins: Currently bin bans over safety concerns are negatively impacting textile diversion programs. Changes made by municipalities were done without consulting research. Bins have been retrofitted by Diabetes Canada, Big Brothers, Disability BC to ensure safety and should be accepted as part of the solution for waste diversion.

HARMONIZATION OF EPR ACROSS CANADA

- Challenge: Different programs across Canada use different material definitions and regulations.
- BC is on the leading edge of EPR. To what extent and benefit can that be lent to national harmonization?
- Comment: Doesn't think harmonization is possible. Too complicated with materials and impossible with political culture.
- Harmonized program could be hard to change and innovate, to add and drop projects. Smaller programs are nimbler to try new things and phase out if it doesn't work. Could be resistance to change.
- Larger scale benefits of harmonization could influence packaging. It should be to highest common denominator – clear guiding principles built on consensus. Factor in transition planning from shared to producer planning.

APPENDIX 3: FORUM LIVE COMMENTS

RCBC EPR GAP ANALYSIS FORUM LIVE COMMENTS

Lies Reimer, Advance Flooring (LR): Carpet major contributor to landfill and is difficult to recycle. Onus should be placed on manufacturer and those who created it needs to take responsibility.

As consumer and end-users, we might be sensitive to small items but not so much for carpet, given its relative large impact. It's a massive space taker-upper in the landfill that's out of the consumer's view.

Brock Macdonald (BM): Notes examples of companies who do this on an industrial level, Interface, Shaw Flooring. Not necessary applicable on the retail level.

Jan Hastings (JH), Nanaimo Recycling Exchange: On CCME List - concern of what happens to the stuff after a program? EPR can create an illusion that materials get handled in a good way, but it becomes out of sight and mind. E.g. Carpet - only the nylon in carpet is recyclable, which sets up the road towards more consumption and incineration. People feel good about EPR program and so consume more.

Harvinder Aujala (HA): Transparency in EPR programs definitely an important issue.

SOP Recycle: Local carpet recycler. Says that there is some carpet that are more recyclable than others. 50% probably goes to energy recovery, while 50% is recyclable.

Unnamed comment: ICI is a wide array of materials and quite broad in the CCME guidelines. Some of the materials already covered in residential sector. Perhaps need to be chunked into more discrete categories.

BM: Differentiation in residential and commercial materials - what are people's thoughts?

JH: One of the issues during operating a depot. Separation means more handling, more processing. Huge number of streams to manage - 60-70 streams.

(ICI materials in existing or future EPR programs show of hands - definite support in the room)

Unnamed Question: How about responsibility on the beginning of production? Should the material even be produced? If we decide for our region, can we stop something from being sold?

BM: Province is responsible for waste management, so there is limited federal powers. Harmonization across provinces would make things easier for industry and business to manage the process. Example: Canadian Tire's matrix for managing materials in different provinces. How can it be a simpler process?

HA: What do you think the role of the province should be? Bans as a tool? How about ecofees reflective on the recyclability or reparability of the product? But auditing new product lines would be difficult. Need to develop a matrix that would be comprehensive.

BM: EPR is supposed to push responsibility back to the manufacturers to design better. Case study with Merlin Plastics, elaborated by Allen Langdon.

Allen Langdon, Return-It (AL): Merlin asked changes made to packaging and worked with manufacturers - can you switch this back to an easier to recycle material? An 18-month process. Important to note that it can't be the tail wagging the dog. At the end of the day, stuff is made for Canada and North America, not just for BC.

Eileen Gallagher, Individual (EG): EPR Category for inclusion - small scale remodelling, construction, demolition materials, especially from flooded and damaged materials. Standard practice is to replace everything instead of small damaged amounts. For example, click-in flooring. More selection and product availability may facilitate smaller renovations, produce less large-scale impacts.

HA: Highlights this as an example of a lack of consumer choice and options. Can't just do small segments.

BM: Moving up the hierarchy to put more emphasis on repair and reuse.

Daylen Sawchuk, Gleneagle Secondary (DS): Student. Paper choice in schools and arrangement with private hauler leading to inconsistency in recycling. Having recycling standards would help. Wants better standardization for schools and across all sectors, which filters down to households for education and awareness.

Vancouver School board: Bin availability from contractors might be an issue.

BM: An example of harmonizing standards between residential and ICI. Making the haulers have a consistent list.

Monica Kosmak, City of Vancouver (MK): City is super grateful for EPR programs. Some programs do cover ICI materials. Among phase 2 categories: Construction, echoing that mattresses are a priority. 5,000 mattresses a year as abandoned waste. \$700,000+ for cost. Gypsum is an issue. Textiles also.

Also a need for new programs. Building on CCME list, reassessing the priorities since it's been 10 years. Other products: Sharps. Cigarette butts. Propane tanks. Hard plastic products. Infant-related products (car seats), household hazardous waste.

Principles: The How. What is the actual criteria and prioritizing EPR programs? CCME has a tool. Cost, impact, public and political demand. Need another layer of analysis.

Glen Farrow, City of Kamloops (GF): His area an island of recycling among smaller, rural communities. Extra hauling charges, markets are challenging. Back to initial list: Need for ICI for packaging and printed paper. Want to see expansions. Currently 40-yard roll-offs going to landfill with loads of cardboard in the community. Furniture and mattresses, over 7,000 mattresses costing. Charging \$10 but heavily subsidized. Want more focus on bulky items.

Jamie Viera, TNRD (JV): Many <5,000 people communities in his regional district. 3-hour drive sending and receiving cardboard to the landfill. Lack of PPP end markets. One processor in the TNRD sometimes will take stuff, sometimes not. Recycle BC is good, but ICI is separately managed and operators are feeling the crunch. Processor focused on Recycle BC contract, may take other stuff, but no longer a priority.

Where are even ICI collection spots? Zero options for collection in the area. Prior to regulation, processors didn't distinguish, but now they do.

ICI not only extends to large businesses. Clearwater has no curbside collection. Small business in town is a subscription service that collects material there - operator collects residential material but no longer has a market for his material anymore. (since it's not technically residential) The definition and distinction is an issue. Recycle BC has enhanced the local market, but materials left outside has next to no options. Framework does exist for inclusion, just need expansion and redefinition.

AL: Reality check on ICI inclusion. Waste management industries need to move into one system. All businesses would have to register with the program, leading to large administration costs. World markets for paper is terrible - no one wants it regardless. To build a new mill to process - neighbourhood of a billion dollars.

Alice Henry, One Earth (AH): Has there been any work looking at the ecological footprints and impacts on hazardous materials? How can we bring/revitalize these materials in the local economy? Local companies?

Jamie Benton, FVRD (JB): Disagree that PPP should come under EPR. Agrees with AL. Seen several companies lost their businesses in the area. Other options exist in construction sector. Many MERFS can handle materials, once the markets level out. It takes companies to make improvements and investments to accept and process materials locally.

Michaud Smith, Building Manager (MS): Waste easy to collect, hard to get rid of. Where he works, introduced a separate bin for plastic bags. Problem is that the municipality doesn't accept it. Noticed separate bins for soft plastics. Surprised at his lack of knowledge even since he's in the business. How is RCBC incentivizing the collection of soft plastics? Deposit for bags? Why are not more companies recycling plastics? (like Merlin or West Coast plastics)

HA: Perhaps the need for simplified programs and more education. How can you expect residents to know the difficult standards when even experts don't?

Chloe Dubois, Ocean Legacy (CD): Marine plastics should be put on the schedule. Have one collection center in the province. Looking at data on material impact on a larger scale. No formal collection program for marine plastics, and no processors. Many places just basically storing the material. Ropes to landfill.

Largest proportion of marine plastics = Polystyrene by volume, hard plastic floats by weight. Working on effective data collection system. How can citizen scientists can collect better data and determine the source of the materials. Is it international? Is it local? Oil containers, milk to go, detergent bottles. Over 25 categories of material.

Debbie Flemming, Township of Langley (DF): HHW is of great concern. Lots of rural properties in Township, and is concerned about materials going into soil and groundwater. During one roundup, over 32 tonnes of HHW collected, not including Product Care materials (13 tonnes). Labels are missing, poor integrity of containers. \$40,000 on liquids, pesticides, and oily debris. Seeing a lot of cleaners and bleaches.

JH: On what goes on the EPR list? Stuff we see mostly going to the landfill. But that means products are being wasted, which leads to the loop of manufacturing more and more stuff. The environmental question, and not the money question needs to be asked. This opportunity to create new EPRs programs is also good to revisit program. How can we incentivize and disincentivize manufacturer product design? More than just end-of-life management.

Can't expect people to find global markets. New programs have to come with funding for new infrastructure so we can process here in BC and create the circular economy. Producers still get a bit of a free ride from the high end of

the pollution prevention hierarchy. Need to emphasize reuse and repair hierarchy. Price of the product should encapsulate the price of the end-of life management. Do EPR better.

Dr. Love-Ese Chile, Grey to Green Solutions (LEC): On compostable and biodegradable materials. Lots of expanding applications and lots of discussion of how producers of these materials can fit into EPR. Here in BC, good job in collection, but conversion and funding new research and tech is lacking. Lots of Chinese companies are working on cleaning up materials in NA so they can start exporting materials to China again.

A need for science and research discussion, along with provincial and national funding.

As a chemist by training - is there a way to convert HHW into something valuable? Need to create a new infrastructure for compostable and biodegradable materials - from the base up. Maybe easier for a fresh start towards a new circular economy.

Marcia Dick, City of Kamloops (MD): On provincial waste composition studies, is there recent work done on that? Need more granular level analysis.

HA: Has transitioned to a more consistent tracking system versus before where a self-submission system led to varying categories not conducive for comparison - but not much granular work is being done on a provincial level.

Martin Haynes, 360 Recycling (MH): EPR for Automotive plastics - lack of information and program. His company recycled over 2 million pounds of plastics. Collision leads to a lot of discarded plastics. End of life vehicles - materials should be removed prior to being compacted due to a lot of toxic fluff.

AL: Back to ICI. On looking at a blanket ICI EPR or for specific materials. Return-It doing a pilot program for large urban areas. Given the level of complexity and consultation, decided to break off into smaller chunks. Launching a pilot program for propane tanks in Cultus Lake.

HA: Is recycling on a commercial level an advantage due to volume guarantees?

AL: Not always. No value for a lot of materials, ignores economies of scale because lack of markets in general.

Brook Lotzkar, Regional Recycling (BL): Comment on dealing with HHW. Richmond depot was visited by MoE and BCUOMA, with an intentions paper forthcoming on procedures and practices. As a collector and transporter, handling and WorkSafe an issue when dealing with household hazardous waste.

Andrea Patrao, SCRD (AP): Reiterate that bulky furniture and mattresses are the hardest items to handle or divert from landfill. Nice to hear from AL about the propane canisters. Raise issue of inequality between EPR programs - Product A has a lot of handling requirements with poor incentives, Product B has low handling requirements with high incentives. Sees current practices of subsidizing between EPR programs. Need to reexamine fees to see if they are representative of costs and processing and safety expenses. Operators trying to run programs but having difficulty making money or even operate.

Fabio Scaldaferrri, Mattress Recycling (FS): On recycling markets. Encouraging to see that foam and quilting from mattresses and soft seating actual has very strong market, mostly Alberta and west coast based as well. Coal replacement and natural gas replacement for Lafarge — maybe for when markets fail.

Background for his company in Hope: Durable plastics, furniture, mattresses, MARR, Recycle BC, metals. Positioned to accept materials through EPR, especially for mattresses and soft seating furniture. Existing infrastructure already in place, with a \$5 million investment.

On ecofees for mattresses: \$15 fee is way too low. Understands municipal illegal dumping issues and need to keep end-of-life recycling costs low, but minimum \$20 to reflect true cost, which includes employee safety and safety systems management.

Jasper van de Wetering, Lehigh Cement (JW): Theme of recycling isn't the act of putting the material in the blue bin, but converting it into something useful. BC good at collecting and separating, but less so in how we process the material. Background on Lehigh: Cement plant is a large coal or natural gas user, burning 100,000 tons of fuel every year. Replacement waste or biomass fuels can replace some of the coal use. RECOVERY on the pollution prevention hierarchy, but can produce in-demand essential materials that can trap particulate and acidic materials. Plant burns at high temps to destroy organics and is a good way to get rid of waste. Not incinerating to get rid of materials, but to produce a useful product. Cement kilns have the capacity to displace existing fuels through a zero-residue process.

HA: Good point about the embedded energy value in waste.

Michael Zarbl, MARR (MZ): Being careful with ICI. Parceling it out might be the way to go. Is it just C&I? Has a back history with Coca Cola, and in his experience, in industrial settings, they are incentivizing maximize usage of materials without waste. But industry is different than institutional. What about hospital waste? Very, very different materials streams. A blanket EPR program for ICI sectors may not work due to the wide diverse range of generated waste.

Leanne Koehn, Ridge Meadows Recycling (LK): Back to EPR need: Pressurized tanks- helium tanks, fire extinguishers, hard durable plastics – toothbrushes, PVC piping, vinyl sidings.

Interested to go through the Metro Vancouver waste audit - what are the most common things?

Echoing the idea even for non-marketable materials should still have an EPR program - industry should still take responsibility for their materials.

Agrees with DF from Langley on HHW. Dirty secret that there are no options for disposal. Larger businesses that take commercial amounts, but nothing for small leftovers.

Survey for residents with materials without options?

LEC: Idea of industrial symbiosis - giving one waste stream to another company that can use it for a resource. Take materials from one stream to another who can use it in an outside the box application.

ON THE ROLE OF GOVERNMENT ON PLASTICS (BANS ON PROVINCIAL OR FEDERAL LEVELS):

LK: Residents do have choice on plastics recycling. Issues more from streetscape or industrial settings.

If we ban existing single-use materials and replace with compostable and biodegradable substitutes - unless those can be processed and handled, it just creates another issue.

Greg Wilson, Retail Council of Canada (GW): Position that a national ban is the way to go. Having one recycling system is easier for consumers and businesses to understand. BC has 18 different plastic bag bylaw bans right now.

It's tough. Courtenay has different wording on reusable bag definition. One national standard would work best. Highest possible level is most effective. Industry is more reliant on single-use materials, but still not opposed to bans. Want a level playing field. For businesses single-use plastic bags are definitively cheaper and easier to manage than paper bags. Currently skeptical for federal level, but perhaps a provincial ban is more feasible.

EG: Support either a provincial and federal ban. Noticing stores are charging for bags but doesn't believe it to be an effective deterrent. Stores currently providing plastic bags should switch to paper. Push harder for reusable bags.

E.g. Starbucks - ceramic or bring your own cup. Foam packaging a huge issue - should require a permit to produce.

MK: On Vancouver's single-use item reduction strategy - shopping bags and dishware. Called for a single-use item reduction strategy province-wide. Another upcoming resolution for a more comprehensive approach for reduction. EPR is a complementary tool. Needs provincial enforcement of the pollution prevention hierarchy.

Highlighted issue pertaining to compostable plastics transition. Facilities designed to handle organics (21ish days) vs compostable plastics (180 days) Transition out of sync with reality. Need to develop province-wide standards for compostable packaging. "Recyclable where facilities exist". Not so for composting.

DS: Suggests single-use plastic instead of single-use items as a broad category. California - lot more paper bags after plastic bags bans, but still an issue. Recycled content minimums might be a good idea, but reusable materials may need to be redefined. One-dollar "reusable" bags that tend to break down quickly and are then not recyclable are not a solution. More investigations need to be done.

LES: Bans are driven by political and social will. Brings up plastic toxicities - PVC and PS can have negative health effects. No regulations on the plastic additives because of propriety blends. There are flame retardants and biocides in biodegradable plastics. Studies have shown they can be toxic. FDA may only test for acute effects, not cumulative effects. Reduction is nice in the short term, but also consideration on the type of plastics used over the long term is also important.

Cheryl Sullivan, PAC (CS): Echoing that bans can have unintended consequences. Compostable and biodegradable claims are questionable. Tour of biofuel facility in Surrey, concerns of large amounts of compostable plastics degrading the quality of output. No easy answers - be aware that there are consequences to actions. Shopping bags at least are recyclable. Want to reduce use, but need to consider complete lifecycle analysis.

LR: What about the ethical responsibility of corporations? Their engineers and chemists creating these products. Could there be tighter parameters on them to restrict produced or added materials? Consumer choice is important, but are there other ways the government can place responsibility on production?

AL: Position that compostable plastics in Return-It's system is not a good thing. Use in food services sector might be OK. Industry is still a small fraction, and the management and infrastructure costs of dealing with those materials are not commensurate with generated volume. The compostable industry is still really small and contribute very little to the table. Customers want better but don't know better. The claim for compostables is misleading and can undermine standard plastics recycling. Don't know how to convince the public that it's not better. Local government does have some power to affect the public (Promoting acceptability/non-acceptable for example)

Compostables are driven by Asian markets without recycling infrastructure as a miracle solution. Starbucks wants a recycling and compostable cup anywhere in the world. Reiterates compostable plastics does have a future, particularly in food services, but not outside of that at this time, because it will just go into the landfill.

MK: perhaps a new reframing is necessary. The message of “If you put it on the market, there better be something in place.” Sees the sea change towards compostables happening even with large companies, McDonalds & Starbucks are making the shift, for example.

JH: It is 47 degrees in Paris this week. The old standard way is not enough. That’s where the urgency comes from. We can all talk about whether burning things is good or not. What about products like laminates that are now being designed for incineration? Too much manufacturing that’s intended to become waste at the end of the day. That waste is fueling the void that leads to more consumption.

If the EPR programs of the future can cause a manufacturer to stop them from making something, so be it.

Mark Kurschner, Product Care Association (MK): A reminder that mattresses and flooring have EPR programs in the US, in California, Connecticut, Rhode Island and other places. One of the few instances where US has the step on us here.

HA: Look to existing programs - may not have to reinvent the wheel.

STICKY NOTE COMMENTS – MATERIAL SUGGESTIONS FOR EPR INCLUSION

- Propane tanks (Ensure processors are available and licensed)
- Baby seats and car seats
- Sofas
- Butane canisters
- Automotive plastics (bumpers, headlamps/tail lamps, interior/exterior panels, gas tanks)
- Electric vehicle batteries

STICKY NOTE COMMENTS – ISSUES FOR CONSIDERATION

- Need to determine policies that complement and support EPR:
 - Recycled content requirements
 - Building local recycling capacity
 - Green infrastructure incentives/grants
 - Design directives (like in EU)
 - Bans (Ideally at the federal level for scale)
- To be clear, producer responsibility for all products is important for the circular economy, but the Recycling Regulation isn’t the only tool to use.

- Rural residents pay twice for a material compared to Metro Vancouver because they have to pay for shipping through taxes. (at municipal depots)²
- General public needs more education on what is really recyclable and the challenges in recycling. The cost is a major issue for recycling programs. Also the technology is not so advanced as people would like it to be.
- Too many stewardship schemes. Too confusing for generators.
- Consumers want to have their cake and eat it too. What is wrong with having a smartphone that is 5+ years old!
- Create an evaluation matrix for item types when evaluating EPR including:
 - Ecological footprint (to product and dispose)
 - Toxic footprint (to produce and dispose)
 - Safety concerns (health hazards)
 - Cost to dispose
 - Market evaluation/potential (do end markets exist?)
 - Degree of similarity to existing program/streams
 - Space it takes up in landfill
 - Disposability (can it be reused, recycled, incinerated, or requires special disposal/storage/treatment)
- Making sure people are well-informed about system change (e.g. Compostable plastic) so that education piece needs to be present on a national level so people and demand meaningful change.
- Inequalities between EPR programs make it difficult to operate. Handling of Product A is greater than Product B but receives less incentive so Product B's incentive subsidizes another EPR program.
- Things to tighten up in the Recycling Regulation:
 - Need 100% collection coverage— “access” should be grounded in behavioral psychology, not the 30-60-minute drive that producers determined is cost effective.
 - Recovery rate needs to be reframed in light of zero waste goal. Increase from 75%.
 - Enforce the high end of the pollution prevention hierarchy:
 - Design requirements
 - Reduction and reuse

² Unsure as to the meaning of this comment, as there is no double payment on materials sold or collected in rural areas. Further clarification may be needed to understand the full context of this statement.

- Concerns around propane and other compressed cylinders (comment by ABC Recycling)
 - Poses dangers to anyone handling them
 - Metal recovery does not cover cost of processing contents
 - Lack of ways to discharge damaged old cylinders
 - Leads to dumping of cylinders at facilities or on the side of roads

APPENDIX 4: EPR FORUM EMAIL COMMENTS

BARRY AZEVEDO, MANAGER OF ENVIRONMENTAL SERVICES, DISTRICT OF MISSION

The District of Mission agrees with all the materials listed, but would also like to add ICI PPP recycling. Currently, although the recycling from many offices, such as Metro Vancouver, is predominantly indistinguishable from the residential PPP collected under the Recycle BC program, this ICI recycling is excluded from the current PPP program. This is even more problematic for MF recycling collection where the collector has not signed up with Recycle BC (my understanding is that most have not). We all know what the markets are like for anything outside of the Recycle BC program, and it's difficult to imagine that PPP recycling that is not included in the Recycle BC program is being appropriately recycled. As you may recall, the District of Mission co-owns the Abbotsford Mission Recycling MRF (processing both residential recycling for Recycle BC/GBN and ICI recycling which we try to find markets for), and therefore we have direct experience in trying to find markets for PPP materials outside of the Recycle BC program.

Unfortunately, I won't be able to attend the meeting on June 26, but I wanted to provide my support for the list you provided, and also advocate for adding ICI recycling.

ANDREA PATRAO, SOLID WASTE PROGRAM COORDINATOR, SUNSHINE COAST REGIONAL DISTRICT

The Sunshine Coast Regional District supports all improvements to EPR programs in BC and appreciates the opportunity to share feedback.

The SCRD would benefit greatly from an EPR being established for mattresses as the costs to recycle a mattress are far greater than what can be charged to residents. Currently residents are charged \$10 per dry mattress and the actual costs to the SCRD are \$45 from our Pender Harbour Transfer Station and \$33 from the Sechelt Landfill. The costs include rental of a trailer to hold the material, handling costs to load the materials, transportation and the per unit recycling/processing fee. More detailed information can be found in this report in Report 11 (Annex J):

<https://www.scrd.ca/files/File/Administration/Agendas/2018/2018-FEB-22%20CAS%20Agenda%20PACKAGE.pdf>

The SCRD would also benefit if an EPR was established for bulky furniture. Currently, around half of municipal solid waste brought to the Sunshine Coast's one landfill (which has less than 7 years remaining) is comprised of durable goods (which includes couches and chairs) Report 6 (annex D) in the link below has some more detailed information on this:

<https://www.scrd.ca/files/File/Administration/Agendas/2019/2019-MAY-16%20ISC%20Agenda%20Package.pdf>

The SCRD would also like to draw attention to the inequalities between different EPR programs that results in some programs being more financially viable than others. The handling and processing and therefore the labour required to have a program, does not necessarily match the financial incentive received and programs that do, end up subsidizing other EPRs that are not economically viable. For both current and future EPRs, an EPR should not be cost prohibitive. For example, for oil, the risks borne by depot operators/private business far outweigh the financial incentives offered; thermostats do not offer any financial incentive other than covering shipping; and batteries require significant labour to sort and bag that is not compensated by the financial incentives offered.

MARCIA DICK, SOLID WASTE SERVICES ANALYST, CITY OF KAMLOOPS

The City of Kamloops feels that many of the materials and products discussed at the forum would be good fit for future EPR programs, however the two streams we feel are most relevant for our community are ICI recycling and mattresses and bulky furniture.

ICI recycling is a challenge in Kamloops. The City of Kamloops does not formally offer ICI recycling collection service (outside commercial cardboard). As one of the primary commercial garbage haulers, our customers do not have much choice, less they go with private haulers. The private haulers do not subsidize/ offset recycling collection with garbage fees so the cost for business to recycle through private haulers is higher than garbage. Processing rates are more than double landfilling rates for the same material.

ICI recycling is a priority of the most recent solid waste management plan, however the challenges with the processor rejecting loads due to high contamination or operational issues makes this priority a challenge to implement. We are even seeing loads of clean cardboard going to the landfill on a regular basis. The City has sent multiple loads of cardboard to landfill simply because the processor is unable to accept the material on a given day, the same goes for private haulers.

We feel that an EPR program for ICI packaging and paper products would address the challenges of commercial recycling. As there is already a program for residential PPP, it would seem that expanding the program to include ICI would be fairly straightforward.

The second stream that the City of Kamloops would like to see an EPR program for would be mattresses and bulky furniture. The city does not divert bulky furniture, and diversion of mattresses is a high cost to taxpayers. Already residents complain of the \$10 fee per item charged, however this rate does not cover the cost of diversion (\$15 per unit). We also see a lot of bulky and mattresses illegally dumped.

DAYLEN SAWCHUK, STUDENT; ON BEHALF OF THE ENVIRONMENTAL CLUBS FROM GLENEAGLE SECONDARY, PINETREE SECONDARY, DR. CHARLES BEST SECONDARY AND RIVERSIDE SECONDARY

Thank you for hosting the Future of EPR in BC forum the past Tuesday! It was great hearing from recyclers, EPR organizations, municipalities, NGOs and suppliers. I've taken this information to a group of other high school students in Coquitlam and these are the priorities we came up with.

- Furniture (including mattresses), pressurized cylinders (including disposable propane tanks) and an expansion of household hazardous waste are our top priorities
- Cigarettes and needles are some commonly littered items, which we feel are unfair to leave up to municipalities for disposal. TerraCycle's voluntary EPR program doesn't seem effective.
- School administration has asked for the addition of vapes, as they've confiscated hundreds, in which they have no disposal option for (Call2Recycle won't accept the ones with a built-in battery due to fire risk).
- Books and single-use plastics should be included in the Recycle BC curbside program. Other items such as compostable plastics, polyethylene foam and paper laminates would be great additions, but we understand the constraints Allen talked about and do not want these items covered by EPR if they can't be recycled.
- After lots of discussion, we are in support of expanding all programs to including the ICI sectors. PPP in an institutional setting would likely be the easiest way to start. In regards to comments made around the complexity of all businesses needing to pay, we would argue that this is less work than the current fragmentation approach to ICI recycling. We believe that providing drop-off depots only would be the most effective way of offering this service, allowing companies to keep the same hauler they use for organics and garbage. This would remove the complexity of initial collection from the program.
- Durable plastic products should be recyclable through EPR (preferably curbside)

- The Cleanfarms voluntary EPR program for the agriculture industry (<https://cleanfarms.ca/programs-at-a-glance/bc-programs-events/>) should become a mandatory EPR program to increase participation

JEFF WINT, ACCOUNT MANAGER, RECYCLING ALTERNATIVE

Thank you for convening the EPR Forum on June 26th in Vancouver. It provided a great opportunity to hear different insights regarding the gaps in the current EPR programs. We wanted to further provide our input and feedback to be included in the report, from the perspective of an existing hauler operating in the sector and industry.

During the forum discussions, it was suggested that EPR for Packaging and Paper Products be expanded into the ICI sector. We strongly oppose this strategy.

In an urban setting such as, Vancouver where landfill bans already exist for the products and materials that would be included in this EPR, we believe introducing this EPR program would actually drop diversion rates. Having dedicated haulers, whose business model relies on effectively moving materials to viable markets, provides the front-line diligence in the system, that ensures these materials are actually being recovered for recycling. Expanding the existing PPP EPR program to include the ICI sector removes the financial incentives for industry to find better markets for the material, and entrenches the status quo from when the program is expanded.

The example given by Kamloops city staff, noting that cardboard is being landfilled in rural areas, is a direct result of the current market challenges. This problem is not related to a material that is not recyclable, it is actually a result of market conditions. Creating an EPR program to address these challenges will not provide a reliable solution nor will it address the market challenges.

Working on landfill bans, better transportation networks to get that material to viable markets, and increasing opportunities for the development of local markets are the measures that will help prevent fiber currently collected in rural areas from being landfilled.

We also caution against creating EPR programs for low grade materials, such as shopping bags.

As was mentioned a number of times in the forum, BC is “great at collecting material, but not great at processing” material. Creating an EPR program for shopping bags does not guarantee that better bags, of higher value plastic with better recyclability properties, will be produced. The end destination for these low-grade plastic shopping bags would need to continue to be, as discussed in the forum, Lehigh or a similar facility for Alternative Energy Recovery.

If this is the direction the Province and industry intends for an EPR program, then we must clearly and transparently communicate the end of life disposal of this material to all those who are using the program, to ensure we are not greenwashing the end of life management. The communication to the public would need to be clear that the goal of that particular EPR is to keep the bags out of landfill, and not to recycle the bags.

We do see real value in EPR programs that tackle hard to handle or specialized products. Of the

Products discussed during the forum, we would endorse EPR programs for disposable propane tanks, or

Household Hazardous Waste. With the disposable propane tanks in particular, there are viable markets for the metal material, or reuse/refill options available, and we believe an EPR program would help to create access for all BC residents to a responsible disposal option.

Our last comment is with regards to managing compostable plastics through an EPR program. The challenge we see in this, is that EPR programs rely on having large facilities able to process the material. As we have seen since organics bans were introduced Metro Vancouver, as well as in Calgary, the large, macro facilities that exist to process this material are experiencing increasing challenges, not only in breaking down and processing compostable plastics, but even in remaining open and available.

We believe that any EPR program focusing on compostable plastics, while these products and end solutions are still evolving and maturing, would significantly stifle innovation in this field, while industry, both locally and

globally, are looking to create viable solutions as alternatives to the current model of large facilities in sub-and ex-urban areas.

We appreciate the work RCBC does for the public and recycling industry in BC, and thank you for compiling the upcoming EPR report for the Provincial Government. We hope to see some additions to the current EPR programs to address hard to handle and ubiquitous products, such as disposable propane tanks, that will benefit both the public and the recycling industry.

DARREN MURRAY, ENVIRONMENTAL COORDINATOR, NORTH OKANAGAN REGIONAL DISTRICT

Thank you very much for coordinating this very important initiative on opportunities with EPR Gaps. We look forward to your upcoming report. We were not able to attend the event but if it is possible for you to take the following feedback from Regional District of North Okanagan we would appreciate it:

The RDNO Solid Waste Management Plan advocates the for expanding the list of EPR products covered to include products such as:

- Mattresses
- Drywall (please consider further comments below)
- Carpet
- Textiles

Propane canisters (particularly single use canisters) are products that are becoming increasingly challenging and expensive to manage and are also ripe for an EPR program.

Many Household Hazardous Waste products are not included in BC EPR programs which poses many concerns for inappropriate disposal and are a significant expense for local governments to manage. Opportunities to expand BC EPR programs to include the following products include:

- Acids (common household one is muriatic)
- Pressurized cylinders (i.e. Butane and helium)
- Diesel
- Mercury (i.e. thermometers and vials of)
- All household cleaners (non-flammable i.e. Ammonia and bleach)
- Pesticides without the specific requirements of Product Care (poison symbol with pest control number)
- Brake fluid
- Contaminated motor oil (i.e. oil with water or antifreeze)
- Craft paint (non-aerosol)
- Commercial paint (often left in households by contractors)
- Tar based products (i.e. Driveway sealer)
- Fertilizer
- Insect repellants
- Pet care products
- Non-flammable adhesives
- Grout sealers
- Medical sharps

Drywall is a material I would like to emphasize as having an urgent need for an EPR program. In the BC interior there is a significant expense to have new construction drywall transported to the Lower Mainland or Alberta for recycling. Also there are considerable challenges in managing used drywall with the material potentially containing asbestos which is toxic to human health. In the undesirable case where drywall is landfilled there are the following concerning environmental factors for hydrogen sulphide being produced from moist anaerobic conditions in landfills that:

- at low concentrations causes odors that can result in difficulty in breathing, asthma exacerbations, headaches and nausea and is toxic at high concentrations
- reacts in the atmosphere to produce Sulphur Dioxide a precursor of acid rain
- increases the sulphate content in landfill leachate potentially contaminating surface and groundwater

Therefore, an EPR program that charges an environmental fee on all new drywall sold to facilitate the collection and appropriate management of BOTH new and used drywall is a very important component of both pollution prevention and responsible recovery of a resource that is considered infinitely recyclable.

MANNIE CHEUNG, VICE PRESIDENT OF OPERATIONS, PRODUCT CARE RECYCLING

1. There was some talk about unlabeled and unknown household hazardous waste products. Consideration must be given to human health and safety before the environment. The current collection system (municipal or private depots) are not suitable for collection of such products. Collection and handling of such products required specially trained hazardous waste technicians and equipment. These products pose a higher level of risk for all personnel, through the collection and management supply chain. In addition, there are implications from WorkSafe and Transportation of Dangerous Good Regulations.
2. Any product that is to be considered for EPR should have a significant portion of the product, that has a market for recycling or has to have some sort of risk to human health and or the environment.

PETER COX, OWNER, PAC PACIFIC CARPET RECYCLING

I entered the carpet recycling industry in the summer of 2012, and have been operating my own business since early 2014 in Richmond, BC. Over the past 5 years, I've reused, recycled, and diverted nearly 2,000 MT of post-consumer residential carpet, underlay, commercial broadloom, and carpet tile. Based on Aquafil's research (<https://www.econyl.com/the-process/>), that's led to a reduction in CO2e emissions of roughly 10,000 MT.

However, that volume is but a tiny fraction of the volume of carpet and underlay that ends up in Metro Vancouver's landfills each year. Metro Vancouver's own waste composition studies indicate that carpet and underlay make up 2-2.5% of the waste stream. With Metro Vancouver generating 1.3 million metric tonnes of waste (2016), that is 25,000-35,000 MT of carpet and underlay ending up in landfills annually. Using Aquafil's figures, that is a potential reduction in annual CO2e emissions of between 125,000-175,000 MT.

For perspective, that CO2e reduction potential is equal to or more than 3 of the City of Vancouver's 6 Big Move recommendations from the 2019 Climate Emergency Report (<https://council.vancouver.ca/20190424/documents/cfsc1.pdf>). For example, Big Move #6 targets "Lower carbon construction materials and designs", for an estimated emissions reduction of 78,000 MT per year.

Extrapolating those figures to the provincial level, with Metro Vancouver representing very close to half of BC's total population of just over 5 million, implementing a provincial EPR program for all of BC's carpet and underlay has the potential to reduce the province's CO2e emissions by up to 250,000-350,000 MT per year. Even if BC targeted California's current carpet recycling rate of around 20%, that would be a reduction of roughly 50,000-70,000 MT/year.

Although carpet remains the leading flooring type by sales volume, vinyl tile has quickly taken the number 2 spot (above tile, hardwood, and laminate), and continues to gain market size. Vinyl tile is often 100% PVC, with

manufacturers using their own plasticizers to achieve different material properties. PVC is potentially recyclable, although the range and variety of plasticizers used by each brand will make it very difficult for companies to recycle vinyl tile in the future. From my discussions with various companies, there are very early efforts to research recyclability of vinyl tile. With a provincial EPR in place, this would help guide the industry to better plan for recyclability of their products.

I would suggest that any potential EPR program in this sector should aim to consider all types of flooring (carpet, vinyl tile, hardwood, and laminate), in order to avoid putting any particular flooring type at a disadvantage to others. However, at minimum, both carpet and vinyl tile should be included. Due both to their potential recyclability and the sheer volume/weight of plastic involved.

MONICA KOSMAK, SENIOR ZERO WASTE PROJECT MANAGER, CITY OF VANCOUVER

Staff commend the Ministry of Environment and Climate Change Strategy for its leadership in this area. The City of Vancouver has benefited from B.C.'s EPR programs, which have expanded recycling opportunities for our residents, and have allowed the City to reallocate resources to address additional priorities for the public. For example, as a result of Recycle BC taking over direct collection of residential packaging and printed paper in Vancouver, the City has redirected savings to expand other services that are also priorities for the public, like street cleaning, the Single-Use Item Reduction Strategy, and drop-off recycling and repair events.

Staff understand that in recent years the Ministry has focused on improving existing EPR programs. While there is always room for continuous improvement, we feel there is an urgent need to expand EPR to the product categories that British Columbia committed to developing in the Canada-Wide Action Plan for EPR published by the Canadian Council of the Ministers of the Environment, as well as new categories. EPR is identified in Vancouver's Zero Waste 2040 strategic plan as critical for achieving our target of zero waste to landfill and incinerator by 2040, and supporting a circular economy.

INITIAL LIST OF PRIORITY PRODUCTS FOR FUTURE EPR PROGRAMS

Here is an initial list of priority product categories that City of Vancouver staff recommend for consideration in future EPR programs. Our list includes some cursory data to support the business case for EPR for these products. However, the list was not developed through in-depth technical or financial analysis—which, as discussed in the next section, we believe is needed to effectively evaluate and prioritize candidate products for future EPR programs.

Mattresses, furniture (especially padded furniture)

- The City receives about 24,000 mattresses per year for recycling (over 8,500 at Vancouver Landfill and 15,000 at Vancouver Transfer Station).
- The City collects about 5,000 abandoned mattresses per year.
- The City received 3,500 inquiries about mattress in 2018.

SHARPS

- 75,000 needles/year collected in Vancouver through our street micro-cleaning programs (through grants to a number of low-barrier employment agencies), a \$1.2M/year program.
- Significant operational safety issue: The City is now redesigning all our waste receptacles to avoid manual lifting.

- The City received 3,500 inquiries regarding sharps in 2018. Feedback from residents is that this is a significant safety concern.
- Ontario and PEI have EPR for sharps
- Collection model should be designed to provide collection where sharps are used (e.g. on streets). Needs to go beyond dropping off at pharmacies
- Educational programs for awareness, disposal and safe handling
- Program should consider incentive for returning needles to distribution point
- Program needs to be developed in collaboration with health authorities
- Sensitive issue, collection program needs to be developed within the context of harm reduction, and in collaboration with these stakeholders, and needs to be messaged properly and in collaboration with health authorities.

CIGARETTE BUTTS

- An estimated 1 million cigarette butts are littered in Vancouver every day!
- Consistently reported as the number one collected item in litter cleanups in Vancouver
- City has taken many steps to discourage cigarette butt litter, including an educational campaign, installing receptacles, providing free pocket ashtrays through street outreach and at City facilities.
- A significant source of plastic pollution on land and in marine environments
- Engage local/provincial health authorities
- Include education to discourage smoking
- Strong focus needed on behaviour change
- Establish mechanisms to incentivize proper disposal (e.g. deposit?)
- Establish province-wide cigarette butt litter reduction targets and strategies to reduce

SINGLE-USE ITEMS (SHOPPING BAGS, CUPS, TAKE-OUT CONTAINERS, STRAWS, UTENSILS)

- Amounts thrown in garbage each week in Vancouver:
 - 2.6 million polycoat paper cups
 - 2 million plastic bags (63% reused as garbage bags)
- Disposable cups and take-out containers make up about 50% of waste in public litter bins
- Small foam pieces make up 9%, and straws make up 2%, of shoreline litter data
- It costs the City of Vancouver \$2.5 million each year to collect these items from public waste bins and clean them up from litter.

HARD PLASTIC PRODUCTS (INFANT RELATED PRODUCTS: CAR SEATS, STROLLERS, HIGH CHAIRS, TOYS)

- As a trial in 2018, the City collected over 540 car seats from 7 drop-off events
- City had to stop accepting these items due to cost, but demonstrated that there is public demand for a take-back program
- There is expiry date on each car seat (5-6 years) and once past the date, deemed unsafe to use and obsolete (limited reuse opportunities)
- Some depot and recyclers do recycle these products but for a fee
- Explore opportunities to maximize reduction and reuse, for example with certified refurbishing programs

PROPANE TANKS, DRYWALL, TEXTILES, HHW AND OTHER RESIDUALS

DETERMINING FUTURE EPR PROGRAMS

Determining the next priorities for EPR in British Columbia needs to be achieved through a comprehensive assessment, rather than focusing only on “the top three products” that came out of the June 26 event.

For example, it’s important to ensure that local government interests are clearly understood by looking at all the relevant criteria, such as costs, collection system impacts, tonnage and volume, toxicity, litter, abandoned waste, public demand, worker safety, public safety, collection convenience, behaviour change opportunities, local recycling markets, etc.

The Canadian Council of Ministers of the Environment (CCME) has developed a multi-criteria analysis tool to help decision-makers across Canada prioritize candidate products for EPR programs. This tool and accompanying guidance manual are available on the CCME’s website:

- http://www.ccme.ca/files/Resources/waste/extended/epr_evaluation_tool_1.0_e.zip
- https://www.ccme.ca/files/Resources/waste/extended/pn_1397_epr_guidance_manual_e.pdf

The CCME’s evaluation tool is designed to be flexible to allow users to customize the criteria and tailor the weightings to suit their needs. Sensitivity analysis can then be used to assess how priorities may change when the criteria are weighted differently. This can give an indication of when it may be beneficial to pursue more than one program concurrently.

This tool has been used successfully in British Columbia in the past. You may recall that Metro Vancouver commissioned a study [1] to prioritize future EPR programs in 2006. Based on the findings of this study, Metro Vancouver’s board then forwarded recommendations to the Province calling for EPR for electrical and electronic products. In response to this, as well as demand from other stakeholders and the public, the Province added Schedule 3 Electronic and Electrical Product Category to the Recycling Regulation.

COLLABORATION AND SUPPORT

City of Vancouver staff recognize the Ministry of Environment and Climate Change Strategy’s resource are limited. Given the importance and urgency for the expansion of EPR, City of Vancouver staff would like to work with the Ministry to support the introduction of new EPR programs. For example, we can share data, pilot collection programs, etc. We are open to other ideas for collaboration, and invite the Ministry to advise as to how we can support them in moving EPR forward.

KEY CONSIDERATIONS

The following are important considerations for developing future EPR programs:

- **Full producer responsibility and full cost recovery:** Although B.C.’s EPR programs are predicated on the principle of full producer responsibility, in practice, some EPR programs provide inadequate compensation to cover the cost of receiving their material at drop-off locations like depots, retailers and drop-off events. For existing and future EPR programs, producers must cover the full costs of collection, transport and end-of-life management for all parties who provide these services in order to ensure the stability of the collection network.

- **Emphasis on reduction, reuse and repair:** B.C.'s EPR programs are often regarded as recycling programs. This is a very narrow view of the potential of EPR. The pollution prevention (P2) hierarchy in the Recycling Regulation requires producers to maximize redesign, reduction and reuse, before turning to recycling. It is incumbent on producers to meet this requirement, and for the Province to enforce it, for example by setting reduction targets for problematic single-use items and packaging, and setting targets for reuse. If it is determined that the Recycling Regulation is not an appropriate tool for moving producers up the P2 hierarchy, we recommend the Province develop complementary legislation such as bans or design directives like the European Union's Reduction of Hazardous Substances directive for electrical and electronic equipment.
- **Consumer access:** Many stewardship agencies report upwards of 90% of their depots being within the "accessibility standard" developed by the Stewardship Association of British Columbia (SABC). For urban communities of 4,000 or more people, SABC's standard is "less than a 30-minute drive to a collection facility." However, to our knowledge, this standard has not been tested through public consultation. As a local government with Greenest City targets to make the majority (over 50%) of trips by foot, bicycle, and public transit, and to reduce the average distance driven per resident by 20% from 2007 levels, we hear from residents that a 30-minute drive is unacceptable. Moreover, this standard may be a barrier to producers exploring innovative collection models. Staff recommend that the Province develop and set evidence-based "convenience targets" for consumer access that are grounded in behavioural psychology and promote behaviour change, and are tested through civic engagement and opinion research. The targets could then be adopted in the Recycling Regulation, or defined by the Province for producers to include in their program plans on a case-by-case basis.
- **New collection models:** It's time for producers to move beyond depots and develop convenient, comprehensive collection infrastructure. Other types of services to be explored include large item pickup programs, multi-family building collection, on-demand curbside collection, mobile depots, and drop-off events. All collection models should include an option for the EPR program to provide direct collection, rather than assuming municipalities will provide collection and subsidize the program.
- From a municipal perspective, the fragmented nature of the collection infrastructure across the various EPR programs is a barrier to public participation. Where drop-off models are appropriate, one-stop-drop events such as those hosted by the City of Vancouver can improve customer convenience--with producers providing full cost recovery.
- **Stakeholder engagement:** Not all affected stakeholder groups attended RCBC's June 26 workshop. Staff encourage RCBC and the Ministry to engage other stakeholders, such as provincial health authorities, community health care agencies, small businesses, and community groups. We highly recommend a multi-cultural, multi-lingual approach to civic engagement.

REFRESHING THE CANADA-WIDE ACTION PLAN FOR EPR

In closing, staff recommend that the CCME refresh the Canada-wide Action Plan for EPR in order to reinvigorate progress towards EPR. We recommend including the Phase 2 categories (carpet, furniture, textiles, building materials), breaking out the building materials category into manageable sub-categories, and adding new categories like those listed in Attachment 1. In light of recent announcements by the Government of Canada and Province of British Columbia to explore EPR for plastic waste, the timing is excellent for developing a new strategic plan.