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FROM: BRYCE HESTERMAN, RESA DIMINO, KATY RICCHI - RRS
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DATE: 6.19.2020
RE: COSTS, ENVIRONMENTAL GOALS AND EQUITY ASSOCIATED WITH EPR FOR PPP

Resource Recycling Systems (RRS) was asked to research several questions generated by the Recycling Steering Committee (RSC) during the framework and scenario review and evaluation process. This is the sixth and last in a series of memos that respond to the RSC's questions. In this memo, RRS presents the results of research on the costs, environmental goals, and equity strategies associated with extended producer responsibility for packaging and printed paper (EPR for PPP). To address this question, the RRS team reviewed program plans, annual reports, and legislation authorizing EPR for PPP in a number of jurisdictions.

Methodology

The RRS team examined reports, plans, regulations, and legislation related to EPR for PPP programs in Canadian provinces and EPR for packaging programs in the European Union, where documents were available in English. Where necessary, RRS contacted individuals knowledgeable about key details, such as the legal requirements underpinning the EPR program activities (related to equity) and the allocation of program costs by category (related to the cost analysis). The team reviewed the compiled information and recorded any data related to program environmental goals, and policy provisions that address the equity considerations posed by the RSC. Program cost data was compiled only for the Canadian provinces, since the European programs cover only packaging (not printed paper) and are structured significantly differently (e.g., multi-stream collection, glass drop off). Given the program differences with those in North America, the costs in the European programs are not comparable to those in the U.S. and Canada.

EPR for PPP Program Costs

Table 1 and Figure 1 present the 2017 program costs for Canadian provinces with EPR programs, where available¹. The per-household costs² are highest for the programs where producers cover the full costs (British Columbia and Quebec). When adjusted relative to full program costs, all but Saskatchewan, which is still ramping up implementation, fall into a range between \$41.87 and \$49.58 Canadian Dollars per household in 2018 – this translates to approximately \$31 to \$36 USD³. Saskatchewan remains notably low compared to the others because 2017 and 2018 were within a multi-phase implementation period, thus the costs are not reflective of a fully-operational program. The 2019 Annual Report, due to be posted in early July, will be more reflective of full implementation.

Table 1. EPR for PPP Program Costs

Province	PRO	PRO Cost-share	Year	Total Cost (Canadian Dollars)	Annual Cost Per Household (Canadian Dollars) ⁴	% Households with Access
British Columbia	Recycle BC	Full	2017	\$ 72,513,159	\$ 39.28	98.2%
			2018	\$ 88,728,670	\$ 47.96	98.5%
Quebec	Eco Enterprises Quebec (EEQ)	Full	2017	\$ 149,433,000	\$ 43.13	99%
			2018	\$ 145,094,000	\$ 41.87	99%
			2019	\$ 157,213,000	\$ 45.37	99%
Manitoba	Multi-Material Stewardship Manitoba (MMSM)	80%	2017	\$ 18,137,403	\$ 35.03	94%
			2018	\$ 20,477,700	\$ 39.66	94%
Ontario	Stewardship Ontario	50%	2017	\$ 125,094,493 ⁵	\$ 23.88	94.4%
			2018	\$ 127,668,891 ⁶	\$ 24.19	94.0%
Saskatchewan	Multi-Material Stewardship Western (MMSW)	75%	2017	\$ 5,770,209	\$ 16.12	83%
			2018	\$ 6,040,046	\$ 16.66	82.2%

Per Household Program Cost (\$CAD)

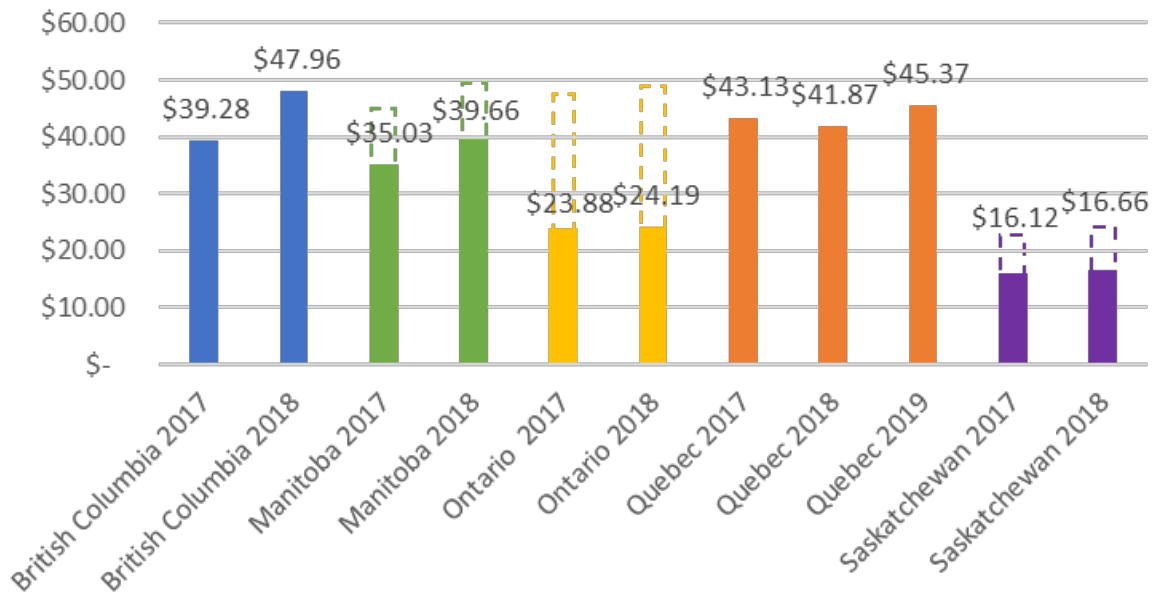


Figure 1. EPR for PPP Per-Household Program Costs

Note: Dotted lines indicate 100 percent of program costs, where EPR program covers a portion of the program costs (see Table 1.)

Table 2 and Figures 2 through 6 break down the costs by line item. Between 70 and 93 percent of program costs in all provinces in 2018 are for materials management or municipal reimbursement, thus are related to system operating costs. Only Ontario and Quebec have direct payments to a government oversight agency, with Stewardship Ontario making a payment to Resource Productivity & Recovery Authority (RPRRA), and EEQ making a payment to Recyc-Quebec.

Table 2. EPR for PPP program costs by line item

Province	Materials Management / Municipal Reimbursement ⁷	Administrative	Education and Outreach ⁸	R&D / Continuous Improvement	Direct Payment to Government Oversight Agency	Other
British Columbia 2017	\$ 61,346,863	\$ 9,173,000	\$ 1,824,395	\$ 168,901	\$ -	\$ -
British Columbia 2018	\$ 77,760,725	\$ 8,764,093	\$ 1,931,406	\$ 272,446	\$ -	\$ -
Manitoba 2017	\$ 15,306,319	\$ 2,068,214 ⁹	\$ 617,811 ¹⁰	\$ 145,059	\$ -	\$ -
Manitoba 2018	\$ 17,368,100	\$ 2,409,666 ¹¹	\$ 574,309 ¹²	\$ 125,625	\$ -	\$ -
Ontario 2017	\$ 116,715,713	\$ 6,191,552	\$ 363,341	\$ 62,890	\$ 1,760,997	\$ -
Ontario 2018	\$ 118,887,549	\$ 5,300,000	\$ 382,925	\$ 531,430	\$ 2,566,987	\$ -
Quebec 2017	\$ 137,215,000	\$ 4,456,000	N/A ¹³	\$ 7,772,000	\$ 2,700,000	\$ -
Quebec 2018	\$ 131,612,000	\$ 5,518,000	N/A ¹⁴	\$ 3,188,000	\$ 2,599,000	\$ 2,177,000 ¹⁵
Quebec 2019	\$ 146,231,000	\$ 6,812,000	N/A ¹⁶	\$ 2,497,000	\$ 2,751,000	\$ (1,078,000)
Saskatchewan 2017	\$ 4,188,444	\$ 1,557,640 ¹⁷	\$ 24,125	\$ -	\$ -	\$ -
Saskatchewan 2018	\$ 4,259,592	\$ 1,764,794 ¹⁸	\$ 15,660	\$ -	\$ -	\$ -

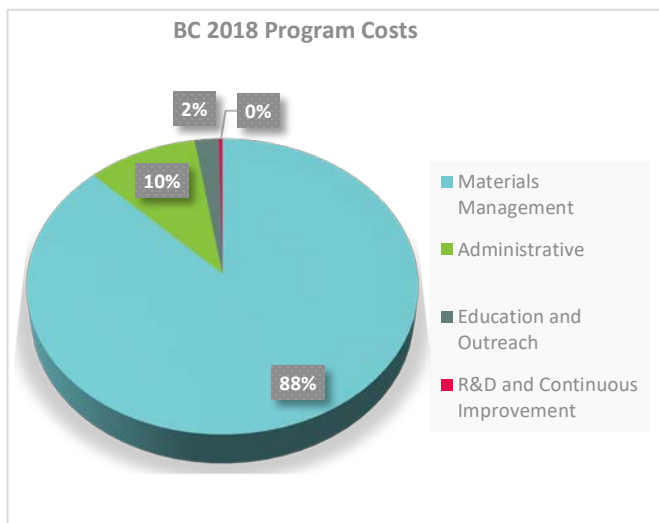


Figure 2. BC EPR for PPP program costs by line item

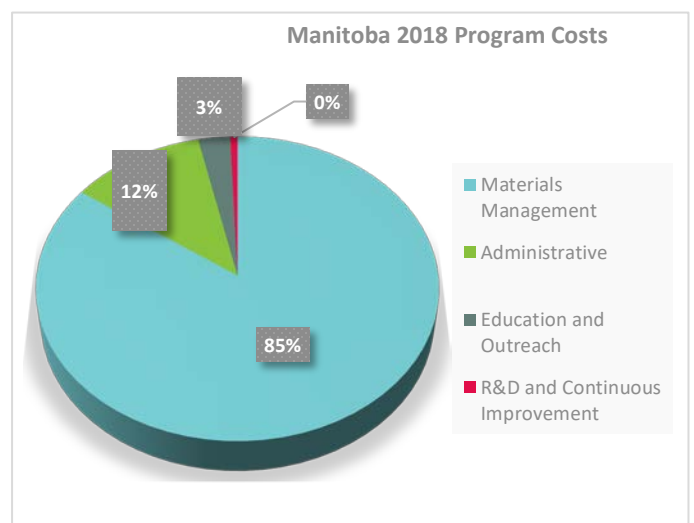


Figure 3. Manitoba EPR for PPP program costs by line item

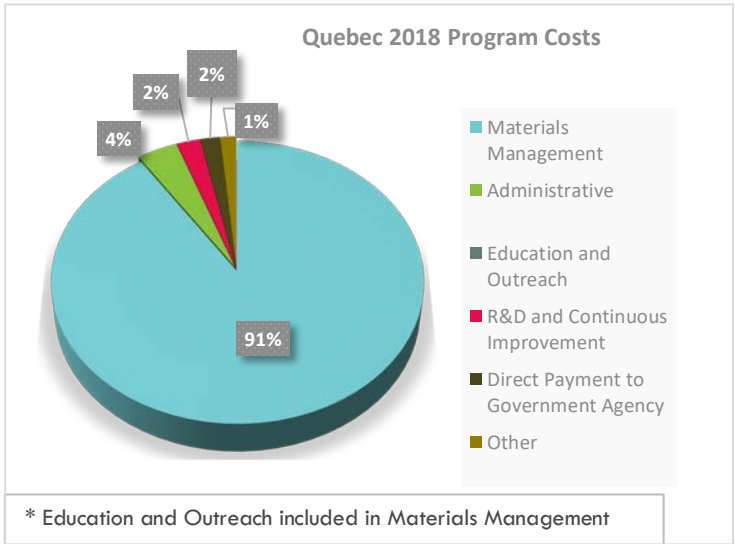


Figure 4. Quebec EPR for PPP program costs by line item

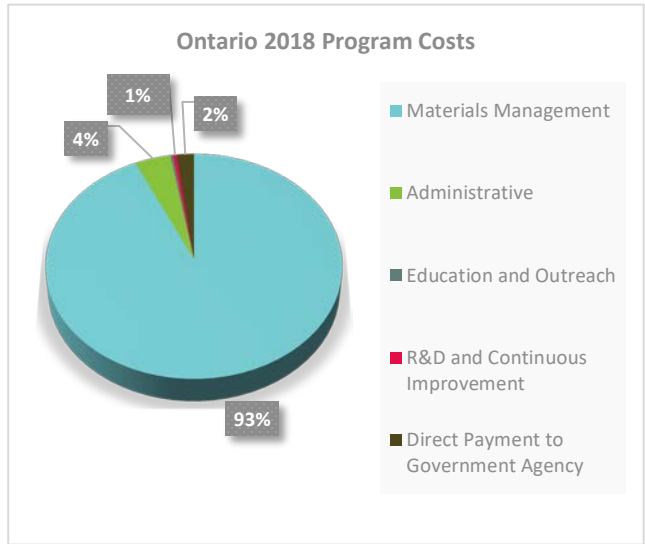


Figure 5. Ontario EPR for PPP program costs by line item

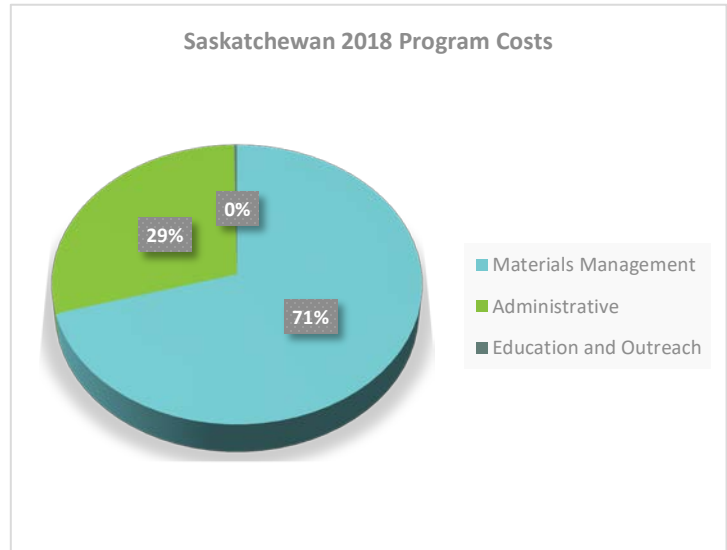


Figure 6. Saskatchewan EPR for PPP program costs by line item

Table 3. Difference in Material Management costs by location

	Change in MM costs per HH between 2017 and 2018	Change in MM cost per HH between 2018 and 2019 ¹⁹
BC	22%	N/A
MB	13%	N/A
ON	1%	N/A
QC	-3%	8%
SK	3%	N/A

Table 3 demonstrates a notable increase in material management costs per household in some provinces between 2017 and 2018. This is most pronounced for British Columbia. This is likely related to the reduced program revenues associated with the import restrictions of recyclables in China and other Asian countries, as the program costs are calculated after including material revenue (i.e., net program costs).

Recycle BC pays direct costs to service providers, while the other provinces reimburse municipal programs. As a result, the 2018 reimbursement costs for three of the four provinces studied go to fund 2017 municipal recycling program costs²⁰. When investigating the costs for Quebec in 2019, for example, expenses increased eight percent between 2018 and 2019, a dynamic that reflects higher municipal program costs in 2018, following the import restrictions.

Additionally, as in the U.S., the impact of Asian import restrictions on program revenues has varied regionally. The degree of cost increases in British Columbia compared to Ontario, for example, coincides with a more significant market impact on the West Coast. RRS tracks regional Average Commodity Revenue (ACR) of the market basket of common recyclables, using an average composition and regional price indices. When comparing the ACR of an average ton of material in the U.S. Pacific Northwest (regional proxy closest to British Columbia) to the value of the same ton of material in the Midwest (regional proxy to Ontario), the Pacific NW dropped more significantly between 2017 and 2018 (34 percent) than the Midwest (29 percent)²¹. The impact of falling material values in British Columbia could also have been exacerbated by the fact that the EPR for PPP program in British Columbia does not include beverage containers, and thus has a high proportion of the material stream made up of the hardest hit commodities, notably the paper grades. Additionally, the amount of glass collected and processed (at a significant loss) increased during that time.

Additional factors may be in play as well. A better understanding would be possible once all provinces release their 2019 reports later this year and if specific program composition data were made available.

Environmental Goals in EPR for PPP Programs

RRS researched the extent to which environmental goals were directly incorporated into EPR for PPP policies and programs by reviewing program plans, annual reports and enabling legislation of the EPR for PPP programs in Canada and EPR for Packaging in the European Union. Table 4 presents a summary of the results of the research.

In short, the research identified fairly extensive statements of recycling and / or recovery goals, but limited inclusion of other environmental targets. In Canada, all jurisdictions have goals related to recycling, but utilize very limited material-specific goals. Furthermore, some of the Canadian provinces (Quebec and Saskatchewan) have established goals through provincial plans, not specifically in EPR policy. In the EU, recycling targets were established through the Packaging and Packaging Waste Directive and apply to all Member States' EPR for Packaging programs. There are limited examples of programs tracking greenhouse gas emissions related to EPR for PPP activities. In British Columbia and Saskatchewan, for example, the PROs are required to track greenhouse gas (GHG) emissions to establish baselines from which to potentially establish reduction targets in the future. In the EU, some of the PROs are voluntarily reporting GHG metrics.

Table 4. Program goals by location

Jurisdiction	Recycling / Recovery Goals	Material Specific Recycling Goals	Other Environmental Goals
British Columbia²²	<ul style="list-style-type: none"> 77% recovery of PPP by 2020. 78% recovery of PPP by 2022.²³ Direct 85%-90% collected PPP to recycling commodity markets²⁴. Provide minimum collection of 973,400 curbside households and 421,600 multi-family households and 98% accessibility. 	<ul style="list-style-type: none"> 90% paper, 67% metal, 75% glass by 2020. 55% rigid plastic, 22% flexible plastic by 2022. 60% rigid plastic, 25% flexible plastic by 2025. 	<ul style="list-style-type: none"> No other environmental goals specifically linked to EPR for PPP. Began tracking GHG in 2019 to establish baseline. Intent to use 2019 baseline to establish GHG reduction targets tied to PPP recovery.
Manitoba	<ul style="list-style-type: none"> Maintain 70% recovery of PPP.²⁵ 	<ul style="list-style-type: none"> 75% recovery goal for beverage containers.²⁶ 	<ul style="list-style-type: none"> 50% plastic bag reduction.²⁷ No other environmental goals specifically linked to EPR for PPP.
Ontario	<ul style="list-style-type: none"> Maintain 60% diversion of PPP.²⁸ 	<ul style="list-style-type: none"> No material specific goals. 	<ul style="list-style-type: none"> No other environmental goals specifically linked to EPR for PPP.
Quebec	<ul style="list-style-type: none"> No specific goal in Program plan or EPR PPP authorizing legislation. 75% recovery goal established through another policy vehicle.²⁹ 	<ul style="list-style-type: none"> No material specific goals. 	<ul style="list-style-type: none"> No other environmental goals specifically linked to EPR for PPP.
Saskatchewan	<ul style="list-style-type: none"> No specific goal in program plan or EPR PPP authorizing legislation. No recovery goals. Waste reduction goals established through another policy vehicle.³⁰ 	<ul style="list-style-type: none"> No material specific goals 	<ul style="list-style-type: none"> No other environmental goals specifically linked to EPR for PPP. Stewards are required to establish program for measuring and tracking greenhouse gas emissions associated with collecting and recycling residential PPP during Post-Transition Phase 2, which is set to begin in 2021.

EU Member States ³¹	<ul style="list-style-type: none"> 65% by weight of all packaging waste must be recycled end of 2025 and 70% by end of 2030. 	<ul style="list-style-type: none"> 50% for plastic, 25% for wood, 70% for ferrous metals, 50% for aluminum, 70% for glass, and 75% for paper and cardboard by end of 2025. 55% for plastic, 30% for wood, 80% for ferrous metals, 60% for aluminum, 75% for glass, and 85% for paper and cardboard. by end of 2030. 	<ul style="list-style-type: none"> No other environmental goals specifically linked to EPR for Packaging.
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Addressing Equity through EPR for PPP

Oregon DEQ was curious whether or not any established EPR for PPP programs were addressing equity-related issues with their respective systems, posing to RRS the following comments and questions:

- **Ensuring parallel access to recycling across the state** (e.g., safety and access improvements at multi-family properties, transportation reimbursement for communities that are [TBD] miles from markets, etc.). Is anyone else considering/requiring such elements?
- **Standards that address community impacts from industry-related facilities**, most notably transfer stations and MRFs. Metro has community enhancement grants³² they provide neighborhoods/communities impacted by local transfer stations. Do any EPR systems have similar community grant programs or are they measuring the impacts of these facilities on local communities?
- **Standards addressing the internal environments within the above facilities** (i.e. health and safety standards, living wages, etc.).
- **Providing uniform recycling opportunities within communities across the state.** Do any programs have requirements or offer incentives to encourage more women and/or minority-owned businesses?
- **Prohibiting transfer of potentially contaminated recyclables to processors or end markets that lack safe disposal options for non-recyclable material.**
- **Representation.** Do any of the PROs have an advisory committee/council that consists of stakeholders representing underrepresented and/or impacted communities?
- **Measurement.** Are any programs undertaking any measurement efforts focused on equity or considering goals focused on equity?

To address these topics, the RRS team examined several European Union Member State and Canadian provincial regulatory documents, available in English, that define the scope and activities of the packaging program, and then contacted individuals knowledgeable about the legal requirements underpinning the EPR program activities. The research did not identify any instances where EPR for Packaging, or EPR for PPP programs, explicitly included elements that addressed the DEQ's equity questions.

The research did identify EU Member State policy related to the questions posed by Oregon DEQ, but found that those policies are generally addressed in the context of the broader waste management regulations, rather than the regulations that implement an EPR program. For example, it is common to include parallel access requirements

(recycling must be offered where disposal services are offered) as well as requirements to mitigate the community impact of waste facilities within the broader solid waste management and recycling legal framework. One example of access requirements within an EPR regulation is the Swedish Packaging Regulation, which stipulates that all PROs operating under the regulation must ensure that collection points exist in each local authority and their distribution must take into account population density, business location, and other circumstances.

There are examples of PROs that utilize advisory groups or committees, but the team was not able to document instances where those groups focused on underrepresented or impacted communities, and the groups are not formally sanctioned in the EPR policy, but rather created voluntarily by the PRO. It is also possible that PROs incorporate requirements related to some of the equity factors in their contracts with service providers, but since those contracts are not public, RRS was unable to document the provisions.

There are several examples from the programs in Canada where expectations regarding parallel access are addressed to some degree. In those cases, there are requirements and/or targeted efforts in place to ensure that opportunities for collection are available in geographic areas that have not historically had sustained recycling collection. For example, the Recycling Regulation in British Columbia directs the Minister is to assess whether an EPR plan is adequately ensuring that “convenient options for the collection of products in urban centers and small, isolated communities, and for persons with disabilities or who have no access to transportation.”³³

The Packaging and Paper EPR Plan submitted by Recycle BC explicitly references a focus on increasing recycling access, either curbside or depot drop-off for bulk loads, for these often remote communities. Furthermore, Recycle BC has implemented the First Nations Recycling Initiative that provides curbside and multi-family recycling collection service for 13 indigenous communities in the province, and connects them with other EPR programs to recycle products such as tires, electronics, beverage containers, and batteries³⁴.

Similarly, in furtherance of broadly-stated provincial goals to support First Nations communities, Multi-Material Stewardship Manitoba, the PRO fulfilling the EPR program requirements in that province, has worked with partners to ensure that recycling opportunities are in place for northern and First Nations communities as described in its program plan.

¹ Quebec is the only province with a published annual report for 2019.

² Includes all households with access to PPP program, including curbside, multi-family and/or depot

³ Using .74 conversion factor (June 17, 2020)

⁴ Includes all households with access to PPP program, including curbside, multi-family and/or depot

⁵ Includes line items identified as “common costs” with the Municipal Hazardous Special Waste (MHSW) program, also managed by Stewardship Ontario. Cost breakdowns attributed to the blue box program are defined in Notes 4 and 10. The relevant costs are related to administrative fees paid to CSSA and direct fees to government oversight agency (RPRA).

⁶ *ibid*

⁷ Due to non-uniform reporting terminology, this cost line item is described differently in each province. For the purpose of this study, the category includes the following: *Materials Management* costs in British Columbia - collection, transportation, and processing of materials net credits for indexed value of commodities processed. *Materials Management Costs* in Saskatchewan – collection, transportation, and processing of material; *Municipal Compensation* costs in Quebec – collection, transportation, processing, and education; *Municipal Support Payments* in Manitoba- collection, transportation, processing and local education, plus line items for *enhanced programs for beverage recovery, aluminum and plastic bags* *Municipal Transfer Payments* in Ontario - collection, transportation, processing and local education.

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- ⁸ Promotion and education refers to efforts managed directly by the stewards. The portion of education managed by municipalities is incorporated into the Materials Management / Municipal Reimbursement Payments.
- ⁹ Includes line items for *Administrative and Corporate* as well as *Program Delivery / Stewards Services*
- ¹⁰ Includes line items for *Promotion and Education* as well as *School Funding*
- ¹¹ Includes line items for *Administrative and Corporate* as well as *Program Delivery / Stewards Services*
- ¹² Includes line items for *Promotion and Education* as well as *School Funding*
- ¹³ This is included in the line item for *Municipal Compensation*
- ¹⁴ Ibid
- ¹⁵ Includes line items for *(Recoverable) uncollected contributions* and *Amortization of capital assets and lease inducements*
- ¹⁶ This is included in the line item for *Municipal Compensation*
- ¹⁷ This line item is referred to as *Program Management*
- ¹⁸ Ibid
- ¹⁹ EEQ is the only PRO to have already released its 2019 Annual Report. The other provinces typically are released in July.
- ²⁰ Manitoba figures from 2018 report also show the total Municipal allocation in 2018 program year, while Quebec, Ontario, Saskatchewan 2018 reported figures apply to 2017 reimbursement.
- ²¹ The Continuous Improvement Fund (CIF) tracks the composite value of recyclables through the Stewardship Ontario (Blue Bin) program using reported material composition and pricing obtained through a provincial survey. This shows a commodity decline of 16% in Ontario between 2017 and 2018. Unfortunately, RRS does not have access to the equivalent data for British Columbia to compare directly, thus requiring the use of a regional proxy using broader regional pricing and material composition.
- ²² Targets referenced are from 2019 Stewardship Plan unless otherwise noted. http://recyclebc.ca/wp-content/uploads/2019/07/RecycleBCStewardshipPlan_16July2019.pdf
- ²³ Environmental Management Act Recycling Regulation requires a 75% recovery rate of PPP materials. http://www.bclaws.ca/civix/document/id/complete/statreg/449_2004
- ²⁴ The remaining 10-15% could include material managed by disposal, waste to energy and engineered fuel. In 2018 87.3% of the tons collected were managed by recycling, 3% was recovered as engineered fuel and the remainder was disposed of.
- ²⁵ Authorizing legislation required program plan to include recovery targets, however the plan did not. The Minister of sustainable development therefore added the target as a condition to approval of the plan: <https://stewardshipmanitoba.org/wp-content/uploads/2018/10/MMSM-Program-Plan-Minister-Approval.pdf>
- ²⁶ The Government of Manitoba established a 75% recovery target for Beverage Containers as part of the Guideline accompanying the Packaging and Printed Paper Regulation enacted in December 2008. Obligation initially applied to MMSM and was transferred to CBCRA through a MOU in 2010.
- ²⁷ A specific *Guideline for Plastic Bags* was adopted under the EPR for PPP Framework: https://stewardshipmanitoba.org/wp-content/uploads/2013/10/plastic_bag_guideline.pdf
- ²⁸ <https://stewardshipontario.ca/service-providers-municipalities-bluebox/the-blue-box-program-plan/>
- ²⁹ Quebec Policy on Residual Materials Management, Action Plan 2019-2024 establishes a 75% Recovery target (paper, cardboard, plastic, metal, glass) by 2023 <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/plan-action-2019-2024-pqgmr.pdf>
- ³⁰ Saskatchewan 2020 Solid Waste Management Strategy lists waste reduction targets of 30% by 2030 and 50% by 2040 from 2014 baseline levels <https://www.saskatchewan.ca/-/media/news-release-backgrounders/2020/jan/solid-waste-management-strategy---2020.pdf>
- ³¹ EU Member State EPR for PPP programs must fulfill rates established in of the EU Packaging and Packaging Waste Directive http://publications.europa.eu/resource/cellar/7ec2bc0d-e5b2-4c09-bf6f-dce483160b6d.0005.03/DOC_1
- ³² <https://www.oregonmetro.gov/tools-partners/grants-and-resources/community-enhancement-grants>
- ³³ British Columbia Recycling Regulation, http://www.bclaws.ca/civix/document/id/complete/statreg/449_2004
- ³⁴ <https://recyclebc.ca/first-nations-recycling-initiative/>