



Canada's Zero Plastics Packaging Waste Report Card

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EXECUTIVE SUMMARY

Canada has a plastic waste and pollution problem. It currently disposes of 90 per cent of its waste plastic annually, and at least one per cent is leaked directly into the environment as plastic pollution.¹ In 2018, this equated to 4426 kt of plastic waste discarded or 108 kg per Canadian.² The vast majority of plastic waste disposed annually is plastic packaging, which accounts for at least 50 per cent of plastics discarded.

Canada has set a goal to reach zero plastic waste by 2030.³ This report provides a baseline snapshot of Canada's progress towards that goal by focussing on plastic packaging, which – aside from being the biggest source of plastic waste – is the plastic category subject to the broadest range of regulatory and policy measures among the country's various jurisdictions.

Objectives

The objectives of this report are to:

1. Identify the gap in tonnage between the current amount of plastic packaging disposed in Canada and zero, including assessing:
 - a. Based on current performance, the added amount of plastic packaging Canada would need to be prevented, reused, or recycled to eliminate plastic packaging waste.
 - b. Based on a best-case scenario of optimized performance (i.e., if all of the provinces and territories were to harmonize their plastic packaging waste management systems with the best systems operating in Canada), the added amount of plastic packaging Canada would have to prevent, reuse, or recycle to eliminate plastic packaging waste.
2. Identify specific types of plastic packaging (i.e., resins and formats) that are not being widely collected and from which sectors.
3. Identify which provinces and territories have set targets and reporting requirements that, if met, could enable them to eliminate plastic packaging waste by 2030 and transparently report on results.
4. Identify which provinces and territories, if any, have implemented high-performing plastic packaging management systems that other jurisdictions could emulate to achieve better outcomes, and which could form the basis of federal guidelines to support the Canada-wide implementation of efficient, effective, and harmonized EPR systems.

Assessing Progress

Canada-wide progress towards eliminating plastics packaging waste was assessed using four criteria:

1. Effort to reduce the 'waste disposal gap', which is the gap between the elimination of plastic packaging waste and the amount of plastic packaging that is expected to be disposed in 2030.
2. Effort to close material collection gaps, including preventing, reusing, and recycling all types of plastic packaging and products (PPP), including single-use plastic items (SUPs) and packaging-like products (PLPs).

¹ Statistics Canada, 2022. Pilot physical flow account for plastic material, 2012 to 2018. Table 38-10-0150-01 Pilot physical flow account for plastic material, by product category. Available at <https://www150.statcan.gc.ca/n1/daily-quotidien/220323/dq220323f-eng.htm> :

² Statistics Canada, 2022. Pilot physical flow account for plastic material, 2012 to 2018. Available at <https://www150.statcan.gc.ca/n1/daily-quotidien/220323/dq220323f-eng.htm> :

³ Prime Minister of Canada, December 16, 2021. Minister of Environment and Climate Change Mandate Letter Available at: <https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-environment-and-climate-change-mandate-letter>

3. Effort to set targets and measure progress on preventing, reusing, and recycling all types of plastic packaging and products (PPP), including single-use plastic items (SUPs) and packaging-like products (PLPs).
4. Effort by Canada's provinces and territories to implement effective PPP management systems.

Report Card: Are We on Track to 2030?

Criterion 1: Effort to reduce the waste disposal gap

The gap between the amount of plastic packaging that is currently disposed and the federal government's aim to eliminate plastic packaging waste by 2030 was calculated based on two scenarios (**Table 4**):

1. The status quo gap -i.e., the amount of plastic packaging that will be disposed in Canada in 2030 based on current performance.
2. The best-case scenario gap -i.e., the amount of plastic packaging that will be disposed in 2030 if all of the provinces and territories were to level up and achieve the most ambitious regulated reuse and recycling targets set for plastic packaging (i.e., those regulated by Ontario(ON)) and apply those targets to both the residential and ICI sectors (i.e., as is being implemented in Québec (QC)).

The results of this assessment show (**Table 1**):

- If no changes or improvements are made to PPP management, Canada will miss its goal to eliminate plastic packaging waste by 2030 by 2,092,994 MT. This means that 88% of the plastics packaging generated will continue to be disposed in landfill, incinerated, or discarded as pollution.
- Even if all of Canada's provinces and territories were to level up to the most ambitious waste management systems in Canada, and even if we generously assume that the targets for higher rigid plastics were to be achieved for all plastics (including flexibles), Canada will miss its target by 933,489 MT. This means that 39% of the plastics packaging generated will continue to be disposed in landfill, incinerated, or discarded as pollution.

Table 1: Highlights –waste gap calculation⁴

DISCARD STREAMS	PLASTIC PACKAGING DISCARDED BY STREAM (current)	ADJUSTED PLASTIC PACKAGING DISCARDED BY STREAM IN 2030	STATUS QUO: RECYCLED BY STREAM	STATUS QUO: RECYCLED IN 2030	BEST-CASE RECYCLED BY STREAM IN 2030	BEST-CASE RECYCLED IN 2030
ICI	52%	1,328,836 MT	5%	62,101 MT	60% ⁵	745,209 MT
Residential	44%	1,124,400 MT	16%	168,345 MT	60% ⁶	631,292 MT

⁴ See the methodology section for a detailed explanation of the calculations and sources.

⁵ Assume all provinces and territories adopt Quebec's approach by extending their extended producer responsibility (EPR) systems for plastic packaging to the industrial, commercial, and institutional sector by 2030 and that those systems achieve Ontario's 60% rigid plastic packaging target for all plastics, including flexible plastics.

DISCARD STREAMS	PLASTIC PACKAGING DISCARDED BY STREAM (current)	ADJUSTED PLASTIC PACKAGING DISCARDED BY STREAM IN 2030	STATUS QUO: RECYCLED BY STREAM	STATUS QUO: RECYCLED IN 2030	BEST-CASE RECYCLED BY STREAM IN 2030	BEST-CASE RECYCLED IN 2030
Beverage Container Systems ⁷	3%	76,664 MT	63%	49,839 MT	80% ⁸	63,287 MT
TOTALS	99% ⁹	2,373,278 MT		280,284 MT		1,439,789 MT

WASTE GAP STATUS QUO SCENARIO: 2,092,994 MT PLASTIC PACKAGING DISPOSED

If nothing changes, 88% of plastic packaging will continue to be landfilled, incinerated, or end up as plastic pollution in the environment.

BEST-CASE SCENARIO: WASTE GAP ESTIMATE 933,489 MT PLASTIC PACKAGING DISPOSED

If the highly optimistic best-case scenario is achieved, then 39% of plastic packaging will continue to be landfilled, incinerated, or end up as plastic pollution in the environment.

CONCLUSION: FAIL

Canada cannot eliminate plastic packaging waste by 2030 without substantial new action by all levels of government to significantly increase the prevention, reuse, and recycling of plastic packaging.

Criterion 2: Effort to close material-specific and sector collection gaps

Material-specific and sector collection gaps were identified by completing a scan of existing provincial and territorial product stewardship programs and extended producer responsibility (EPR) systems for whether they manage (i.e., seek to prevent, collect, and reuse/recycle) a specific list of problematic plastics in the ICI and residential sectors. This included a scan for whether these problematic plastics will be an issue in the future after Canada's federal single-use distribution bans come into effect.

The scan shows:

⁶ Assume all provinces and territories can achieve Ontario's 60% rigid plastics packaging target for all plastics, including flexible plastics.

⁷ This includes data from provincial and territorial deposit return systems and Manitoba's Recycle Everywhere system.

⁸ Assume all provinces and territories can achieve Ontario's beverage container targets, for all beverage containers including flexible plastic containers such as pouches and bladders.

⁹ Total does not add up due to rounding. See explanation in: Canada Plastics Pact, 2021. Foundational Research and Study: Canadian plastics packaging flows. Available at: <https://plasticspact.ca/wp-content/uploads/2021/10/PPP-Foundational-Research-on-Canadian-Plastics-Packaging-Flows-May-2021-final.pdf>

- While the industrial, commercial, and institutional (ICI) sector is the largest contributor to plastic packaging and product waste, only QC has implemented a regulated system to manage this material by 2030.
- Few of Canada's provincial or territorial systems manage problematic plastics (e.g., flexible plastics other than plastic bags, foam, PVC, compostable / biodegradable / oxo-plastics, plastic-lined paper, 6-pack rings, paper-lined plastic, plastic squeeze tubes).
- Only five provinces (British Columbia (BC), Alberta (AB), ON, QC, and New Brunswick (NB)) have made public commitments to establish or expand their systems to tackle some SUPs and PLPs.

CONCLUSION: NEEDS DRASTIC IMPROVEMENT

Canada cannot eliminate plastic packaging waste by 2030 without substantial new action by Canada's provinces, territories, and the federal government to prevent and or better manage plastics that are problematic to collect and reuse or recycle.

Criterion 3: Effort to set targets and report on progress

For governments to make evidence-based, informed decisions about regulating plastics collection and processing, they need reliable data and information. Yet, many of Canada's regulated systems only require system operators to report to government against collection targets. This provides some information about the amount of 'whole products or packages' that are collected as compared to how much material is directly disposed in landfills, incinerators, or lost as pollution in the environment. However, information and data on 'collection' provides little information about how much plastic ultimately exits a sorting facility (e.g., a materials recovery facility) or a re-processing facility (e.g., a plastic processor) and is ultimately recycled into new products and packaging and returned to a circular economy. Policy makers require data on where losses are occurring in the system to understand where they can apply levers (e.g., laws, incentive systems, or preventative measures like bans) to facilitate less plastic waste generation and more plastic waste making it through a recycling / reuse system to be ultimately recycled / reused. An effective way for government to compel this information is to set targets and require reporting at each stage of the plastic packaging lifecycle, including waste management.

Gaps in target setting and required reporting were identified through a scan of existing regulated provincial and territorial product stewardship and extended producer responsibility (EPR) systems for plastic packaging, single-use plastic products, and beverage containers. All regulated stewardship systems across Canada were found to lack transparency in the data they report that would enable Canadians to understand the percentage of the plastics generated in each province that are collected and ultimately recycled / reused. Even BC's system, which is arguably the most transparent system, lacks the transparency in reporting that would enable its citizens to truly understand its overall performance.

Table 2 shows that only BC's deposit return system (DRS), QC's DRS (future), and ON's PPP system (future) have targets that will require system operators to measure and report on the amount of material reclaimed from its systems (i.e., sent to a re-processor for recycling or refilling). Québec is the only jurisdiction to propose 'package-to-package recycling targets' that will require the system operator to measure and report on the amount of material that exits a re-processor and that is ultimately used for the manufacture of new similar goods in a circular economy (e.g., bottle to bottle recycling). None of the jurisdictions have set reuse targets requiring a specific percentage of containers in a system be reused.

Table 2: Highlights –target setting and reporting gaps

TARGET GAPS	KEY DETAILS	HIGHLIGHTS: DRS	HIGHLIGHTS: PPP SYSTEMS
RECLAMATION TARGETS (i.e., material inbound)	For PPP systems, only ON has set reclamation targets.	BC: <ul style="list-style-type: none"> • Plastic < 1L 78% (2024) 	ON: <ul style="list-style-type: none"> • Rigid plastics 50% (2030),

TARGET GAPS	KEY DETAILS	HIGHLIGHTS: DRS	HIGHLIGHTS: PPP SYSTEMS
to an acceptable re-processor for recycling or refiller for reuse).	For DRS systems, only BC has reclamation targets.	<ul style="list-style-type: none"> Plastic > 1L 87% (2024) Pouches and Bag-in-Box 75% (2024) 	60% onwards <ul style="list-style-type: none"> Flexible plastics: 25% (2030), 40% onwards Beverage containers: 75% (2030), 80% onwards. Flexible plastics: 40% by 2029); +10% every five years until 80% is reached
PACKAGE-TO-PACKAGE RECYCLING TARGETS (i.e., the amount of reclaimed material that is used to manufacture new containers or packaging)	Only QC set 'recycling' targets that aim to measure the amount of plastic material that is ultimately used in the manufacture of new similar goods as part of a circular economy.	QC: <ul style="list-style-type: none"> At least 50% each beverage container category must be reused or recycled into new containers or packaging by 2026. 	

CONCLUSION: NEEDS DRASTIC IMPROVEMENT

Canada cannot eliminate plastic packaging waste by 2030 without substantial new action by Canada's provinces, territories, and the federal government to set measurable targets and require reporting at all points along the material management system (i.e., manufacturing, supply, collection, reuse, and recycling).

Criterion 4: Effort to implement effective systems

Canada cannot reach its goal of eliminating plastic packaging waste without the provinces and territories establishing effective plastic packaging management systems. A scorecard was developed to:

1. Create a baseline score to compare the effectiveness of existing provincial and territorial management systems in collecting and reusing / recycling plastic packaging, and reporting to Canadians on results.
2. Highlight which systems are the highest performing and implementing best-practices that could be immediately emulated by lower performing systems to improve plastic collection and reuse/recycling.
3. Identify which characteristics of high-performing systems could form the basis of federal guidelines to support the Canada-wide implementation of harmonized EPR systems capable of effectively managing plastic packaging.

Each jurisdiction was graded on based the implementation and performance of its systems for six indicators:

1. residential PPP system;
2. non-residential PPP system;

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3. beverage container system;
 4. residual product container system;
 5. agricultural plastics system; and
 6. data transparency and reliability.

Table 3 provides a snapshot of the provincial and territorial scorecard and shows that only British Columbia and Prince Edward Island have implemented systems that receive barely passing grades. Substantial improvement is needed across all systems to target the full range of PPP discarded in Canada each year.

CONCLUSION: NEEDS DRASTIC IMPROVEMENT

Canada cannot eliminate plastic packaging waste by 2030 without substantial new effort by Canada's provinces and territories to implement systems capable of collection, reclaiming, and ultimately recycling or reusing all PPP.

Table 3: Highlights –provincial and territorial plastic waste management system scorecard (sorted by overall grade, then alphabetically)

PROVINCE / TERRITORY	RESIDENTIAL	NON- RESIDENTIAL (ICI)	BEVERAGE CONTAINERS	RESIDUAL PRODUCT CONTAINERS	FARM AND LARGE FILM	DATA TRANSPARENCY AND RELIABILITY	OVERALL GRADE
BC	A	F	B+	A	C	B	C
PE	C+	B+	D+	C	A+	F	D+
AB	F	F	A	F	C	A (beverage containers only)	F
NB	F	F	D+	C	F	F (beverage containers only)	F
NL	F	F	D+	C	F	F (beverage containers only)	F
NS	F	F	D+	A	F	F (beverage containers only)	F
NT	F	F	B+	F	n/a	F (beverage containers only)	F
NU	F	F	F	F	n/a	n/a	F
MB	C+	F	D	A+	A	F	F
ON	D+	F	F	A	C	D	F
QC	D+	F	F	C	A+	F	F

PROVINCE / TERRITORY	RESIDENTIAL	NON- RESIDENTIAL (ICI)	BEVERAGE CONTAINERS	RESIDUAL PRODUCT CONTAINERS	FARM AND LARGE FILM	DATA TRANSPARENCY AND RELIABILITY	OVERALL GRADE
SK	F	F	B	A+	B	F	F
YT	F	F	C	F	n/a	F (beverage containers only)	F

Conclusions and Recommendations

This report focuses on packaging, which is the biggest driver of plastic waste and pollution in Canada and is subject to a broad range of waste and pollution policies at all levels of government. The analysis reveals that Canada is not on track to achieve its goal to eliminate plastic waste by 2030. Without more concerted action at all levels of government, significant amounts of plastic from packaging and other sources will continue to be discarded in landfills, incinerators, and directly into the natural environment across the country.

It is also clear that Canada will not eliminate plastic waste by relying on end-of-pipe waste management solutions, even with improved recycling systems and higher recycling targets. Provinces and territories, and through delegation of authority, municipalities, largely hold the jurisdiction over solid waste management in Canada and, to various degrees, have been attempting to manage the problem of plastic waste and pollution for many decades. Yet, in these same years, the problems caused by plastic waste and pollution have only grown.

Recently, some provinces have introduced extended producer responsibility systems (EPR) intended to make companies responsible for the full life cycle of the products they put on the market. Ideally, EPR should fix market distortions that allow these companies to externalize the end-of-life costs of their products and packaging, driving reduction in the use of materials, as well as better design, improved collection and sorting of discarded materials, and increased reuse and recycling. But the analysis in this report reveals that these policies and programs, which are primarily focused on diversion from landfill via recycling and/or energy from waste, will not serve to eliminate plastic waste.

For Canada to eliminate plastic waste by 2030, the following actions should be taken:

1. All levels of government should refocus their efforts to implement measures that intervene earlier in the life cycle of products and packaging to prevent waste by:
 - a) Eliminating problematic plastic, especially single-use plastic items. For example, require that plastic products and packaging targeted by provincial and territorial diversion systems undergo a reuse and recyclability assessment before those items are permitted to be introduced to market (e.g., Alberta requires a pre-market recyclability assessment for its Deposit Return System, see **APPENDIX B**).
 - b) Requiring and supporting convenient, affordable, and widespread systems to reuse and refill packaging (e.g., Austria has implemented binding and enforceable reusable packaging quotas, see **APPENDIX B**).
 - c) Using the proposed \$100 million federal fund for “reuse and recycling infrastructure and innovation” to support the scaling up of local reuse systems.
2. Ensure accurate and comprehensive data is available to policymakers and the public on the amount and type of plastic put on the market and its end-fate by:
 - a) Immediately establishing a federal plastics registry under the provisions of the Canadian Environmental Protection Act (CEPA) to ensure all stakeholders have the information they need to be able to track and address plastic waste reduction across Canada.
 - b) Improving performance reporting of regulated collection and recycling systems to ensure they provide information on the types of plastic supplied into the market and how that plastic is ultimately managed. While all product stewardship and EPR systems across Canada show reporting deficiencies, quick wins could be made by leveling up reporting requirements to those already met by BC’s Packaging and Paper Products system as well as Alberta’s and British Columbia’s Deposit Return Systems.
 - c) As part of the registry, requiring all sorting facilities (e.g., materials recovery facilities) and re-processors (e.g., plastic recycling facilities) to report on the amount of plastic material that enter their systems and its end-fate (e.g., tonnages of plastic baled, recycled pellets or flakes marketed, amount and types of plastic residuals landfilled or sent for thermal treatment).
3. Close the waste gap by immediately establishing, expanding, and improving existing regulated EPR and stewardship systems so that they are capable of targeting the full range of plastic packaging and products (including single-use plastic items, short-term use plastic items, and packaging-like products) and achieving (at a minimum) the best-case scenario for recycling/reuse modeled in this report. While the best-case scenario will not eliminate the waste gap, it would be a substantial improvement over the status quo.

To support this effort, the federal government should issue guidelines, as a risk management measure for toxic substances under CEPA, to implement and expand regulations that:

- a) Establish a consistent Canada-wide network of EPR systems to collect and recycle all types of plastic packaging and products. The regulations should:
 - Align with Québec by implementing regulated EPR plastic packaging systems for both the residential and ICI sectors.
 - Align with British Columbia by implementing EPR plastic packaging systems that include its extensive material scope and reporting requirements.

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- Align with British Columbia and ban the distribution of plastic items that are problematic to recycle by 2023 (i.e., containers, bowls, plates, trays, cartons, film wrap, and cups made from polystyrene foam, PVC, compostable plastic and oxo-degradable plastic).
 - Establish regulated recycling targets for rigid and flexible plastic packaging of at least 90 per cent for plastic beverage containers and 80 per cent for all other plastic packaging and products (aligned with Québec and the European Union).
- b) Establish a consistent Canada-wide network of deposit return systems for all beverage containers with an aim to expanding the deposit return systems to other types of packaging by 2030. The regulations should:
- Align with Alberta's / Northwest Territories' designated container scope.
 - Align with Alberta's pre-market recyclability assessment requirements. Any containers that are deemed not recyclable by the provincial system should be denied access to the market.
 - Align with British Columbia's third-party verification and reporting requirements.
- c) Establish a consistent Canada-wide network residual product containers systems with a designated container scope consistent with that of Saskatchewan (SK)/ Manitoba (MB) but improve their reporting requirements to be consistent with that of British Columbia.
- d) Establish agricultural plastic systems consistent with the designated material scope of Québec's newly regulated system.
- e) Establish specialty large film plastic systems, such as the boat wrap system in Prince Edward Island, wherever these specialty plastic is used.
- f) Support participation in EPR systems by aligning with Prince Edward Island and Nova Scotia and banning the disposal of plastic packaging and products. Expand disposal bans to cover all materials collected and recycled in EPR systems. Define disposal as material managed in landfill, incineration, and other forms of energy recovery.
4. Canada's federal government should immediately ban the export of plastic-containing waste, including unsorted and contaminated recyclables, to non-OECD countries and amend the bilateral agreement on waste trade with the U.S. to ensure the provisions of the agreement adhere to the Basel convention.

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Lists of Terms and Abbreviations

Abbreviations¹⁰

Acronym	Term
AB	Alberta
BC	British Columbia
CEPA	Canadian Environmental Protection Act
DRS	Deposit Return System
EOL	End-of-life
EPR	Extended Producer Responsibility
HDPE	High-density polyethene
HSP	Hazardous and special products
ICI	Industrial, commercial, and institutional
IPR	Individual producer responsibility
IWMC	Island Waste Management Corporation
LDPE	Low-density polyethylene
MB	Manitoba
MT	Metric tonne
NB	New Brunswick
NL	Newfoundland and Labrador
NS	Nova Scotia
NT	Northwest Territories
NU	Nunavut Territory
ON	Ontario
PE	Prince Edward Island
PLP	Packaging-like products
PP	Polypropylene
PPP	Plastic packaging and products
PS	Polystyrene
PT	Provinces and Territories

¹⁰ The two letter codes used for Canada’s provinces and territories are the internationally approved alpha codes used by Canada’s federal government for Canada’s provinces and territories.

PVC	Polyvinyl chloride or vinyl
QC	Québec
SK	Saskatchewan
SUP	Single-use plastics or single-use plastic items
UK	United Kingdom
YT	Yukon Territory

List of Terms and their Definitions

Term	Options
Deposit Return System (DRS)	Means a system in which a deposit is paid by a consumer on an item at point of sale and a refund of the deposit is offered upon the item’s return to a specific collection point. A DRS system can operate under any management model: EPR, IPR, and all forms of product stewardship (e.g., government-stewardship).
Disposal	Means the act of landfilling, incineration, or treatment via energy recovery.
Extended Producer Responsibility (EPR)	Means “an environmental / economic policy approach in which producers of products and packaging bear responsibility for ensuring those products and packages are properly managed at the end of their life-cycle.” ¹¹ EPR systems can be based on collective or individual responsibility. <ul style="list-style-type: none"> • Collective responsibility –system liability and responsibility for outcomes are shared by a collective of producers, typically through a producer responsibility organization. • Individual producer responsibility (IPR) –system liability and responsibility for outcomes remains with individual producers.
End-of-Life (EOL)	Means a package or product that is in its waste or post-use phase.
Hazardous or Special Products (HSP)	While the definition of HSP varies across Canada, HSP typically means a system to collect materials that were traditionally collected by household hazardous waste systems (e.g., CSA Standard Z752-03 definition of Household Hazardous Waste), products registered under the Pest Control Products Act (Canada), pharmaceutical and sharps systems, and other materials that are deemed hazardous or requiring of special handling (e.g., mercury containing lamps or products, batteries). HSP systems can collect materials from the residential and ICI sectors.
Hybrid EPR	A hybrid EPR model is a form of EPR that requires a non-producer entity (e.g., municipalities or recycling depots) to maintain a role in a system that is otherwise fully operated and funded by producers. For example, <ul style="list-style-type: none"> • Québec’s newly regulated hybrid EPR model for packaging and paper products would require municipalities to continue to arrange for a municipal collection system that meets service standards set by producers. Producers have full financial responsibly for the system and full operational control beyond arranging for the collection system. • Alberta’s deposit return system for beverage containers requires the Beverage Container Management Board (the regulator) to set the collection standards and determine how many independent bottle depots must exist to serve the collection system. Producers have full financial responsibility for the system and full operational control beyond arranging for the collection sites.
Individual Producer Responsibility (IPR)	Means “producers are individually responsible (financially or financially and physically) for their own products at end of life. The allocation of individual financial responsibility to a producer for (their) own products is intended to create an

¹¹ OWMA, 2013. Extended Producer Responsibility Policy Paper. Available at: <https://www.owma.org/articles/extended-producer-responsibility-policy-paper>

	economic and/or commercial incentive for producers to adapt the design of their products for easier repair, upgrading, reuse or recycling and end of life treatment. It implements the polluter pays principle with respect to their products.” ¹² IPR is one form of EPR.
Industrial, Commercial, and Institutional (ICI)	Means non-residential and non-agricultural.
Shared Responsibility	Means producers are responsible for financially supporting the implementation of a recycling system operated by a third party, which is typically a municipality. Producers in these systems may also have responsibility for promotion and education of the system and reporting on system outcomes. However, they have little or no control over system operations and little (if any) influence on system outcomes.
Product Stewardship	<p>Means stewarding a product from its first point of sale to its final disposition. This is an umbrella term that encompasses the continuum of all forms of product stewarding: EPR, IPR, shared responsibility, hybrid EPR, and third-party stewardship.</p> <p>In Canada, this term is often used to refer to non-EPR recycling systems operated by a third-party entity (e.g., government, government delegated authority, not-for-profit). In this case, it is the third party that accepts the full costs and liabilities associated with developing and implementing a jurisdiction-wide collection and recycling system.</p>
Reclamation	Means recycling and reuse.
Residential	<p>Means, systems that service single-family and multi-family households.</p> <ul style="list-style-type: none"> • The definition of what is included in residential systems varies across Canada. Residential systems can provide services to select ICI facilities such as senior residences, long-term care facilities, schools, private sector apartment buildings, time-share condominiums, churches, etc.
Residual containers	Means automotive fluid, paint, and HSP containers.
Plastic packaging and products (PPP)	<p>Means:</p> <ul style="list-style-type: none"> • Plastic packaging; • Single-use plastics / single-use plastics items or SUPs (e.g., plastic dishware and cutlery); and • Plastic packaging-like products or PLPs (e.g., Ziploc bags). <p><i>Note: In Canada, the acronym PPP is often used to refer to packaging and paper products. However, since this paper focusses on plastic packaging and products specifically, we have made the deliberate choice to use it differently.</i></p>
Packaging-like products (PLP)	Means items sold as products that are often used as packaging (e.g., Ziploc bags).
Provinces and Territories (PT)	Means Canada’s provinces and territories.
Single-use plastic items(SUP)	Means items that are typically used for a single-use or a short-term use before they are disposed (e.g., plastic cutlery, drink cups, cup lids, straws, shopping bags).

¹² OWMA, 2013. Extended Producer Responsibility Policy Paper. Available at: <https://www.owma.org/articles/extended-producer-responsibility-policy-paper>

1 CANADA'S PLASTIC POLLUTION PROBLEM

Plastic is ubiquitous in Canada. As a manufacturing feedstock, its applications are seemingly endless. Plastic can be found as a component of more than 95 per cent of all manufactured products,¹³ including items that:

- are used one time (like carrier bags, straws, cups, and cutlery);
- are used for a short period of time (like multi-laminate packaging, toothbrushes, or fast fashion;)
- are more durable (like carpet, furniture, flooring, solar panels, vehicles, water pipes, and children's toys).

But that ubiquity has come with a plastic pollution price tag of grave social, environmental, and, as a result, economic concern. Plastic use has environmental impacts across its lifecycle including the:

- greenhouse gases and other pollutants that are emitted, as well as habitat destruction caused, by the extraction and processing of fossil fuels to make plastic;
- microplastics and toxic chemicals that can be emitted during manufacture, use, and disposal of plastic products;
- devastating impacts that improper disposal of plastic products can have on natural ecosystems, and especially our freshwater systems and oceans, including wildlife entanglement, suffocation, starvation, and death.^{14,15}

Plastic pollution has been found on shorelines and in surface waters, deep sea sediment, groundwater, soil, indoor and outdoor air, drinking water, and food. Plastic pollution has even been found in human lung tissue,¹⁶ placenta,¹⁷ and blood,¹⁸ and the chemicals that leach from plastic have been identified as possible sources of acute and chronic toxicity, carcinogenicity, genotoxicity, and developmental toxicity in both humans and the species that make up our food chain.¹⁹ There is no longer a debate about whether plastic waste is a problem that we should be concerned about, there is only debate on the best methods available to solve the plastic pollution problem.

Statistics Canada estimates that one per cent of all plastic used is emitted directly into the environment as pollution through uncontrolled releases –e.g., littering, mis-managed disposal, and microplastics emissions from laundry grey water discharge, tire wear, and even marine paints²⁰– and that 90 per cent of all plastic wastes generated are ultimately disposed.²¹ Of the plastic discarded into waste management systems, they estimate less than 10 per cent are captured, sorted, and ultimately processed into plastic pellets or flakes that can be reincorporated back into the manufacture of new goods (**Figure 1**).

¹³ Chemistry Industry Association of Canada, 2020. The Role of Chemistry in a Circular Economy. Available at: https://canadianchemistry.ca/wp-content/uploads/2020/07/The-Role-of-Chemistry_ENG_Web-FINAL.pdf

¹⁴ Environment and Climate Change Canada and Health Canada, 2020. Science assessment of plastic pollution. ISBN: 978-0-660-35897-0. Available at: <https://www.canada.ca/en/environment-climate-change/services/evaluating-existing-substances/science-assessment-plastic-pollution.html>

¹⁵ National Oceanic And Atmospheric Administration (NOAA Fisheries), n.d. Entanglement of Marine Life: Risks and Response. Available at: <https://www.fisheries.noaa.gov/insight/entanglement-marine-life-risks-and-response>

¹⁶ Jenner, L.C., Rotchell, J.M., Bennett, R.T., Cowen, M., Tentzeris, V., and L.R. Sadofsky, 2022. Detection of microplastics in human lung tissue using μ FTIR spectroscopy. *Science of the Total Environment*. Volume 831, 20 July 2022, 154907. Available at: <https://reader.elsevier.com/reader/sd/pii/S0048969722020009?token=1B6CCB1C7C1F31C34E1EB25ED2B62293605AC8CE3E74D5002A0A0BFF8EE07F2462FD1745D24A61B312DE6D3468F53B11&originRegion=us-east-1&originCreation=20220416175420>

¹⁷ Ragusa, A., A. Svelatoa, C. Santacroce, P. Catalano, V. Notarstefano, O. Carnevalic, F. Papa, M. Ciro Antonio Rongioletti, F. Baiocco, S. Draghia, E. D'Amore, D. Rinaldo, M. Matta, and E. Giorgini. 2020. *Environmental International*. 146 (2021) 106274. Available online: <https://reader.elsevier.com/reader/sd/pii/S0160412020322297?token=BB970110DA9164A90F18A9F6BC7F19C9AB8734606FB133BB7247566EAF0CADAC0B6F9B5C2669EEECAB2920EF87C7F70AF&originRegion=us-east-1&originCreation=20210428153148>

¹⁸ Leslie, H.A, Van Velzen, M.J.M, Brandsma, S.A., Vethaak, A.D., Abgarcia-Vallejo, J.J., And M.H. Lamoree, 2022. Discovery and quantification of plastic particle pollution in human blood. *Environment International*. Available online 24 March 2022, 107199. In Press, Corrected Proof. <https://doi.org/10.1016/j.envint.2022.107199>. Available at: <https://reader.elsevier.com/reader/sd/pii/S0160412022001258?token=DE2D68B46B6332452CC6D37CE689BC7FDE83CB574C22CA1587D9AA87EC7625BCFEC700E992E399B35B6FE8F70F8ECD58&originRegion=us-east-1&originCreation=20220416185755>

¹⁹ Yuan, Z., Nag, R., and E. Cummins, 2022. Human health concerns regarding microplastics in the aquatic environment - From marine to food systems. *Science of the Total Environment*. Volume 823, 1 June 2022, 153730. Available at: <https://reader.elsevier.com/reader/sd/pii/S0048969722008221?token=F24D0868997A66F2981D79300BC8CB0A3CAC58D18707E8414892EA6793D6133AC5A9A3D9BBFE34B2284D925A7257171B&originRegion=us-east-1&originCreation=20220416181047>

²⁰ Eunomia, 2016. Eunomia. 2016a. *Plastics in the Marine Environment*. Eunomia, United Kingdom. Available online: <https://www.eunomia.co.uk/reports-tools/plastics-in-the-marine-environment/>

²¹ Statistics Canada, 2022. Pilot physical flow account for plastic material, 2012 to 2018. Table 38-10-0150-01 Pilot physical flow account for plastic material, by product category. Available at <https://www150.statcan.gc.ca/n1/daily-quotidien/220323/dq220323f-eng.htm>

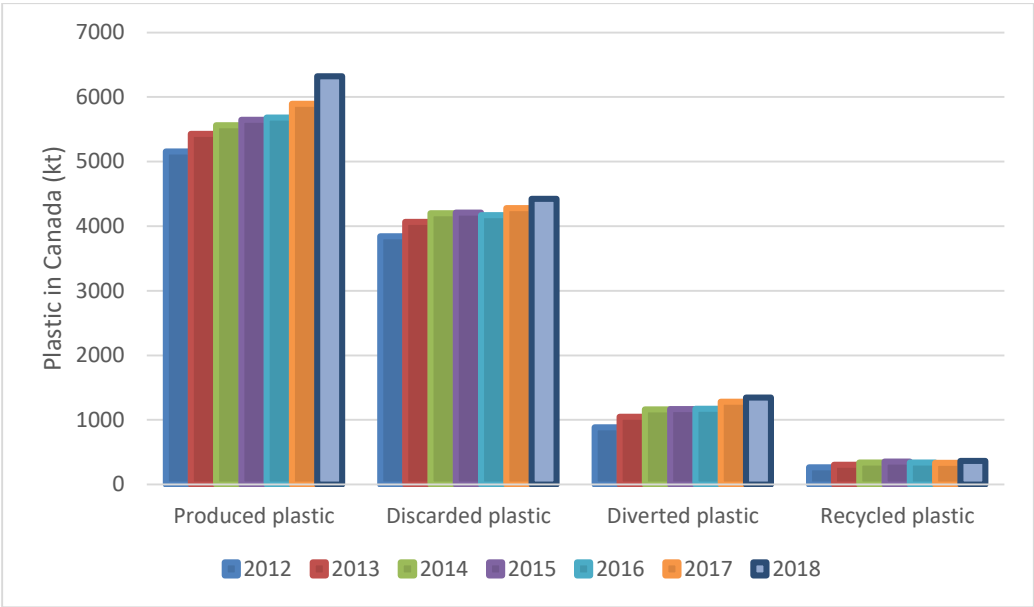


Figure 1: Plastic generated, discarded, and diverted to recycling facilities.²²

According to Statistics Canada, in 2018, Canada discarded 4426 kt of plastic waste. Of this, more than 90 per cent (4002 kt) was disposed of in landfill or via thermal treatment, which equates to 108 kg of plastic discarded plastic per Canadian each year, the vast majority of which was packaging:

- 50% were packaging wastes;
- 18% were from vehicles;
- 14% were ‘other products’;
- 8% were textiles;
- 5% were construction materials;
- 4% were electronics waste; and
- 1% were agricultural films (**Figure 2**).²³

With plastic use growing at a rate that is higher than Canada’s real gross domestic product, it will take dedicated and deliberate action to stem the flow of plastic waste and the devastation it causes.

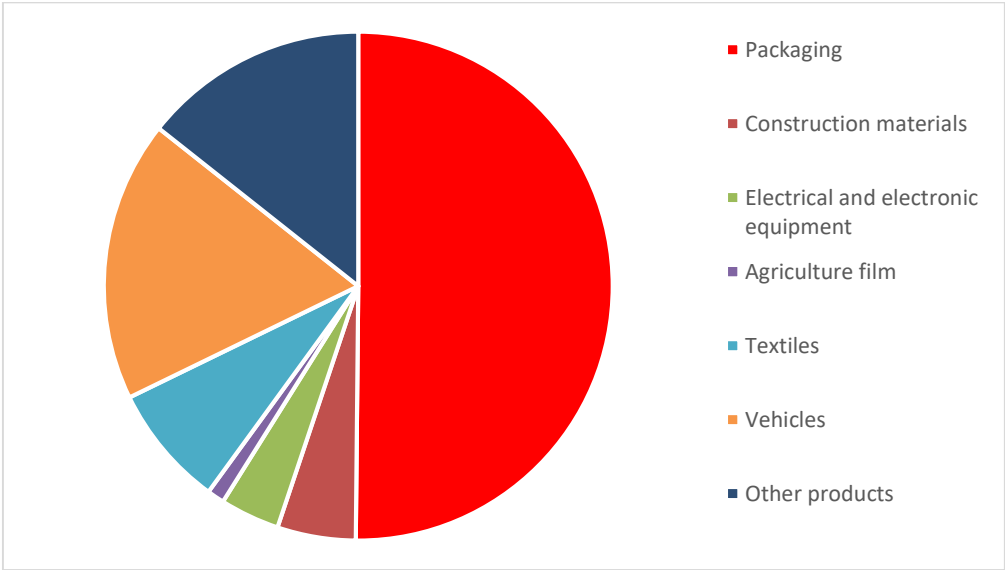


Figure 2: Plastic discarded as waste in Canada in 2018.

2 THE ZERO PLASTIC WASTE COMMITMENT

In December 2021, the Government of Canada made a bold commitment to stem the flow of plastic being discarded into the environment and to increase its capture and use. In his mandate letter to the Minister of Environment and Climate Change, Minister Guilbeault, the Prime Minister directed the Minister to achieve “Zero Plastic Waste by 2030.”²⁴

²² Ibid.

²³ Ibid.

²⁴ Prime Minister of Canada, December 16, 2021. Minister of Environment and Climate Change Mandate Letter Available at: <https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-environment-and-climate-change-mandate-letter>

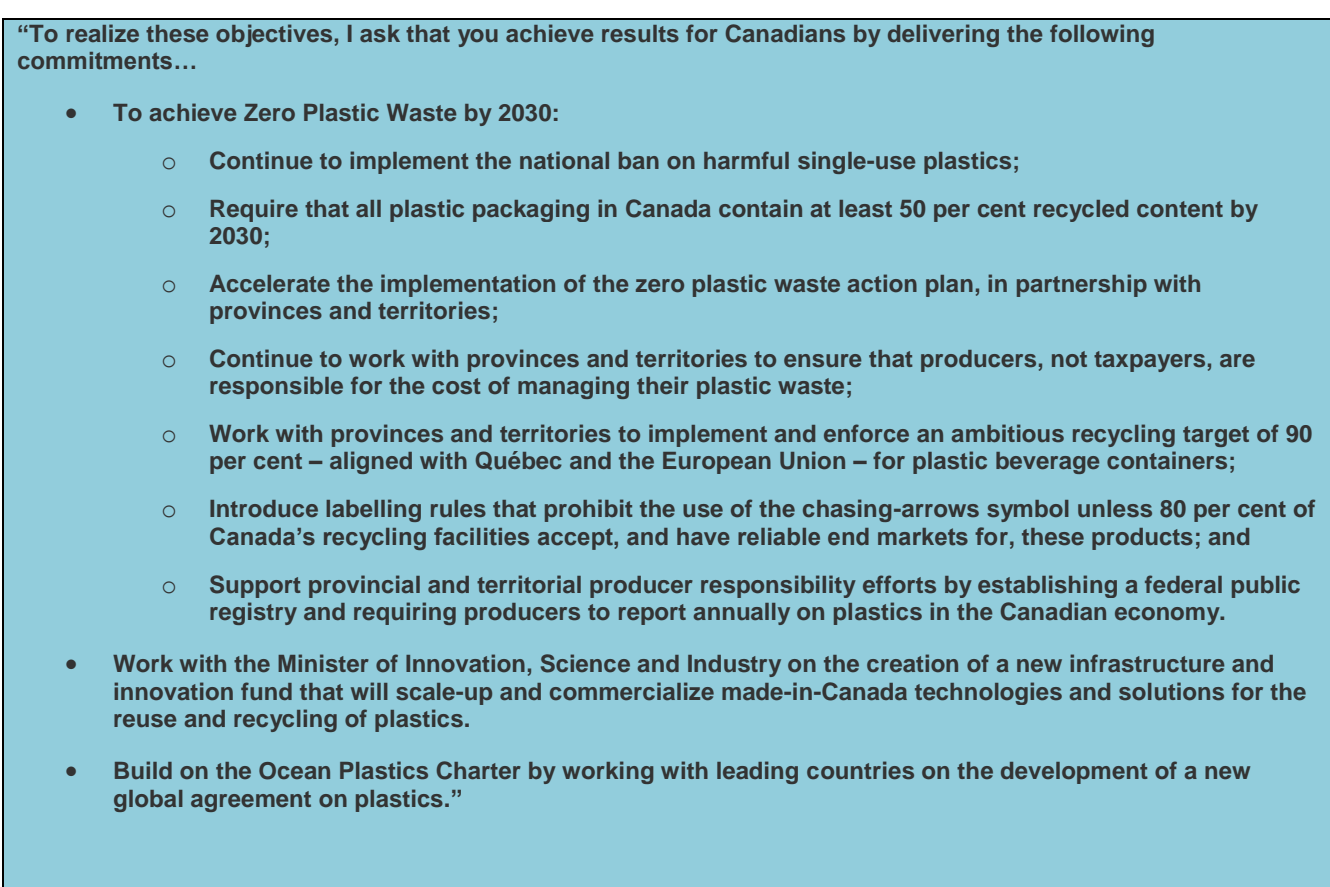


Figure 3: Minister of Environment and Climate Change Mandate Letter, December 16, 2021

But with 2030 only eight short years away, this begs the questions:

- How far is Canada from achieving that goal?
- What actions would Canada have to take in short order if it were to be serious about achieving this goal?

3 ASSESSING PROGRESS: A FOCUS ON PROVINCIAL AND TERRITORIAL PLASTIC PACKAGING WASTE MANAGEMENT SYSTEMS

3.1 Purpose and Objectives

At 50 per cent of the plastic waste stream, plastic packaging is the largest contributor to the total amount of plastic discarded in Canada each year. As a result, it would be impossible for Canada to eliminate plastic waste by 2030 without making a valiant effort to eliminate plastic packaging waste in the same timeframe.

Since solid waste management is largely the jurisdiction of Canada’s provinces and territories, the purpose of this report is to assess the extent to which provincial and territorial efforts are likely to contribute to help Canada achieve its aim to eliminate the disposal of plastic packaging. The objectives of this report are to:

5. Identify the gap in tonnage between the current amount of plastic packaging disposed in Canada and zero, including assessing:
 - a. Based on current performance, the added amount of plastic packaging Canada would need to be prevented, reused, or recycled to eliminate plastic packaging waste.
 - b. Based on a best-case scenario of optimized performance (i.e., if all of the provinces and territories were to harmonize their plastic packaging waste management systems with the best systems operating in Canada), the added amount of plastic packaging Canada would have to prevent, reuse, or recycle to eliminate plastic packaging waste.
6. Identify specific types of plastic packaging (i.e., resins and formats) that are not being widely collected and from which sectors.
7. Identify which provinces and territories have set targets and reporting requirements that, if met, could enable them to eliminate plastic packaging waste by 2030 and transparently report on results.
8. Identify which provinces and territories, if any, have implemented high-performing plastic packaging management systems that other jurisdictions could emulate to achieve better outcomes, and which could form the basis of federal guidelines to support the Canada-wide implementation of efficient, effective, and harmonized EPR systems.

3.2 Methodology

This work was completed in four parts including the calculation of a waste disposal gap; identification of material collection and target-setting gaps; assessment of existing regulated provincial and territorial waste diversion programs; and development of a report card to communicate the results of that assessment.

Waste gap assessment

We calculated the gap between the goal of eliminating plastic packaging waste and the estimated amount plastic packaging that is expected to be disposed in 2030 based on two scenarios:

- Status quo scenario -i.e., the plastic packaging waste that would be disposed in 2030 based on current Canada-wide system performance.
- Best-case scenario -i.e., the plastic packaging waste that would be disposed in 2030 based if all of the provinces and territories ‘levelled up’ to achieve the highest targets currently set by a provincial or territorial jurisdiction in Canada.

A detailed methodology for this calculation presented in **0**.

Material-Specific and Sector Collection Gaps

Gaps in plastic packaging collection across Canada were identified by completing a scan of existing provincial and territorial product stewardship programs and extended producer responsibility (EPR) systems for packaging and printed paper and beverage containers and the component parts of each of the above (e.g., caps and lids).

Each program and system were scanned to identify which plastic packaging resins / formats are excluded from their systems, and whether their systems collect materials from the residential and industrial, commercial, and institutional (ICI) sectors.

Target Setting and Reporting Gaps

Gaps in target setting and reporting were identified through a scan of existing regulated provincial and territorial product stewardship and extended producer responsibility (EPR) systems for packaging and printed paper, beverage containers, and residual product containers. Each system was reviewed to identify which had set targets (i.e., collection, reuse, and final recycling) and which had the highest or most noteworthy targets.

Management System Implementation Gaps

The current performance of regulated provincial and territorial product stewardship and extended producer responsibility systems were assessed to determine whether their existing plastic packaging and products (PPP) systems are on track, based on their current performance, to help to do their part to help Canada achieve its Zero Plastic Packaging Waste Goal. The assessment included reviewing each system against a scoring methodology and assigning a grade to each system (see **APPENDIX C:** for more detail on the scoring rubric).

Specifically, the following systems were assessed for each provincial and territorial jurisdiction:

- plastic packaging and products (PPP), including single-use plastic items(SUPs) and packaging like products (PLPs);
- plastic beverage containers;
- residual product containers, including lubricating oil, antifreeze, paint, household and special products (HSP); and
- agricultural plastic.

Agricultural plastic were included in this scan because they include legitimate plastic containers (e.g., pesticide containers) and because some provinces (e.g., MB) have included agricultural plastic, including bale wrap, in the definition of PPP.

Once the assessment was complete, the results were entered into a ‘report card’ that enables a comparison of overall performance between provinces and territories and between systems. The report card provides an easy visual to help identify which provincial and territorial systems are high performers and have system elements that could be emulated to spur improvement Canada-wide.

4 REPORT CARD: ARE WE ON TRACK TO 2030?

This section of the report assesses Canada’s progress towards achieving its goal to eliminate plastic packaging waste by 2030. This report card consists of four areas of assessment:

1. Effort to reduce the waste disposal gap.
2. Effort to close material collection gaps.
3. Effort to set targets to measure system gaps.
4. Provincial and territorial system implementation.

4.1 Criterion 1: Effort to reduce waste disposal gap

The gap between the amount of plastic packaging that is currently disposed and the federal government’s aim to eliminate plastic packaging waste by 2030 was calculated based on two scenarios (**Table 4**):

1. The status quo gap -i.e., the amount of plastic packaging that will be disposed in Canada in 2030 based on current performance.
2. The best-case scenario gap -i.e., the amount of plastic packaging that will be disposed in 2030 if all of the provinces and territories were to level up and achieve the most ambitious regulated reuse and recycling targets set for plastic packaging (i.e., those regulated by Ontario, which exclude energy recovery in all circumstances) and apply those targets to both the residential and ICI sectors (i.e., as is newly regulated in Québec).

The results of this assessment show:

- If no changes or improvements are made to PPP management, Canada will miss its goal to eliminate plastic packaging waste by 2030 by 2,092,994 MT. This means that 88% of the plastic packaging generated will continue to be disposed in landfill, incinerated, or discarded as pollution.
- Even if all of Canada’s provinces and territories were to level up to the most ambitious waste management systems in Canada, and even if we generously assume that the targets for higher rigid plastic were to be achieved for all plastic packaging (including flexibles), Canada will miss its target by 933,489 MT. This means that 39% of the plastic packaging generated will continue to be disposed in landfill, incinerated, or discarded as pollution.

CONCLUSION: FAIL

Canada cannot eliminate plastic packaging waste by 2030 without substantial new action by all levels of government to significantly increase the prevention, reuse, and recycling of plastic packaging.

Table 4: Waste gap calculation²⁵

PLASTIC PACKAGING DISCARDED IN 2018	PLASTIC PACKAGING DISCARDED IN 2030	ADJUSTED PLASTIC PACKAGING DISCARDED IN 2030	DISCARD STREAMS	PLASTIC PACKAGING DISCARDED BY STREAM	ADJUSTED PLASTIC PACKAGING DISCARDED BY <u>STREAM</u> IN 2030	STATUS QUO: PLASTIC PACKAGING RECYCLED BY STREAM	STATUS QUO: PLASTIC PACKAGING RECYCLED IN 2030	BEST-CASE SCENARIO PACKAGING RECYCLED IN 2030	BEST-CASE PLASTIC PACKAGING RECYCLED IN 2030
Statistics Canada data Table 38-10-0150-01.	Assume an annual growth rate of 1.26%	Assume federal single-use plastic bans are 100% effective.	ICI	52%	1,328,836 MT	5%	62,101 MT	60% ²⁶	745,209 MT
			Residential	44%	1,124,400 MT	16%	168,345 MT	60% ²⁷	631,292 MT
			Beverage Container Systems ²⁸	3%	76,664 MT	63%	49,839 MT	80% ²⁹	63,287 MT
2,219,818 MT	2,555,454 MT	2,373,278 MT		100% ³⁰	2,373,278 MT		280,284 MT		1,439,789 MT
WASTE GAP STATUS QUO SCENARIO: 2,092,994 MT PLASTIC PACKAGING DISPOSED									
If nothing changes, 88% of plastic packaging will continue to be landfilled, incinerated, or end up as plastic pollution in the environment.									
BEST-CASE SCENARIO: WASTE GAP ESTIMATE 933,489 MT PLASTIC PACKAGING DISPOSED									
If the highly optimistic best-case scenario is achieved, then 39% of plastic packaging will continue to be landfilled, incinerated, or end up as plastic pollution in the environment.									

²⁵ See the methodology section for a detailed explanation of the calculations and sources.

²⁶ Assume all provinces and territories adopt Quebec’s approach by extending their extended producer responsibility (EPR) systems for plastic packaging to the industrial, commercial, and institutional sector by 2030 and that those systems achieve Ontario’s 60% rigid plastic packaging target for all plastics, including flexible plastics.

²⁷ Assume all provinces and territories can achieve Ontario’s 60% rigid plastics packaging target for all plastics, including flexible plastics.

²⁸ This includes data from provincial and territorial deposit return systems and Manitoba’s Recycle Everywhere system.

²⁹ Assume all provinces and territories can achieve Ontario’s beverage container targets, for all beverage containers including flexible plastic containers such as pouches and bladders.

³⁰ CPP’s estimates did not add up due to rounding. As a result, the estimated plastic packaging discarded by each stream was increased by 0.33333% to ensure the total tonnes discarded remained constant. (See explanation in: Canada Plastics Pact, 2021. Foundational Research and Study: Canadian plastics packaging flows. Available at: <https://plasticspact.ca/wp-content/uploads/2021/10/CPP-Foundational-Research-on-Canadian-Plastics-Packaging-Flows-May-2021-final.pdf>)

4.2 Criterion 2: Effort to close material-specific and sector collection gaps

Canada’s provinces and territories have implemented varying systems to prevent, reuse, and recycle PPP. Most systems collect rigid plastic including PET (resin code 1), HDPE (resin code 2), and PP (resin code 5) and many collect LDPE film plastic (resin code 4). However, even with packaging made of these resins, factors such as container labelling and labelling adhesives, plastic additives, specific container formats, etc. can make the processing of even these types of plastic packaging challenging. In general, plastic products and packaging that are difficult to collect and process are called ‘problematic plastics.’ The purpose of assessing Criterion 2 is to provide a granular assessment of whether specific problematic plastics are prevented or collected and recycled by residential and ICI management systems across Canada, including whether they will be an issue in the future after Canada’s federal single-use distribution bans come into effect.

Most system assessments, including that conducted for the jurisdictional report card on provincial and territorial management systems provided in the next section, seek to assess plastic recycling performance at a high-level - i.e., based on “categories” of plastic such as rigid and flexible plastic. Few reviews compare the breadth of collection, reuse, and recycling systems for hard to capture / hard to recycle plastic resins, packaging formats, and packaging components (collectively sometimes referred to as ‘problematic plastics’).

Gaps in the collection of problematic plastics across Canada were identified by completing a scan of existing provincial and territorial product stewardship programs and extended producer responsibility (EPR) systems for packaging and printed paper and beverage containers.

The table below provides an overview of the problematic plastic material collection gaps across Canada. The results show:

- While the ICI sector is the largest contributor to Canada’s plastic packaging waste stream, only QC has implemented a regulation that will establish a system to collect and recycle plastic from this the entire ICI waste stream.
- Few residential or ICI PPP collection systems manage plastic that is problematic to recycle (e.g., flexible plastic other than plastic bags, foam, PVC, compostable / biodegradable / oxo-plastic, plastic-lined paper, 6-pack rings, paper-lined plastic, plastic squeeze tubes). Only BC is experimenting with the collection of a range of flexible plastic (e.g., netted plastic, plastic laminates, stand up pouches); however, it is currently managing these plastic items by disposing of them through an energy recovery system.
- High-litter items are generally not managed across Canada
 - Only BC and AB are the only provinces to encourage ‘caps-on-bottles’ in their DRS.
 - Only BC and MB actively encourage ‘caps-on-bottles’ in jurisdiction-wide PPP systems.
 - Canada and BC have proposed to prevent plastic waste, including those that are high contributors to litter, by banning or limiting the distribution of some plastic items that are problematic to recycle because of resin type or packaging format.
- Only five provinces (BC, AB, ON, QC and NB) have made public commitments to establish or expand their systems to tackle some SUPs and PLPs.

CONCLUSION: NEEDS DRASTIC IMPROVEMENT

Canada cannot eliminate plastic packaging waste by 2030 without substantial new action by Canada’s provinces, territories, and the federal government to prevent and or better manage plastics that are problematic to collect and reuse or recycle.

Table 5: Material-Specific and Sector PPP Collection Gaps Across Canada

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
CANADA ³⁵	Distribution bans across all sectors: <div><div>✓</div>checkout bags</div> <div><div>✓</div>cutlery</div> <div><div>✓</div>foodservice ware made from or containing problematic plastic – i.e., SUPs made from extruded or expanded polystyrene foam, polyvinyl chloride, oxo-degradable plastic, or that contain carbon black</div> <div><div>✓</div>ring carriers</div> <div><div>✓</div>stir sticks</div> <div><div>✓</div>straws</div>									
BC ^{36,37, 38}		proposed distribution ban on PS foodservice-ware by 2024	proposed distribution ban by 2023		proposed distribution ban by 2024	proposed limit on distribution to by request only by 2023	proposed distribution ban on PS, PVC, and compostable foodservice-ware by 2024			
	✓ (includes coffee)	✓	✓	X (pilot study,	X	X (to be included in	✓ (caps-on-bottles, plastic drink cups from	✓ Expanding	X (most)	X PVC / vinyl X pails > 25L X squeeze tubes (e.g., toothpaste)

³¹ For additional references to support this scan see Appendix D, Table 19.

³² Examples of other flexible plastics: stand-up and zippered pouches (e.g., coffee bag), crinkly wrappers and bags (e.g., chip bag), flexible packaging with a seal (e.g., pre-packaged deli meats), woven and netted bags (e.g., onion

³³ Certified compostable bags are accepted in many (but not all) organics processing systems across Canada, except for British Columbia.

³⁴ Plastic high-litter items identified by the Great Canadian Shoreline Cleanup (Dirty Dozen): cigarette butts, straws, drink cups and lids, food wrappers, foam products, and bottle caps. Available at: <https://shorelinecleanup.org/impact-visualized-data>

³⁵ Government of Canada. Single-use plastics prohibitions regulations. Available at: <https://pollution-waste.canada.ca/environmental-protection-registry/regulations/view?Id=2174>

³⁶ Recycle BC. nd. What can I recycle? Available at: <https://recyclebc.ca/what-can-i-recycle/>

³⁷ Recycle BC, n.d. Other flexible plastic packaging. Available at: <https://recyclebc.ca/flexiblepackaging/>

³⁸ Recycle BC, 2019. Other flexible plastic packaging material list. Available at: https://recyclebc.ca/wp-content/uploads/2018/06/Material-List_Other-Flexible-Plastic-Packaging.pdf

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
	pods)			processed via EfW)		PPP system by 2023)	residential sector, cups collected in residential system X (rest)	system to include SUP and PLPs in 2023.	√ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	X deodorant sticks X 6-pack rings X Stretch wrap / cellophane blister packs X coffee cup lids X plastic string or rope X mixed materials (paper envelope that is plastic bubble wrap lined, mixed plastic)
AB	varies by community	varies by community	varies by community	X	X	X (proposed with EPR, list unknown)	√ (caps-on-bottles for DRS system only) X (rest)	√ Proposing to implement EPR system from 2023-2026.	X (most) √ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	X Varies by community Excluded everywhere: X BC exclusions X bottle caps (except DRS system) X coffee pods Anticipate province-wide expansion once proposed EPR system is fully implemented (date tbd).
SK ³⁹	varies by community (only PET bottles universally collected)	varies by community	varies by community	X	X	X	X	√ Proposed shift from shared responsibility to EPR.	X (most, proposing to add schools) √ Speciality systems exist for select containers	X Varies by community Excluded everywhere: X BC exclusions X bottle caps X coffee pods Anticipate province-wide expansion once proposed

³⁹ Multi-Material Stewardship Western, n.d. What can be recycled? Available at: <https://www.mmsk.ca/recycle/>

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
									in the ICI sector: i.e., some residual product containers and beverage containers.	shift from shared responsibility to EPR system is fully implemented (date tbd).
MB ⁴⁰	√ (includes caps-on-bottles)	X	X (reuse and reduction program exists)	X	X	X	√ (caps-on-bottles, plastic drink cups from residential sector) X (rest)	√ Proposed shift from shared responsibility to EPR.	X (most, √ schools) √ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	X Varies by community Excluded everywhere: X BC exclusions (but accept deodorant) X black plastic X clamshells X plastic envelopes (e.g., Amazon) X coffee pods Anticipate province-wide expansion once proposed shift from shared responsibility to EPR system is fully implemented (date tbd).
ON ^{41,42}	varies by community	varies by community	varies by community	X	X	X (some will be added with shift to IPR)	√ (plastic drink cups from residential sector) X (rest)	√ Shifting from shared responsibility to EPR 2023-2025.	X (most, √ schools, long-term care and retirements homes) √ Speciality systems exist for select containers	X Varies by community Excluded everywhere: X BC exclusions + X coffee pods X bottle cap management varies by community Anticipate province-wide expansion once newly

⁴⁰ MMSM: Multi-Material Stewardship Manitoba, n.d., What can I recycle? Simply Recycle. n.d., Available at: <https://simplyrecycle.ca/recyclepedia/>

⁴¹ Stewardship Ontario, n.d. What can I recycle? Available at: <https://stewardshipontario.ca/consumers-bluebox/what-can-i-recycle/>

⁴² Waste Diversion Ontario and Stewardship Ontario, 2003. Blue Box Program Plan. Available at: <https://rpra.ca/wp-content/uploads/Blue-Box-Program-Plan.pdf>

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
									in the ICI sector: i.e., some residual product containers and beverage containers.	regulated IPR system is fully implemented in 2026. Will include select ICI (e.g., long term care, retirement homes, schools).
QC ^{43,44}	varies by community	X (most, but not all)	varies by community	X	X	X (some will be added with shift to EPR)	√ (plastic drink cups from residential sector) X (rest)	√ Proposed shift from shared responsibility to hybrid EPR 2025-2027.	X (most, √ proposing to add all ICI within 8 years.) √ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	X Varies by community Excluded everywhere: X BC exclusions + (except allows select ICI along residential routes) X coffee pods X bottle cap management varies by community Anticipate province-wide expansion once the newly regulated hybrid-EPR system is fully implemented by 2027. Will begin with PET, HDPE, LDPE, PP.
NB	varies by community	varies by community	varies by community	X	X	X (some will be added with shift to EPR)	X	√ Implementation by 2023.	X (most, √ schools will be included when the system is implemented) √ Speciality systems exist for	X Varies by community Excluded everywhere: X BC exclusions + X coffee pods X bottle caps Anticipate province-wide expansion once newly

⁴³ Recyc-Québec, 2019. Curbside collection. Available at: <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/bilan-gmr-2018-section-collecte-selective-english.pdf>

⁴⁴ Recyc-Québec, n.d. Transition to EPR curbside recycling. Materials accepted in the recycling bin. Available at: <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/liste-matieres-acceptees-modernisation-coll-sel-en.pdf>

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
									select containers in the ICI sector: i.e., some residual product containers and beverage containers.	regulated EPR system is fully implemented in 2023.
NS⁴⁵	varies by community (at least HDPE, LDPE, PET, DRS containers because backed by disposal bans)	varies by community	varies by community	X	X	X	X	Proposing to implement EPR system.	X (most, √ disposal bans apply to plastics 1, 2, 4, and DRS containers. √ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	X Varies by community Excluded everywhere: X BC exclusions X coffee pods X bottle caps Anticipate province-wide expansion once proposed EPR system is fully implemented (date tbd).
PE⁴⁶	√	X	√	X	X	X	X	No change proposed.	X (most, √ disposal	X Varies by community

⁴⁵ Government of Nova Scotia. Materials banned from disposal sites in Nova Scotia. Available at: <https://novascotia.ca/nse/waste/banned.asp>

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
									bans apply to plastic packaging with resins 1-5. √ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	Excluded everywhere: X BC exclusions X Plastics 6 and 7 X coffee pods X bottle caps
NL	varies by community	varies by community	varies by community	X	X	X	X	Proposing to implement EPR system.	X (most) √ Speciality systems exist for select containers in the ICI sector: i.e., some residual product containers and beverage containers.	X Varies by community Excluded everywhere: X BC exclusions + X coffee pods X bottle caps
YT	varies by	varies by	varies by	X	X	X	X	Proposing to implement EPR	X (most)	X Varies by community Excluded everywhere:

⁴⁶ IWMC: Island Waste Management Corporation, 2021. Sorting guide for visitors. Available at: <https://iwmc.pe.ca/wp-content/uploads/2020/02/3TouristSortingCardENGFREDec2018WEBSITESMALL.pdf>

JURISDICTION ³¹	CURRENT RESIDENTIAL PLASTIC PACKAGING COLLECTION							FUTURE RESIDENTIAL	ICI	EXAMPLES OF OTHER ITEMS NOT MANAGED in RESIDENTIAL SYSTEMS
	RIGID CONTAINER	FOAM	FLEXIBLES: PLASTIC BAGS	FLEXIBLES: OTHER ³²	COMPOSTABLE/ BIODEGRADABLE/ OXO PLASTIC ³³	SINGLE-USE PLASTIC / PACKAGING-LIKE PRODUCTS	HIGH LITTER ³⁴			
	community	community	community					system.	✓ Speciality systems exist for select containers in the ICI sector: i.e., beverage containers.	X BC exclusions + X coffee pods X bottle caps
NT	varies by community	varies by community	varies by community	X	X	X	X	Proposing to implement EPR system.	X (most) ✓ Speciality systems exist for select containers in the ICI sector: i.e., beverage containers	X Varies by community Excluded everywhere: X BC exclusions + X coffee pods X bottle caps
NU	X	X	X	X	X	X	X	No change proposed.	X	Currently no plastic recycling ⁴⁷

⁴⁷ Plastics Action Centre, n.d. Available at: <https://plasticactioncentre.ca/directory/plastics-in-nunavut/>

4.3 Criterion 3: Effort to set targets and report on progress

For governments to make evidence-based, informed decisions about regulating plastic collection and processing, they need reliable data and information. Yet, many of Canada’s regulated systems only require system operators to report to government against collection. This provides some information about the amount of ‘whole products or packages’ that are collected as compared to how much material is directly disposed in landfills, incinerators, or lost as pollution in the environment. However, information and data on ‘collection’ provides little information about how much plastic ultimately exits a sorting facility (e.g., a materials recovery facility) and a re-processing facility (e.g., a plastic processor) and is ultimately recycled into new products and packaging and returned to a circular economy. Policy makers require data on where losses are occurring in the system to understand where they can apply levers (e.g., laws, incentive systems, or preventative measures like distribution bans) to facilitate less plastic waste generation and more plastic making it through a recycling system to be ultimately recycled. An effective way for government to compel this information is to set targets and require reporting at each stage of the plastic packaging lifecycle, including waste management.

Table 6 provides an overview of the gaps in provincial and territorial regulated targets necessary to achieve 2030 reuse and recycling goals.

The results of this assessment show:

- Few of the existing provincial and territorial regulated DRS and PPP systems have regulated targets and require public reporting of results against those targets. BC is a notable exception, which requires public reporting against targets for all systems. However, ON and QC will soon require reporting against targets once their new regulations are fully implemented.
- Of the targets that exist in BC (current systems), QC (future systems), and ON (future systems)
 - Only ON’s PPP and QC’s and BC’s DRS systems require reporting the amount of material that is sent to an acceptable re-processor⁴⁸ for reuse/recycling. Most systems only require reporting on the material collected (i.e., sometimes called ‘recovered’ or ‘returned’).⁴⁹
 - Only QC’s DRS system has set a target that aims to measure the amount of reclaimed material that exits a re-processor as a recycled raw material that is then used in the manufacture of new containers, packaging, and printed paper (e.g., bottle to bottle recycling).
- For beverage containers, all targets fall far below the federal commitment to achieve 90% recycling of plastic beverage containers by 2030 (see Section 2: **THE ZERO PLASTIC WASTE COMMITMENT**) .

CONCLUSION: NEEDS DRASTIC IMPROVEMENT

Canada cannot eliminate plastic packaging waste by 2030 without substantial new action by Canada’s provinces, territories, and the federal government to set measurable targets and require reporting at all points along the material management system (i.e., manufacturing, supply, collection, reuse, and recycling).

⁴⁸ Re-processors are sometimes referred to as ‘end-markets’.
⁴⁹ Both BC’s and QC’s systems enable (or will enable) the PPP system operators to include materials managed according to each province’s pollution prevention hierarchy (i.e., reuse, recycling (mechanical and chemical), composting, energy recovery, disposal) in their reporting against targets.

Table 6: Gaps in target setting and reporting necessary to achieve 2030 reuse and recycling goals

TARGET GAPS	GAP DETAILS	TARGET HIGHLIGHTS: DRS	TARGET HIGHLIGHTS: PPP SYSTEMS
COLLECTION TARGETS (i.e., material that is inbound to a collection site or materials recovery facility, sometimes called ‘recovery rate targets or return rate targets’)	<p>Few systems in Canada have set ‘collection targets’. QC has set separate collection targets for its PPP system and DRS.</p> <ul style="list-style-type: none">While AB has not set public targets for its DRS, it is currently reporting <u>collection rates</u> that are higher than the collection targets newly regulated by QC for its DRS to achieve by 2027: i.e., rigid plastic: 81.3%; pouches: 42.6%; bag-in-box (bladders, 49.2% collection rate).⁵⁰ Post collection, AB sends rigid plastics for recycling and pouches/bladders to disposal via energy from waste.	<p>QC:^{51,52,53,}</p> <ul style="list-style-type: none">70% plastic and bio-based by 2027; 75% by 2028; 80% by 203070% non-glass, non-breakable reusable containers by 2027; 75% by 2028; 80% by 2030Target rises by 5% every two years until 90% is reachedFlexible plastic (i.e., pouches, bladders) are excluded from the system.	<p>QC:⁵⁴</p> <ul style="list-style-type: none">Rigid HDPE and PET 80% (2027) + 5% every 5 years thereafter until 90% is reachedRigid OTHER 75% (2027) + 5% every 5 years thereafter until 85% is reachedFlexible 50% by 2027+ 5% every 5 years thereafter until 85% is reached
RECLAMATION TARGETS (i.e., material that is inbound)	<p>For PPP, only ON has set reclamation targets. For DRS, only BC has set reclamation rates.</p> <ul style="list-style-type: none">ON refers to ‘reclamation’ as ‘recovery’, which they define as	<p>BC:^{62,63}</p> <ul style="list-style-type: none">Plastic < 1L 78% (2024)Plastic > 1L 87% (2024)	<p>ON:⁶⁴</p> <ul style="list-style-type: none">Rigid plastic (all) 50% by 2030, 60% onwards

⁵⁰ ABCRC: Alberta Beverage Container Recycling Corporation, 2021. ABCRC Sustainability Report 2020. Available at: <https://www.abcrc.com/assets/Uploads/ABCRC-2020-Sustainability-Report-Final-Hi-Res.pdf> .

⁵¹ Recyc-Québec, n.d. Frequently asked questions. Modernization of the deposit. Available at: <https://www.recyc-quebec.gouv.qc.ca/entreprises-organismes/mieux-gerer/consigne/foire-aux-questions>

⁵² Government of Quebec. Act to amend mainly the Environment Quality Act with respect to deposits and selective collection (2021, chapter 5). Deposit system for certain containers. Gazette Officielle du Québec, January 26, 2022, Vol. 154, No. 4 Available at: <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=105494.pdf>

⁵³ Government of Quebec, Ministry of the Environment. n.d. Summary of regulatory provisions governing the modernization of the deposit-return system. Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/resume-dispositions-reglementaires-modernisation-consigne-en.htm>

⁵⁴ Government of Quebec. Act to amend mainly the Environment Quality Act with respect to deposits and selective collection (2021, chapter 5). System of selective collection of certain residual materials. Gazette Officielle du Québec, January 26, 2022, Vol. 154, No. 4 Available at: <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=105495.pdf>

TARGET GAPS	GAP DETAILS	TARGET HIGHLIGHTS: DRS	TARGET HIGHLIGHTS: PPP SYSTEMS
to an acceptable re-processor for recycling or refiller for reuse). ⁵⁵	<p>reuse or recycling (mechanical or chemical).</p> <ul style="list-style-type: none"> BC's PPP and DRS systems also have 'recovery' targets (i.e., the amount of material sent to an acceptable re-processor). However, BC's definition of acceptable re-processing varies between the two systems. BC's PPP system operator may use energy recovery (as part of its material management system under the pollution prevention hierarchy) to meet its targets, which is a form of disposal. BC's DRS system operator may not use material management via energy recovery to meet its targets; it must manage materials via reuse or recycling. For its DRS, BC reports both the amount collected (i.e., units collected / units supplied) and recycled (% recovered by weight), though it's not clear whether the tonnes recovered by weight is a calculation based on container weights or a measurement of tonnes shipped.⁵⁶ Like BC's PPP system, QC's PPP and DRS system operators will be required to manage their materials along a pollution prevention hierarchy that allows for energy recovery to be used as a form of recovery to meet targets under special circumstances.⁵⁷ For recycling, QC allows both mechanical and 	<ul style="list-style-type: none"> Pouches and Bag-in-Box 75% (2024). 	<ul style="list-style-type: none"> Flexible plastic (all): 25% by 2030, 40% onwards Beverage containers: 75% by 2030, 80% onwards. Beverage containers sold in pouches and bladders are excluded from beverage container target but included in the flexible plastic target.

⁶² Encorp Pacific Canada, 2021. Annual Report 2020. Available at: https://ar.return-it.ca/ar2020/pdf/Return-It_2020_Annual_Report.pdf .

⁶³ Encorp Pacific Canada, 2021. Beverage Container Stewardship Plan August 30, 2021. Available at: <https://www.return-it.ca/beverageplan2020/>

⁶⁴ Government of Ontario. Blue Box Regulation. Ontario Regulation 391.21. Last updated: June 3, 2021. Available at: <https://www.ontario.ca/laws/regulation/r21391#BK8>.

⁵⁵ Reclamation targets are sometimes called 'recovery targets' or 'recycling targets', but they do not measure the amount of material that is finally recycled -i.e., the amount of material that leaves a re-processor and is available for use in the manufacture of new products and packaging as part of a circular economy.

⁵⁶ Rigid plastics include PET, HDPE, Polystyrene and Other Plastics such as #5 Polypropylene. Flexible plastics include Film and Laminates.

⁵⁷ Quebec's PPP regulations require 'valorisation' of recyclables. In the English (administrative) version of the regulation, this has been translated to ensuring PPP is managed as follows: "(1) manage residual materials in a way that gives priority to reclamation, with the choice of reclamation processes respecting the following order:

(a) reuse;

(b) recycling, with the exception of biological treatment;

(c) any other form of reclamation by which residual materials are treated for use as a substitute for raw materials;

(d) energy recovery, subject to the following cases: i. a life cycle analysis, complying with the applicable ISO standards and taking into account the perennality of resources and the externalities of various reclamation methods for recovered materials, that shows that a reclamation method is more advantageous than another in environmental terms; ii. the existing technology or the applicable laws

TARGET GAPS	GAP DETAILS	TARGET HIGHLIGHTS: DRS	TARGET HIGHLIGHTS: PPP SYSTEMS
	<p>chemical recycling (i.e., the processing of materials into fuel or a constituent of fuel). Its important to note that unlike many programs in Canada, QC measures recycling at the point that a recyclable material is ‘transformed’ into something new (i.e., paper is pulped, metal is smelted, plastic is extruded). For example, plastic washing and shredding are considering ‘conditioning’ but not ‘recycling’. Further, QC does not allow materials used as aggregate in road building or landfill cover to be counted as recycling.⁵⁸⁻⁵⁹⁻⁶⁰⁻⁶¹</p> <ul style="list-style-type: none"> ON has not regulated a DRS for the majority of its plastic beverage containers (i.e., non-alcohol containers). Its DRS for alcohol containers has not set plastic targets. 		
PACKAGING-TO-PACKAGING RECYCLING TARGETS	<p>Only QC has set ‘recycling’ targets that aim to measure the amount of material that is ultimately used in the manufacture of new similar goods as part of a circular economy. This requires measurement of material that exits a re-processor and is subsequently acquired by a specific type of manufacturer for the intended purpose of making new packaging..</p>	<p>QC: ⁶⁵</p> <ul style="list-style-type: none"> By 2026, at least 50% of the material obtained following the conditioning of each of the following categories of beverage containers are used to manufacture new packaging or printed paper: metal, plastic, glass, fibre. If targets are not reached, producers must implement a remediation 	

and regulations does not allow for the use of a reclamation method in the prescribed order.” Source: Government of Quebec, 2022. Regulation respecting a system of selective collection of certain residual materials. Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/reglement-collecte-selective-version-administrative-en.pdf>

⁵⁸ Government of Québec. Regulation respecting a system for the selective collection of certain residual materials. Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/reglement-collecte-selective-version-administrative-en.pdf>

⁵⁹ Government of Québec, 2022. Simplified presentation of the regulation on the selective collection system . Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/presentation-reglement-collecte-selective.pdf>

⁶⁰ Government of Québec. Regulations respecting the development, implementation and financial support of a deposit system for certain containers. Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/reglement-consigne-version-administrative-en.pdf>

⁶¹ Government of Québec, 2022. [Simplified presentation of the regulation of the regulation on the deposit system](https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/presentation-reglement-consigne.pdf) . Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/presentation-reglement-consigne.pdf>

⁶⁵ Government of Québec. Regulations respecting the development, implementation and financial support of a deposit system for certain containers. Available at: <https://www.environnement.gouv.qc.ca/matieres/consigne-collecte/reglement-consigne-version-administrative-en.pdf>

TARGET GAPS	GAP DETAILS	TARGET HIGHLIGHTS: DRS	TARGET HIGHLIGHTS: PPP SYSTEMS
		plan (including financial investment).	
REUSE TARGETS	<p>None of the systems in Canada have established specific reuse targets for <u>any</u> material (i.e., targets that specify that a certain percentage of the containers supplied must be reusable). This includes provincial and territorial DRS that have traditionally had a reuse system for industry standard glass beer bottles.</p> <ul style="list-style-type: none"> QC has set targets for the reclamation of containers marketed as 'reusable' containers (glass and non-breakable containers - see recycling targets above). However, these are not target that 'require' a specific amount of reusables in the system. 		

4.4 Criterion 4: Effort to implement effective management systems

Canada cannot reach its goal of eliminating plastic packaging waste without the provinces and territories establishing effective plastic packaging management systems. The following scorecard was developed to:

4. Create a baseline score to compare the effectiveness of existing provincial and territorial management systems in collecting and reusing / recycling plastic packaging, and reporting to Canadians on results.
5. Highlight which systems are the highest performing and implementing best-practices that could be immediately emulated by lower performing systems to improve plastic collection and reuse/recycling.
6. Identify which characteristics of high-performing systems could form the basis of federal guidelines to support the Canada-wide implementation of harmonized EPR systems capable of effectively managing plastic packaging.

Each jurisdiction was assessed for whether it has a jurisdiction-wide system in place (product stewardship or EPR), the scope of plastic collected, its plastic management performance, whether it had implemented any notable best practices (e.g., deposit return systems, reuse systems), and whether Canadians have the data they need to hold their jurisdictions accountable to outcomes.

The scan shows:

- QC is proposing a best-in-class system for ICI PPP collection and reuse/recycling;
- BC has the best-in-class system for residential PPP collection and recycling, and it is the only system in Canada that is experimenting with all flexible plastic collection and diversion;
- AB has the best-in-class DRS for beverage containers;
- SK and MB have the most comprehensive systems in place for residual product containers (e.g., paint or used oil containers);
- QC and PE have the best-in-class systems for agricultural film;
- PE has the only system currently encouraging widespread ICI PPP diversion from landfill, though its not clear how successful that system is or whether the end-fate of that diversion is recycling or energy recovery; and
- BC is the best-in-class jurisdiction for reporting transparency and reliability, though data gaps are still present.
- All of the PPP systems in Canada (including BC) overestimate collection because they do not account for material supplied under regulated de minimis level or material that is exempted from reporting but still collected by the system.

For a detailed overview of the scoring methodology and the system assessments see **APPENDIX C:** and **APPENDIX D:**.

CONCLUSION: NEEDS DRASTIC IMPROVEMENT

Canada cannot eliminate plastic packaging waste by 2030 without substantial new effort by Canada’s provinces and territories to implement systems capable of collection, reclaiming, and ultimately recycling or reusing all PPP.

Table 7: Provincial and territorial system implementation scorecard (listed west to east, with provinces followed by territories)

PROVINCE / TERRITORY	RESIDENTIAL	NON-RESIDENTIAL (ICI)	BEVERAGE CONTAINERS	RESIDUAL PRODUCT CONTAINERS	FARM AND LARGE FILM	DATA TRANSPARENCY AND RELIABILITY	OVERALL GRADE	NOTEWORTHY IMPROVEMENTS ON THE HORIZON
BC	A	F	B+ (Only system that reports recycling flexible plastic.)	A	C	B	C	BC has committed to implementing an approach to target ICI PPP. ⁶⁶ BC consulted on options to provide a consistent province-wide approach to regulating single-use plastic items, including phasing out unnecessary single-use plastic items; promoting a shift to durable, reusable options; ensuring necessary single-use plastic items are recycled or composted. Consultation period was April – June 21, 2022. ⁶⁷
AB	F	F	A (Only system that actively declines to register new containers with problematic plastics for sale in the province.)	F	C	A (beverage containers only)	F	AB has committed to regulating an EPR system for residential PPP and HSP. Regulations are expected in 2022; system implementation is expected by 2024. AB is consulting on expanding its system for automotive plastic containers to include antifreeze and deisæl exhaust fluid containers. ⁶⁹

⁶⁶ Government of British Columbia, Ministry of Environment and Climate Change Strategy, 2021. Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026. Available at: https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/extended_producer_five_year_action_plan.pdf

⁶⁷ Government of British Columbia, Clean BC Plastics Action Plan, 2022. Engagement: Preventing single-use and plastic waste in British Columbia. Available at: <https://engage.gov.bc.ca/plastics/about/>

⁶⁸ Government of Alberta, 2022. Extended Producer Responsibility Engagement. Available at: <https://www.alberta.ca/circular-plastics-economy-engagement.aspx>

⁶⁹ ARMA: Alberta Recycling Management Authority, March 2022. Alberta's Used Oil Materials Recycling Program-Engagement on Program Expansion. Provided by: Stephanie Kerik (She/Her) Program Operations Administrator, ARMA, Tel: 888.999.8762/ 780.670.1153.

PROVINCE / TERRITORY	RESIDENTIAL	NON-RESIDENTIAL (ICI)	BEVERAGE CONTAINERS	RESIDUAL PRODUCT CONTAINERS	FARM AND LARGE FILM	DATA TRANSPARENCY AND RELIABILITY	OVERALL GRADE	NOTEWORTHY IMPROVEMENTS ON THE HORIZON
								AB agricultural plastic pilot has been expanded and extended until August 2023. ⁷⁰
SK	F	F	B	A+	B	F	F	SK has posted draft regulations for consultation to shift its shared responsibility system for residential PPP to EPR. Consultation closes June 30, 2022. ⁷¹
MB	C+	F	D	A+	A	F	F	MB has completed a consultation to shift its shared responsibility system for Residential PPP to EPR. Regulations are expected imminently. ⁷²
ON	D+	F	F	A	C	D	F	ON has regulated an EPR system (IPR model) for residential PPP, including select ICI sites. Full implementation is expected by 2025. ⁷³
QC	D+	F	F	C	A+	F	F	QC has posted draft regulations to: <ul style="list-style-type: none"> • shift its shared responsibility system for residential PPP to EPR (Hybrid EPR model); • expand its system to include all ICI sites within 8 years; and • expand its DRS to include almost all

⁷⁰ Cleanfarms, April 2022. Extension Includes Additional Ag Plastic Recycling Collection Sites. [https://cleanfarms.ca/alberta-recycling-pilot-for-grain-bags-and-baler-twine-extended-to-august-2023/?utm_source=rss&utm_medium=rss&utm_campaign=alberta-recycling-pilot-for-grain-bags-and-baler-twine-extended-to-august-2023#:~:text=LETHBRIDGE%2C%20AB%20\(April%2028%2C,%2C%20the%20'Alberta%20Ag%20Plastic](https://cleanfarms.ca/alberta-recycling-pilot-for-grain-bags-and-baler-twine-extended-to-august-2023/?utm_source=rss&utm_medium=rss&utm_campaign=alberta-recycling-pilot-for-grain-bags-and-baler-twine-extended-to-august-2023#:~:text=LETHBRIDGE%2C%20AB%20(April%2028%2C,%2C%20the%20'Alberta%20Ag%20Plastic)

⁷¹ Government of Saskatchewan, 2019. The Household Packaging and Paper Stewardship Regulations and Multi-Material Recycling Program. Available at: <https://www.retailcouncil.org/wp-content/uploads/2018/08/SK-HPPSPR-MMRP-Discussion-Paper.pdf>

⁷² MMSM: Multi-Material Stewardship Manitoba, n.d. EPR Transition Plan Development. Available at: <https://stewardshipmanitoba.org/mmsm/full-epr-plan-development/>

⁷³ Government Ontario. Blue Box Regulation. Ontario Regulation 391.21. Last updated: June 3, 2021. Available at: <https://www.ontario.ca/laws/regulation/r21391#BK8>.

PROVINCE / TERRITORY	RESIDENTIAL	NON-RESIDENTIAL (ICI)	BEVERAGE CONTAINERS	RESIDUAL PRODUCT CONTAINERS	FARM AND LARGE FILM	DATA TRANSPARENCY AND RELIABILITY	OVERALL GRADE	NOTEWORTHY IMPROVEMENTS ON THE HORIZON
								ready-to-serve beverage containers 100ml-2L (except flexible plastic like pouches and bladders, and milk derived products like drinkable yogurt). ⁷⁴
NB	F	F	D+	C	F	F (beverage containers only)	F	NB has regulated an EPR system for residential PPP. Stewardship plans are required to be submitted by October 2022. Implementation will follow. ^{75,76} NB is consulting on shifting its DRS system for beverage containers from product stewardship to full EPR. ^{77,78 79}
NS	F	F ⁸⁰	D+	A	F	F (beverage containers only)	F	NS introduced a bill: The Extended Producer Responsibility and Paper and Packaging Act in 2021, which directs government to develop and implement an EPR system for residential PPP. NS is consulting its system. ^{81, 82}

⁷⁴ Government of Quebec. Act to amend mainly the Environment Quality Act with respect to deposits and selective collection (2021, chapter 5) System of selective collection of certain residual materials. Gazette Officielle du Québec, January 26, 2022, Vol. 154, No. 4 Available at: <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=105495.pdf>

⁷⁵ Government of New Brunswick. New Brunswick Regulation 2008-54. Last amended October 14, 2021. Available at: <https://laws.gnb.ca/en/ShowPdf/cr/2008-54.pdf>

⁷⁶ Government of Nova Scotia. Extended Producer Responsibility and Paper and Packaging Act.

Available at: https://nslegislature.ca/legc/bills/64th_1st/1st_read/b025.htm

⁷⁷ Government of New Brunswick. Bill 70: An Act to Amend the Beverage Containers Act. Available at: <https://www.legnb.ca/en/legislation/bills/60/1/70/an-act-to-amend-the-beverage-containers-act>

⁷⁸ Retail Council of Canada, 2022. New Brunswick proposal to overhaul beverage container recycling program. Available at: <https://www.retailcouncil.org/province/nb/new-brunswick-proposal-to-overhaul-beverage-container-recycling-program/>

⁷⁹ Encorp Atlantic, 2021. Beverage container program update. Available at: <https://encorpatl.ca/beverage-container-program-update/?msclkid=57744e72cf0a11ecbc23dbc5242ac368>

⁸⁰ Nova Scotia has banned the following from disposal across all sectors: non-hazardous HDPE (resin 2) and LDPE (resin 4) packaging and plastic bags, and materials started by product stewardship and EPR systems. The province does not report on their enforcement and the province does not operate landfills.

⁸¹ Government of Nova Scotia, Nova Scotia Environment, 2021. Nova Scotia Taking Action to Reduce Waste - Government of Nova Scotia, Canada. Available at: <https://novascotia.ca/news/release/?id=20211210007>

PROVINCE / TERRITORY	RESIDENTIAL	NON-RESIDENTIAL (ICI)	BEVERAGE CONTAINERS	RESIDUAL PRODUCT CONTAINERS	FARM AND LARGE FILM	DATA TRANSPARENCY AND RELIABILITY	OVERALL GRADE	NOTEWORTHY IMPROVEMENTS ON THE HORIZON
PE	C+	B+ ⁸³	D+	C	A+	F	D+	
NL	F	F	D+	C	F	F (beverage containers only)	F	NL has held a workshop where it notified stakeholders of its intent to begin consulting in on implementing an EPR system for residential PPP.
YT	F	F	C	F	n/a	F (beverage containers only)	F	YT is consulting on implementing an EPR system for Residential PPP and used automotive containers. ⁸⁴
NT	F	F	B+	F	n/a	F (beverage containers only)	F	NT is undertaking research on opportunities to implement an EPR system for Residential PPP and other materials.
NU	F	F	F	F	n/a	n/a	F	

⁸² Government of Nova Scotia, 2021. Extended Producer Responsibility and Paper and Packaging Act. Available at: https://nslegislature.ca/legc/bills/64th_1st/1st_read/b025.htm

⁸³ Prince Edward Island has disposal bans on all plastic packaging with resins 1-5 that are implemented locally by the Island Waste Management Corporation.

⁸⁴ Government of the Yukon Territory, 2021. Learn about Extended Producer Responsibility. Available at: <https://yukon.ca/en/extended-producer-responsibility>.

5 CONCLUSIONS AND RECOMMENDATIONS

This report focuses on packaging, which is the biggest driver of plastic waste and pollution in Canada and is subject to a broad range of waste and pollution policies at all levels of government. The analysis reveals that Canada is not on track to achieve its goal to eliminate plastic waste by 2030. Without more concerted action at all levels of government, significant amounts of plastic from packaging and other sources will continue to be discarded in landfills, incinerators, and directly into the natural environment across the country.

It is also clear that Canada will not eliminate plastic waste by relying on end-of-pipe waste management solutions, even with improved recycling systems and higher recycling targets. Provinces and territories, and through delegation of authority, municipalities, largely hold the jurisdiction over solid waste management in Canada and, to various degrees, have been attempting to manage the problem of plastic waste and pollution for many decades. Yet, in these same years, the problems caused by plastic waste and pollution have only grown.

Recently, some provinces have introduced extended producer responsibility systems (EPR) intended to make companies responsible for the full life cycle of the products they put on the market. Ideally, EPR should fix market distortions that allow these companies to externalize the end-of-life costs of their products and packaging, driving reduction in the use of materials, as well as better design, improved collection and sorting of discarded materials, and increased reuse and recycling. But the analysis in this report reveals that these policies and programs, which are primarily focused on diversion from landfill via recycling and/or energy from waste, will not serve to eliminate plastic waste.

For Canada to eliminate plastic waste by 2030, the following actions should be taken:

1. All levels of government should refocus their efforts to implement measures that intervene earlier in the life cycle of products and packaging to prevent waste by:
 - d) Eliminating problematic plastic, especially single-use plastic items. For example, require that plastic products and packaging targeted by provincial and territorial diversion systems undergo a reuse and recyclability assessment before those items are permitted to be introduced to market (e.g., Alberta requires a pre-market recyclability assessment for its Deposit Return System, see **APPENDIX B:**).
 - e) Requiring and supporting convenient, affordable, and widespread systems to reuse and refill packaging (e.g., Austria has implemented binding and enforceable reusable packaging quotas, see **APPENDIX B:**).
 - f) Using the proposed \$100 million federal fund for “reuse and recycling infrastructure and innovation” to support the scaling up of local reuse systems.
2. Ensure accurate and comprehensive data is available to policymakers and the public on the amount and type of plastic put on the market and its end-fate by:
 - d) Immediately establishing a federal plastics registry under the provisions of the Canadian Environmental Protection Act (CEPA) to ensure all stakeholders have the information they need to be able to track and address plastic waste reduction across Canada.
 - e) Improving performance reporting of regulated collection and recycling systems to ensure they provide information on the types of plastic supplied into the market and how that plastic is ultimately managed. While all product stewardship and EPR systems across Canada show reporting deficiencies, quick wins could be made by leveling up reporting requirements to those already met by BC’s Packaging and Paper Products system as well as Alberta’s and British Columbia’s Deposit Return Systems.
 - f) As part of the registry, requiring all sorting facilities (e.g., materials recovery facilities) and re-processors (e.g., plastic recycling facilities) to report on the amount of plastic material that enter their systems and its end-fate (e.g., tonnages of plastic baled, recycled pellets or flakes marketed, amount and types of plastic residuals landfilled or sent for thermal treatment).
3. Close the waste gap by immediately establishing, expanding, and improving existing regulated EPR and stewardship systems so that they are capable of targeting the full range of plastic packaging and products (including single-use plastic items, short-term use plastic items, and packaging-like products) and achieving (at a minimum) the best-case scenario for recycling/reuse modeled in this report. While the best-case scenario will not eliminate the waste gap, it would be a substantial improvement over the status quo.

To support this effort, the federal government should issue guidelines, as a risk management measure for toxic substances under CEPA, to implement and expand regulations that:

- g) Establish a consistent Canada-wide network of EPR systems to collect and recycle all types of plastic packaging and products. The regulations should:
 - Align with Québec by implementing regulated EPR plastic packaging systems for both the residential and ICI sectors.
 - Align with British Columbia by implementing EPR plastic packaging systems that include its extensive material scope and reporting requirements.

-
- Align with British Columbia and ban the distribution of plastic items that are problematic to recycle by 2023 (i.e., containers, bowls, plates, trays, cartons, film wrap, and cups made from polystyrene foam, PVC, compostable plastic and oxo-degradable plastic).
 - Establish regulated recycling targets for rigid and flexible plastic packaging of at least 90 per cent for plastic beverage containers and 80 per cent for all other plastic packaging and products (aligned with Québec and the European Union).
- h) Establish a consistent Canada-wide network of deposit return systems for all beverage containers with an aim to expanding the deposit return systems to other types of packaging by 2030. The regulations should:
- Align with Alberta's / Northwest Territories' designated container scope.
 - Align with Alberta's pre-market recyclability assessment requirements. Any containers that are deemed not recyclable by the provincial system should be denied access to the market.
 - Align with British Columbia's third-party verification and reporting requirements.
- i) Establish a consistent Canada-wide network residual product containers systems with a designated container scope consistent with that of Saskatchewan / Manitoba but improve their reporting requirements to be consistent with that of British Columbia.
- j) Establish agricultural plastic systems consistent with the designated material scope of Québec's newly regulated system.
- k) Establish specialty large film plastic systems, such as the boat wrap system in Prince Edward Island, wherever these specialty plastic is used.
- l) Support participation in EPR systems by aligning with Prince Edward Island and Nova Scotia and banning the disposal of plastic packaging and products. Expand disposal bans to cover all materials collected and recycled in EPR systems. Define disposal as material managed in landfill, incineration, and other forms of energy recovery.
4. Canada's federal government should immediately ban the export of plastic-containing waste, including unsorted and contaminated recyclables, to non-OECD countries and amend the bilateral agreement on waste trade with the U.S. to ensure the provisions of the agreement adhere to the Basel convention.

APPENDIX A: DETAILED METHODOLOGY

Waste Disposal Gap

We calculated the gap between the goal of eliminating plastic packaging waste and the estimated amount plastic packaging that is expected to be disposed in 2030 based on two scenarios:

- Status quo scenario -i.e., the plastic packaging waste that would be disposed in 2030 based on current Canada-wide system performance.
- Best-case scenario -i.e., the plastic packaging waste that would be disposed in 2030 based if all of the provinces and territories 'levelled up' to achieve the highest targets currently set by a provincial or territorial jurisdiction in Canada.

The calculation of waste disposal gaps for each scenario were calculated as follows:

1. The tonnage of plastic packaging discarded was identified from Statistics Canada 2022 release: "Pilot physical flow account for plastic material, 2012 to 2018".⁸⁵
 - Plastic packaging discarded equals: plastic packaging that leaks into the environment plus plastic packaging that is collected for disposal or diversion (i.e., recycling, reuse).
2. The growth rate in plastic packaging discarded was calculated for the years 2012–2018 by entering Statistics Canada plastic discard data for 2012 and 2018 and a growth period of six years into a growth rate calculator.⁸⁶
 - This calculation provided a growth rate of 1.26 per cent annually over six years.
3. For ease of calculations, it was assumed that the plastic discard rate from 2012–2018 would remain constant for 2018 – 2030.
 - The amount of plastic packaging expected to be discarded in 2030 was estimated by entering the following into the growth calculator: the plastic packaging discard growth rate for 2012-2018 (i.e., 1.26 per cent), the tonnage of plastic packaging that was discarded in 2018 (i.e., 2,219,818 MT), and a growth period of 12 years.
 - The result of this calculation provided an estimate that 2,555,454 MT of plastic packaging would be discarded in 2030.⁸⁷
4. The estimate for plastic packaging expected to be discarded in 2030 was then adjusted to account for the effect of the Government of Canada's upcoming bans on six categories of single-use plastic items.
 - The federal government expects the bans would have prevented an estimated 160,000 MT of target single-use plastic items from being supplied into Canada in 2019 if the bans were 100 per cent effective.⁸⁸
 - For ease of calculations, it was assumed the federal bans would be 100 per cent effective and that all single-use plastic items generated are discarded in the same year.
 - The amount of single-use plastic items expected to be avoided in 2030 was estimated by entering the following into the growth calculator: a growth rate of 1.26 per cent annually, the tonnage of single-use plastic items that was generated in 2019 (i.e., 160,000 MT of single-use plastics), and a growth period of 11 years.
 - The result of this calculation provided an estimate of 182,176 MT of target single-use plastic items avoided.
 - To adjust the estimate for plastic packaging expected to be discarded in 2030, the estimated tonnes of single-use plastic items avoided was subtracted from the 2030 estimated plastic packaging discarded: i.e., 2,555,454 MT plastics packaging discarded - 182,176 MT of single-use plastic items avoided = an adjusted estimate of 2,373,278 MT of plastic packaging that will be discarded in 2030, if plastics use remains constant, the federal bans are 100 per cent effective, and existing management systems do not improve.

⁸⁵ Statistics Canada. Table 38-10-0150-01 Pilot physical flow account for plastic material, by product category. Available at <https://www150.statcan.gc.ca/n1/daily-quotidien/220323/dq220323f-eng.htm>

⁸⁶ In 2012, 2,063,636 tonnes plastic packaging were produced and in 2018, 2,219,818 tonnes packaging was generated. This equates to a growth rate of 1.26% over 6 years as calculated on the ezcalc.me growth rate calculator available at: <https://ezcalc.me/percent-growth-rate-calculator/>

⁸⁷ Starting values: growth rate of 1.26%; 12 years of growth, plastic discards starting value 2,219,818 MT (2018 value) equates to 2,555,454 MT plastic discards in 2030. See the ezcalc.me growth rate calculator available at: <https://ezcalc.me/percent-growth-rate-calculator/>

⁸⁸ Government of Canada, 2021. Regulatory Impact Analysis. Canada Gazette, Part I, Volume 155, Number 52: Single-use plastics Prohibition Regulations Available at: <https://www.gazette.gc.ca/rp-pr/p1/2021/2021-12-25/html/reg2-eng.html>

5. From the adjusted estimate of total plastic packaging discarded in 2030, the relative contributions of the residential, non-residential (i.e., industrial, commercial, and institutional (ICI), and beverage container streams) were calculated.
 - The relative proportional contribution of each stream was assumed to be the same as determined by the Canada Plastics Pact (CPP), in their Foundational Report.⁸⁹ CPP estimates the proportion of plastic packaging discarded by each stream is:
 - ICI: 52%
 - Residential: 44 %
 - Beverage containers systems: 3%.

Due to rounding, these do not add up to 100%. As a result, each estimate was adjusted as follows to provide an estimate that totals approximately 100%:

 - ICI : 52.33333%
 - Residential: 44.33333%
 - Beverage containers systems: 3.33333%.
 - To calculate an estimated proportional tonnage of plastic packaging that would be discarded by each stream in 2030, the total adjusted estimate of total plastic packaging discarded in 2030 was multiplied by the proportion discarded by each stream.
 - ICI: $2,373,278 \text{ MT} \times 0.5233333 = 1,242,016 \text{ MT}$
 - Residential: $2,373,278 \text{ MT} \times 0.4433333 = 1,052,153 \text{ MT}$
 - Beverage containers systems: $2,373,278 \text{ MT} \times 0.333333 = 79,109 \text{ MT}$.
6. The status quo waste gap was then calculated. This is the gap between the goal of eliminating plastic packaging waste and the amount of plastic packaging that is expected to be disposed in 2030 if there were no additional improvements to provincial and territorial reuse and recycling systems and no further reductions in supply of plastics on the market (e.g., no other plastic bans are implemented, no replacement of single-use packaging by reuse/refill options). To determine the amount of waste that would be disposed under status quo management conditions:
 - First, the amount that would be recycled by each stream in 2030 was calculated by multiplying the adjusted estimate of total expected plastic packaging discarded in 2030 for each stream by the CPP's estimates of the current recycling rates achieved by each a steam.
 - ICI : $1,242,016 \text{ MT} \times 0.05 = 62,101 \text{ MT}$
 - Residential: $1,052,153 \text{ MT} \times 0.16 = 168,345 \text{ MT}$
 - Beverage containers systems: $79,109 \text{ MT} \times 0.63 = 49,839 \text{ MT}$
 - Total recycled for all streams = 280,284 MT (12% recycling rate)
 - Then, the total amount disposed in the status quo scenario was calculated by subtracting the amount recycled from the amount discarded as follows: adjusted estimate of total plastic packaging discarded in 2030 (2,373,278 MT) minus the total recycled by each stream in 2030 (280,284 MT) = 2,092,994 MT (88%).
7. A highly optimistic best-case scenario estimate was calculated. This scenario generously assumed that all provinces and territories would 'level up' to achieve the most ambitious recycling targets currently regulated for rigid plastics in all streams, even though actual recycling targets for flexible plastics are far less, and the most ambitious recycling system scopes were implemented. Note: We did not consider the impact of reduction, reuse, or refill in this scenario because no province or territory currently has a plan to significantly drive plastic packaging prevention, reuse, or refill.
 - First, to inform the best-case scenario estimate, a best practices scan was completed to identify the highest targets in Canada for residential, ICI, and plastics packaging and beverage container recycling (see **APPENDIX B:**).
 - Note: Only BC and ON have set reuse / recycling targets for packaging, and only British Columbia, ON, and QC have set recycling targets for beverage containers. QC has set 'reclamation' targets for plastic packaging that enable materials to be recovered for energy and removes those materials from a circular economy.⁹⁰ Environmental Defence's position is that energy recovery and 'advanced recycling' practices are a form of disposal that removes materials from a circular economy and should not be reported as 'diversion' nor equated to recycling.^{91,92}

⁸⁹ Canada Plastics Pact, 2021. Foundational Research and Study: Canadian plastics packaging flows. Available at: <https://plasticspact.ca/wp-content/uploads/2021/10/CPP-Foundational-Research-on-Canadian-Plastics-Packaging-Flows-May-2021-final.pdf>

⁹⁰ Government of Quebec. Act to amend mainly the Environment Quality Act with respect to deposits and selective collection (2021, chapter 5) System of selective collection of certain residual materials. Gazette Officielle du Québec, January 26, 2022, Vol. 154, No. 4 Available at: <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=105495.pdf>

⁹¹ Environmental Defence, 2022. What is advanced recycling? Available at: https://environmentaldefence.ca/wp-content/uploads/2022/02/Advanced_Recycling_Backgrounder_February_2022.pdf

- ON was determined to have the most ambitious recycling targets and the broadest scope for the residentially generated plastic packaging: 60% for rigid plastics, 40% for flexible plastics, and 80% for beverage containers (excluding flexible plastic containers) (2030 onwards).^{93, 94}
- A number of jurisdictions have added select ICI generators to the scope of their residential recycling systems. For example, MB includes schools and ON includes schools as well as long term care and retirement homes. However, these generator sites do not generate a significant portion of ICI plastic packaging. QC was found to have set the most ambitious goal for implementing ICI plastic packaging reclamation (i.e., reuse, recycling, or recovery) - i.e., by 2030, QC will require producers to extend plastic packaging recycling to the entire ICI sector.
- For ease in calculating the most optimistic best-case scenario, it was assumed that each jurisdiction would level up to achieve the highest reuse and recycling targets for each category (i.e., those set by ON for rigid plastics), the broadest material scope (i.e., ON), and the widest sector scope (i.e., QC).
 - ICI : $1,242,016 \text{ MT} \times 0.60 = 745,209 \text{ MT}$ (scope based on QC, target based on ON)
 - Residential: $1,052,153 \text{ MT} \times 0.6 = 631,292 \text{ MT}$ (scope and target based on ON)
 - Beverage containers systems: $79,109 \text{ MT} \times 0.80 = 63,287 \text{ MT}$ (scope and target based on ON)
 - Total recycled for all streams = $1,439,789 \text{ MT}$ (61% recycling rate)⁹⁵
- The total amount disposed in the best-case scenario was calculated by subtracting the amount recycled from the amount discarded as follows: adjusted estimate of total plastic packaging discarded in 2030 (2,373,278 MT) minus the total recycled by each stream in 2030 (1,439,789 MT) = 933,489 MT.

These results are presented in Section 4.1: **Criterion 1: Effort to reduce waste disposal gap**

⁹² Environmental Defence, 2018. Incineration is not recycling. Available at: <https://environmentaldefence.ca/wp-content/uploads/2018/09/Incineration-Media-Backgrounder-Environmental-Defence.pdf>

⁹³ Note: Ontario's beverage containers target is 80% for all beverage containers, not just plastic containers, and the definition of beverage container excludes flexible plastics. Ontario has not set a unique plastic beverage container recycling target. British Columbia has targets for plastic beverage container reuse/recycling, as follows: Rigid, one litre or less =78%, over one litre =87%, flexible =75%.

⁹⁴ Ontario. Blue Box Regulation. Ontario Regulation 391.21. Last updated: June 3, 2021. Available at: <https://www.ontario.ca/laws/regulation/r21391#BK8>.

⁹⁵ Note the actual total recycling rate is 60.6666661%, which is why the total MT estimated to be recycled is not 1,447,699.73 MT.

APPENDIX B: BEST PRACTICES SCAN

As Canada plans to fill gaps as it works towards achieving its 2030 plastic recycling and reuse targets, it can look to best practices across Canada and globally. The following is a scan of best practices for various PPP management systems in Canada and diversion policies systems globally.

Table 8: Best Practice Systems –Canada⁹⁶

BEST PRACTICE	WHERE IS THE BEST PRACTICE IMPLEMENTED?	RESULTS
Ban and/or discourage the distribution of problematic plastics.	<ul style="list-style-type: none">BC (proposed)	<p>In May 2022, BC proposed a novel regulated system (i.e., first of its kind system in Canada) to <u>prevent single-use item waste, including</u></p> <ul style="list-style-type: none">banning distribution of plastic check-out bags, and requiring a fee on paper bags by 2023;requiring the food service industry to provide single-use food ware items by request only (i.e., straws, cutlery, stir sticks, dishes, condiment packages, napkins, cold cup lids, cup sleeves, and trays) by 2023;banning oxo-degradable plastics by 2024; andphasing out problematic plastics by 2024 (i.e., plastic food ware such as containers, bowls, plates, trays, cartons, film wrap, cups made from PS, PVC, or compostable plastic).

⁹⁶ Except where noted, references to support this scan can be found in Appendix D, Table 19.

BEST PRACTICE	WHERE IS THE BEST PRACTICE IMPLEMENTED?	RESULTS
<p>Set broad material scope – does not exclude problematic plastics, sub-categories of the designated materials from the system, or components or parts containers (e.g., bottle caps)</p>	<ul style="list-style-type: none"> • Beverage containers: AB and NWT • Bottle caps: AB and BC • PPP (including SUPs and PLPs): BC • Agricultural plastics: QC 	<ul style="list-style-type: none"> • Beverage containers –AB and NWT have widest ready-to-serve material scope in Canada (only beverages for infants are excluded). • Bottle caps –AB and BC are the only DRS systems in Canada that encourage consumers to return their beverage containers to a depot with ‘caps-on’ bottles. This practice discourages cap litter. • PPP –BC widest material scope in Canada, no types of plastic packaging are excluded from the system, and no parts of the containers are excluded (e.g., caps); only program in Canada that currently collects flexible plastics for diversion (i.e., energy recovery) as part of a pilot study; first program in Canada to add range of SUPs and PLPs beginning in 2023. • Ag-Plastics –QC has the widest material scope, while list is limited there are no obvious exclusions.
<p>Set broad system sector scope – diverts materials from both the residential and ICI sectors</p>	<ul style="list-style-type: none"> • Plastic packaging and products: Québec • Speciality container collection systems across Canada for beverage containers (DRS systems), automotive fluid containers, paint containers. 	<ul style="list-style-type: none"> • Québec is proposing to implement an EPR system for ICI-generated plastic packaging and products. • Speciality container collection systems collect from all waste generators (i.e., residential and ICI); there are no gaps in collection.
<p>Implement a pre-market recyclability requirement – has a system to <u>actively</u> check recyclability of new containers before they are permitted for sale in province and containers that are not recyclable within the current system are not permitted for</p>	<ul style="list-style-type: none"> • Beverage containers: AB 	<ul style="list-style-type: none"> • While pouches are not currently recyclable and were grandfathered into the system, all new containers must pass a recyclability test before they may be registered for sale in AB; non-recyclable containers are not permitted to be registered for sale and can be pulled from store shelves.

BEST PRACTICE	WHERE IS THE BEST PRACTICE IMPLEMENTED?	RESULTS
sale		
Implement supporting policies – disposal bans	<ul style="list-style-type: none"> • PPP: PE, NS 	<ul style="list-style-type: none"> • Use of diversion options are encouraged across all sectors.
Establish transparency in target setting – <ul style="list-style-type: none"> • require targets to be published • require targets on sub-types of plastics to improve transparency on problem plastics management and results • sets targets <u>on</u> final treatment (i.e., materials reused or recycled) to improve transparency on materials ultimately reinjected back into a circular economy. 	<ul style="list-style-type: none"> • Beverage containers plastic sub-targets: BC • PPP plastic sub-targets: BC (though could use improvement) • DRS recycling targets: QC 	<ul style="list-style-type: none"> • BC DRS reports on rigid, pouches, bladders. • BC PPP reports on rigid and flexible plastics. • QC DRS sets targets for both collection (units collected) and amount ‘valorised’ (i.e., amount of reclaimed materials transformed for use in the manufacture of new goods).
Set high reclamation targets (i.e., material collected, sorted, and finally recycled)	<ul style="list-style-type: none"> • PPP: Ontario currently has the highest reclamation targets for reuse/materials sent for recycling. I.e., Ontario is the only jurisdiction that will not permit materials sent for energy recovery to count towards their achievement the reclamation targets. Ontario 	<p>Ontario <u>material reclamation targets, EXCLUDING energy recovery</u>)</p> <ul style="list-style-type: none"> • Rigid: 50% (2026-2029) and 60% (2030 onwards) • Flexible: 25% (2026-2029) and 40% (2030 onwards). • Beverage containers 75% (2026-2029) and 80% (2030 onwards). (Note: this excludes flexible plastic containers).

BEST PRACTICE	WHERE IS THE BEST PRACTICE IMPLEMENTED?	RESULTS
	<p>calls their reclamation targets 'recovery' targets.⁹⁷</p> <ul style="list-style-type: none"> DRS: BC has the highest flexible plastic reclamation target for beverage containers, and it does not permit beverage containers to be sent for energy recovery. 	<p><u>BC DRS material reclamation targets, EXCLUDING energy recovery)</u></p> <ul style="list-style-type: none"> Flexible containers (e.g., pouches and bladders: 75% (2024) Rigid plastic containers ≤1L: 78% (2024) Rigid plastic containers >1L: 87% (2024)
<p>Apply strict definition of recycling – does not report energy recovery as 'recycled' as this does not contribute to a circular economy</p>	<ul style="list-style-type: none"> Beverage containers: BC Plastic packaging and products (PPP): ON 	<ul style="list-style-type: none"> All materials collected must be used to displace a virgin material. <p>Caution -there is no transparency on the processing efficiency of re-processor.</p>
<p>Require annual reporting – including third party verification of end-of-life materials management</p>	<ul style="list-style-type: none"> All EPR systems in BC 	<ul style="list-style-type: none"> Annual report published that includes information on the amount of material sold and the amount of material recovered. <p>Caution, BC's PPP system is not transparent about the amount of eligible materials are not targeted by BC's approved PPP system (e.g., materials below de minimis supplied into BC, the calculation that determines producers estimates about how much of the material is supplied into province is disposed in the residential vs ICI sector). Low material supplied estimates can artificially raise the reported collection / recycling rates.</p>

⁹⁷ PPP: BC (short-term) and QC (longer term) have higher targets than Ontario for most items, however, they permit material to be sent for energy recovery.

Table 9: Best Practice Policies –Global

BEST PRACTICE	WHERE IS THE BEST PRACTICE IMPLEMENTED?	EXAMPLES and RESULTS
Measurement of recycling (not just collection)	Canada (CSA Group)	Measures recycling post final processing losses. ⁹⁸ This enables better measurement of the path towards a circular economy –i.e., it ensures that the amount of material that is available as feedstock in a circular economy is measured. This enables system operators to have data on where materials are lost throughout the material management chain (including final processing) and better target efforts to improve the system.
Require recyclability	Alberta	<p>All containers sold must be recyclable. The regulator reviews ‘recyclability’ of containers before they can be registered for sale in the province. Containers deemed not currently recyclable are denied registration and cannot be sold.⁹⁹</p> <p>This pre-market check prevents changes in packaging design from disrupting the recycling process, and ensures all containers are recyclable.</p>
Set reuse quotas	Austria	<p>Austria implemented binding and enforceable reusable packaging quotas in their Waste Management Act: i.e., at least 25% by 2025 and 30% by 2030 of beer, soft drinks, juices, and milk containers put on the market must be reusable.¹⁰⁰</p> <p>This establishes requirements to provide consumer access to reusables and creates a market for reusables.</p>
Provide recyclability labelling	United Kingdom (UK) Australia	<p>Consumers are given clear and consistent directions on how to recycle.</p> <p>The UK’s On-Pack Labelling System labelling system provides consumer and</p>

⁹⁸ Valiante, U., Gies, G. and Moreside, E. Defining recycling in the context of plastics. Available at: <https://www.csagroup.org/wp-content/uploads/CSA-Group-Research-Defining-Recycling-in-the-Context-of-Plastics.pdf>

⁹⁹ Beverage container Management Board Add in.

¹⁰⁰ Government of Australia. Waste Management Act. Last updated March 4, 2022. Available at: <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20002086>

		<p>producer guidance on packaging recyclability. The label provides a clear visual signal about whether the material is recyclable in the UK.¹⁰¹ The UK's new Environment Act provides government with the capability to make recyclability labelling mandatory.¹⁰²</p> <p>The Australian Packaging Covenant Organization is a co-founder and user of the Australian Recycling Label. This is labelling system intended to inform consumers about whether packaging is locally recyclable. The system is based by a recyclability assessment powered by PREP Design: Packaging Recyclability Evaluation Portal.</p>
Provide recyclability guidance	UK Australia Singapore	<p>The UK's not-for-profit RECOUP provides industry with clear advice on how to improve the recyclability of their products, including its annual release of "Recyclability by Design" and its recyclability certification system.¹⁰³</p> <p>The UK, Australia, and Singapore recyclability labelling systems are underpinned by the PREP: Packaging Recyclability Evaluation Portal, developed by PREP Design. PREP is a tool that assesses local packaging recyclability by material, shape, weight, size, inks, adhesives used and other variables. It uses algorithms to simulate the behaviour of packaging in the recycling system, from collection, through sorting at local MRFs and through processing facilities. The recyclability assessment is underpinned by local data that is assessed and reviewed by independent third parties.¹⁰⁴ The system provides producers with guidance on how to design for recycling. Producers can have their packaging assessed for local recyclability and labelled appropriately.</p>
Require recycled content	UK	<p>The UK plastic packaging tax charges companies for producing, using, and holding plastics that do not contain at least 30% recycled content from April 2022.¹⁰⁵</p>

¹⁰¹ WRAP. On-Pack labelling and citizen recycling behaviour. Available at: <https://wrap.org.uk/resources/report/pack-labelling-and-citizen-recycling-behaviour>

¹⁰² Government of United Kingdom. Environment Act. Last updated March 2022. Available at: [Environment Act 2021 \(legislation.gov.uk\)](https://www.legislation.gov.uk/enacted/2021-03-01)

¹⁰³ RECOUP, n.d. Available at: <https://www.recoup.org/>

¹⁰⁴ PREP Design (Packaging Recyclability Evaluation Portal). n.d. Remove Confusion from Recycling. Planet Ark, Australia. Available online: <https://www.prep.org.au/main/content/home>

¹⁰⁵ Government of United Kingdom. Plastic Packaging Tax. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

Implement repair tax incentive	Sweden	Sweden reduced its value-added tax, or VAT, for repairing bicycles, clothes, household linen, leather goods, and shoes, from 25 % to 12 %. ¹⁰⁶ This provides consumers with an economic incentive to repair items instead of buying new by reducing the cost of repair.
Apply taxes if recovery targets are not reached	Norway	Norway established a tax that is charged to producers who do not achieve a 95% return rate for specific beverage containers. ¹⁰⁷ This provides producers with a financial incentive to achieve high return rates. Norway has one of the highest return rates globally
Retail food waste disposal ban.¹⁰⁸	France	France encourages de-packaging of edible food (i.e., food that is still fit for human consumption), which provides opportunity for packaging recycling.
EPR reporting	Germany	<p>Germany's, Zentrale Stelle Verpackungs Register (English translation: Central Agency Packaging Register), is a German organization that acts as a central registry for obligated producers in Germany's packaging producer responsibility system. It has published two documents:</p> <ul style="list-style-type: none"> • Guidance on the assessment of the recyclability of packaging subject to mandatory scheme participation.¹⁰⁹ • Minimum standard for determining the recyclability of packaging subject to system participation pursuant to section 21 (3) VerpackG.¹¹⁰ <p>Both reports provide information on design for recyclability and provides</p>

¹⁰⁶ Dalhammar, C; Richter, J.L.; Almén, J.; Anehagen, M.; Enström, E.; Hartman, C.; Jonsson, C.; Lindbladh, F.; and Ohlsson, J., 2020. Promoting the Repair Sector in Sweden. Lund University. Available at:

https://lucris.lub.lu.se/ws/portalfiles/portal/77933910/Promoting_the_repair_sector_in_Sweden_2020_IIIEE.pdf

¹⁰⁷ Government of Norway. VAT and Duties Beverage Packaging. Available at: <https://www.skatteetaten.no/en/business-and-organisation/vat-and-duties/excise-duties/about-the-excise-duties/beverage-packaging/>

¹⁰⁸ Government of France. LAW n° 2016-138 of February 11, 2016, relating to the fight against food waste. Available at:

<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000032036289/>

¹⁰⁹ Zentrale Stelle Verpackungs Register, 2018. Guidance on the assessment of the recyclability of packaging subject to mandatory scheme participation. ZSVR, Germany. Available online: http://www.bellandvision.de/xist4c/download/web/Guidance%2Bon%2Bthe%2Bassessment%2Bof%2Bthe%2Brecyclability%2Bof%2Bpackaging_uplId_2717_cold_2113_.pdf

¹¹⁰ Zentrale Stelle Verpackungs Register, 2020. Minimum standard for determining the recyclability of packaging subject to system participation pursuant to section 21 (3) VerpackG. ZSVR, Germany. Available online: https://www.verpackungsregister.org/fileadmin/files/Mindeststandard/Minimum_standard_Packaging-Act_2020.pdf

		<p>advice to producers on how to assess recyclability for compliance with Germany's updated <i>Packaging Act</i> (VerpackG), which took effect in 2019.</p> <p>The 2018 outlines a methodology for “calculating” packaging recyclability, including:</p> <ul style="list-style-type: none"> • “the existence of sorting and recovery infrastructure for high-quality mechanical recycling of this packaging • the ‘sortability’ of the packaging and the separability of its possible components • incompatibilities of packaging components or substances contained which, according to recovery practice, may prevent successful recovery (p. 2 and 3)”. <p>Its appendices provide details on:</p> <ul style="list-style-type: none"> • how to check material conformity with recycling by material types, material fractions and recycling pathways (including disqualifying materials); • packaging characteristics requiring verification of identifiability in sensor-based sorting; • an overview of packaging recyclables and material-specific recycling incompatibilities; and • a procedure model for the assessment of recyclability (i.e., none, low-grade recyclable, medium degree recyclable and highly recyclable). <p>The definition of recyclable used in the report is: “the basic and gradual suitability of a packaging, after passing through industrially available recovery processes, to substitute virgin material in material-typical applications”.</p>
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APPENDIX C: SCORING RUBRIC

Canada's provinces and territories were assessed for the breadth of their existing systems and the likelihood of those systems to help Canada achieve its Zero Plastics Waste Goal. Three categories of grades were assigned to each jurisdiction, including two types of indicator grades and an overall jurisdictional grade.

- An indicator grade for each type of system: PPP, beverage containers, residual product contains, and agricultural (farm) and similar large film plastics (e.g., boat wrap). Because the purpose of this report card is to assess current performance so that progress can be tracked over time, points were provided for current performance only, with the exception of agricultural plastics systems. For agricultural systems, points were also allocated for a jurisdiction initiating pilot systems and draft regulations because few regulations and systems exist. Where identified, bonus points were awarded for systems that have draft regulations in place to initiate system improvements.
- An indicator grade for its reporting transparency and reliability. This grade provides an indicator as to whether Canadians should have trust in the jurisdiction's reports of achievement and whether the jurisdiction is collecting the information it needs to make informed decisions.
- An overall grade for its 'complete package' approach to reducing plastic waste associated with PPP.

Because part of the assessment was to determine whether Canadians should rely on and trust in the existing systems to achieve results, only publicly assessable data was used for the scoring.

Jurisdiction Grading

A jurisdiction's overall grade is based on:

- 100 possible base indicator points. Grades were assigned related to the total score received.
- 20 possible bonus points to recognize efforts underway to advance or improve existing systems or implement best practices.

See "*Indicator Descriptions and Scoring*" (below) for an overview of the Indicator Assessment and point allocation by indicator.

Table 10: Overall jurisdictional scores and their related grades.

OVERALL SCORE TO GRADE CONVERSION		
GRADE	SCORE (total possible 100)	PERCENTAGE OF POINTS
A+	85	85%
A	80	80%
B+	75	75%
B	70	70%
C+	65	65%
C	60	60%
D+	55	55%

D	50	50%
F	<50	<50%

Grading Caveats

To better ensure fairness, the total available points per jurisdiction were reduced for some jurisdictions in two areas:

1. The Data Transparency and Reliability Indicator evaluates data reliability and transparency for the Residential PPP and Beverage Container Systems.
 - For this metric, jurisdictions were only graded for their current state systems. Where a jurisdiction has two systems, the point evaluation was spread across the two systems. Where a jurisdiction had only one system, total points allotted to the section was reduced from 20 points to 10 points, and the total points available for the jurisdiction was reduced to 90 instead of 100.
 - Where a jurisdiction has no systems in place, they were not graded for this metric and their total available points was reduced to 80 instead of 100.
 - For example, Nunavut does not have any systems in place and therefore it was not graded on this metric. For Alberta, it does not have a system in place for Residential PPP, but it does have a system in place for Beverage Containers; therefore, it was only graded on beverage containers and the total points allotted to this section was reduced from 20 to 10.
2. The agricultural plastics indicator assesses a jurisdiction's approach to farm plastics. However, agriculture represents a very small proportion of the GDP in the Territories, and it seems unreasonable to expect these jurisdictions to implement systems for a material that is 'immaterial' to their plastics footprint. As a result, the Territories were not evaluated for the presence of agricultural plastic systems and the total points available for this section was reduced from 20 to 10.

Every effort was made to provide the most optimistic grade wherever possible. As a result, for the assessment of each metric's criteria, the following rules were used to determine whether points were allocated to each jurisdiction (**Table 11**).

Table 11: Criteria for assigning scores.

ASSESSMENT	CRITERIA
Points allocated	<ul style="list-style-type: none"> • Current state criteria –system is operational, system is an operational pilot. • Future state criteria –government has made a public commitment to implement a specific type of system (e.g., EPR, DRS) and: <ul style="list-style-type: none"> ○ government is undergoing consultation on system design, ○ government has published draft regulations, or ○ government has established regulations, but the system is not yet operational. • Performance and reporting criteria – (e.g., targets, results), criteria are publicly reported.
No points allocated	<ul style="list-style-type: none"> • Current state criteria –No system exists. • Future state criteria –no public commitment has been announced to

	<p>implement a system.</p> <ul style="list-style-type: none"> Performance and reporting criteria – (e.g., targets, results), criteria are not publicly reported.
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Table 12: Indicator score to grade conversion

GRADE	INDICATOR A-C, F SCORE (total possible 20)	INDICATOR D& E SCORE (total possible 10)	PERCENTAGE OF POINTS
A+	17 or more	9 or more	85%
A	16	8	80%
B+	15	–	75%
B	14	7	70%
C+	13	–	65%
C	12	6	60%
D+	11	–	55%
D	10	5	50%
F	<10	–	<50%

Indicator Descriptions and Scoring

The following is a description of the indicators and the requirements for obtaining for points for each score. See **Table 13**, **Table 14**, **Table 15**, **Table 16**, **Table 17**, and **Table 18**.

Indicator A: Residential PPP System

Table 13: Indicator A –Residential PPP System

		Points
A-1	Current state – EOL management system exists. <ul style="list-style-type: none">A jurisdiction-wide system exists to collect and reuse or recycle residential PPP. E.g., product stewardship, EPR, DRS.	4
A-2	Current state – Material scope includes all residential PPP. <ul style="list-style-type: none">All types of residential PPP are collected by the system operator.	4
A-3	Current state – System collects a significant amount of PPP. ¹¹¹ <ul style="list-style-type: none">In 2021, the system collected 75% or more of the available rigid <u>PPP</u> for reuse or recycling (2 points).In 2021, the system collected 75% or more of the available flexible <u>PPP</u> for reuse or recycling (2 points).In 2021, the system collected 50% or more of the available rigid <u>PPP</u> for reuse or recycling (1 points).In 2021, the system collected 50% or more of the available flexible <u>PPP</u> for reuse or recycling (1 points).	4
A-4	Current state – system enables and encourages reuse (e.g., packaging refill). <ul style="list-style-type: none">Reuse (e.g., packaging refill) will keep materials cycling at their highest value in the circular economy for as long as possible.Evidence of enabling and encouraging reuse includes evidence reported of significant reuse occurring as a part of the system operations.	4
A-5	Current state – The system includes single-use plastic items and packaging-like products (e.g., sandwich bags).	4
Bonus	Current or future state – The system implemented or being implemented is full extended producer responsibility (either collective or individual) as a	2

¹¹¹ The 2020 reference year was chosen because at the time of drafting this report, 2020 was the latest year for which Annual Reports were published. The 2021 Annual Reports will not be available until June 30, 2022.

	best practice for creating a link to the circular economy.	
Bonus	Future state – The 2030 reuse and recycling target for all rigid and flexible PPP is 90% or more.	2
Bonus	<p>Current state – PPP system collect and recycle problematic plastics (e.g., flexibles, foams) and packaging components (e.g., bottle caps, spray nozzles).</p> <ul style="list-style-type: none"> • All problematic plastics included (2 points). • Some problematic plastics included (1 point) 	2
Total Points Possible		20 +6 bonus

Indicator B: Non-Residential (ICI) PPP System

Table 14: Indicator B –ICI PPP System

		Points
B-1	<p>Current state – EOL management system exists.</p> <ul style="list-style-type: none"> • A jurisdiction-wide system exists to enable, encourage, and/or require ICI generators to collect and reuse or recycle ICI generated plastic materials. E.g., product stewardship, EPR, DRS, ICI-responsibility, disposal bans. 	4
B-2	<p>Current state – Material scope includes all ICI generated PPP (i.e., pre-consumer and post-consumer materials).</p> <ul style="list-style-type: none"> • All types of ICI generated PPP are collected and reused or recycled (i.e., reused, recycled). (4 points) • Most types of ICI generated PPP are collected and reused or recycled (i.e., reused, recycled) but some problematic PPP are excluded (e.g., flexibles). (2 points) 	4
B-3	<p>Current state – System collects a significant amount of PPP.¹¹²</p> <ul style="list-style-type: none"> • In 2021, the system collected 75% or more of the available rigid <u>PPP</u> for reuse or recycling (2 points). • In 2021, the system collected 75% or more of the available flexible 	4

¹¹² Note, the 2020 reference year was chosen because at the time of drafting this report, 2020 was the latest year for which Annual Reports were published. The 2021 Annual Reports will not be available until June 30, 2022.

	<p><u>PPP</u> for reuse or recycling (2 points).</p> <ul style="list-style-type: none"> In 2021, the system collected 50% or more of the available rigid <u>PPP</u> for reuse or recycling (1 points). In 2021, the system collected 50% or more of the available flexible <u>PPP</u> for reuse or recycling (1 points). 	
B-4	<p>Current state – has a specific reuse element as part of the system design.</p> <ul style="list-style-type: none"> Reuse targets will keep materials cycling at their highest value in the circular economy for as long as possible. Reduction targets prevent new waste generation. 	4
B-5	<p>Current state - PPP system collects and recycles plastics that can be problematic to recycle and are often excluded from collection systems (e.g., flexibles like netted plastics, foams, packaging components like bottle caps and spray nozzles, and single-use items).</p> <ul style="list-style-type: none"> All problematic plastics included (2 points). Some problematic plastics included (2 point) 	4
Bonus	<p>Current state – The jurisdiction’s residential PPP system collects and reuses or recycles PPP generated by a sub-set of ICI facilities (e.g., schools, long-term care facilities, churches, small or medium-sized businesses on residential routes).</p>	2
Bonus	<p>Future state – The jurisdiction has announced it is developing a jurisdiction-wide system to enable, encourage, and/or require ICI generators to collect and reuse or recycle ICI generated plastic materials. E.g., product stewardship, EPR, DRS, ICI-responsibility, disposal bans.</p>	2
Total Points Possible		20 +4 bonus

Indicator C: Targeted Beverage Container System

Table 15: Indicator C –Targeted Beverage Container System

		Points
C-1	<p>Current state – A targeted system exists to capture beverage containers in both the residential and ICI sectors.</p> <ul style="list-style-type: none"> A jurisdiction-wide system exists to collect and reuse or recycle beverage containers regardless of the sector they are generated in. E.g., product stewardship, EPR, DRS. 	4
C-2	<p>Current state – The system targets a broad scope of containers.</p> <ul style="list-style-type: none"> All ready-to-serve plastic beverage containers are collected by the system, except infant formula (4 points). Most ready-to-serve plastic beverage containers are collected by the system. Exemptions could include milk, milk alternatives, milk-derived products, meal replacements, and/or infant formula (3 points). The system's scope is narrow -i.e., it targets only a small subset of the beverage container stream -e.g., soft drink containers, alcohol containers (2 points). 	4
C-3	<p>Current state – System collects a significant amount of plastic beverage containers.¹¹³</p> <ul style="list-style-type: none"> In 2020, the system collected 75% or more of the available rigid containers for reuse or recycling (2 points). In 2020, the system collected 75% or more of the available flexible containers for reuse or recycling (2 points). In 2020, the system collected 50% or more of the available rigid containers for reuse or recycling (1 points). In 2020, the system collected 50% or more of the available flexible containers for reuse or recycling (1 points). 	4
C-4	<p>Current state – The system design includes a reuse or refill component.</p> <ul style="list-style-type: none"> Reuse targets will keep materials cycling at their highest value in the circular economy for as long as possible. 	4

¹¹³ Note, the 2020 reference year was chosen because at the time of drafting this report, 2020 was the latest year for which Annual Reports were published. The 2021 Annual Reports will not be available until June 30, 2022.

C-5	<p>Current state – The system operates a DRS.</p> <p>DRS have been well-established to achieve high return rates, low beverage container litter rates, and high-quality recyclables for reincorporation into a circular economy, and to enable effective reuse systems.^{114,115,116}</p> <ul style="list-style-type: none"> • DRS system is inclusive of all ready-to-serve beverage containers, except infant formula (4 points).¹¹⁷ • DRS system is inclusive of most ready-to-serve beverage containers including milk, but with minor exceptions (e.g., milk-derived products, meal replacements) (3 points). • DRS system is inclusive of most ready-to-serve beverage containers with few exceptions (e.g., milk containers or milk derived products or meal replacements) (2 points). • DRS system is inclusive of only a small subset of the ready-to-serve beverage container stream (e.g., alcohol containers or soft drink containers and beer) (1 point). 	4
Bonus	Future state – The 2030 reuse and recycling target for all plastic beverage containers is 90% or more. ¹¹⁸	2
Bonus	Future state – Jurisdiction is in the process of expanding its deposit return system to include all ready-to-serve beverage containers.	2
Bonus	Current state – The system reports that it <u>recycles or reuses</u> specific types of problematic beverage containers PPP (i.e., pouches and bladders).	2
Total Points Possible		20 +6 bonus

¹¹⁴ Reloop. n.d. Fact Sheet: Deposit Return System: Studies confirm big savings to municipal budgets. Available at: <https://www.cmconsultinginc.com/wp-content/uploads/2017/10/Fact-Sheet-Economic-Impacts-to-Municipis-New.pdf>

¹¹⁵ Reloop. n.d. Fact Sheet: Deposit Return System: System Performance. Available at: <https://www.cmconsultinginc.com/wp-content/uploads/2018/05/Fact-Sheet-Performance-17MAY2018.pdf>

¹¹⁶ Reloop, 2021. What we waste. Available at: <https://www.reloopplatform.org/wp-content/uploads/2021/04/What-We-Waste-Reloop-Report-April-2021-1.pdf>

¹¹⁷ Infant formula is excluded as a beverage container by all systems in Canada.

¹¹⁸ This metric reflects the “Zero Plastic Waste by 2030” plastic beverage container goal established by the Government of Canada in the Minister of Environment and Climate Change’s Mandate Letter. See: Prime Minister of Canada, December 16, 2021. Minister of Environment and Climate Change Mandate Letter. Available at: <https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-environment-and-climate-change-mandate-letter>

Indicator D: Targeted Residual Containers Systems*Table 16: Indicator D –Targeted Residual Product Container System*

		Points
D-1	Current state – A targeted system exists to capture used oil containers in both the residential and ICI sectors.	2
D-2	Current state – A targeted system exists to capture antifreeze containers in both the residential and ICI sectors.	2
D-3	Current state – A targeted system exists to capture deiseal exhaust fluid containers in both the residential and ICI sectors.	2
D-4	Current state – A targeted system exists to capture paint containers in both the residential and ICI sectors.	2
D-5	Current state – A targeted system exists to capture HSP containers in both the residential and ICI sectors.	2
Total Points Possible		10

Indicator E: Farm and Large Film PPP Systems*Table 17: Indicator E –Farm and Large Film PPP Systems*

		Points
E-1	Current state – A targeted system or pilot exists to capture agricultural grain bags.	2
E-2	Current state – A targeted system or pilot exists to capture agricultural twine, bale wrap, and silage wrap.	2
E-3	Current state – A targeted system or pilot exists to capture agricultural seed bags.	2
E-4	Current state – A targeted system or pilot exists to capture specialty agricultural or other similar plastics relevant to the jurisdiction: -e.g., agricultural plastics (netting or netwrap, greenhouse film, fertilizer bags, mulch and sheeting plastic, drip irrigation, maple syrup production plastics) or boat wrap.	2
E-5	Current state – Cleanfarms operates a voluntary system to capture commercial pesticide and fertilizer containers and totes.	2
Total Points		10

Possible		
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Indicator F: Data Transparency and Reliability

Table 18: Indicator F –Data transparency and reliability for residential PPP and beverage containers systems

F-1	<p>Current state – The system operator’s calculation of the system’s collection rate is transparent.</p> <ul style="list-style-type: none"> System operator is required to report the total amount of plastic materials supplied into the jurisdiction and the amount of plastic materials collected for diversion. <ul style="list-style-type: none"> Residential PPP system (2 points) Beverage Container system (2 points) 	4
F-2	<p>Current state – The system operator’s calculation of the system’s reuse and recycling rate is transparent.</p> <ul style="list-style-type: none"> The system operator is required to report the amount of plastic materials reclaimed (i.e., reused and recycled). <ul style="list-style-type: none"> Residential PPP system (2 points) Beverage Container system (2 points) 	4
F-3	<p>Current state – The system’s data are reliable.</p> <ul style="list-style-type: none"> Data and reporting are reviewed by an independent third party. <ul style="list-style-type: none"> Residential PPP system (2 points) Beverage Container system (2 points) 	4
F-4	<p>Current state – Jurisdiction-wide performance reporting on the system’s success is transparent.</p> <ul style="list-style-type: none"> Either the system operator(s) or oversight body is required to report on the overall system’s performance -i.e., collection, reuse, and recycling rates for a material stream (e.g., plastic beverage containers) supplied into a jurisdiction. Reporting on system performance includes reporting on any material that is targeted for collection by the system, regardless of whether producers are obligated to participate in the system. For example, materials supplied under a de minimis, materials supplied into areas of the jurisdiction that are not serviced by the system operator, materials collected by multiple program operators in a system. <ul style="list-style-type: none"> Residential PPP system (2 points) Beverage Container system (2 points) 	4

F-5	<p>Current state – System gaps are transparently reported.</p> <ul style="list-style-type: none"> • Either the system operator or oversight body is required to clearly identify material scope (i.e., packaging, products or their components not collected and reused/recycled). <ul style="list-style-type: none"> ○ Residential PPP system (2 points) ○ Beverage Container system (2 points) 	4
Bonus	<p>Future state – The jurisdiction is in the process of transitioning to system-wide transparent reporting. For example, requirements to publish annual reports against transparent targets, establishment of an oversight body with a mandate for reporting and enforcement of system outcomes.</p> <ul style="list-style-type: none"> ○ Residential PPP system (2 points) ○ Beverage Container system (2 points) 	4
Total Points Possible		20 +4 bonus

APPENDIX D: DETAILED JURISDICTIONAL REPORT CARDS

Detailed jurisdiction reports cards are available in the attached databased. Indicator and overall scores can be updated as jurisdictions advance their systems.

Key references to support jurisdictional scoring are included in **Table 19**.

Table 19: Key resources to support provincial territorial report cards

Jurisdiction (West to East)	Key resources to support jurisdictional scoring.
British Columbia (BC)	<p>Government of British Columbia. Recycling Regulation. Available at: https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/449_2004</p> <p>Government of British Columbia, 2020. Recycling Regulation, 2020 Amendments to the Recycling Regulation Explanatory Notes. Available at: https://recyclebc.ca/wp-content/uploads/2021/01/Explanatory_notes_to_BC_reg_amendments-Jun2020.pdf</p> <p>Government of British Columbia, Ministry of Environment and Climate Change Strategy, 2021. Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026. Available at: https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/extended_producer_five_year_action_plan.pdf</p> <p>Clean BC, 2022. Preventing single-use and plastic waste in British Columbia. Intentions Paper. Available at: https://engage.gov.bc.ca/app/uploads/sites/752/2022/04/CleanBC_Single-Use-Plastics_Intentions-Paper.pdf</p> <p>Ministry of Environment and Climate Change Strategy, 2019. Recycling Regulation Guidance: Third-party assurance for non-financial information in annual reports. Available by request from BC Government.</p> <p>Recycle BC, 2019. Packaging and Paper Product Extended Producer Responsibility Plan. Available at: https://recyclebc.ca/wp-content/uploads/2019/07/RecycleBCStewardshipPlan_16July2019.pdf.</p> <p>Recycle BC, 2022. 2021 Annual Report. Available at: https://recyclebc.ca/wp-content/uploads/2022/06/RecycleBC_2021_Annual-Report_Final.pdf .</p> <p>Recycle BC, 2022. Materials list. Available at: https://recyclebc.ca/wp-content/uploads/2022/01/Recycle-BC-Material-List_2022.pdf</p> <p>Encorp Pacific Canada, 2021. Beverage Container Stewardship Plan August 30, 2021. Available at: https://www.return-it.ca/beverageplan2020/</p> <p>Encorp Pacific Canada, 2022. Annual Report 2021. Available at: https://ar.return-it.ca/ar2021/pdf/Return-It_2021_Annual_Report.pdf .</p> <p>Brewers' Recycled Container Collection Council (BRCCC), 2015. Schedule 1 Product Stewardship Plan Renewal. Available at: https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/beverage-containers/sp/brccc_stewardship_plan_sched_1_approval_letter.pdf</p> <p>BCUOMA, 2021. 2020 Annual Report. Available at: https://bcusedoil.com/app/uploads/2021/07/BCUOMA-2020-Annual-Report-</p>

	<p>June28.pdf</p> <p>Product Care Recycling, 2021. 2020 British Columbia Paint and HHW Annual Report. Available at: https://www.productcare.org/app/uploads/2021/06/2020-BC-Paint-HHW-Annual-Report.pdf</p> <p>Cleanfarms, n.d. Materials at a glance. Available at: https://cleanfarms.ca/materials-at-a-glance/</p>
Alberta (AB)	<p>Government of Alberta, 2022. Extended Producer Responsibility Engagement. Available at: https://www.alberta.ca/circular-plastics-economy-engagement.aspx</p> <p>Alberta Environment and Parks, Extended Producer Responsibility Town Hall #4: Packaging , Paper Products, and Single-Use Plastics Designation. May 27, 2022. (Presentation not publicly available.)</p> <p>BCMB: Beverage Container Management Board, 2009. Interpretation of Beverage Container Policy. Available at: https://www.bcmb.ab.ca/uploads/source/Policies/Interpretation_of_Beverage_Container_Policy/2015.06.10.Interpretation.Policy.of.beverage.definition.Board.Approved.pdf</p> <p>Alberta Beverage Container Recycling Corporation, 2022. ABCRC Sustainability Report 2021. Available at: ABCRC-2021-Sustainability-Report.pdf</p> <p>Alberta Recycling Management Authority, 2021. 2020-2021 Annual Report. Available at: https://www.albertarecycling.ca/documents/343/2020-21_Annual_Report_Standard_Version.pdf</p> <p>Cleanfarms, n.d. Materials at a glance. Available at: https://cleanfarms.ca/materials-at-a-glance/</p>
Saskatchewan (SK)	<p>Government of Saskatchewan. The Household Packaging and Paper Stewardship Regulations, 2010. Available at: https://publications.saskatchewan.ca/api/v1/products/66360/formats/73761/download</p> <p>Government of Saskatchewan, 2019. The Household Packaging and Paper Stewardship Regulations and Multi-Material Recycling Program. Discussion paper. Available at: https://www.retailcouncil.org/wp-content/uploads/2018/08/SK-HPPSPR-MMRP-Discussion-Paper.pdf</p> <p>Government of Saskatchewan, 2022. The Household Packaging and Paper Stewardship Program Regulations. Summary of Proposed Regulatory Changes Available at: https://publications.saskatchewan.ca/api/v1/products/117874/formats/135449/download</p> <p>Government of Saskatchewan, 2022. Order in Council. The Household Packaging and Paper Stewardship Program Regulations, 2022. Available at: https://publications.saskatchewan.ca/api/v1/products/117875/formats/135450/download</p> <p>Multi-Material Stewardship Western, 2015. Waste Packaging and Paper Stewardship Plan. Available at https://www.mmsk.ca/wp-content/uploads/WPP-Stewardship-Plan_revised_September-12-2015.pdf</p> <p>Multi-Material Stewardship Western, 2022. 2021 Annual Report. Available at: MMSW_2021-Annual-Report_Final.pdf (mmsk.ca)</p>

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