CCME

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GUIDANCE TO FACILITATE CONSISTENT EXTENDED PRODUCER RESPONSIBILITY POLICIES AND PROGRAMS FOR PLASTICS

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NOTE TO READER

The Canadian Council of Ministers of the Environment (CCME) is the primary minister-led intergovernmental forum for collective action on environmental issues of national and international concern. The 14 member governments work as partners in developing nationally consistent environmental standards and practices.

This document was developed by the Canadian Council of Ministers of the Environment's (CCME) Waste Reduction and Recovery Committee and informed by unpublished work prepared under contract to CCME by Duncan Bury Consulting and by S-Cubed Environmental. CCME would like to thank the individuals and organizations that contributed input and expertise during the development of this guidance document.

This version of the document, published in December 2022, includes corrections to errors in the original (August 2022) document.

EXECUTIVE SUMMARY

Introduction

The Canadian Council of Ministers of the Environment (CCME) has developed this guidance document to facilitate consistent extended producer responsibility (EPR) policies for plastics, as committed by federal, provincial and territorial ministers of the environment under phase 1 of the *Canada-wide Action Plan on Zero Plastic Waste* (CCME 2019a).

As a competitive, market-based approach to manage the reuse, recycling and safe disposal of end-of-life products and packaging, EPR is recognized as a leading approach for reducing plastic waste in a cost-efficient and responsible manner. The success of EPR policies in Canada can be built upon to achieve the improvements necessary to reach zero plastic waste by working towards consistent EPR policies. These improvements will take place in the context that every jurisdiction is different in terms of its location, size, infrastructure, existing programming, priorities and waste policy situation.

When key elements of EPR are consistent across jurisdictions, EPR policies can be more efficiently implemented by producers, producer responsibility organizations (PROs) and governments to provide crucial additional benefits, including:

- cost savings and improved outcomes for producers from economies of scale that can be obtained by operating programs in larger markets that cross jurisdictional boundaries
- reduced administrative burden for producers, in particular for data collection and reporting
- opportunities to collaborate between jurisdictions, offering particular advantages to territories that may not have economies of scale to establish distinct EPR systems
- more effective and transparent tracking and performance measurement through comparable data
- business service, manufacturing and product innovations.

Consistency does not mean that all EPR policies must use the same words or instruments, and this guidance document does not provide a model EPR policy that all jurisdictions must adopt. Rather, consistency should be seen in terms of real-world effects. For the purposes of this guidance document and in the context of achieving zero plastic waste, EPR policies are consistent when they serve the same purpose, seek the same or analogous outcomes, treat like producers comparably, measure outcomes in a like manner to provide comparable results and operate from the same set of definitions.

Given the diversity of Canadian jurisdictions in terms of infrastructure, market size, population density, legal traditions and geography, among other things, many elements of an EPR policy should be tailored to local circumstances.

Greater consistency in EPR policies with regard to definitions, the roles and responsibilities of key players, program accessibility, targets and ways to measure program performance will enable efficiencies and improve diversion outcomes.

Definitions

Consistent definitions can provide regulatory certainty, help with scaling programs for maximum efficiency and reduce administrative burden for producers and PROs. This document includes guidance on defining terms in EPR policies to scope product categories, identify the obligated producer and describe key activities such as diversion.

Currently, jurisdictions define product categories using a range of different approaches. Some product categories are defined by providing a list of products. Other product categories are defined using general language that captures all products meeting that description. CCME encourages jurisdictions to adopt an approach to defining product categories that scopes the product category broadly using general language to capture all products that meet the definition, with narrow lists of exclusions, as appropriate. This approach has several benefits, including:

- Broad definitions will be more flexible over time and automatically capture new products as they are introduced into the Canadian marketplace (e.g., new kinds of electronic devices), with no need to amend laws and regulations.
- Broad definitions may include products that are not covered by current EPR policies and programs, thereby strengthening EPR's contribution to achieving zero plastic waste and advancing a circular economy in Canada.

Producer hierarchies should be designed to ensure that the producer with the most influence over a product within a jurisdiction is made responsible for that product's end-of-life management. Jurisdictions are encouraged to consider identifying a Canadian resident brand holder as the first producer. However, where residency requirements are limited to the local jurisdiction, producers located outside of a jurisdiction should be allowed to opt into an EPR program. Special consideration should be given to franchises. To the extent possible, franchises should be treated as single entities within a jurisdiction.

Definitions of "diversion" should incorporate the waste management hierarchy so that the following activities are included in descending order of priority: repair and reuse, remanufacture and refurbishment, and recycling (including chemical and mechanical recycling and composting), as well as energy recovery if these options are not readily viable.

Roles and Responsibilities

Consistent key roles and responsibilities across EPR policies and programs for plastics can create the conditions for producers, as the principal actors in an EPR system, to harmonize their EPR programs across jurisdictions. This can lower the administrative burden and increase efficiency by allowing programs to operate at a larger scale. By reducing costs and increasing efficiency, EPR programs will be in a position to achieve better outcomes. Consistent roles and responsibilities can also improve compliance by simplifying rules and making it easier for producers to be aware, and keep track of, their obligations and more efficiently manage their end-of-life products along their regional or Canada-wide logistics chains.

Jurisdictions should work to ensure: that roles and responsibilities across an EPR policy are assigned to the entities accountable for outcomes; that the activities assigned can be validated either through quantifiable data (e.g., tonnage collected) or as a matter of fact (i.e., whether something occurred or not); and that the roles and responsibilities are transparent, so that all entities, as well as the public, can understand who is responsible for what.

The assignation of roles and responsibilities under EPR policies should strike a balance between setting rules to ensure that desired outcomes are met and providing producers with flexibility to achieve the outcomes in the most efficient way. In some cases, one or more entities beyond the regulating authority or producers and PROs may be assigned responsibilities. These entities would be jurisdiction-specific, and assignment would not cause any consistency issues with other jurisdictions. They may include, for example, waste service providers, landfill operators, or community champions, which have been shown to be critical to program success in remote regions.

Jurisdictions may choose, in their regulatory framework, to delegate certain implementation responsibilities to an arm's-length body for policy support. EPR systems are complex and can be designed to have overlapping roles and responsibilities (such as for compliance promotion and the delivery of public education and awareness), even though one entity (regulating authorities, producer or PRO) may play a leading role.

Accessibility and Covering All Sources of Waste

All communities in a jurisdiction, including rural and remote communities, should have access to plastic waste diversion services, but services may differ within a jurisdiction. Factors to consider in setting service model and frequency expectations for accessibility include product characteristics (e.g., the mass, shape and durability of the product), geographical characteristics (e.g., population density) and service characteristics (e.g., expectation of curbside collection).

For packaging, packaging-like products and single-use plastics, expectations for residential curbside collection should be grounded in clearly defined criteria, which could include numerical thresholds, the existence of similar municipal services, or individually designated areas. In areas without curbside collection, there should be an expectation that EPR programs offer drop-off depots or similar facilities within a maximum distance of most residents.

For other product categories, jurisdictions should set clear requirements on the number of permanent or temporary collection sites necessary to ensure a minimum level of accessibility for all residents. Other collection methods should be left to the discretion of producers and PROs.

In Indigenous communities, EPR programs should be expected to work collaboratively with communities and their representatives to develop programs that provide access to waste diversion. This should be achieved by engaging with each community in recognition of their independent decision-making power.

In Northern and remote communities, EPR programs should be expected to work collaboratively with communities to develop programs with access to waste diversion through tailored solutions.

In some cases, a jurisdiction may need to differentiate between residential sources of waste and institutional, commercial and industry (ICI) sources of waste. Any source that is not a residential source can be considered an ICI source. Where necessary, jurisdictions could distinguish between different sources of ICI waste based on:

- economic sectors and activities as outlined in the North American Industry Classification System
- defined criteria for small, medium-sized and large organizations
- the size or location of a premises.

Jurisdictions are encouraged to include all types of residential buildings in the scope of residential sources of waste.

Targets

Targets are an essential accountability element for an outcomes-based instrument such as EPR. Consistent targets across EPR policies formalize the requirement that producers will contribute over time to achieving zero plastic waste, and allow them to plan accordingly (e.g., by investing in needed diversion infrastructure). Targets should be SMART (specific, measurable, achievable, realistic and time-bound) and should be based on the waste management hierarchy.

Jurisdictions are encouraged to set targets for diverting products from landfills as well as for recovering constituent materials such as plastics. In the early phases of an EPR policy, jurisdictions

may wish to establish a baseline of plastic waste generated within their boundaries. Targets should be increased over time and reviewed periodically to ensure that EPR programs are both meeting their full potential in terms of diversion outcomes and not placing unrealistic demands on producers, PROs and diversion infrastructure.

In Northern jurisdictions, a flexible performance target-setting process may be required. Such a process should strive to embrace consistent EPR outcomes in all regions while considering the unique geographic realities of Northern areas, and should involve producers, regulators and local communities.

Performance Measurement and Transparency

As an outcomes-based instrument, EPR relies on data and key performance indicators (KPIs) to ensure producer compliance and to track progress towards policy objectives, including short-, medium- and long-term diversion targets. Consistent data and performance indicators can be easily compared on a like-for-like basis across product categories and between jurisdictions, as well as aggregated at the regional and pan-Canadian levels.

In general, data should help track progress towards goals, in particular achieving zero plastic waste. Data are most meaningful when tied to objectives that are quantifiable and embedded in targets. Data should be aggregated, and aggregated data should be open and accessible to everyone by default, while maintaining business confidentiality. Published data should be as up-to-date as possible, and should be published on a central website or open data platform at least annually.

KPIs for plastics in EPR policies include rates of overall diversion; repair, remanufacture and refurbishment; and recycling. Data inputs submitted by producers or PROs should allow for the calculation of these indicators. Inputs include plastics in products supplied to the market and plastics collected for diversion. CCME encourages jurisdictions to include the amount (i.e., mass or number of units) of plastic products supplied to the market and of plastics collected for diversion. Other data inputs (e.g., plastics recycled or recovered for energy) that are meaningful for a product category should be included in EPR policies and a gradual timeline allowed for reporting on them.

Jurisdictions should ensure robust EPR data validation. While data validation approaches may vary depending on the reporting for individual commodities, best practices for EPR data validation are the use of third-party assurance professionals (e.g., Certified Professional Accountants) and domestic and international assurance standards.

Transition

Finally, the transition process to an EPR framework will be dictated by individual jurisdictional circumstances. The time and considerations will depend on the complexity of the new program, which is a product of: the number of products and materials that are designated, the population served, geography and the program it is replacing, if any.

Based on the experiences of Canadian jurisdictions, some key lessons learned for the policy-makers and common elements for a more seamless transition that can be gleaned include: the importance of constant and regular engagement and re-engagement with stakeholders and interested parties to address turnover of representatives and changes in views, and the early identification and assessment of program assets and liabilities when winding down an existing program. For programs focused on a narrow product category and a smaller number of producers, adopting a regional approach with neighbouring jurisdictions may provide opportunities to help reduce program start-up costs and build a self-sustaining program. Such an approach may also build the case for a longer, phased transition for more complex programs involving a large number of municipalities or of designated materials and material categories.

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GLOSSARY OF TERMS USED IN THIS GUIDANCE

Arm's-length body	An organization charged with carrying out a government function that may have varying degrees of financial, management or operational autonomy from the core public service.
Diversion	All activities at end-of-life that recover value from plastic waste, rather than disposing of them in landfills or through incineration without sufficient energy recovery.
Diversion rate	The share of plastic diverted from direct disposal, such as landfill, divided by plastics waste available for collection (Deloitte Canada 2019). See Table 9 for guidance on calculating diversion rate.
EPR	Extended producer responsibility (EPR) is a policy approach in which a producer's physical and financial responsibility for a product is extended to the post-consumer stage of a product's life cycle.
EPR policy	In this document, EPR policies refer to government actions designed to achieve EPR objectives. EPR policies may include laws and regulations as well as policy statements, directives, guidelines and frameworks.
EPR program	A program funded and operated by one or more producers, often through a producer responsibility organization, to fulfill their obligations under an EPR policy.
EPR program plan	A document outlining how an obligated producer, producers or a PRO will meet the producer obligations established in an EPR policy.
Product stewardship program	A waste diversion program in which manufacturers, brand owners and importers are not directly responsible for program funding or for program operations. These are waste diversion initiatives funded by consumers or general taxpayers and are operated by public agencies or delegated administrative organizations.
Recycling rate	Recycling rate is the share of plastic that is ultimately reprocessed from diverted waste, whether through chemical or mechanical recycling, divided by plastics waste available for collection (Deloitte Canada 2019). See Table 9 for guidance on calculating recycling rate.
Shared responsibility	Programs operated by governments (e.g., municipalities or other public agencies) but with varying degrees of producer responsibility and funding.

LIST OF ACRONYMS

CAP-EPR	*Canada-wide Action Plan for Extended Producer Responsibility*
CAP-ZPW	*Canada-wide Action Plan on Zero Plastic Waste*
CCME	Canadian Council of Ministers of the Environment
CRD	construction, renovation and demolition
EEE	electronics and electrical equipment
EPR	extended producer responsibility
EU	European Union
ICI	institutional, commercial and industrial
IPR	individual producer responsibility
KPI	key performance indicator
NAICS	North American Industry Classification System
ODS	ozone-depleting substances
OECD	Organisation for Economic Cooperation and Development
OTS	Ontario Tire Stewardship
PPP	packaging and printed paper
PRO	producer responsibility organization
RPRA	Resource Productivity and Recovery Authority
RRRPE	*Regulation Respecting the Recovery and Reclamation of Products by Enterprises*
SASC	Saskatchewan Agricultural Stewardship Council
SMART	specific, measurable, achievable, realistic, time-bound

1. INTRODUCTION

The Canadian Council of Ministers of the Environment (CCME) has developed this guidance document to facilitate consistent extended producer responsibility (EPR) policies for plastics. This fulfills a commitment made by federal, provincial and territorial ministers of the environment under phase 1 of the *Canada-wide Action Plan on Zero Plastic Waste* (CAP-ZPW) (CCME 2019a).

1.1. Who Should Use This Document

This guidance document has been developed jointly by federal, provincial and territorial governments through CCME, with early input from industry stakeholders and other interested parties.

To help achieve Canada's ambitions with regard to zero plastic waste and a circular economy, some jurisdictions may seek to amend and expand existing EPR policies, others may need to introduce new EPR policies, while still others may be adopting EPR for the first time as a waste management instrument. This guidance document is intended to help jurisdictions in all of these situations to achieve a consistent, Canada-wide approach for producers to implement EPRrecognizing that every jurisdiction is different in terms of its location, size, infrastructure, existing programming, priorities and waste policy situation.

Stakeholders, in particular industry stakeholders, and other interested parties may also wish to consult this document to better understand how Canadian jurisdictions envision consistent EPR policies for plastics.

In the co-development of this guidance, jurisdictions across Canada benefitted and learned from each other. When jurisdictions are developing or revising EPR policies, good practice is to consult with other jurisdictions that are developing or revising similar EPR policies at the same time. Collaboration and the sharing of knowledge and experience can help to establish consistent definitions of product categories and specific exemptions, in particular when consulting with stakeholders and interested parties.

1.2. CCME Strategy on Zero Plastic Waste and Action Plan

In November 2018, federal, provincial and territorial ministers of the environment approved the Strategy on Zero Plastic Waste (the Strategy) (CCME 2018). The Strategy describes Canada's vision for plastics in a circular economy and provides a framework for action, outlining ten priority result areas where action is needed in order to eliminate the harmful environmental impacts of

plastic pollution and recover the value of plastic waste through greater prevention, collection and recovery.

To implement the Strategy, federal, provincial and territorial governments committed to a suite of priority actions through phase 1 of CAP-ZPW (CCME 2019a) that will bring Canada closer to achieving zero plastic waste.

Priority Action 1 of phase 1 of CAP-ZPW focuses on facilitating consistent EPR policies for plastic. CCME recognizes that EPR, as one of the most effective mechanisms for supporting the creation of a circular economy, is essential to achieving zero plastic waste.

Engagement with Canadians, industry, civil society and other orders of government throughout the development of the Strategy and CAP-ZPW has shown that Canadians want their governments to take action on plastic pollution and waste. For EPR, this can start with policies that promote activities higher in the waste management hierarchy (see Figure 2)—such as reducing the use of end-of-life products, and reusing, repairing, remanufacturing or refurbishing them if the potential exists—and that make sure these activities are used to their maximum potential before allowing activities lower in the hierarchy.

This guidance focuses on the traditional remit of EPR policies, that of accessible and effective diversion programs. This is because businesses are requesting consistent rules for managing their products at end-of-life to ease the administrative burden they face with the current range of approaches, and municipalities have also voiced considerable support for transferring responsibility for diversion to producers. As will be seen in the chapter on targets for EPR programs, this focus in no way negates the number of other activities that producers can undertake to reach zero plastic waste—from moving to a product-as-a-service model, to supporting much higher levels of small appliance repair, to re-designing their products and re-tooling their manufacturing lines to remanufacture or refurbish their products. Numerous resources exist for producers to learn about and implement these actions.

This guidance document prioritizes certain product categories to cover sectors that are major end users of plastics in products and generators of plastic waste.

Figure 1 shows that prioritizing some major sectors' plastic products can result in the coverage of a large percentage of the total amount of plastic waste generated per year in Canada. CCME recognizes that it will be necessary to tackle these sectors to reach zero plastic waste.

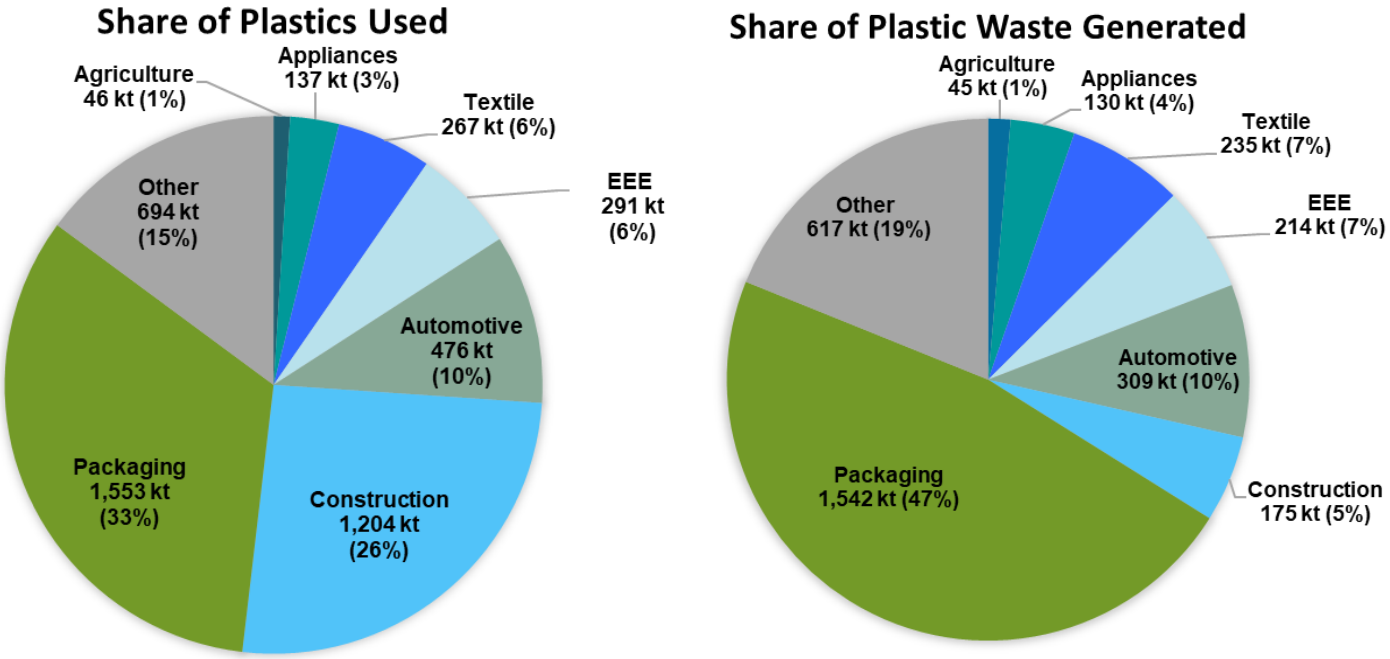

Figure 1: Quantity of plastic in products generated and plastic discarded by sector in Canada in 2016 (kilotonnes)

Source: Deloitte Canada 2019. Reproduced (copyright Environment and Climate Change Canada, 2019).

To facilitate consistent EPR policies across Canada, jurisdictions are encouraged to use this guidance document as an approach against which their EPR policies can be compared for consistency.

1.3. Overview of Extended Producer Responsibility

Canadian jurisdictions have developed a range of waste diversion programs to address different kinds of products (including packaging), many of which contain plastics. These include EPR, stewardship programs, deposit-refund programs and municipal recycling programs. In addition, many institutional, commercial and industrial (ICI) facilities and buildings enter into private contracts with waste management companies to collect their recyclables.

EPR is an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle. EPR recognizes that as a plastic product has made its way through the economy to a buyer, its producer should be responsible for the management and cost of the reverse logistics required to bring the product back into the economy at the end of its life. CCME has identified EPR as a key outcomes-based tool to achieve important objectives in the context of zero plastic waste, including:

- incentivizing the efficient collection and management of plastic waste by internalizing the full costs of end-of-life management

- contributing to higher collection and recycling rates required to achieve zero plastic waste in Canada
- encouraging the integration of environmental considerations into decisions about product design, manufacture and service delivery.

As a competitive, market-based approach to manage the reuse, recycling and safe disposal of end-of-life products and packaging, EPR is recognized as a leading approach for reducing plastic waste in a cost-efficient and responsible manner.

In Canada, CCME has played a guiding role in the development and implementation of EPR, in particular through the adoption of the *Canada-Wide Action Plan for Extended Producer Responsibility* (CAP-EPR) in 2009 (CCME 2009a). Many Canadian jurisdictions have subsequently adopted EPR-enabling legislation and there are currently numerous EPR policies in effect in Canada to manage various categories of products and packaging at end-of-life.

Jurisdictions are encouraged to continue to draw from other past CCME guidance on EPR and waste management generally. This guidance document should be seen as the latest in a series of CCME-endorsed documents to help jurisdictions develop EPR policies, reflecting a constantly evolving body of knowledge, experience and best practices. Other CCME documents relating to EPR include:

- *Canada-wide Principles for Extended Producer Responsibility* (CCME 2007)
- *Canada-wide Action Plan for Extended Producer Responsibility* (CCME 2009a)
- *Canada-wide Strategy for Sustainable Packaging* (CCME 2009b)
- *Progress Report on the Canada-wide Action Plan for Extended Producer Responsibility* (CCME 2014)
- *Summary of Targeted Materials for Extended Producer Responsibility in the North* (sonnevera international corp. 2015)
- *Key Elements of Extended Producer Responsibility and Product Stewardship Programs in Canada* (Giroux Environmental Consulting 2016)
- *Guide for Identifying, Evaluating and Selecting Policies for Influencing Construction, Renovation and Demolition Waste Management* (CCME 2019b)
- *Best Management Practices for Disposal Bans, Levies and Incentives for End-of-Life Plastics* (CCME 2021a)

Text Box 1: Opportunities for consistency between EPR and other waste management approaches

As noted in Section 1.3 of this guidance, jurisdictions have put in place a range of waste management measures to improve the diversion of plastics and other materials from landfills. Consistency between these measures and EPR policies can help improve the efficiency of the entire waste diversion system, as well as providing increased regulatory certainty. For example, the use of common material definitions between EPR policies and other measures, such as landfill bans or government-run deposit-refund systems, could help ensure that everyone knows which products and packaging are covered by which measure.

Similarly, jurisdictions that have adopted product stewardship models that make producers financially but not operationally responsible for waste diversion are encouraged to draw from this guidance document to the extent it is applicable.

1.4. Benefits of Consistent Extended Producer Responsibility Policies

Achieving zero plastic waste will require significant increases in collection and recycling rates for end-of-life products and packaging.[1] Recycling infrastructure must be scaled up to provide sufficient processing capacity while also becoming more efficient. In addition, all this must be achieved taking into consideration Canada's 2030 greenhouse gas emissions target, economic uncertainty and the increasing costs to taxpayers of municipally run waste diversion programs.

EPR policies in Canada have a proven track record of improving waste management performance across all of these areas—increasing recycling rates, developing critical recycling infrastructure and reducing public expenditures. This success can be built upon to achieve the improvements necessary to achieve zero plastic waste by ensuring EPR policies are consistent across Canada.

When key elements of EPR are consistent across jurisdictions, EPR policies can be more efficiently implemented by producers, producer responsibility organizations (PROs) and governments, providing crucial additional benefits, including:

- cost savings and improved outcomes for producers from economies of scale that can be obtained by operating programs in larger markets that cross jurisdictional boundaries
- reduced administrative burden for producers, in particular for data collection and reporting
- opportunities to collaborate between jurisdictions, offering particular advantages to territories that may not have economies of scale to establish distinct EPR systems

[1] In a best imaginable scenario where 70% of Canada's plastic waste is diverted from landfill in 2030 (compared to 9% in 2018), plastics recycling infrastructure capacity would need to quadruple (Oakdene Hollins and Dillon Consulting Limited 2021).

- more effective and transparent tracking and performance measurement through comparable data
- business service, manufacturing and product innovations.

Text Box 2: Regional approaches to EPR consistency

A circular plastics economy, in particular one functioning in such a large country as Canada, benefits from efficiencies in its supply chains. Full-circle, or reverse, supply chains close the loop between the production, distribution and sale of products and packaging, and the collection of those products and packaging for reuse and recycling. To reach processing facilities, producers need the flexibility to coordinate the efficient movement of their materials within and between jurisdictions—just as they do with consumer markets. This flexibility offers scale and network efficiency.

The role for government is to create the regulatory conditions that enable producers and PROs to scale their programs and find efficiencies across provincial and territorial boundaries. Regional approaches to EPR that reflect supply chains and regional distribution networks (e.g., Atlantic Canada, the Prairie provinces, and the territories and their southern neighbours) are a practical first step to Canada-wide consistency for EPR.

Neighbouring jurisdictions should maintain open and ongoing dialogue about their plans for new or expanded EPR policies. Provinces and territories that do not currently have full EPR for a given product category should endeavor to create similar regulatory conditions (e.g., hierarchy of obligated producers, obligated products, targets, measurement and reporting requirements) as other jurisdictions in their region.

Consistency does not mean that all EPR policies must use the same words or instruments; this guidance document does not provide a model EPR policy that all jurisdictions must adopt. Rather, consistency should be seen in terms of real-world effects. For the purposes of this guidance document and in the context of achieving zero plastic waste, EPR policies are consistent when they:

- **Serve the same purpose:** EPR policies should apply to the same products (keeping in mind that the increasing capture of plastics means adding new entrants into the market) and be designed to achieve similar policy objectives, such as setting diversion targets and increasing recycling rates, developing critical recycling infrastructure and reducing public expenditures.
- **Seek the same or analogous outcomes:** EPR policies are consistent when they seek similar outcomes. For example, a common measurement of diversion would allow provinces to assess progress across jurisdictional boundaries.

- **Treat like producers comparably:** Producers should be subject to similar rules for fulfilling their responsibilities, such as how they can organize themselves through PROs, as well as which of their different lines of products and packaging must be collected and recovered.
- **Measure outcomes in a like manner to provide comparable results:** The data that producers provide to governments should be gathered using the same methodologies and submitted using interoperable formats, so that the performance for different EPR policies and programs can be accurately measured and compared.
- **Operate from the same set of definitions:** EPR policies should seek to operate using a common set of definitions to create a consistent understanding of who is obligated, which products and packaging are covered and which outcomes are being sought. This is essential for producers, as well as for the businesses and citizens who want to recycle.

1.5. Purpose and Structure of This Guidance Document

Given the diversity of Canadian jurisdictions in terms of infrastructure, market size, population density, legal traditions and geography, among other things, many elements of an EPR policy should be tailored to local circumstances. With this in mind, CCME has identified the following key elements that should be consistent for all EPR policies that cover plastics in order to enable the efficiencies and improved outcomes necessary to help achieve zero plastic waste:

- **Definitions:** common definitions for priority products and product categories that contain plastics, as well as definitions for other fundamental terms
- **Roles and responsibilities:** common baseline producer responsibilities
- **Accessibility and covering all sources of waste:** common approaches to serving different kinds of geographic areas, including urban, rural and remote communities, and to addressing different sources of plastic waste, including ICI facilities
- **Targets:** common approaches to setting clear short- and medium-term targets appropriate for each jurisdiction, as well as useful data and other information for setting targets for different product categories in the context of reaching zero plastic waste
- **Measurement and transparency:** common methodologies for gathering and analyzing data, as well as common administrative rules and technical specifications for making data open and transparent while maintaining confidentiality for commercially sensitive data.

A brief overview of case studies on moving to EPR from different waste management models, such as product stewardship programs and municipally funded recycling systems, concludes the document.

1.6. Considerations for First Nations, Métis and Inuit Communities

Indigenous communities across Canada have diverse geographic, demographic and cultural realities. In recognition of the rights and self-governance of First Nations, Métis and Inuit communities across Canada, engagement with these communities and their representatives is an essential component in the development and implementation of EPR in Canada. A range of implementation approaches being used by provinces, territories and industry-led programs can serve as examples of how to address the unique considerations and interests of Indigenous communities.

1.7. Considerations for Northern and Remote Communities

It has been clearly identified that territories and remote areas have unique existing waste management systems and face unique challenges in waste management generally and in implementing EPR specifically. Factors such as distance to market, limited modes of transportation and small populations shape the distribution channels and consumer purchasing practices apparent in Northern and remote communities. At the same time, there is a recognized need that EPR policies can fulfill: that of providing adequate levels of accessibility to different geographic regions, including in rural, remote and Northern areas.

In 2015, CCME undertook a project to produce a document entitled *Summary of Targeted Materials for Extended Producer Responsibility in the North*, which aimed to identify opportunities and share best practices for implementing EPR in Northern and remote regions (sonnevera international corp. 2015). This project highlighted a desire to advance EPR in these regions and identified a number of best practice examples such as local innovation, community champions and collaboration between PROs. As late adopters, territories have the opportunity to collaborate with neighbouring jurisdictions to build harmonized EPR policies through partnerships with regulators and PROs.

The issues and opportunities facing Northern and remote regions are addressed throughout this guidance document.

2. DEFINITIONS

2.1. Overview

This chapter provides jurisdictions with guidance on consistent definitions for key elements of EPR policies, such as defining which activities should be included as part of diversion and who should be considered the obligated producer, as well as definitions for major product categories.

The chapter also suggests which product categories should be immediate priorities for consistent EPR definitions across Canada in order to achieve zero plastic waste.

Definitions that are consistent across jurisdictions can provide regulatory certainty, help with scaling programs for maximum efficiency and reduce administrative burden for producers and PROs. Regulatory certainty comes from knowing that, regardless of the jurisdiction, the same product is included or excluded from EPR laws and regulations, and the same producer is obligated to participate in an EPR system. Improved efficiency and reduced administrative burden come from being able to harmonize programs that operate in different jurisdictions.

Text Box 3: Evolving definitions of waste management and value recovery

Definitions for key terms used in EPR policies and regulations are evolving as new waste management and value recovery technologies come onto the market. Different organizations are working on definitions that match pace with changes in recycling and that could be useful to EPR practitioners. For example, the Canadian Standards Association report entitled *Defining Recycling in the Context of Plastics* (Valiante *et al.* 2021) offers the following definitions:

- **Recycling:** the reclamation of materials in such a manner that they can be used to displace the primary or raw materials they were produced from.
- **Plastics recycling:** the reclamation of plastics (as polymer, monomer or constituent chemical building blocks) in such a manner that they displace the primary or raw materials that are used as chemical building blocks in the production of plastics and plastic products and packaging.
- **Organic recycling:** the processing of bio-based plastics into biological nutrients.

In developing guidance on consistent definitions, CCME also encourages jurisdictions to adopt a consistent approach to defining product categories in their EPR regulations or policies. Currently, jurisdictions define product categories using a range of different approaches. Some product categories are defined by providing a list of products. Other product categories are defined using general language that captures all products meeting that description.

The guidance in this chapter adopts the approach that all product category definitions should be scoped broadly using general language to capture all products that meet the definition, with narrow lists of exclusions as appropriate. This approach has several benefits, including:

- Broad definitions will be more flexible over time and automatically capture new products as they are introduced into the Canadian marketplace (e.g., new kinds of electronic devices) without the need to amend laws and regulations.

- Broad definitions may include products that are not covered by current EPR policies and programs, thereby strengthening EPR's contribution to achieving zero plastic waste and advancing a circular economy in Canada.

Using broad category definitions and limiting exemptions will capture the largest number of products. However, during implementation some products may initially fall outside the scope of EPR programs. Jurisdictions may choose to delay enforcement of these specific products to allow their producers and PROs to develop EPR programs for them.

2.1.1. Sources of Data and Information

This guidance document has drawn from available data and studies to identify product categories that are candidates for Canada-wide consistency, as well as to determine which product category definitions should be prioritized, based on:

- existing definitions found in Canadian and international EPR policies and producer-led programs, including those identified in the 2016 benchmarking study *Key Elements of Extended Producer Responsibility and Product Stewardship Programs in Canada*, commissioned by CCME (Giroux Environmental Consulting 2016)
- comments received by stakeholders and interested parties in response to in-person and online engagement in 2019
- the study prepared by Deloitte Canada for Environment and Climate Change Canada identifying major sectors of the end-use market for plastics in Canada, as well as their estimated share of the total amount of plastic waste generated in 2016 (Deloitte Canada 2019).

2.2. Principles

To ensure consistency for definitions of product categories in EPR programs and regulations, jurisdictions should be guided by the following principles.

Principles for consistent definitions in EPR policies

- EPR policies should provide general definitions for product categories.
- To support simple and flexible yet comprehensive coverage, product categories may
  - list illustrative but non-exclusive examples of included products, or
  - only specify excluded products.
- In order to maximize the contribution of EPR systems to achieving zero plastic waste, certain definitions should be prioritized for Canada-wide consistency, based on transparent criteria.

2.3. Consistent Definitions for Key Elements of Extended Producer Responsibility

It is not necessary for jurisdictions to define all the following terms in their EPR policies or in other documents. Jurisdictions are nonetheless encouraged to design their EPR policies in such a way that they apply and function consistently with these definitions, taking into account the principles on consistency provided in Section 2.2.

2.3.1. Obligated Producer

The regulatee of an EPR regulation is generally called the "producer" or the "obligated producer." The Organisation for Economic Cooperation and Development (OECD) advises that the obligated producer should be "the entity with the greatest control over the selection of materials and the design of the product" (OECD 2016). Building on CAP-EPR (CCME 2009a), CCME provides the following guidance:

- Commonly, the producer has the most influence over the designated product and has the greatest ability to fund and operate the EPR program and to improve the environmental design of the designated product.
- The manufacturer or first importer who puts a designated product on the market for sale within the jurisdiction is the identified responsible producer under the EPR program.
- A producer can also be identified as a brand owner, a retailer, a franchisee or a wholesaler.

Defining the obligated producer must also take into account the kinds of businesses that operate within a jurisdiction and that could potentially be obligated producers. Some jurisdictions in Canada define the obligated producer by establishing a hierarchy of potential producers; if one kind of producer does not operate in a jurisdiction, then the obligations are assumed by the producer on a lower rung of the hierarchy. For example, Text Box 4 describes how Ontario uses a hierarchy under its blue box regulation (O Reg 391/21) in order to determine the obligated producer of blue box packaging supplied to consumers in Ontario.

Text Box 4: Hierarchy to determine the obligated producer in Ontario's blue box regulation

O Reg 391/21 s 9(1) states:

1. For the portion of the blue box packaging of a product that a brand holder added to the product, the producer is,
    i. the brand holder of the product, if the brand holder is resident in Canada,
    ii. if there is no person described in subparagraph i, the importer of the product, if the importer is resident in Ontario, or
    iii. if there is no person described in subparagraph i or ii, the retailer who supplied the product to the consumer.

2. For the portion of the blue box of a product that an importer of the product into Ontario added to the product, the producer is,
    i. the importer of the product into Ontario, if the importer is a person who is resident in Ontario, or
    ii. if there is no person described in subparagraph i, the retailer who supplied the product to the consumer.

3. For any portion of the blue box packaging not described in paragraph 1 or 2, the producer is the retailer who supplied the product to the consumer.

Hierarchies such as this should be considered a best practice, as they can be designed to ensure that the producer with the most influence over a product within a jurisdiction is made responsible for that product's end-of-life management.

In Canada, EPR policies often designate the "brand owner" as the top rung of a producer hierarchy. This should also be seen as best practice, as the owner or Canadian licensee of intellectual property such as trademarks and industrial designs often has the most influence over key stages of a product's lifecycle. This guidance document discusses consistently defining "brand owner" in Section 2.3.2.

Below the brand owner, a producer hierarchy should usually reflect a diminishing level of control over key product lifecycle stages, while still ensuring that an obligated producer can always be identified. This guidance provides the following sample producer hierarchy, which may need to be adapted by jurisdictions according to the kinds of businesses that operate within their borders, as well as any special characteristics of the lifecycle of certain products:

Sample producer hierarchy

1. Brand owner, manufacturer, franchisor
2. Importer
3. Distributor
4. Retailer or franchisee

Jurisdictions are encouraged to consider, in the top rung of their hierarchy, obligating producers resident in Canada, rather than just resident in their jurisdiction. This would promote alignment across Canada because a company resident in Canada in the top rung of the hierarchy would be obligated in all provinces (as opposed to having a brand holder obligated in one province, while a retailer or first importer is obligated in another). This allows the brand holder to hire a PRO that can work to fulfill their obligations in all provinces in a consistent manner, simplifying their compliance. This approach may also reduce the number of obligated parties for a program, since there is often a much larger number of importers or retailers handling each brand holder's products within a jurisdiction. Also, for multinational companies that import their products into Canada, having the brand holder resident in Canada allows a single company to accurately and efficiently report on their Canada-wide sales instead of relying on a complex reporting chain of potentially hundreds or thousands of distributors and retailers in the product supply chain.

Where residency requirements are limited to the local jurisdiction, consideration should be given to allowing brand owners located in another jurisdiction in Canada to participate in an EPR program on a voluntary basis with the agreement of a business that may be obligated in the hierarchy. In British Columbia's *Recycling Regulation*, the franchisor is responsible for reporting on behalf of its franchisees in British Columbia, regardless of whether the franchisor is located outside of British Columbia. Examples of franchisors with head offices located outside of British Columbia that comply with this requirement include Subway Franchise Systems Canada Ltd (Calgary, Alberta) and Pizza Pizza Limited (Toronto, Ontario). See Section 2.3.2 for further information on franchises.

Finally, guidance on defining and mitigating the situation of free riders was provided by CCME in 2007 (Marbek Resource Consultants Ltd. 2007). Many of the problems covered by that report remain the same, and the guidance remains relevant. However, it does not cover the situation of producers residing out of a jurisdiction that place products on the market via e-commerce. Interest in this issue is building, and the Resource Recovery Alliance (formerly Canadian Stewardship Services Alliance) is developing guidance on this issue.

Based on these considerations, CCME provides the following guidance to jurisdictions for defining "obligated producer" for the purposes of consistent EPR policies:

Guidance on defining the obligated producer

Jurisdictions should establish producer hierarchies within their EPR policies to determine who is the obligated producer, based on which producer has the most influence over a product within a jurisdiction, as demonstrated by a sample producer hierarchy such as the one provided in this guidance document.

Jurisdictions are encouraged to consider identifying a Canadian resident brand holder as the first producer in order to support alignment and efficiencies for the EPR program.

Where residency requirements are limited to the local jurisdiction, producers located outside of a jurisdiction should be allowed to opt into an EPR program.

In the case of franchises, franchisors should be designated as the obligated producers in place of the franchisee, wherever possible. To date, moral suasion over an obligated producer outside a jurisdiction's borders has prevailed, and questions of enforcement have been avoided.

2.3.2. Brand and Brand Owner

Several Canadian jurisdictions define "brand," "brand owner" or both in their EPR policies. "Brand" is typically defined in terms of intellectual property, whether registered or unregistered.[2] For example, Québec's EPR legislation refers to "a brand, a name or a distinguishing guise owned or used" by an enterprise (CQLR c Q-2, r 40.1). Similarly, Ontario's *Resource Recovery and Circular Economy Act, 2016* defines "brand" as "any mark, word, name, symbol, design, device or graphical element, or a combination thereof, including a registered or unregistered trade-mark, which identifies a product and distinguishes it from other products" (S.O. 2016, c 12, Sch 1, s.59).

"Brand owner" is typically defined in relation to ownership or use of a "brand," including the owner, licensor, licensee or user.

Special consideration should be given to franchises. To the extent possible, franchises should collectively be treated as a single entity within a jurisdiction. Ideally, the franchisor should be the obligated producer on behalf of the entire franchise. Similar to "brand owner," a franchisor, as the owner and licensor of intellectual property, often has more influence over some products than a franchisee. This also reflects the control franchisors exercise over important aspects of a franchisee's business through franchise agreements, including determining certain products that must be used in the franchisee's operations. However, in many cases the franchisor will reside outside the borders of a given province or territory. In this situation, jurisdictions should still seek

[2] "Registered" intellectual property typically means registered according to federal legislation such as the *Trademarks Act*, *Copyright Act* or *Industrial Design Act*.

to treat franchises as a single entity, to the extent possible. Potential approaches for achieving this include:

- allowing franchisees to form a single group and be treated as a single entity for the products marketed by them under the same brand, an approach taken by Québec in its *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* (RRRPE)
- encouraging franchisors located outside a jurisdiction to voluntarily take on the responsibility of being the obligated producer for the franchise in that jurisdiction. Such voluntary action, a form of corporate social responsibility, also provides the franchise owner a means to report on waste management-related environmental criteria in environmental, social and governance corporate reporting.

Based on these considerations, CCME provides the following guidance to jurisdictions for defining "brand" and "brand owner" for the purposes of consistent EPR policies:

Guidance on defining "brand" and "brand owner"

"Brand," as defined in EPR laws, regulations and programs, should encompass a wide range of intellectual property, including registered and unregistered trademarks, copyrights and intellectual designs.

"Brand owner" as defined in EPR laws, regulations and programs, should encompass any owner or user of a "brand."

Jurisdictions are encouraged to treat franchises as a single entity, to the extent possible. Where the franchisor is located outside a jurisdiction, franchisees should be allowed to form a single group to be treated as a single entity. Franchisors outside the jurisdiction should also be allowed to take on the franchise's EPR responsibilities on a voluntary basis.

2.3.3. End User

Numerous EPR policies use terms such as "consumer" and "end user" to determine the scope of application for certain provisions.

The term "consumer" can sometimes imply an individual who uses a product for non-commercial purposes. The term "end user" is therefore preferable, as some products may not be meant for the individual consumer but should nonetheless be covered by EPR policies. For example, many kinds of secondary and tertiary packaging are not intended to reach individual consumers, but nonetheless are covered in a jurisdiction's EPR policy on packaging.

An "end user" should be considered as whoever uses a product or packaging for its intended purpose, whether commercially or non-commercially. After an end user has finished with a plastic product or packaging, that product or packaging is typically either disposed of as waste; recycled; given away or sold for reuse, remanufacture or refurbishment; or channeled into any other form of diversion. The length of time an end user may use a product or packaging may vary considerably, depending on the product category. For example, a single-use plastic item may only be used for a few minutes or seconds before being disposed of, while an electronic device may be used for years. Plastics in the construction of structures can last many decades.

Based on these considerations, CCME provides the following guidance to jurisdictions for defining "end user" for the purposes of consistent EPR policies:

Guidance on defining "end user"

"End user," as defined in EPR laws, regulations and programs, should encompass any person who uses a product or packaging for its intended purpose. In circumstances where the scope of the program or regulation is narrower (e.g., products or packaging used for residential purposes), the "end user" should be clearly defined to reflect that that scope.

2.3.4. Producer and Producer Responsibility Organization

PROs are of central importance to many EPR systems. EPR policies typically allow producers to fulfil their obligations under EPR policies by joining, contracting with, or paying fees to a PRO, which organizes and executes producer obligations on the producer's behalf. Chapter 3 of this guidance document discusses how jurisdictions can ensure consistent roles and responsibilities for PROs.

Not all EPR laws and regulations in Canada provide a definition for a PRO, and various terms are used in addition to PRO, such as "agency," "organization" and "third party." Where a PRO is defined, definitions typically relate to:

- the relationship between the producer and PRO as one of service provider to client or agent to principal, or
- the PRO's function in terms of operating an EPR program.

Some jurisdictions also require that a PRO be registered in order to be considered a PRO for the purposes of the EPR policy. This guidance document discusses government recognition of PROs in Chapter 3, under Roles and Responsibilities.

Based on these considerations, CCME provides the following guidance to jurisdictions for defining "producer responsibility organization" for the purposes of consistent EPR policies:

Guidance on defining "producer responsibility organization"

"Producer responsibility organization," as defined in EPR laws, regulations and programs, should refer to an organization that producers can retain or join to fulfil their obligations and can specify the functions the PRO can carry out for producers.

2.3.5. Thresholds for Small Businesses and Other Organizations

Many jurisdictions exempt small businesses from having to participate in some or all aspects of an EPR policy. This is sometimes known as a *de minimis* threshold. Jurisdictions may also exempt or encourage only voluntary compliance by certain kinds of organizations, such as registered charities.

For the purposes of plastics, thresholds are sometimes limited to the packaging product category, but consideration can be given to applying a *de minimis* threshold in any EPR regulation that seeks to limit impact on small businesses. For example, in Ontario all EPR regulations include a *de minimis* threshold, including for EEE.

Some thresholds are also applied by PROs as part of their EPR programs—often as a means to include greater numbers of producers and to increase recycling rates. For example, Multi-Material Stewardship Manitoba applies several of its own thresholds under its rules to exempt some small businesses, while Éco Entreprises Québec allows small companies to pay a flat fee. These program design decisions should be considered to be at the discretion of the PRO, and are not the subject of guidance from CCME.

In jurisdictions that choose to include thresholds for small businesses, based on existing practices, CCME recommends considering applying a threshold that minimizes the impact on overall diversion and that does not add undue burden for companies that are not exempt. Determining a threshold will require market analysis in each jurisdiction, and the thresholds may differ in reasonableness given market size, material weight and prevalence.

For example, the following could be used for an EPR policy (recognizing that PROs may apply different or additional thresholds):

- a threshold for annual gross revenue between $750,000 and $2 million, with strong consideration given to establishing consistent thresholds with adjacent jurisdictions
- a threshold for annual production not greater than one tonne of packaging.

Jurisdictions can consider requiring registration of all producers, regardless of size. This would provide jurisdictions with a more accurate picture of the number of exempted small businesses, which could be used for any needed policy interventions. For example, if a threshold exempts a

large enough share of the packaging market, a jurisdiction may consider lowering the threshold. Jurisdictions may want to balance this with the burden reduction goal of creating the exemption in the first place.

Guidance on thresholds for small businesses

- Thresholds are recommended where a jurisdiction feels they can be implemented without impacting the overall diversion goals of the program.
- Thresholds should reflect market size and may differ in reasonableness given market size, material weight and prevalence.
- Thresholds may be established by a jurisdiction, by a PRO, or both.
- Jurisdictions may exempt registered charities from EPR requirements, or encourage voluntary fulfillment.
- Thresholds should not apply to individual franchisees. Instead, franchises should be considered as a single-producer system. See Section 2.3.2 of this guidance document for further discussion of franchises in an EPR system.
- Jurisdictions can consider requiring registration of all producers, regardless of size, if they want to monitor the impact of the threshold on overall diversion.

2.3.6. Diversion

Diverting end-of-life products and packaging from final disposal (e.g., landfills, incineration) is a principal goal of EPR policies and central to building a circular economy for plastics. Diversion is given effect through a range of activities that ensure that the value of materials such as plastics found in end-of-life products and packaging are recovered and kept in the economy. These activities include collection, sorting, cleaning and value recovery.

Diversion includes all activities at end-of-life that recover value from plastic waste, rather than disposing of it in landfills or through incineration without energy recovery. Diversion activities are prioritized from high to low value and desirability in accordance with the waste management hierarchy (see Figure 2):

- Reuse activities provide the highest value and include direct reuse, servicing and repairing products, followed by remanufacturing, refurbishing and parts harvesting.
- Recycling activities including treatment and conditioning processes, such as:
    - conventional mechanical activities that separates, grinds and heats products to produce plastic feedstocks or resins
    - composting and digestion of some plant-based plastic-like materials to produce soil amendments
    - chemical or thermal processes such as depolymerization, pyrolysis or gasification that convert plastics into monomers or petroleum products (e.g., methanol, diesel).

These outputs can be directly used in the manufacture of plastic products or can be refined back into plastics or other products at desired levels of efficiency.[3]

- Energy recovery involves converting plastic wastes directly into energy (e.g., mass burn incinerators) or into fluid or solid fuels that are then used to generate heat or electricity.

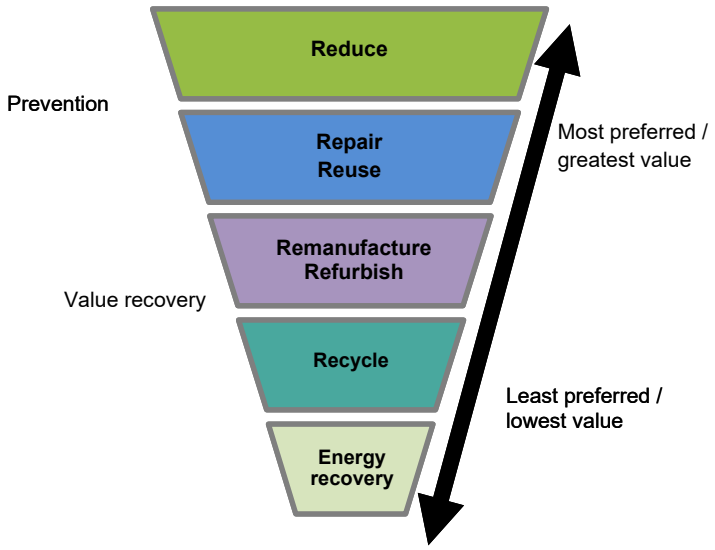

Figure 2: Waste management hierarchy

Efforts should be made within EPR legislation, regulations and policies to maximize higher-priority diversion activities on the hierarchy. The waste management hierarchy is reflective of energy efficiency, with repair and reuse being significantly more efficient than energy recovery. For a discussion of how jurisdictions can consistently set targets for these different activities, see Chapter 5.

Guidance on defining "diversion"

"Diversion," as defined in EPR laws, regulations and programs, should incorporate the waste management hierarchy of priorities identified by CCME in the Strategy on Zero Plastic Waste (CCME 2018) and illustrated in Figure 2:

- repair and reuse
- remanufacture and refurbishment
- recycling (including mechanical and chemical recycling and composting)

And if these options are not readily viable

- energy recovery.

The management of plastics through energy recovery should be reported wherever possible.

[3] Chemical recycling, although technically possible, is a relatively new approach to end-of-life plastics management and has yet to demonstrate large-scale feasibility to manage post-consumer plastics (including with various levels of contamination).

2.4. Consistent Product Category Definitions

Prioritizing some major sectors' plastic products (Table 1 and Figure 1) can result in the coverage of a large percentage of the total amount of plastic waste generated per year in Canada. CCME recognizes that it will be necessary to tackle these sectors to reach zero plastic waste. Based on the 2016 sector data provided in Table 1 CCME has prioritized eight product categories for which to develop guidance on definitions:

- packaging
- electronic and electric equipment
- appliances (white goods)
- construction products (e.g., from construction, demolition and renovation)
- automotive
- textiles
- agriculture
- single-use plastics.

Table 1: By sector, snapshot of the plastics used in products, and amount of plastic waste they generated in 2016

Sector	Share of plastics used	Share of plastic waste	Examples of product categories and products
Packaging	33%	47%	Commonly recycled PET bottles, bags, films and wraps, HDPE bottles
Construction	26%	5%	Vinyl, paints and coatings, composite wood products and plastic piping
Automotive	10%	9%	Interior trims, seats, seat parts and body panels
Electronic and electrical equipment	6%	7%	Computers, computer peripherals and parts, telephones, and wiring
Textiles	6%	7%	Plastic-based fibres such as polyester and nylon, in clothing, footwear, carpet and furniture
Appliances (white goods)	3%	4%	Major and small appliances, such as fridges, stoves, food processors and electric kettles
Agriculture	1%	1%	Plastic used for transportation of grain and seeds, fertilizer and pesticide packaging, agricultural films
Other	15%	19%	Toys, games, household furniture, sporting goods, signs, mattresses

Source: Deloitte Canada 2019.

In addition to the above data, this guidance also draws from past CCME guidance, as well as existing EPR policies in Canada and internationally. In particular, many of the above sectors relate to product categories identified in 2009 by CCME as priority candidates for EPR in CAP-EPR (CCME 2009a).

Many jurisdictions have chosen to establish separate policies and systems for hazardous products, which may include products and packaging from the categories listed above. These hazardous products or packaging may be managed separately to reduce risks to human health or the environment if they are improperly stored, transported, treated or disposed of.

Additional benefits of consistent product category definitions

In addition to the benefits to producers that come with consistency, such as efficiencies and reduced administrative burden, consistent product category definitions can offer significant benefits in terms of public education and awareness. When product category definitions are not consistent, individuals may become confused as to what is recyclable if, for example, they move from one jurisdiction to another or are exposed to public education campaigns from another jurisdiction. It may also be difficult for producers to label a product or packaging as "recyclable" if there is uncertainty due to inconsistent product category definitions.

Product category definitions should be specific and narrowly scoped to avoid unintended consequences, and at the same time, should be broad enough to cover new entrants into the market. For emerging product categories and to promote a level playing field, jurisdictions should consider early adoption of EPR regulation for producers of products that may fall under a new product category. Timely regulation allows producers to accumulate sufficient funds and develop recycling practices before the volume of unwanted products exceed the end-of-life management capacity and associated costs.

Combining and carving out product categories

Jurisdictions may decide to combine or separate product categories, but should ensure that the effect is consistent with this guidance and other jurisdictions, taking into account in particular the principles of consistency provided in Section 2.2. Jurisdictions are encouraged to identify new products for EPR programs in a manner that aligns with the programs in place in other Canadian jurisdictions. The addition of new end-of-life products to existing programs has many advantages, including greater diversion of plastics and the greater efficiency that comes with greater scale.

The information provided in this document is organized at the product category level and provides examples of specific products that comprise the category. This allows for more consistent discussion about the products and comparison across jurisdictions. Some jurisdictions have chosen to include multiple product categories under the same EPR regulation. For example, electronics and electrical equipment (EEE) is sometimes combined with appliances, and packaging is often combined with printed paper.

The challenge for jurisdictions is that the category level can be difficult to regulate as the types of products may be very different from each other. Some examples of the difficulty in broad categories include:

- Carpets: These are included as a product under "construction material" in this document. However, carpets may be very different from other forms of plastic flooring, or from other types of construction material. They may even be categorized as a textile.
- Plastic beverage containers: These products could be categorized as plastic packaging or single-use plastics. In this case, there may be value in specifically addressing these items separately from the broad category of packaging, as they are frequently managed in a separate mature collection and recycling infrastructure.

There are potential benefits to both combining and separating product categories, such as administrative efficiency, or tailoring EPR policies to an economic sector or to the unique characteristics of a sub-category.

2.4.1. Packaging

As shown in Table 1, packaging made up 33% of the plastics end-use market in Canada in 2016, and 47% of the total amount of plastic waste generated that year (Deloitte Canada 2019). These calculations factor in a broad range of packaging, including films, bottles, non-bottle rigid packaging, and other forms of plastic packaging, such as foam.

As of May 2020, six Canadian jurisdictions have defined "packaging" in their respective laws and regulations.[4] For example, British Columbia's *Environmental Management Act* defines "packaging" as "a material, substance or object that is:

(a) used to protect, contain or transport a commodity or product, or
(b) attached to a commodity or product or its container for the purpose of marketing or communicating information about the commodity or product."

Additional definitions and categorizations can be found in the approved program plans of organizations such as Éco Entreprises Québec and Recycle BC. International standards and examples are also informative, including International Organization for Standardization standard 21067 and the European Union's *Packaging and Packaging Waste Directive*.

British Columbia, Ontario, Québec and New Brunswick have developed specific definitions for packaging-like products (also referred to as products sold as packaging) to capture products that are purchased by or supplied to consumers and used in the same manner as packaging (e.g., resealable bags, cling wrap).

[4] Jurisdictions in Canada often include packaging as part of a broader "packaging and printed paper" product category. This guidance document focuses on the definition of "packaging," as "printed paper" is outside the scope of achieving zero plastic waste.

Many jurisdictions across Canada have also implemented separate deposit-refund schemes to manage certain kinds of bottles and other beverage containers, and these schemes are successful in achieving high recycling rates. Jurisdictions are encouraged to adopt the guidance provided here on defining "packaging," which includes bottles and other beverage containers, recognizing that multiple programs can operate within a jurisdiction covering different sub-categories of products. For example:

- In British Columbia, residential packaging and paper is covered by three EPR programs, while beverage containers are covered by another two EPR programs.
- Several provinces operate separate EPR programs for sector-specific packaging, such as pesticide and fertilizer containers, as well as used oil and glycol containers.
- Separate programs covering bottles and other beverage containers can also include government-run programs, such as for some provincial and territorial liquor stores.

Based on a consideration of the above information sources, CCME provides the following general guidance to jurisdictions for defining "packaging" for the purposes of consistent EPR policies:

Guidance on defining "packaging"

"Packaging," as defined in EPR laws, regulations and programs, should encompass any short-lived or single-use (see Section 2.4.1.1) material, substance or object used for the containment, conservation, protection, handling, delivery, storage or transport of goods, or that also acts to market, present or communicate information about goods.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.1.1. Single-use Plastics

Single-use plastics (also sometimes called single-use and disposable plastics, disposable plastics, or short-use plastics) include items categorized as either "packaging" or "other" in Table 1. They can include, for example, food wrappers, straws, coffee cups, cup lids, plates and some personal hygiene products such as tampon applicators and wet wipes. Studies of plastic marine debris, as well as municipal litter audits, identify single-use plastics as making up a significant portion of litter found in the environment. The size, shape or composition of single-use plastics can make them difficult to recycle. A range of management strategies tailored to their impacts and characteristics needs to be deployed to achieve CCME's vision for plastics in a circular economy.[5] Improved collection and recycling rates for targeted single-use plastics is one tool and jurisdictions

[5] Phase 1 of CAP-ZPW (CCME 2019a) includes a commitment to develop a roadmap to strengthen the management of single-use and disposable plastics; this roadmap will provide jurisdictions with a suite of tools that can be used to managethese products.

are therefore encouraged to cover appropriate single-use plastics within their EPR laws, regulations and policies.

British Columbia defines a "single-use product" in its *Recycling Regulation* as "a product that is ordinarily disposed of after a single use or short-term use, whether or not it could be reused"; however "health, hygiene or safety products that, by virtue of their anticipated use, could become unsafe or unsanitary to recycle are excluded" (Province of British Columbia 2020).

Additionally, some jurisdictions in Canada, including several provinces and municipalities, have defined this term in laws and regulations prohibiting or restricting certain single-use items deemed harmful within that jurisdiction, such as plastic bags. International jurisdictions have also defined "single-use" in the context of enacting prohibitions or restrictions. In addition, the European Union's *Single-use Plastics Directive* defines "single-use" for multiple purposes, including EPR. Nova Scotia adapted the EU definition in its *Plastic Bags Reduction Act*, defining a "single-use product" as a product or packaging that is not conceived, designed or placed on the market to accomplish, within its life span, multiple trips or rotations by being returned to a producer for refill or reused for the same purpose for which it was originally conceived, designed or placed.

Based on these considerations, CCME provides the following guidance to jurisdictions for defining "single-use plastics" for the purposes of consistent EPR policies (regardless of the product being regulated):

Guidance on defining "single-use plastics"

"Single-use plastics," as defined in EPR laws, regulations and programs, should encompass all products made with plastic that are designed with the intent to be used only once or for a short period of time for their original purpose before they lose their original functionality, physical capacity or quality or before they are disposed of.

Recognizing the overlap between many single-use plastics and the definition of "packaging" described in Section 2.4.1, jurisdictions should consider incorporating "single-use plastics" into the broader "packaging" category.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.2. Electronic and Electrical Equipment

Electronic and electrical equipment (EEE) accounts for 6% of the total Canadian end-use market for plastics, and 7% of all plastic waste generated per year (Deloitte Canada 2019). Plastic can

make up a significant amount of the total material composition of EEE products.[6] Approximately one-half of waste EEE is targeted through EPR programs in Canada. It is estimated that 13% of plastic contained in collected EEE waste (which, according to the Electronic Products Recycling Association (EPRA 2020) is itself approximately 26% of all EEE waste) is recycled, while the majority is included in the mixed plastics stream or exported for recycling (Deloitte Canada 2019). For EEE not covered by EPR programs, the recycling rate for plastic seems to be low or nil.

Numerous jurisdictions in Canada have enacted EPR laws and regulations defining EEE. The predominant approach is to define what constitutes EEE by listing individual sub-categories or products. This was also the approach taken in CAP-EPR (CCME 2009a). In its *Waste EEE Directive*, the European Union (EU) defines EEE generally and provides an "indicative" list of categories, while exempting specific categories, such as equipment needed for national security.[7] Sub-categories listed in EPR laws and regulations can include appliances (see Section 2.4.3), information technology and telecommunications equipment, toys, lighting equipment, medical devices and electric tools, among other things. To date, each jurisdiction has defined what constitutes EEE differently.

[6] For example, under British Columbia's EEE EPR policies, the Electronic Products Recycling Association reported that plastic made up 18.9% of the material recovered in 2018 (Electronic Products Recycling Association 2019), while the Canadian Electrical Stewardship Association reported that plastic made up 27.3% of the material it processed for the same year (Canadian Electrical Stewardship Association 2019).

[7] The EU definition of EEE includes "equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields and designed for use with a voltage rating not exceeding 1,000 volts for alternating current and 1,500 volts for direct current."

Based on a consideration of the above sources, CCME provides the following general guidance to jurisdictions for defining "EEE" for the purposes of consistent EPR policies:

Guidance on defining "electronic and electrical equipment"

"Electronics and electrical equipment," as defined in EPR laws, regulations and policies, should encompass any product that includes a cord or a battery.

The scope of "electronics and electrical equipment" should include any product in the following sub-categories:

- information technology equipment
- telecommunications equipment
- audio-visual and media equipment
- tools
- lighting equipment, parts, bulbs and signs
- toys
- sports equipment
- art, hobby and craft equipment and decorations
- automatic dispensers
- measuring, monitoring, navigation and control instruments
- medical devices, excluding implanted or infected devices
- accessories, including cables, adaptors, cords and chargers.

If appliances are included in a jurisdiction's definition of "electronics and electrical equipment," the products covered should align with the definition of "appliances" outlined in Section 2.4.3 of this guidance document.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.3. Appliances

The appliances sector refers to both large and small appliances, including fridges, stoves, food processors and electric kettles. Large appliances are also known as white goods. Appliances are estimated to make up 3% of the total end-use market for plastics in Canada, and generate 4% of the total amount of plastic waste. Large appliances are estimated to have low recycling rates for plastics—items are typically collected and recycled for their metallic content and the shredded residue (including the plastic parts) is either landfilled or used as landfill cover. This can be problematic where, for example, flame retardants are present in the plastic parts; research is on-going on whether landfill cover leaches these toxic chemicals. British Columbia has a small appliance recycling program; the components parts are reportedly "sent for recycling and repurposed to create new items" (Canadian Electrical Stewardship Association 2020).

Most jurisdictions in Canada do not have EPR policies in place for appliances. Some jurisdictions, such as British Columbia, include some or all appliances within the list of products covered under the definitions of EEE. Québec has recently added household appliances and air conditioners to the RRRPE. If a jurisdiction opts to create separate categories for EEE and appliances, special consideration should be given to ensure that smaller appliances such as hair dryers and electric toothbrushes are included in one of these categories.

Guidance on defining "appliances"

"Appliances," as defined in EPR laws, regulations and policies, should encompass appliances, large and small, that require an electric current or gas or propane to function, and that may have one or more of the following applications:

- refrigeration or freezing
- temperature or humidity control
- air or water purification
- cooking or preparing food
- washing or drying dishes or textiles
- use of suction, pressure or water to clean surfaces or materials.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.4. Construction Products

Construction products are estimated to make up 26% of the total end-use market for plastics in Canada and generate approximately 5% of plastic waste. Uses of plastic in construction products include flooring, paints and coatings, profile shapes (e.g., windows and doors), pipes, insulation board and foam, composite wood and plywood, and other generic products used in construction. A large portion of the plastic used in construction products is "stocked" in buildings and enters the waste stream many years after its production.

As of 2021, no jurisdiction in Canada has implemented EPR for construction products. In 2019, CCME issued a *Guide for identifying, evaluating and selecting policies for influencing construction, renovation and demolition waste management* (CCME 2019b). The guide provides definitions for construction, renovation and demolition (CRD) waste, discusses the use of EPR to manage CRD waste, and provides guidance on when EPR may be appropriate, including the advantages and disadvantages of adopting EPR for construction products. Internationally, some jurisdictions have enacted measures incorporating elements of EPR to manage the waste from construction products. For example, California has EPR for carpeting.

Based on a consideration of the above sources, CCME provides the following general guidance to jurisdictions for defining "construction products" for the purposes of consistent EPR policies:

Guidance on defining "construction products"

"Construction products," as defined in EPR laws, regulations and policies should encompass all plastic products typically used in the construction of buildings, structures and public works.

EPR for plastic construction products should be approached, at a minimum, by category:

- flooring (subcategories of carpeting, composite wood, vinyl also might be appropriate)
- windows and doors
- insulation
- paints and coatings
- piping
- film products
- siding
- roofing materials.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.5. Automotive

Substituting metal parts with plastic helps to make automobiles lighter and more fuel-efficient. Plastic accounts for between 8% and 10% of a vehicle's weight (Deloitte Canada 2019). The automotive sector is estimated to account for 10% of the Canadian end-use market for plastics, and makes up 9% of the total amount of plastic waste generated per year. Plastics in the automotive sector include automotive parts (e.g., bumper, tanks and fluid containers) and interior components (e.g., seats and other textiles, dashboard).

The automotive sector has high overall repair and recycling rates, but actual end-of-life diversion of plastic material from the sector is low; it is more cost-effective and less labour-intensive to crush and shred vehicles for metal recycling than to dismantle parts or components, including those made of plastic. Introducing EPR could provide the incentive to recover greater quantities of plastic material from end-of-life vehicles that would otherwise be disposed of as residual material or landfill cover.

Currently, jurisdictions in Canada have implemented EPR for a small number of products in the automotive sector, some made of or containing plastic: tires, oil and fuel filters, used oil, glycol and diesel exhaust fluid containers, lead-acid batteries and headlight replacement bulbs. CCME had previously identified "automotive products" as a priority candidate for EPR in CAP-EPR,

which includes "used crankcase oil, filters and containers, lead acid batteries, and lamps, tires, refrigerants and anti-freeze, brake, transmission, other fluids and their containers" (CCME 2009a).

Other laws, regulations and policies governing the automotive sector in Canada and internationally are informative, including federal motor vehicle safety regulations and the European Union's directive on end-of-life vehicles.

Based on consideration of the above sources, CCME provides the following guidance to jurisdictions for defining "automotive" for the purposes of consistent EPR policies:

Guidance on defining "automotive"

"Automotive" should encompass any vehicle included in Schedule III of the *Motor Vehicle Safety Regulations*, C.R.C., c. 1038, as amended, and its components. Vehicles include:

- buses
- motorcycles
- multi-purpose passenger vehicles
- passenger cars
- snowmobiles
- trailers
- trucks.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.6. Textiles

As shown in Table 1, the textiles sector has been estimated to make up 6% of the total end-use market for plastics in Canada, and 7% of the total amount of plastic waste generated per year. The Ellen MacArthur Foundation estimates that two-thirds of the material input for textiles production is plastic, the majority being polyester, nylon and acrylic (Ellen MacArthur Foundation 2017). The Salvation Army Thrift Store reports that in Canada 15% of textiles are currently reused or recycled, and 85% go to landfill (Salvation Army Thrift Store 2019).[8] Deloitte Canada (2019) estimated that, in 2016, 5% of plastics in textiles was collected for diversion and sent to a sorting facility, while 0% was successfully recycled. Approximately 11 kt of textiles that are collected for diversion end up in landfill (Deloitte Canada, unpublished – task 1). These numbers include textiles for furniture as well as fibres from carpets, rugs and mats. Unlike for other plastics, textile recycling technologies are in their infancy. CCME had previously identified "textiles and carpets" as a priority candidate for EPR in CAP-EPR (CCME 2009a). Currently, no jurisdiction in Canada

[8] This is estimate is for post-consumer textile waste that includes clothing, household textiles (e.g., linens, towels, curtains, tablecloths), footwear, accessories, soft toys and other textiles such as pet leashes and collars, but does not include ICI sources.

has implemented EPR for textiles, and no definitions are available from existing Canadian waste management laws, regulations or programs. Other laws, regulations and policies governing textiles in Canada and internationally are informative, including federal consumer protection legislation and Sweden's EPR system for textiles,[9] as well as work done by business and civil society groups such as the Ellen MacArthur Foundation's Make Fashion Circular initiative.

Based on these considerations, CCME provides the following guidance to jurisdictions for defining "textiles" for the purposes of consistent EPR policies:

Guidance on defining "textiles"

The definition of "textiles," as defined in EPR laws, regulations and programs, should encompass all standalone textile products made from textile fibres. For simplicity, textiles that are included as an integral component of other multi-material products, such as furniture or automotive, should be included in those product categories.

"Textile products" should encompass the following categories of textiles which may be woven, non-woven or knitted:

- **clothing**, intended to be worn by a person or a pet animal, including accessories such as hats, bags, gloves, ties, and scarves
- **interior textiles**, meant for interior use in residential and ICI buildings, including rugs, bed linen, towels, table linen, curtains and carpets not included in the construction products category.
- **footwear**, including indoor and outdoor shoes, boots, slippers and sandals

"Textile fibres" should encompass any natural or manufactured material capable of being made into a textile product or made into a yarn or fabric, including:

- **plastic-based fibres**, including polyester, nylon, acrylic and elastane
- **cellulose-based fibres**, including cotton, rayon, bamboo, lyocell and bast fibres
- **protein-based fibres**, including wool, leather and silk

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.7. Agricultural Plastics

The agricultural sector uses plastic in the transportation and storage of grains and seeds, fertilizer and pesticide packaging, and agricultural films, among other things (e.g., twine). It is estimated

[9] "EPR will be introduced for clothes, home and interior textiles, bags made from textiles and textile accessories, which means, for example, that furniture, technical textiles, filters, fabric by the metre, mattresses and shoes will not be covered by the new EPR scheme" (Government of Sweden 2020).

that the sector makes up approximately 1% of the total Canadian end-use market for plastics and generates 1% of plastic waste.

For the purposes of EPR, agricultural products can be seen as a sub-category of packaging, as covered products tend to fit the definition of "packaging" offered in Section 2.4.1. However, given the unique characteristics of the agricultural sector, and that provincial packaging EPR regulations do not include most ICI packaging, it is appropriate that agricultural products be treated separately from packaging overall.

As of 2020, the organization Cleanfarms ("Agrirécup" in Québec) has operated EPR programs for certain agricultural products in every province. Depending on the province, different products are covered, from containers, totes and drums to pesticide containers and grain bags. Seven programs are not subject to EPR laws and regulations but are run as voluntary programs. Three EPR programs are subject to regulations. Of these, one is subject to a dedicated regulation, while the others are approved under more general packaging and printed paper (PPP) frameworks. For example, in Québec, agricultural packaging (e.g., containers and film) is covered by the regulation implementing a shared-responsibility compensation regime where industry reimburses municipal net costs for PPP recovery. However, rigid pesticide and fertilizer containers of 23 litres and less are exempted based on Cleanfarms' voluntary program in the province. Actually, containers and packaging for which the final consumer is an agricultural establishment are exempt from the contributions due to Éco Entreprises Québec. The draft regulation amending the RRRPE designates agricultural plastics, including but not limited to containers and packaging under this EPR policy. For some of those products, Cleanfarms has also set up voluntary programs in Québec for the recovery and reclamation of certain agricultural products, such as seed bags, pesticide bags, totes and drums.

Guidance on defining "agricultural"

"Agricultural," as defined in EPR laws, regulations and programs, should encompass all products used in the containment, protection, handling, delivery, storage and transport of agricultural goods.

"Agricultural" should encompass products in the following categories:

- containers
- totes and drums
- bags and large tote bags
- twine
- bale wrap
- grain bags
- silage film.

Exclusions should be specific and narrowly scoped to avoid unintended consequences.

2.4.8. Fishing and Aquaculture Gear

Guidance on fishing and aquaculture gear is not covered in this document. CCME has committed to evaluate best policy options to increase collection and end-of-life management of fishing and aquaculture gear, including the role of EPR and other measures, as outlined in phase 2 of CAP-ZPW (CCME 2020).

This guidance document provides some preliminary information that could inform the development of EPR for fishing and aquaculture gear, if appropriate:

Information on defining "fishing and aquaculture gear"

"Fishing and aquaculture gear" could be defined in a preliminary fashion to encompass all products used in relation to fishing and aquaculture, and could include:

With regard to fishing:

- longlines
- nets (e.g., seines)
- traps and pots
- trawls
- troll nets
- vertical lines
- anchors
- gear markets
- buoys (e.g., float, hi-fly, colour).

With regard to aquaculture:

- buoys made from plastic
- flotation for raft structures
- ropes, bags and netting made from plastic
- trays.

2.4.9. Other Durable Plastic Products

This guidance does not include the full breadth of possible plastic product categories for which jurisdictions may establish EPR policies. Limited information exists to provide guidance on definitions and other program elements such as targets, for other durable plastic products that are not covered by the sectors listed above or by existing EPR policies. These items may include:

- containers (e.g., buckets, pails, basins, drums, bowls, crates, trays, baskets, totes, boxes, cases, pet carriers)
- non-electrical plastic toys, games and sporting equipment
- plastic furniture (e.g., mattresses)

- plastic child car seats and booster seats
- plastic signs
- veterinary products (e.g., plastic cones)
- fibreglass RVs and camping trailers
- fibreglass boats
- maintenance, gardening and construction tools and machines.

Some local governments have begun collecting the following products:

- plastic buckets, pails, basins and drums
- plastic crates, trays and shelving units
- plastic baskets, totes, containers, boxes and cases
- plastic toys and pools
- plastic furniture and pet carriers
- infant car seats and booster seats (plastic shell only, with all buckles, padding and metal parts removed).

In moving towards zero plastic waste, jurisdictions may begin to develop EPR policies for these items and categories.

3. ROLES AND RESPONSIBILITIES

3.1. Overview

This chapter provides jurisdictions with guidance on assigning consistent key roles and responsibilities in their EPR policies for plastics. It identifies three entities that should be assigned key roles and responsibilities in EPR policies: regulating authorities, producers, and PROs. Jurisdictions may choose to assign other entities responsibilities; this is discussed in Section 3.2.1.

Consistent assignment of roles and responsibilities can provide a range of benefits. They can create the conditions for producers, as the principal actors in an EPR system, to harmonize their EPR programs across jurisdictions, which can lower the administrative burden and increase efficiency by allowing programs to operate at a larger scale. By reducing costs and increasing efficiency, EPR programs will be in a position to achieve better outcomes. Consistent roles and responsibilities can also improve compliance by simplifying rules and making it easier for producers to be aware of their obligations, keep track of them, and more efficiently manage their end-of-life products along their regional or Canada-wide logistics chains.

Text Box 5: Waste collection as an essential service

The COVID-19 pandemic provides one example of how essential services, including waste collection and recycling, can be disrupted. In defining consistent EPR roles and responsibilities, jurisdictions may want to consider articulating a consistent expectation: that producers need to be able to implement contingency plans in times of emergency.

3.1.1. Sources of Data and Information

In developing guidance on consistent roles and responsibilities, CCME has been informed by the following recognized best practices and information sources:

- EPR laws, regulations, program plans and annual reports, in Canada and internationally
- guidance documents, including the OECD's 2016 guidance document *Extended Producer Responsibility: Updated guidance for efficient waste management*
- guidance prepared by CCME as part of CAP-EPR (CCME 2009a).

3.2. Principles

To ensure consistency in roles and responsibilities assigned in EPR policies, jurisdictions should be guided by the following principles:

Principles for consistent roles and responsibilities in EPR policies

- Roles and responsibilities should be assigned to entities accountable for outcomes.
- Activities assigned in roles and responsibilities should be able to be validated.
- Roles and responsibilities should be transparent.

3.2.1. Roles and Responsibilities Should Be Assigned to Entities Accountable for Outcomes

Many different entities play important functions over the lifecycle of products and packaging, such as producers, end users, collectors, haulers and processors. In its 2016 guidance document, the OECD recommends that "responsibilities should be well defined and not be diluted by the existence of multiple actors across the product chain." The assignment of roles and responsibilities under EPR policies should strike a balance between setting rules to ensure that desired outcomes are reached and providing producers with sufficient flexibility to achieve the outcomes in the most efficient way. In some cases, however, one or more entities beyond the three covered in this chapter may be assigned responsibilities. They would be jurisdiction-specific, and assignment would not cause any consistency issues with other jurisdictions. They may include, for example, waste

service providers, landfill operators or community champions that have, to date, contributed to program success in remote regions.

3.2.2. Activities Assigned as Part of Roles and Responsibilities Should Be Able to Be Validated

The entities that are assigned roles and responsibilities in an EPR policy should know what is expected of them. This means that the activities associated with these roles and responsibilities should be able to be validated. Validating means that a role or responsibility should be either quantifiable or a matter of fact (i.e., something occurred or did not). For example, a quantifiable role or responsibility could be related to the duty to collect materials, including locations, volume, or weight of end-of-life products or packaging to meet targets, while a role or responsibility that is a matter of fact could be whether a producer has registered with the appropriate regulating authority in a jurisdiction. See Section 6.3.4 for further description and discussion specific to performance measurement.

3.2.3. Roles and Responsibilities Should Be Transparent

Jurisdictions should work to ensure that roles and responsibilities across an EPR policy are transparent so that all entities, as well as the public, can understand who is responsible for what. This can help promote efficiency by minimizing any confusion between entities, such as producers, PROs and downstream service providers. It can also help the public better understand who to look to for certain services, such as curbside collection, drop-off depots or open data.

3.3. Common Roles and Responsibilities

This section provides guidance on key roles and responsibilities for regulating authorities, producers and PROs that are priorities for consistency across jurisdictions.

3.3.1. Roles and Responsibilities for Regulating Authorities

While EPR assigns many operational roles and responsibilities to producers and PROs, EPR remains a regulatory instrument. This means that regulating authorities retain key roles and responsibilities to ensure that rules such as those set out in laws and regulations are being followed and that EPR programs are functioning properly and achieving the desired outcomes.

The following are some roles and responsibilities of regulating authorities in their EPR policies:

- **Policy formulation and objective setting:** Regulating authorities are generally responsible for developing the EPR policy that creates obligations for producers and PROs, including by enacting or amending laws and regulations. Policy documents such as guidelines can also be issued to clarify the obligations of producers and PROs and to provide instructions on how to fulfill those obligations. Regulating authorities must also determine when to intervene to address any gaps or shortcomings in existing EPR policies. They apply broader government policies within their EPR policy, for example, open data, anti-discrimination and fiduciary responsibility policies.

  As an outcomes-based instrument, EPR depends on clear objectives such as targets that producers or PROs must work to achieve. Objectives are a policy matter and generally the responsibility of regulating authorities, though close consultation and collaboration is often advisable to set objectives that are feasible. Objectives can be set directly in regulation or in the approval of EPR program plans and reviewed in the annual reports.

- **Policy evaluation and oversight:** Regulating authorities may undertake periodic evaluations of EPR policies. Such evaluations are advisable in order to take stock and assess the performance and effectiveness of individual EPR programs as well as overall systems. Ongoing oversight also plays a key role in ensuring that regulating authorities are able to respond to issues as they arise. Both of these activities rely on adequate data and they help regulating authorities decide when it may be necessary to intervene to ensure that EPR performs as expected, and what that intervention should entail.

- **Monitoring progress, compliance promotion and enforcement:** It is important for policy outcomes and consistency that jurisdictions include compliance and enforcement elements in their EPR policies. Greater consistency across jurisdictions in the key pieces of EPR policy covered in this guidance should promote broad compliance and possibly lessen the need for enforcement. Where enforcement is required, consistency could help authorities gather “apples to apples” evidence across jurisdictional borders. The extent of compliance and enforcement elements in EPR policies is jurisdictional prerogative. Provincial and territorial acts concerning the environment, waste management and circular economy provide examples of different levels of compliance and enforcement regimes. For instance, when a non-compliance is identified, enforcement strategies vary by jurisdictions, with some restricting penalties to the administrative realm and others going as far as formal prosecution. Generally, compliance efforts can be taken by multiple players to encourage producers’ adherence through actions such as promotions and monitoring, while enforcement is a more direct approach in reaction to noncompliance through warnings, orders, fines and other legal sanctions.

When the role of regulating authorities is generally consistent across jurisdictions, producers and PROs can interact with different regulating authorities in similar ways. This may both reduce the complexity of operating in multiple jurisdictions and promote compliance.

While governments retain the overall accountability regardless of who undertakes the oversight and enforcement, jurisdictions may choose, in their regulatory framework, to delegate certain implementation responsibilities to an arm's-length body to oversee. For example, territorial governments should consider their operational constraints and absence of institutional experience with EPR in deciding if any of the governmental responsibilities should be delegated.

3.3.1.1. Arm's-Length Bodies

While some jurisdictions in Canada administer EPR policies within their core public service (e.g., ministries), others assign certain roles and responsibilities to arm's-length bodies. In cases where the regulating authority lacks capacity to adequately support producers, or lacks experience in the service area, this may the preferred option. Arm's-length bodies can provide neutrality in how the program is administered as they are often operationally independent from the core public service but remain accountable to government through a range of mechanisms, such as government power over appointments to senior-level positions within the arm's-length body or over requiring annual reports to legislators. Examples of arm's-length bodies in Canada relating to solid waste resource management, and in particular to EPR, include:

- the Resource Productivity and Recovery Authority (RPRA) in Ontario
- RECYC-QUÉBEC in Québec
- the Multi-Material Stewardship Board in Newfoundland and Labrador
- Recycle New Brunswick (Recycle NB) in New Brunswick.

Arm's-length bodies can fulfill a number of responsibilities on behalf of government. For example, they may be tasked with the day-to-day administration of an EPR policy, such as operating a registry, receiving data and reports from producers, undertaking compliance promotion activities and pursuing enforcement actions. They may also develop guidance to promote best practices amongst producers and help raise public awareness of waste diversion programs. Notably, the OECD, in its 2016 guidance document, recommends that jurisdictions that allow multiple competing PROs should establish "a neutral coordinating entity."

In New Brunswick, Recycle NB's oversight role includes the approval of stewardship plans, ensuring the brand owner or PRO is operating the program in accordance with their approved plan and regulatory requirements, promoting public education and awareness, and ensuring regulatory compliance. Compliance incidents that cannot be resolved by Recycle NB are referred to the government's Department of Environment and Local Government for enforcement actions.

Like New Brunswick, Ontario established the RPRA, to support its transition to a circular economy. RPRA is responsible for overseeing the eventual wind-up of Ontario's existing waste diversion programs and enforcement of individual producer responsibility (IPR) requirements. The RPRA has full authority, under the *Resource Recovery and Circular Economy Act*, to carry out compliance and enforcement activities associated with the Ontario's producer responsibility requirements. Under the Act, the government has effective oversight of the RPRA. For example, to ensure accountability and transparency, the RPRA is required to:

- enter into an operating agreement with the minister which sets out the accountability framework and clarifies roles, duties and responsibilities
- provide annual reports to the minister and the public
- make annual business plans publicly available.

Under producer responsibility, these arm's-length bodies are primarily funded by producers and are therefore authorized to set and collect fees to recover their operating costs from producers. The fee structure should be transparent, and producers should be given an opportunity to provide feedback prior to it being finalized.

Guidance on common roles and responsibilities for regulating authorities

Regulating authorities' responsibilities under an EPR policy include:

- policy formulation and objective setting
- policy evaluation and oversight
- monitoring progress, compliance promotion and enforcement.

Jurisdictions may choose, in their regulatory framework, to delegate certain implementation responsibilities to an arm's-length body for policy support.

As arm's-length bodies are primarily funded by producers, producers should be given an opportunity to provide feedback on the bodies' operation costs and the costs that producers are required to pay.

3.3.2. Roles and Responsibilities for Producers and Producer Responsibility Organizations

Producers are ultimately responsible for meeting all their regulatory requirements. However, producers can have a PRO act on their behalf to fulfill some or all of these regulatory requirements.

Whether the producer or PRO is responsible for the following activities is often dependent on who operates the EPR program and what agreements exist between producers and PROs.

The following are the key roles and responsibilities of a producer or PRO:

- **Meet the expected outcomes set by the regulator:** While producers may delegate the implementation of EPR programs to PROs, they must be the ones who are ultimately responsible for meeting expected outcomes.
- **Make the necessary data available for reporting and monitoring purposes:** The producer must be responsible for providing the data being reported to show progress toward expected outcomes, even if the reporting is delegated to a PRO. To show compliance, these data must also be made available to the regulator or a delegated authority.
- **Registration:** EPR policies should require obligated producers to make themselves known to regulating authorities or to a PRO by registering. See Section 2.3.1 for guidance on who is an obligated producer. Registration helps provide an accurate picture of the regulated community and is a key element in identifying free riders. Jurisdictions have put in place different registration mechanisms in their EPR policies to ensure that producers make themselves known to regulating authorities and to any relevant PRO. For example:
    - British Columbia's *Recycling Regulation* requires PROs to provide the province with lists of producers on whose behalf the organization operates an EPR program.
    - New Brunswick requires that all producers register with Recycle NB, which can be done by the PRO on behalf of the producer.
    - Ontario's regulation on electrical and electronic equipment requires producers to register with the RPRA.
    - Québec's RRRPE requires obligated producers to inform the regulating authorities of their intention to either join a collective EPR program or establish their own.
- **Reporting on progress toward expected outcomes:** Either the producer or its PRO is responsible for reporting on the progress toward the targeted outcomes of an EPR program, in particular the information outlined in Chapter 6.
- **Preparing an EPR program plan, if required by the regulatory framework:** Either the producer or its PRO should be responsible for preparing an EPR program plan that follows any procedural requirements outlined in the EPR policy, such as consultations with stakeholders and interested parties.
- **Implementing the EPR program:** The entity operating the EPR program must implement the EPR program that was approved by a regulating authority if required by the regulatory framework. This can be considered the principal activity in an EPR program, and may include:
    - retaining service providers such as collectors, haulers and processors through open bidding processes
    - ensuring service providers fulfill their obligations under any service contracts
    - working with producers to gather needed information and fees
    - promoting the services provided by the EPR program to the public, stakeholders and other interested parties.

Text Box 6: Single- versus multiple-producer responsibility organizations

In its 2016 guidance document, the OECD explains that a single PRO may simplify key functions such as monitoring, reporting and consultation, but the absence of competition may lead to higher fees for producers and adverse effects on competition in the waste management industry. Conversely, competing PROs may reduce costs and increase the efficiency of EPR programs, but can be more complex in terms of oversight, monitoring, transparency and consulting with stakeholders and interested parties.

The Competition Bureau of Canada is an independent law enforcement agency that helps ensure that Canadian businesses and consumers prosper in a competitive and innovative marketplace, and issues and concerns around competing PROs should be referred there: https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/home.

Guidance on roles and responsibilities for either the producer or the producer responsibility organization

Roles and responsibilities for either the producers or the PRO under an EPR policy should include:

- meeting the expected outcomes set by the regulator
- providing the required data for reporting and monitoring purposes
- registration
- reporting of progress toward expected outcomes (see Chapter 6)
- if required, preparing and implementing an EPR program plan.

3.3.3. Shared Responsibilities

EPR systems are complex and some areas have overlapping roles and responsibilities, even though one entity (regulating authorities, producer or PRO) may play a leading role. The following are some areas where roles and responsibilities may be shared between different entities:

- **Ensuring compliance:** To function well, EPR depends on the participation of all obligated producers. Failure to participate in EPR can have a range of negative consequences, including increased fees for compliant producers and an unfair competitive advantage for free riders. Regulating authorities often have a range of tools to address cases of non-compliance. In many cases, this may simply require putting in place compliance promotion programs or strategies, or else working with an entity that is non-compliant to bring it into compliance, such as through informing them of their obligations and providing guidance on how to comply with the rules. However, there will always be the option of taking enforcement action, such as issuing warning letters, imposing monetary penalties or pursuing legal sanctions.

While regulating authorities are responsible for compliance with laws and regulations, producers and PROs can also play a role. For example:

- In its 2016 guidance, the OECD identifies "peer pressure" among producers as one way to reduce the number of free riders in an EPR system.
- PROs should promote producer awareness of EPR obligations and make compliance easy through simple and user-friendly services (e.g., online platforms).
- Producers and PROs may also refer instances of potential non-compliance to regulating authorities for investigation.

Jurisdictions can work with producers and PROs so that compliance is promoted not just by regulating authorities but by everyone involved in an EPR program, as well as to develop solutions to non-compliance that leave intervention by regulating authorities as a last resort.

- **Public education and awareness:** In many cases, the entity operating the EPR program will take the lead in promoting the EPR program and educating the public on topics such as proper sorting of end-of-life products or packaging. This may be linked to quantitative or qualitative objectives for public awareness, such as those described in Chapter 5 of this document. However, all entities have a role to play in promoting the services of EPR programs, as well as general awareness of good practices for waste reduction and litter prevention.

Guidance on shared roles and responsibilities

The following roles and responsibilities may be shared between regulating authorities, producers and PROs, though one of these entities may play a leading role:

- ensuring compliance
- public education and awareness.

4. ACCESSIBILITY AND COVERING ALL SOURCES OF WASTE

4.1. Overview

This chapter provides guidance to jurisdictions on setting consistent expectations for EPR programs regarding accessibility and covering all sources of waste. It provides guidance in terms of factors to consider when setting expectations for accessibility to EPR programs, as well as standards of accessibility for priority product categories. It also provides guidance on how different sources of waste can be scoped and on how covering different sources of waste can be achieved for priority product categories.

4.1.1. Sources of Data and Information

In developing guidance on consistent roles and responsibilities, CCME has been informed by the following recognized best practices and information sources:

- EPR laws, regulations, program plans and annual reports in Canada and internationally
- data available on the sources of plastic waste, such as waste composition audits and Deloitte Canada (2019)
- guidance prepared by CCME as part of CAP-EPR (CCME 2009a)
- reports and guidance from international sources, including the OECD.

4.2. Principles

To ensure consistency when it comes to accessibility and covering all sources of waste in EPR programs and regulations, jurisdictions should be guided by the following principles:

Principles for consistent accessibility and covering all sources of plastic waste

- All communities in a jurisdiction, including Indigenous communities and rural and remote communities, have access to plastic waste diversion services.
- Services may differ within a jurisdiction and still fulfill the principle of access.
- EPR policies should seek to cover all sources of plastic waste (e.g., residential sources and ICI sources).

4.2.1. All Communities in a Jurisdiction, Including Indigenous Communities and Rural and Remote Communities, Have Access to Waste Diversion Services

The benefits of diverting waste from landfills using EPR are well known. These include reduced public expenditures and increased diversion rates overall. Jurisdictions should take care that EPR policies do not result in certain communities being left without access to waste diversion programs. Overall diversion targets incentivize producers to provide accessible services in order to collect enough end-of-life products or packaging to meet their targets. Concurrently, there is a risk this may result in some areas being under-served, as it may be tempting for producers to meet targets by focusing on, for example, areas with greater population density.

For producers to have the necessary influence over the supply chain, to achieve economies of scale and to effectively encourage the integration of environmental considerations into decisions about product design and manufacture, EPR programs should maximize collection at the end of product life. This can only be done by producers and PROs providing the broadest possible access to their programs.

4.2.2. Services May Differ Within a Jurisdiction

All residents in a jurisdiction should have access to waste diversion, and producers should maximize accessibility to waste diversion services in a jurisdiction. Diversion is ultimately a question of logistics—products and packaging that generate plastic waste have reached a consumer, and now need to make their way back into the economy. However, services may differ within a jurisdiction. Considerations such as economies of scale, collection and shipment cost efficiencies, and diminishing returns associated with higher diversion targets will impact the kinds of services that are technically or economically feasible in a given area over varying time periods. For example, for packaging, curbside collection may be viable in areas with higher population density, while other forms of service delivery, such as collection depots, may be more appropriate in other areas.

As a result, producers should be given sufficient flexibility to tailor services to the characteristics of different regions, with jurisdictions able to require specific methods or levels of service delivery where this is warranted to establish minimum standards of accessibility (see Text Box 7 for examples of common models of EPR service delivery). Jurisdictions could include both the expected method and level of service delivery in a given region as a minimum, and either allow for alternate models that ensure the same collection outcomes or leave this to the discretion of producers and PROs.

In most jurisdictions with mature municipal and producer responsibility PPP recycling programs, almost all single-family residences and small multi-unit residences, such as walk-up apartments, have curbside recycling pick-up. In many municipalities, seasonal dwellings are also included in curbside collection programs. Multi-residential buildings, such as high-rise apartment buildings, townhouses, condominiums and buildings that include a mix of residential and commercial uses, need to be explicitly targeted for access because they are often not serviced by municipal recycling programs or by privately contracted recycling collection services.

For example, Ontario's battery EPR regulation stipulates the minimum number of collection sites for communities of different sizes, as well as the hours the collection sites must be accessible (e.g., during normal business hours).

Across different jurisdictions, different models and mixes of collection modes and frequencies are possible—for example, weekly curbside collection of consumer product packaging, twice-yearly hauling of sorted plastic waste from a community depot in a Northern community, self-delivery of recyclables or a mainland drop-off collection site for island residents.

Examples of common models of EPR service delivery are set out in Text Box 7.

Text Box 7: Examples of common models of EPR service delivery

Producers have come up with a range of service delivery models to meet outcome-based requirements in EPR policies. These include:

- **Curbside collection:** primarily used for residential packaging, with weekly or bi-weekly pick-up at a similar service level to garbage collection, and with enhanced porch or door pick-up service for special-needs residents.
- **Multi-residential bin collection:** centralized bins used in multi-residential buildings such as apartment buildings, townhouses and condominiums, located indoors (e.g., basement or garage) or outdoors (e.g., parking lot or entrance) and often co-located with garbage bins.
- **Depot/transfer station:** permanent facility for product returns, which can either be operated by an EPR program or contracted with municipal works yard or waste transfer station, is often open during business hours, and is used to store and then transfer smaller quantities to larger, more economic loads for shipment.
- **Dedicated bins:** special bins designed for the collection of particular products (e.g., textiles) and serviced by the bin owner or a distributor.
- **Special event**: one-time, temporary collection events for one or more product categories, with no permanent facility and often scheduled several times per year.
- **Deposit-refund:** method used to incentivize the return of a product such as beverage containers, specialized packaging containers or tubs, by charging a deposit that is refunded (entirely or partially) to the person who returns the item to a specified location.
- **Return-to-retail:** method for returning products or packaging to the point of purchase or another retailer participating in a program.
- **Special scheduled collection:** pre-arranged scheduled pick-up for particular products, such as large or bulky items that cannot easily be transported to a collection location, or for residents with special needs.
- **Mail-back:** mail or courier service for product return, in particular where no facilities or other services are available.
- **Mobile collection units:** dedicated trailers or trucks that can be brought to a temporary location functioning as a depot based on a planned schedule.
- **Park, open space, sidewalk dedicated bins:** separate bins servicing public open spaces, recreational areas and sidewalks.
- **Transportation arrangements:** where shipments of goods are delivered by truck, boat, rail or plane, using reverse logistics to transport waste from Northern and remote communities, as well as from more temporary communities such as those at mining sites, to a hub or series of hubs that have sorting, cleaning and reprocessing or recycling facilities.
- **On-demand collection services:** requires producers to service collection sources in rural or remote areas within a pre-determined amount of time once those sources have collected a minimum amount of material.

4.2.3. EPR Policies Should Seek to Cover All Sources of Plastic Waste

In order to achieve zero plastic waste, effective collection and recycling of plastic waste from all sources—including residential, and ICI—is necessary. In Canada and internationally, EPR has been shown to effectively provide waste diversion services to a wide range of sources of plastic waste for different product categories. Given the key role identified for EPR in achieving zero plastic waste in phase 1 of CAP-ZPW (CCME 2019a), EPR policies across Canada should seek to cover all sources of plastic waste.

4.3. Accessibility of Extended Producer Responsibility: Factors to Consider

4.3.1 Factors to Consider in Setting Expectations for Accessibility

Jurisdictions are encouraged to consider the following factors in setting service model and frequency expectations for accessibility:

4.3.1.1. Product Characteristics

- **Volumes placed on the market and generated as waste:** The higher the volumes placed on the market and generated as waste, the more important it becomes to ensure accessible services. For example, in 2016 it was estimated that packaging made up 47% of plastic discarded, or 1,542 kt, while agricultural plastic made up 1% of plastic discarded, or 45 kt. EPR programs for these two product categories will likely operate at different scales and may require different levels of service.
- **Intended use:** The appropriate methods and levels of service can depend on who is the end user. Consumer products and their packaging are intended to be obtained by an individual to be used in a non-commercial setting, including for domestic, recreational and sports purposes. Collection services for consumer products should be accessible to the broader public. By contrast, non-consumer products—used principally for commercial, industrial or institutional customers—may allow for narrower services. Many product categories include both consumer and non-consumer products.
- **Mass, shape and durability:** Heavy and bulky items characteristic of more durable products (such as appliances) can be harder and more costly to handle and transport than lighter items, potentially impacting the feasibility of more intensive collection methods. In addition, these items may also be harder for the public to return to collection points. Flexible or crushable products, such as packaging, can be easier to collect and also easier to transport once they are baled in large, compacted and wire-bound blocks or cubes.
- **Presence of hazardous substances:** Some products or packaging may include materials or substances that, given their corrosive, inflammable, infectious, reactive or toxic characteristics, may present a real or potential harm to human health or the environment.

Due to their hazardous nature they require special handling, storing, transportation, treatment and disposal under federal, provincial, territorial or local laws and regulations, raising the costs of diversion and limiting the ability to find efficiencies.

4.3.1.2. Geographical Characteristics

- **Population density:** Higher population density can help foster economies of scale and reduce costs, potentially allowing more intensive methods and collection services. Conversely, lower population density may make certain services more costly or unfeasible.
- **Transportation infrastructure:** The level of transportation infrastructure and other logistical challenges affect the cost of providing certain services. For example, the challenges of servicing areas without all-season roads, remote communities without other communities in the local area, or island communities served by ferries could be addressed through partnerships between neighbouring communities and producers across multiple programs. This could help to reduce transportation costs by consolidating the pick-up schedule and maximize volume of waste transported at each pick-up (Text Box 8).
- **Waste management infrastructure:** The level of existing waste management infrastructure—or what could feasibly be developed over time—affects the design of waste diversion services. For example, shorter distances to depots, transfer stations or MRFs reduce costs and enable more intensive services. Similarly, adequately sized and maintained depots in Northern or remote communities, where sorted waste can be stored over periods of time between pick-ups, would facilitate overall diversion.

4.3.1.3. Service Characteristics

- **Type of service:** Minimum requirements may be set in regulation or EPR program plans for types of collection service, such as curbside pick-up, staffed depots, drop-off points at existing commercial, institutional or municipal sites, or collection events. For example, several jurisdictions require curbside collection for PPP.
- **Service intensity:** The service intensity may be prescribed in the regulation; however, in most jurisdictions the intensity is set through EPR program plans. The service intensity may differ based on the product category and regional or community needs and expectations—for example, the level of access a consumer has to weekly curbside collection, to depots or other sites during opening hours, or to drop-off containers, and the frequency of collection events.

4.3.2. Accessibility for Indigenous Communities and for Northern and Remote Communities

To achieve minimum standards of accessibility, remote or Northern communities may require different collection services from those that are feasible in urban areas. One solution that may be more applicable to remote or Northern communities is to enhance the role of permanent collection depots to provide the most accessible collection method for residents. For example, Recycle BC has committed to maintaining a standard of a depot being available within a 30-minute drive in urban communities and a 45-minute drive in rural communities for 98% of British Columbia's population.

Tailoring the solutions to the communities becomes even more important when working with Indigenous communities, some of which are also Northern and remote. EPR programs should be expected to work collaboratively with Indigenous communities and their representatives to develop programs that provide access to waste diversion (see Text Box 8 for examples). This should be achieved by engaging with each community in recognition of their independent decision-making power. For example, First Nations communities in Ontario who wish to receive producer-run blue box services are required to register with the RPRA. Once an eligible community has registered, producers are required to make an offer of blue box services.

A new EPR program should aim to match existing service levels initially and increase access over time if necessary. Additional guidance, best practices and useful data are available from a 2015 report developed for CCME on targeted materials for EPR in the North (sonnevera international corp. 2015).

Text Box 8: PRO initiatives to improve accessibility in Indigenous communities

- A pilot project launched in Manitoba in 2019 saw ten PROs partnering with five First Nations communities to remove five truckloads of end-of-life products and packaging from remote communities. Products recovered included oil containers, electronics, tires and residential PPP. The project found that close collaboration between all communities and organizations involved, as well as community supports, was required for the project to succeed.

- The First Nations Recycling Initiative (FNRI) was developed by ten of the major EPR agencies in British Columbia, specifically to collaborate with Indigenous communities and support recycling. A dedicated First Nations Field Services Specialist works throughout the province to raise awareness of the initiative, offer resources and support on the various recycling programs, and organize community collection events. The FNRI also collaborates with Indigenous Services Canada and the Indigenous Zero Waste Technical Advisory Group to increase recycling access across British Columbia (Recycle BC 2020).

- British Columbia's EPR program for large appliances, the Major Appliance Recycling Roundtable, recognized that staff at many rural and Indigenous community collection sites did not have access to hands-on training for safely handling ozone-depleting substances (ODS), common in older appliances. The EPR program stepped in and provides operational training (including a specialized tool), beyond the requirements of course certification for ODS technicians, to staff in some of the most remote communities in British Columbia. Eliminating barriers to recycling means that more large appliances will be responsibly managed, all while expanding British Columbia's skilled workforce.

Guidance on setting accessibility expectations for Indigenous Communities and Northern and remote communities

In Indigenous communities, EPR programs should be expected to work collaboratively with communities and their representatives to develop programs that provide access to waste diversion. This should be achieved by engaging with each community in recognition of their independent decision-making power.

In Northern and remote communities, EPR programs should be expected to work collaboratively with communities to develop programs with access to waste diversion through tailored solutions.

4.3.3. Guidance on Setting Accessibility Expectations for Priority Product Categories

4.3.3.1. Packaging, Packaging-like Products and Single-use Plastics

Packaging, packaging-like products and single-use plastics are currently the only priority product categories for which jurisdictions can generally expect EPR programs to provide residential curbside collection. This is due, among other things, to the amount of waste generated (i.e., 45% of all plastic waste generated, or 1,542 kt in 2016), their relative ease of collection and public expectations.

It is recognized, however, that curbside collection may not be viable in smaller communities and other rural and remote areas. Therefore, jurisdictions should set clear criteria for determining which communities must receive curbside collection. These rules could include:

- **Numerical thresholds:** Jurisdictions could set numerical thresholds based on population (e.g., 5,000 residents), above which curbside collection must be offered.
- **Existing municipal services:** Jurisdictions could require curbside collection in municipalities that offer similar curbside collection for garbage, organics or other materials.
- **Identification of individual municipalities:** Jurisdictions could identify specific areas or communities that must receive curbside collection. For example, Multi-Material Stewardship Manitoba's 2017–2021 program plan establishes four categories of municipalities: two based on population size, and two unique categories for the cities of Brandon and Winnipeg (Multi-Material Stewardship Manitoba 2017).

Based on the above, CCME offers the following guidance to jurisdictions on setting accessibility expectations for packaging, packaging-like products and single-use plastics:

Guidance on setting accessibility expectations for packaging, packaging-like products and single-use plastics

Residential curbside collection should be offered in communities that meet clearly defined criteria, which could include numerical thresholds, the existence of similar municipal services or individually designated areas.

For residents living in areas under the threshold but not in remote communities, there should be an expectation that EPR programs offer drop-off depots, or a drop-off location for refundable items subject to a deposit refund scheme, within a maximum distance of most residents (e.g., within a 45-minute drive for 90% of residents).

For residents living in remote communities, EPR programs should be expected to work collaboratively with communities and other stakeholders to develop programs that provide access to waste diversion.

4.3.3.2. Other Priority Product Categories

For product categories where there is no expectation of curbside collection in a jurisdiction, accessibility for these product categories can be achieved through collection sites where the public is easily able to drop off end-of-life products for diversion. Rules for collection sites are found in several EPR policies in Canada. For example:

- Ontario's EPR regulation for electronics and electrical equipment sets the minimum numbers of collection sites based on the population of a municipality or territorial district, but also allows producers to replace a certain number of required sites with collection events or reduce the number of sites required if the producer offers quarterly curbside collection or take-back options that are similar to the manner in which the EEE was supplied, e.g., mail-back channels (O. Reg. 552/20, Part III).
- Québec's EPR regulations establish rules for drop-off centres and collection services, including minimum numbers of permanent drop-off centres for different regional sizes based on population. The regulations also create expectations for Northern and remote communities (CQLR c Q-2, r 40.1, chapter V).

Rules such as these should be considered best practices. Jurisdictions are encouraged to put in place similar clear rules requiring minimum numbers of collection sites for different product categories in their EPR policies. In addition, producers and PROs may pursue other collection methods to meet diversion targets, if necessary, such as scheduled pick-ups, special collection or repair events.

Based on the above, CCME offers the following guidance to jurisdictions for setting accessibility expectations for the other priority product categories:

Guidance on setting accessibility expectations for other priority product categories

Jurisdictions should set clear requirements on the number of permanent or temporary collection sites necessary to ensure a minimum level of accessibility for all residents.

Other collection methods should be left to the discretion of producers and PROs

4.4. Covering All Sources of Plastic Waste

Waste diversion programs, including EPR, sometimes make distinctions between different sources of waste, such as between ICI sources versus residential sources, or between single-family and multi-family residential buildings. This is particularly the case for packaging.

It is important to cover all sources of waste for multiple reasons:

- to increase the volume of obligated products and materials and, as a result, to increase collection and diversion amounts to achieve economies of scale and reach established targets
- with respect to publicly funded institutional settings such as educational and heath care facilities, to ensure that the diversion costs for plastic waste are shifted away from the general taxpayer to producers
- to avoid requiring some users to pay twice. For example, a resident of a high-rise building (not covered by a residential EPR program), a school, or a business may purchase obligated products with embedded EPR costs and then pay again for private recycling collection services.

Consistent expectations for covering different sources of waste can enable EPR programs to harmonize the services they offer in different jurisdictions. No Canadian jurisdiction currently has comprehensive packaging EPR for ICI, though many jurisdictions outside Canada offer instructive examples.

This section offers some preliminary guidance for implementing packaging EPR for ICI sources, while recognizing current gaps in knowledge and experience in Canada. CCME encourages jurisdictions to share lessons learned, especially those that are "first movers" in ICI EPR programs, keeping in mind the common goal of consistent EPR.

4.4.1. Scoping Different Sources of Plastic Waste

Data for different sources of plastic waste show that no category is insignificant (Table 2).

Table 2: Plastic waste generated by source, 2016

Jurisdiction	Plastic waste generated by source, 2016 (tonnes)			
	ICI	Residential	Construction	Total
British Columbia	221,000 (50%)	188,000 (43%)	33,000 (7%)	442,000 (100%)
Alberta	223,000 (56%)	135,000 (34%)	43,000 (11%)	400,000 (100%)
Saskatchewan	51,000 (48%)	46,000 (43%)	10,000 (9%)	106,000 (100%)
Manitoba	74,000 (63%)	39,000 (33%)	4,000 (4%)	117,000 (100%)
Ontario	678,000 (55%)	505,000 (41%)	44,000 (4%)	1,228,000 (100%)
Québec	269,000 (36%)	449,000 (60%)	30,000 (4%)	749,000 (100%)
New Brunswick	33,000 (48%)	33,000 (48%)	3,000 (4%)	69,000 (100%)
Prince Edward Island	7,000 (50%)	6,000 (44%)	1,000 (6%)	13,000 (100%)
Nova Scotia	36,000 (42%)	45,000 (53%)	4,000 (5%)	85,000 (100%)
Newfoundland and Labrador	24,000 (50%)	21,000 (44%)	3,000 (6%)	49,000 (100%)
Yukon, Northwest Territories and Nunavut	5,000 (50%)	5,000 (44%)	1,000 (6%)	11,000 (100%)
Canada	1,621,000 (50%)	1,472,000 (45%)	175,000 (5%)	3,268,000 (100%)

Source: Deloitte Canada, unpublished – task 1.

There are also limited data available on the percentage of all waste generated by the ICI and CRD sectors that is plastic. Statistics Canada has estimated the ICI sector is responsible for 65% of the 25 million tonnes of waste generated annually in Canada and diverts 19% of it. Waste composition studies conducted for Metro Vancouver in 2019 for institutional and commercial sources and in 2018 for construction and demolition sources reported the following estimates for plastic:

Table 3: Share of the waste stream for different ICI (2019) and construction sources (2018)

Material	Retail trade	Food services and accommodation	Manufacturing	Business and commercial services	Construction and demolition[10]
Plastic	14–27%	15–20%	16–26%	15–25%	11.5%
Compostable plastic	<1%	<1%	<1%	<1%	N/A
Single-use products (plastic and non-plastic)	2–3%	4–8%	2–5%	2–4%	N/A
Electronic waste	<1%	<1%	<1%	0–2%	N/A

Sources: Metro Testing and Engineering 2020 and TRI Environmental Consulting 2019.

[10] Construction and demolition was the subject of a separate waste composition audit; see TRI Environmental Consulting (2019).

4.4.1.1. Scoping Institutional, Commercial and Industrial Sources of Plastic Waste

ICI encompasses a wide range of economic activities, locations and organization sizes. In its Waste Management Industry Survey, Statistics Canada describes ICI waste as "the waste generated by all non-residential sources in a municipality, and is excluded from the residential waste stream," and offers the following descriptions:

- **Institutional waste** is generated by institutional facilities such as schools, hospitals, government facilities, senior homes, universities and so on.
- **Commercial waste** is generated by commercial operations such as shopping centres, offices and so on.
- **Industrial waste** is generated by manufacturing and primary and secondary industries, and is managed off-site from the manufacturing operation (Statistics Canada 2018).

In some cases, no distinction between different sources of ICI plastic waste is necessary, such as EPR policies that exclude ICI sources and focus only on residential sources or consumer products. Construction, renovation and demolition plastic waste can be generated by any of these ICI sectors. Some EPR policies for packaging in Canada currently make no distinction between different sources of ICI waste.

However, jurisdictions may choose to expressly include ICI sources within the scope of an EPR policy. In these cases, jurisdictions may need to scope the ICI sources that would be included or excluded. For example, Ontario's blue box regulation (O Reg 391/21) includes schools, not-for profit long-term care homes, not-for-profit retirement homes and public spaces, as they receive significant amounts of residential waste. Jurisdictions can scope ICI sources using a range of criteria, including economic sector, size of the organization, and size or location of the premises.

<u>Economic sector and activity</u>

The North American Industry Classification System (NAICS) was developed by the statistical agencies of Canada, Mexico and the United States (Statistics Canada 2017). NAICS is a comprehensive system encompassing all economic activities. It has a hierarchical structure. At the highest level, it divides the economy into 20 sectors. At lower levels, it further distinguishes the different economic activities in which businesses are engaged.

NAICS codes are used in many areas of environmental regulation in Canada. For example, Ontario incorporates NAICS codes to help identify regulated entities in its local air quality regulations (O. Reg. 419/05). Similarly, the Government of Canada uses NAICS codes to help identify facilities that must report greenhouse gas emissions.[11]

[11] See, e.g., Notice with respect to reporting greenhouse gases (GHGs) for 2019, *The Canada Gazette*, Part I, February 1, 2020. https://canadagazette.gc.ca/rp-pr/p1/2020/2020-02-01/html/sup1-eng.html#S91

Jurisdictions are encouraged to use NAICS codes to distinguish between different economic sectors and between different activities within a sector. This can be useful as different economic sectors generate very different amounts and kinds of plastic waste. For example, plastic waste generated from a manufacturing facility would not be the same as that generated from a retail store, an office building or a hospital.

For illustrative purposes, Table 4 presents examples of sectors that could be classified as institutional, commercial or industrial using NAICS codes.

Table 4: Examples of NAICS codes

ICI source	Example NAICS codes
Institutional	• 61: educational services • 62: health care and social assistance • 91: public administration
Commercial	• 41: wholesale trade • 44 and 45: retail trade • 51: information and cultural industries • 52: finance and insurance • 54: professional, scientific and technical services • 72: accommodation and food services
Industrial	• 11: agriculture, forestry, fishing and hunting • 21: mining, quarrying, and oil and gas extraction • 22: utilities • 31–33: manufacturing

Size of organization

Thresholds or criteria based on the size of an organization can help scope ICI sources of plastic waste by, for example, allowing smaller organizations to receive services while letting larger organizations operate their own waste diversion programs. There are many ways to set thresholds for size. For example, Innovation, Science and Economic Development Canada (2019) has defined small, medium and large businesses as follows for statistical purposes:

- a small business has 1–99 paid employees
- a medium-sized business has 100–499 employees
- a large business has 500 or more paid employees.

Other organizations classify businesses according to their structure and ownership. The Government of Canada's Treasury Board Secretariat (2018) defines "small business" using both annual gross revenues (less than $5 million) and number of employees (fewer than 100). Jurisdictions that distinguish between ICI sources of plastic waste based on size should adopt one of these or similarly clear criteria.

Size or location of premises

Finally, jurisdictions may wish to distinguish between ICI sources based on the size or location of their premises. For example, the City of Toronto offers collection services to commercial

properties that do not exceed 500 m^2 and that have fewer than four stories above ground (Toronto Municipal Code §841-3). Some municipalities also provide services to ICI sources in certain areas, such as business districts or downtowns.

Based on the above, CCME offers the following guidance to jurisdiction on scoping institution, commercial and industrial sources of plastic waste:

Guidance on scoping institutional, commercial and industrial sources of plastic waste

ICI sources of waste can be considered any source that is not a residential source.

Jurisdictions could distinguish between different sources of ICI waste based on:

- economic sectors and activities as outlined in the North American Industry Classification System
- defined criteria for small, medium-sized, and large organizations or
- the size or location of premises.

4.4.1.2. Scoping Residential Sources of Waste

There are many different kinds of residences in Canada. For example, the City of Toronto zoning bylaw lists seven kinds of residential buildings, including apartment buildings, detached houses, duplexes, semi-detached houses and townhouses (City of Toronto Zoning Bylaw 569-2013). In its Waste Management Industry Survey, Statistics Canada (2018) describes "residential waste" as "waste from primary and seasonal dwellings, which includes all single family, multi-family, high rise and low rise residences." EPR policies in Canadian jurisdictions adopt a similarly broad definition of residential sources of waste. For example, British Columbia's *Recycling Regulation* defines "residential premises" as including "houses, apartments, condominiums, town homes and other premises in which persons reside" but excluding "institutional accommodations or visitor accommodations."

For EPR policies that set rules regarding residential sources of waste, jurisdictions should seek to ensure that all types of residential buildings are included. This includes single-family and multi-family residences of all kinds, as well as seasonal residences. This is in keeping with the principle that everyone should have access to waste diversion, as discussed above in Section 4.2.1, though methods and levels of service delivery may differ.

Based on the above, CCME offers the following guidance on scoping residential sources of waste:

Guidance on scoping residential sources of waste
Jurisdictions are encouraged to include all types of residential buildings in the scope of residential sources of waste.

4.4.2. Guidance on Using EPR to Cover All Sources of Waste for Priority Product Categories

4.4.2.1. Packaging, Packaging-like Products and Single-use Plastics

The distinction between residential and ICI sources of plastic waste is most relevant for packaging, packaging-like products and single-use plastics. This is because of the expectations regarding accessibility—namely, that some residential sources should receive curbside collection (see Section 4.3.3).

However, regardless of the method and level of service delivery, EPR policies for packaging, packaging-like products and single-use plastics should cover all residential sources. CCME recognizes that jurisdictions may adopt a range of different approaches for addressing plastic packaging waste from ICI sources. These could include, for example, requiring source separation programs or waste audits, disposal bans, and requiring ICI sources to pay for the collection of plastic waste generated on their premises.

Nonetheless, EPR remains a possible avenue for managing ICI packaging waste that jurisdictions could pursue. In 2009, jurisdictions agreed through CAP-EPR (CCME 2009a) to manage through EPR all packaging currently handled by municipalities or generated from the industrial, commercial and institutional sectors either as waste or through recycling programs. Internationally, numerous EPR policies in Europe cover both residential and ICI sources of packaging waste, either through dedicated ICI EPR programs, such as in Belgium, or through EPR programs that cover both residential and ICI sources, as is the case in 21 EU member states. This is detailed in Table 5.

Table 5: Source coverage of EPR programs for packaging in the European Union

Household or equivalent packaging only	Commercial and industrial packaging only	Household, commercial and industrial packaging
• **Belgium**: Fost-Plus • **France**: CITEO • **Germany**: Der Grüne Punkt – Duales System Deutschland • **Spain:** ECOEMBES	• **Belgium:** Valipac	• **Austria:** Altstoff Recycling Austria (ARA) • **Bulgaria:** Ecopack • **Cyprus:** Green Dot Cyprus • **Czech Republic:** EKO-KOM • **Estonia:** Eesti Taaskasutusorganisatsioon (ETO) • **Finland:** Finnish Packaging Recycling RINKI Ltd. • **Greece:** Hellenic Recovery Recycling Corporation • **Hungary:** ÖKO-Pannon • **Ireland:** Repak • **Italy :** Consorzio Nazionale Imballaggi (CONAI) • **Latvia:** Latvijas Zaļais punkts • **Lithuania:** Žaliasis taškas • **Luxembourg:** Valorlux • **Malta:** Greenpak • **Netherlands:** Afvalfonds Verpakkingen • **Poland:** Rekopol • **Portugal:** Sociedade Ponto Verde • **Romania**: ECO-ROM AMBALAJE • **Slovakia**: ENVI-PAK • **Slovenia:** Slopak • **Sweden:** Förpacknings- och Tidningsinsamlingen (FTI)

Adapted with permission from Watkins *et al.* 2017 with information from Packaging Recovery Organisation Europe n.d.

The experiences of these European countries show that EPR can be used to recover large amounts of packaging that is comparable to amounts generated by residential sources. For example:

- Belgium's commercial and industrial packaging EPR program reported recycling 698 kt of packaging in 2019 (Valipac 2020). This is compared with 727 kt of residential packaging recycled in the same year (Fost Plus n.d.).
- Ireland's packaging EPR reports that the amount of commercial packaging recycled outnumbered that from residential sources by almost 80 kt in 2019 (Repak 2020).

In addition, jurisdictions are encouraged to include the following sources alongside residential services:

- **Schools:** Jurisdictions should be informed by the appropriate NAICS codes in specifying the kinds of schools that should be covered through NAICS codes. For example, elementary and secondary schools fall under NAICS code 6111, while colleges and CÉGEPs (i.e., *collèges d'enseignement général et professionnel* in French) fall under 6112 and universities 6113.
- **Local government property:** These would all presumably fall under NAICS code 913 – local, municipal and regional public administration.

- **Places of worship, small businesses and non-profit organizations occupying a detached building or strip mall:** Small businesses can be defined through criteria such as those described above, while places of worship and non-profit organizations would likely fall under NAICS code 813 – religious, grant-making, civic, professional and similar organizations.

Products generated at these sources are broadly similar to those found from residential sources and such facilities may have limited resources to ensure that end-of-life products and packaging are collected for diversion.

Based on the above, CCME offers the following guidance to jurisdictions for covering all sources of waste for packaging, packaging-like products and single-use plastics:

Guidance on using EPR to cover all sources of waste for packaging, packaging-like products and single-use plastics

EPR policies for packaging, packaging-like products and single-use plastics should cover all residential sources of plastic waste.

Jurisdictions are encouraged to include, alongside residential sources, all schools, local government property, places of worship, small businesses and non-profit organizations occupying a detached building or strip mall.

For other ICI sources of plastic waste, jurisdictions are encouraged to explore their potential inclusion in EPR policies, while recognizing that there are a range of different approaches for addressing plastic packaging waste from ICI sources.

4.4.2.2. Other Priority Product Categories

In Canada, few EPR policies distinguish between residential and ICI sources of plastic waste, other than those dealing with packaging, packaging-like products and single-use plastics. However, British Columbia includes ICI sources in its EPR regulations for electronics, lighting and the plastic containers for oil and antifreeze. This approach should be considered a best practice and continued by jurisdictions for all other priority product categories addressed in this guidance document.

Based on the above, CCME offers the following guidance to jurisdictions for covering all sources of waste for other priority product categories:

Guidance on using EPR to cover all sources of waste for other priority product categories

Jurisdictions are encouraged to include both residential and ICI sources of plastic waste in EPR policies for the following product categories:

- electronics and electrical equipment
- appliances
- construction products
- automotive
- textiles
- agriculture

5. TARGETS

5.1. Overview

This chapter focuses on providing jurisdictions with guidance for setting material diversion targets to facilitate greater consistency of EPR policies across Canada. This guidance document aims to arrive at more ambitious diversion targets in order to achieve zero plastic waste while considering the existing diversion practices, waste management infrastructure and resources that local producers are able to mobilize.

EPR is one of the most effective tools to significantly expand collection systems and increase the diversion of plastic waste. Consistent targets across EPR policies formalize the requirement that producers will contribute over time to achieving zero plastic waste, and allow them to plan accordingly (e.g., by investing in needed diversion infrastructure). As governments implement more EPR for plastics and transfer the cost of end-of-life management of plastics to producers, consistent targets across jurisdictions can help producers to streamline and scale up their operations and reduce costs. Targets are an essential accountability element for an outcomes-based instrument such as EPR.

To support Canada-wide efforts to achieve zero plastic waste, Section 5.3 provides context for setting consistent targets across jurisdictions. Section 5.4 provides jurisdictions with guidance on setting targets that increase over time and set out a realistic but ambitious path for producers to reach zero plastic waste. Section 5.5 provides jurisdictions with an approach for setting consistent targets in specific product categories, as significant improvements in diversion rates are required

in every sector to make progress in achieving zero plastic waste. Guidance on how the targets could be measured, verified and reported is discussed further in Chapter 6.

5.1.1. Sources of Data and Information to Support Target-Setting

This guidance document has been informed by the following sources of information:

- EPR policies and programs in Canada and internationally that have a record of success and use targets that are progressively more ambitious over time
- other broader industry and government targets related to achieving zero plastic waste and advancing a circular economy (see Text Box 9)
- data and analysis on diversion and collection rates for plastics
- forecasts and modelling of certain sectors of the Canadian plastics economy to achieve increased rates of diversion, reuse, repair, refurbishment, remanufacture and recycling (i.e., the Deloitte Canada study described in Section 5.5).

5.2. Principles

The following two principles will help jurisdictions develop consistent performance targets in EPR policies:

Principles for consistent targets in EPR policies

- Targets should be SMART (specific, measurable, achievable, realistic, time-bound).
- Targets should be based on the waste management hierarchy.

5.2.1. Targets Should Be SMART

A common principle for successful environmental policies and programs is to set a clear path to achievement by using the acronym SMART. For the purposes of this guidance document, SMART stands for targets that are:

- **Specific:** Targets should clearly and unambiguously specify what needs to be achieved.
- **Measurable:** Targets should relate to quantifiable outcomes, so that indicators and reference points can be developed to measure progress towards the objective to ensure compliance.
- **Achievable:** Targets must be achievable within the time period specified, operate within an efficient waste management framework and prevent unnecessary burden on producers.

- **Realistic:** Targets should be implementable using the available resources and infrastructure, while still reflecting broader aspirations and stimulating improvements beyond business-as-usual trajectories, such as investment in infrastructure.
- **Time-bound:** There should be a clearly defined time scale for meeting targets in the short, medium and long terms, allowing companies to focus on meeting their obligations while motivating them to increase ambition over time.

Jurisdictions are encouraged to apply these SMART practices in setting their targets in their EPR policies. Using these practices aligns with many comments CCME received from stakeholders and interested parties on the characteristics of effective targets for EPR.

5.2.2. Targets Should Be Based on the Waste Management Hierarchy

As outlined in the Introduction of this guidance, EPR policies should seek to ensure that activities higher in the waste management hierarchy (Figure 2) are used to their maximum potential before allowing activities lower in the hierarchy. In practice, this means that recycling targets should not be a disincentive to reducing the use of, reusing, repairing, remanufacturing or refurbishing end-of-life products if the potential exists.

For example, the Computers for Schools Plus program refurbishes donated computers and related equipment. These refurbished devices are distributed across Canada and donated to public and non-profit institutions. In this case, setting overly ambitious recycling targets could be inappropriate, as the product category easily attracts high rates of reuse, which is higher in the waste management hierarchy. Similarly, secondary or used markets exist for clothing and textiles (e.g., consignment and second-hand clothing or textile stores) and so targets for these materials should ensure that they support continued reuse, prior to other diversion options or final disposal.

Section 5.5 of this guidance document provides guidance for setting targets for plastic product categories based on the potential for increased rates of reuse, repair, remanufacture and refurbishment, as well as recycling.

5.3. Establishing Consistent Targets for Plastics Diversion Using Extended Producer Responsibility Policies

Consistent targets for plastics are important because jurisdictions have committed to a shared outcome of zero plastic waste. To achieve consistency between EPR policies in Canada, targets should be set in the context of current broad government and industry targets related to achieving zero plastic waste and advancing a circular economy (see Text Box 9).

Text Box 9: Current government and industry targets for achieving zero plastic waste

CCME Aspirational Canada-wide Waste Reduction Goal

- A 30% Canada-wide reduction in waste disposed per capita by 2030 (based on 2014 data).
- A 50% Canada-wide reduction in waste disposed per capita by 2040 (based on 2014 data).

(CCME 2021b)

Ocean Plastics Charter

Includes the following targets:

- Working with industry towards 100% reusable or recyclable plastics by 2030, or, where viable alternatives do not exist, recoverable plastics.
- Working with industry towards increasing recycled content by at least 50% in plastic products where applicable by 2030.
- Working with industry and other orders of government to recycle and reuse at least 55% of plastic packaging by 2030 and recover 100% of all plastics by 2040.

(Environment and Climate Change Canada n.d.)

Chemistry Industry Association of Canada targets

- 100% of plastics packaging being recyclable or recoverable by 2030.
- 100% of plastics packaging being reused, recycled or recovered by 2040.

(Chemistry Industry Association of Canada 2018)

The Global Commitment

Includes the following commitments for business signatories:

- Packaged goods companies, retailers, food service companies, packaging producers
  - Take action to eliminate problematic or unnecessary plastic packaging by 2025.
  - Take action to move from single-use towards reuse models where relevant by 2025.
  - 100% of plastic packaging to be reusable, recyclable or compostable by 2025.
  - Set an ambitious 2025 recycled content target across all plastic packaging used.
- Raw material producers – non-compostable plastics: Set an ambitious 2025 target to increase the use of recycled plastics.
- Raw material producers – compostable plastics: Set a 2025 target to increase the share of renewable content to at least 75%, all from responsibly managed sources.
- Collection, sorting and recycling industry: Set an ambitious 2025 target to grow the volume and quality of recycled or composted plastics, and accordingly increase the ratio of recycled and composted over landfilled and incinerated plastic volumes.
- Durable goods producers: Set an ambitious 2025 recycled content target across all plastics used in products or components.

(Ellen MacArthur Foundation 2021)

The Canada Plastics Pact targets

- Define a list of plastic packaging that is to be designated as problematic or unnecessary and take measures to eliminate them by 2025.
- Support efforts towards 100% of plastic packaging being designed to be reusable, recyclable or compostable by 2025.
- Undertake ambitious actions to ensure that at least 50% of plastic packaging is effectively recycled or composted by 2025.
- Ensure an average of at least 30% recycled content across all plastic packaging (by weight) by 2025.

(Canada Plastics Pact 2021)

5.4. Guidance on Setting Extended Producer Responsibility Targets Tailored to Local and Regional Circumstances

Targets tailored to local circumstances are required to drive the activities needed to enable the achievement of zero plastic waste. This section provides jurisdictions with guidance on setting SMART targets that will guide producers and PROs towards developing the necessary processing capacity, end markets and operational expertise.

5.4.1. Set Program-wide and Material-specific Diversion Targets

Jurisdictions are encouraged to set both program-wide and material-specific (in this case, for plastics) diversion targets in their EPR policies.

Often, product categories include a wide range of different materials, such as plastics, metals, paper and wood—for example, those in white goods or construction products. The scope of this section focuses on targets relating to consistent EPR policies for the plastic constituents in the product categories.

Material-specific targets, in this case for plastics, allow jurisdictions to tailor goals to individual materials that differ in terms of processing capacity and market prices. For example, for certain plastic resins with high market demand, targets may be set higher than for materials with immediate technical or commercial barriers to value recovery, such as low or non-existent demand. In particular, plastic-specific targets will enable jurisdictions to set a path forward for producers towards achieving zero plastic waste.

Reliable data and reporting are necessary components in managing material-specific targets. Under British Columbia's EPR program reporting, producers are required to provide independent third-party assurance, prepared by chartered professional accountants, on how recovered products were managed in accordance with the pollution prevention hierarchy. For example, depending on the degree of certainty over processing pathways, assurance is required on the amount (unit, volume or weight data) of product or material managed by the EPR program for reuse, recycling, energy recovery and disposal (landfill, incineration). Third-party assurance provides the ministry with credible data that can be used to establish and improve material-specific targets in EPR plans.

5.4.2. *Initial Targets Should Be Built Upon and Guided by Current Processing Capacity, End Markets and Current Recycling Rates, or Build in Sufficient Lead Time for Development*

Best practice is for jurisdictions to determine the quantities of plastic waste generated within their boundaries based on the priority product categories laid out in this guidance. Achieving zero plastic waste starts with working from this baseline. Then two approaches are possible.

Under the first approach, initial targets could be set to reflect conditions at the time of startup, relying on future increases in targets to drive improvements. This approach is likely more appropriate when the EPR policy is replacing another system that already has some processing capacity in place. For example, British Columbia established its EPR policy for packaging and paper in 2014. Recycle BC initially committed to maintaining existing collection rates while it developed the operating experience needed to determine when it would be able to meet a 75% diversion target. Recycle BC has since met the 75% recovery target for the EPR program and has set material specific targets.

Under the second approach, jurisdictions could establish lead times for producers and PROs to develop sufficient capacity to meet targets. This approach may be more appropriate when producers and PROs must develop new networks and processing capacity, rather than taking over and building on a previous system. For example, Québec added household appliances and air conditioners to its EPR regulation in 2019 and established lead times of five to seven years before regulatory targets need to be met. Once a target comes into effect after the relevant lead time, the EPR policy increases the diversion target by 5% every year until a maximum target is reached, ranging from 70% to 90% depending on the product.

5.4.3. *Increase Targets Over Time to Drive Investment, Innovation and Economies of Scale*

Targets are an important driver in the development of efficient diversion systems capable of contributing to zero plastic waste. When producers and PROs know that targets will increase over time, they can plan ahead and make the right investments in infrastructure and innovation necessary for continuous improvement to meet desired outcomes.

Jurisdictions should increase the diversion targets over time. From the outset, this can be done either by establishing a schedule of gradual increases in an EPR policy or by sending appropriate signals to producers and PROs that targets will be increased gradually over time.

5.4.4. Review Targets Periodically

Jurisdictions should review targets periodically to ensure that EPR programs are both meeting their full potential in terms of diversion outcomes and not placing unrealistic demands on producers, PROs and diversion infrastructure. For example, British Columbia and Manitoba review targets every five years. Predictable target reviews are especially of interest to producers and help provide incentives for best performance.

Based on periodic reviews and annual reporting, jurisdictions should be prepared to adjust expectations up- or downwards depending on their findings. While adjustments may trigger cascading changes to other targets, jurisdictions should nonetheless ensure that EPR programs are on track to meet broader targets linked to achieving zero plastic waste.

5.4.5. Guidance for Setting Targets in Northern and Remote Areas

In Northern jurisdictions, a flexible performance target-setting process may be required. Such a process should strive to embrace consistent EPR outcomes in all regions while considering the unique geographic realities of Northern areas, and should involve producers, regulators and local communities. For example, targets need to be able to factor in smaller material quantities and irregular collection schedules, if required. Otherwise, initial target-setting should be similar to the process described in Section 5.4.2.

5.5. Guidance on Extended Producer Responsibility Targets for Product Categories Containing Plastics

This section provides jurisdictions with an approach for developing consistent targets for EPR in specific product categories. Due to the ubiquity of plastics in a vast array of products, significant improvements in recovering and diverting plastics are required throughout the economy. The choice of product categories in this guidance is informed by the Deloitte Canada study (Deloitte Canada 2019) and other relevant categories identified by federal, provincial and territorial governments.

The Deloitte Canada study, which was commissioned by Environment and Climate Change Canada, models rates of diversion, reuse, repair, refurbishment, remanufacture and recycling for certain sectors of the Canadian plastics economy.

As defined in Section 2.3.6, diversion encompasses all activities in the waste management hierarchy above disposal, including the conversion of waste to energy. Repair, remanufacture and refurbishment include both industrial and non-industrial processes that add value and utility and extend the useful life of a product (also called “value-retention processes” or VRPs). Recycling

includes mechanical, thermal and chemical processes, and recycling rates measure the percentage of plastic material that has been reprocessed from recovered (reclaimed) material by means of a manufacturing process and made into a final plastic product or into a plastic component for incorporation into a product.

The models in the Deloitte Canada study are built on 2016 data for an estimated 88% of plastics contained in products reaching the Canadian market annually. The Deloitte Canada study also models ways of meeting a 90% diversion rate by 2030 (a zero plastic waste proxy percentage) and provides an "illustration of what zero plastic waste could look like given current product designs and emerging value recovery technologies" (Deloitte Canada 2019).

The Deloitte Canada study provides useful information for linking EPR policies to the goal of zero plastic waste. The modelling by the Deloitte Canada study (see Table 6) could serve as a credible baseline for jurisdictions to consider when setting targets for EPR programs. Moreover, the 2030 numbers can serve as a common set of targets against which jurisdictions can plot a trajectory as they formulate their own EPR targets for products containing plastic. These are also important targets for industry sectors to work toward as they transition their own operations within a circular plastics economy.

Table 6: Proposed 2030 targets by sector based on modelled rates for diversion, recycling and repair, remanufacturing and refurbishment necessary to reach zero plastic waste in Canada

Sector or product Category	Estimated 2016 diversion rate[1] †	Estimated 2016 recycling rate[2] *	2030 diversion target[3]	2030 recycling target[3]	2030 repair, remanufacturing and refurbishment target[4]
Plastics in packaging	23%	15%	90%	65%	Negligible potential
Plastics in electronics equipment	16%	13%	62%	47%	30%
Plastics in appliances (white goods)	64%	0%	64%	47%	30%
Construction plastics	11%	1%	85%	37%	10%
Plastics in the automotive sector	100%	0%	100%	56%	10%
Plastics in textiles	5%	0%	72%	41%	Negligible potential
Agricultural plastics	9%	5%	65%	45%	Negligible potential

[1] Deloitte Canada (unpublished – task 1; Table 48, p.61)

[2] Deloitte Canada (unpublished – task 1; Table 49, p.62; 2030 T90 scenario)

[3] Deloitte Canada (unpublished – task 2: Table 24, p.41; 2030 T90 scenario)

[4] Deloitte Canada (unpublished – task 2: Table 15, p.35)

†Deloitte Canada (2019) defines diversion rate as the share of plastic diverted from direct disposal (i.e., landfills) and sent to a sorting facility divided by plastics waste available for collection

*Deloitte Canada (2019) defines recycling rate as the share of plastic that is ultimately reprocessed whether through chemical or mechanical recycling from diverted waste, divided by plastics waste available for collection. This rate does not include chemical recycling from disposed waste.

In developing targets, jurisdictions may also be informed by targets already in use in other jurisdictions or by industry initiatives. Some examples are provided in the sections 5.5.1 through 5.5.8; however, jurisdictions are encouraged to seek out the most up-to-date information.

5.5.1. Useful Information for Setting Targets for Plastics in Packaging

Plastics in the packaging sector is further described in Section 2.4.1 of this document.

Many EPR policies and programs have set overall diversion targets for packaging made from different materials, such as paper, plastic, glass and metal. For example, Recycle BC has set general program diversion targets for 2018 to 2022 at between 75% and 78% for packaging and paper products (Recycle BC 2019), while Québec's Action Plan 2019–2024 related to the *Politique québécoise de gestion des matières résiduelles* sets an overall recycling target of 75% by 2023 for paper and packaging (RECYC-QUÉBEC 2019a). Ontario's blue box regulation (O Reg 391/21) sets targets for six different material categories, including categories that include plastics such as beverage containers, flexible plastics and rigid plastics. Many of these targets focus on end-of-life packaging generated by households.

Some programs have specific targets for the diversion of plastic packaging. Recycle BC reports that the recovery rate[12] for plastic packaging in 2017 was 41% (after three years of operation under EPR), broken down into approximately 50% for rigid plastic and 20% for flexible plastic (Recycle BC 2019). Recycle BC has set a 50% recovery target[13] for plastic by 2025, with sub-targets for rigid and flexible plastics (Recycle BC 2019).

CCME recommends at minimum that jurisdictions set separate packaging targets for rigid and flexible plastics. Jurisdictions are encouraged to explore further disaggregating packaging targets by plastic resin type.

Other collective targets can also inform targets for packaging. The Ocean Plastics Charter commits partners to achieving 55% recycling and reuse of plastic packaging by 2030, and 100% recovery by 2040 (see Text Box 9). These goals are shared by the Chemistry Industry Association of Canada. Internationally, the EU has established a schedule of increasingly ambitious targets for EU member states for packaging under its *Packaging and Packaging Waste Directive* 2018/852 (*Official Journal of the European Union* 2018) and Circular Economy Action Plan (EU 2020), with a current recycling target of 55% of plastic packaging by 2025. The EU does not include incineration or waste-to-energy in its recycling targets.

[12] British Columbia uses the term "recovery rate," which is analogous to "diversion rate" used in this guidance document.
[13] British Columbia uses the term "recovery target" which is analogous to "diversion target" used in this guidance document.

In 2016, a report by Deloitte Canada (unpublished – task 1) estimated that 23% of all plastic in packaging in Canada was collected for diversion and sent to a sorting facility, and 15% was successfully recycled. Deloitte Canada (unpublished – task 2) estimated that diversion and recycling rates for plastic packaging could increase under a zero-plastic-waste scenario to 90% and 65% by 2030, respectively. It found that the potential for repair, remanufacture or refurbishment of plastic packaging is likely nil or negligible.

5.5.2. Useful Information for Setting Targets for Plastics in Electronics and Electrical Equipment

The use of plastics in electronics and electrical equipment (EEE) is described in Section 2.4.2 of this document.

Some EPR policies in Canada have set diversion (i.e., recycling) targets for end-of-life EEE, while others focus principally on levels of accessibility and public awareness. EEE EPR programs often report amounts collected in tonnes for a given year, as well as per capita tonnage, but many do not report diversion rates. Notably, Québec's EPR policy for EEE sets different material-neutral[14] diversion targets for a range of products beginning in 2020, starting at:

- 25% recovery (i.e., diversion) for cellphones, telephones, audio devices, digital cameras, camcorders, GPS systems
- 40% recovery (i.e., diversion) for other products under the EEE category

These recovery rates increase by 5% per year until a diversion target of 65% is attained.

Québec's EPR regulation also establishes how rates must be calculated (CQLR c Q-2, r 40.1).

In Ontario, producers have management or diversion targets that are based on the supply weight of products they historically put into the Ontario market. The targets are set at 55% beginning in 2021–2022 for information technology, telecommunications and audio-visual equipment (ITT/AV) (e.g., computers, cell phones, televisions) increasing to 70% in 2025 and beyond, and 30% for the 2023–2025 period for lighting increasing to 50% in 2027 and beyond.

Internationally, the EU's 2012 directive on waste electrical and electronic equipment establishes different recovery (i.e., diversion) and recycling or reuse targets for a range of categories of EEE in three phases (2012–2015, 2015–2018 and 2018 onwards). The most recent EU targets for EEE are summarized in Table 7.

[14] "Material-neutral" refers to diversion targets that focus on products, rather than the different materials found in those products (e.g., plastic versus metal).

The Deloitte Canada study (2019) estimated that, in 2016, 16% of plastic in electronics and electrical equipment (EEE) was collected for diversion and sent to a sorting facility, while 13% was successfully recycled. A report by Deloitte Canada (unpublished – task 2) estimated that diversion and recycling rates for plastics in EEE could increase under a zero-plastic-waste scenario to 62% and 47% by 2030, respectively. In addition, rates of repair, remanufacturing and refurbishment could increase to 30% by 2030.

5.5.3. Useful Information for Setting Targets for Plastics in Appliances (White Goods)

The use of plastics in appliances is further described in Section 2.4.3 of this document.

Some jurisdictions in Canada include appliances under their EPR policies for EEE. Québec's EPR regulation applying to household appliances and air conditioners sets different diversion targets for a range of products beginning in 2024 for some products and 2026 for others, increasing by 5% per year until reaching a ceiling ranging from 70% to 90%. The EPR regulation also provides guidance on how rates must be calculated.

The EU's directive on waste electronics and electrical equipment includes white goods such as large and small appliances, and sets targets for the recycling or reuse of white goods in two phases (2012–2015, 2015–2018 and 2018 onwards) (see Table 7).

The Deloitte Canada study (2019) estimated that in 2016, 64% of plastic in appliances was collected for diversion and sent to a sorting facility, while the recycling rate was 0%. A report by Deloitte Canada (unpublished – task 2) found that while maintaining the diversion rate of 64% for plastics in appliances, recycling rates for plastics in white goods could increase under a zero-plastic-waste scenario to 47% by 2030, while rates of repair, remanufacturing and refurbishment could increase to 30% by 2030.

5.5.4. Useful Information for Setting Targets for Plastics in Construction Products

The use of plastics in construction products is described in Section 2.4.4 of this document.

Currently, no jurisdiction in Canada has adopted EPR for construction products. Québec's Action Plan 2019–2024 related to the *Politique québécoise de gestion des matières résiduelles* sets an overall diversion target of 70% by 2023 for all construction, renovation and demolition material.

The Deloitte Canada study (2019) estimated that, in 2016, 11% of plastics in construction material was collected for diversion and sent to a sorting facility, while 1% was successfully recycled. A report by Deloitte Canada (unpublished – task 2) estimated that diversion and recycling rates for

plastics in the construction sector could increase to 85% and 37%, respectively, by 2030, while rates of repair, refurbishment and remanufacture could increase to 10%.

Similar to the broad packaging category, EPR programs for construction products may need to include overall diversion targets and separate sub-targets for specific items (e.g., carpet, plastic film).

Table 7: Minimum European Union targets[a] for recovery and reuse and recycling by category, applicable from August 2018 onwards

Category	Category description	Recovery[b] target	Reuse[c] and recycling[d] target
Large equipment (any external dimension more than 50 cm)	Household appliances; information technology and telecommunication equipment; consumer equipment (radio sets, television sets, video recorders and so on); luminaires; equipment reproducing sound or images, musical equipment; electrical and electronic tools; toys, leisure and sports equipment; medical devices; monitoring and control instruments (smoke detectors, thermostats and so on); automatic dispensers; equipment for the generation of electric currents	85% shall be recovered	80% shall be prepared for reuse and recycled
Small equipment (no external dimension more than 50 cm)	Household appliances; information technology and telecommunication equipment; consumer equipment (radio sets, television sets, video recorders, and so on); luminaires; equipment reproducing sound or images, musical equipment; electrical and electronic tools; toys, leisure and sports equipment; medical devices; monitoring and control instruments; automatic dispensers; equipment for the generation of electric currents	75% shall be recovered	55% shall be prepared for reuse and recycled
Screens, monitors and equipment containing screens with a surface greater than 100 cm^2	Screens, televisions, LCD photo frames, monitors, laptops, notebooks	80% shall be recovered	70% shall be prepared for reuse and recycled
Lamps	Straight fluorescent lamps, compact fluorescent lamps, fluorescent lamps, high-intensity discharge lamps including pressure sodium lamps and metal halide lamps, low-pressure sodium lamps, LED	N/A	80% shall be recycled

Source: Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (*Official Journal of the European Union* 2012).

[a] The targets are calculated by dividing the weight of the category material that enters the recovery, recycling or reuse preparation facility, after proper treatment, by the weight of all collected material for each category, expressed as a percentage.

[b] According to the EU (2008), "recovery means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy."

[c] According to the EU (2008), "preparing for reuse means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing."

[d] According to the EU (2008), "recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations."

5.5.5. Useful Information for Setting Targets for Plastics in the Automotive Sector

The use of plastics in the automotive sector is described in Section 2.4.5 of this document.

There are currently no targets for recovering plastics from end-of-life vehicles in Canada. Ontario's EPR program for tires outlines targets that producers are required to meet relating to accessibility, collection and recycling. Accounting for tire wear, producers are required to collect 85% of the tires they historically supplied into the market. Of what is collected in a year, 85% by weight must be reused, retreaded or recycled (e.g., turned into processed materials and made into products and packaging). Québec's program for the management of end-of-life tires was set up in 1993. In 2018, in Québec, 91,851 tons of tires were recovered, representing 10.9 kilograms per person. These tires were collected at 11,734 registered drop-off points in order to be directed to the remolding and recycling sectors as priority, as well as to energy recovery.

The EU has established targets for the reuse, recovery (i.e., diversion) and recycling of end-of-life vehicles in its *End-of-life Vehicle Directive* 2000/23/EC (*Official Journal of the European Union* 2000), but without creating material-specific targets.

Given the rapidly changing market conditions and Canada's international obligations as a party to the chemical management conventions of Stockholm and Basel, recycling plastics that contain toxic chemicals, such as flame retardants, is challenging. These items need to be either recycled in a closed-loop system, or other options such as waste-to-energy may be favoured, where applicable, in the interim period before safer substitutions are found for such toxics.

The Deloitte Canada study estimated that, in 2016, 100% of plastics in end-of-life vehicles was collected and sent to a sorting facility, but 0% was successfully recycled. There is no information on the rate of repair, remanufacturing or refurbishment of automotive plastics during a vehicle's lifetime. Other commitments worthy of consideration are insurance provider policies regarding how end-of-life vehicles are disposed of and adherence to the Canadian Auto Recyclers' Environmental Code developed by Automotive Recyclers of Canada. A report by Deloitte Canada (unpublished – task 2) estimated that the recycling rate for plastics in end-of-life vehicles could be increased to 56% by 2030 under a zero-plastic-waste scenario, while repair, remanufacture and refurbishment of plastics in vehicles could reach 10% by 2030.

5.5.6. Useful Information for Setting Targets for Plastics in Textiles

The use of plastics in textiles is described in Section 2.4.6 of this document.

Due to the existence of secondary or used markets for clothing and textiles, targets for these materials should ensure that they support and incentivize their reuse and repair, prior to diverting to recycling.

A report by Deloitte Canada (unpublished – task 2) estimated that, in Canada, rates of diversion and recycling for textile could increase by 2030 to 72% and 41%, respectively, under a zero-plastic-waste scenario.

5.5.7. Useful Information for Setting Targets for Agricultural Plastics

The use of agricultural plastics is described in Section 2.4.7 of this document.

Currently, many EPR policies in Canada are voluntary and run by PRO Cleanfarms (AgriRÉCUP in Québec). Cleanfarms/AgriRÉCUP forecasts recovery rates (i.e., diversion rates) for containers of less than or equal to 23 litres in volume between 2018 and 2021 ranging from 64.6% to 75%. Cleanfarms also operates the first Canadian regulated program for grain bags in Saskatchewan, where in its second year of operation it has achieved a recovery rate (i.e., diversion rate) of over 50%.

The Deloitte Canada study (2019) estimated that in 2016, 9% of agricultural plastics were collected for diversion and sent to a sorting facility, while 5% were successfully recycled. Deloitte Canada (unpublished – task 2) estimated that diversion and recycling rates for agricultural plastics could increase to 65% and 45%, respectively, by 2030 under a zero-plastic-waste scenario, and that there is no or negligible potential for repair, remanufacture or refurbishment of agricultural plastics.

5.5.8. Useful Information for Setting Targets for Single-use Plastics

As described in Section 2.4.1.1, the product category of single-use plastics is an emerging issue in the context of a move toward zero plastic waste, and overlaps with other established EPR categories such as packaging. As such, current rates of collection, sorting and recycling for single-use plastics specifically are unknown. However, single-use plastics are some of the most likely plastic products and packaging to be littered in the environment, and are among the most commonly encountered forms of litter in beach clean-ups and municipal litter audits.

In addition, single-use plastics attract special end-of-life considerations, as they, by design, require end-of-life management soon after their intended use. Improvements in end-of-life outcomes for single-use plastics are therefore important to achieving zero plastic waste. The collection of PPP in public spaces is required under EPR programs in British Columbia and Manitoba. Ontario's blue box regulation (O Reg 391/21) also requires producers to collect PPP and single-use items

from public spaces.[15] New Brunswick is proposing a similar approach. EPR policy for PPP remains an option that can be implemented and improved by provinces. Specific EPR policy for litter is also an option. In this scenario, for example, producers of the most prevalent product categories found in clean-ups or litter audits would be required to fund those same activities.

At time of publishing, and given the emerging nature of the issue, a growing number of Canadian jurisdictions address single-use plastics in their EPR regulations. Ontario addresses some end-of-life single-use plastics specifically and British Columbia's EPR for single-use plastics comes into effect in 2023. However, as noted above, some single-use plastics are included in other product categories such as packaging. Internationally, the EU's *Single-use Plastics Directive* 2013/904 (*Official Journal of the European Union* 2019) establishes targets for the collection of designated single-use plastics for recycling; those targets are 77% by 2025 and 90% by 2029. The directive also requires EPR policies that cover the cost of cleaning up litter and the subsequent transport and treatment of that litter for eight types of single-use plastics, including takeout containers, cups, wet wipes, balloons and tobacco products with filters.

One of the actions in phase 1 of CAP-ZPW (CCME 2019a) includes the development of a roadmap to strengthen management of single-use and disposable plastic items. This current guidance document may be used to inform the development of EPR policies for single-use and disposable plastics identified as potentially suitable for EPR in the roadmap.

6. PERFORMANCE MEASUREMENT AND TRANSPARENCY

6.1. Overview

This chapter presents guidance on performance measurement to facilitate both the collection of consistent data from producers and the consistent calculation and validation of key performance indicators (KPIs) based on these data. This is important for tracking progress towards achieving zero plastic waste. This chapter also provides guidance on how jurisdictions can make performance data and other information open, transparent and useful for Canadians.

As an outcomes-based instrument, EPR relies on data and KPIs to ensure producer compliance and to track progress towards policy objectives, including short-, medium- and long-term diversion targets. Data and performance indicators are consistent when they track the same activities in the same way. Consistent data and performance indicators can be easily compared on a like-for-like basis across product categories and between jurisdictions, and allow for regional and Canada-wide aggregation. This is important for tracking Canada's overall progress towards zero plastic waste,

[15] Ontario uses PPP to refer to "packaging and paper products".

as well as providing valuable information for jurisdictions in evaluating their EPR policies and intervening where necessary to make improvements.

Harmonizing tracking and reporting systems between jurisdictions, especially in cases where programs are delivered collaboratively, can result in efficiencies offered through approaches such as shared measurement tools and data compilation systems. This offers particular benefits to jurisdictions introducing new EPR systems that do not have current tracking mechanisms.

Data and performance indicators should also be made transparent in a consistent way, so that Canadians are given easy access to all of the information needed to understand how plastic is being collected and recovered in their jurisdiction. This means providing regular updates through websites and public reports. It also means ensuring free online access to as much data as possible to allow governments, researchers, industry, civil society and the public to better understand the management of end-of-life plastics in Canada. At the same time, jurisdictions should ensure the protection of confidential business information in their transparency practices.

6.1.1. Source of Data and Information

This guidance takes into account the following recognized best practices and information sources:

- current data and measurement, including in Deloitte Canada (2019)
- provincial, territorial and international EPR laws, regulations, program plans and annual reports
- guidance documents, including the OECD guidance document (OECD 2016)
- guidance prepared by CCME as part of CAP-EPR (CCME 2009a)
- relevant reports, including:
    - 2016 benchmarking study on key elements of EPR and product stewardship programs in Canada, commissioned by CCME (Giroux Environmental Consulting 2016)
    - 2008 report on EPR program measurement and tracking, commissioned by CCME (Marbek Resource Consultants Ltd. 2008)
    - 2007 guidance document on performance measures and reporting for EPR programs, commissioned by Environment and Climate Change Canada (ECCC 2007).
- guidance and best practices on making information open and accessible, including federal, provincial and territorial open government and open data initiatives.

6.2. Principles for Consistent Measurement and Transparency

To ensure consistent measurement and transparency in EPR policies, jurisdictions should be guided by principles for open data (e.g., Government of Canada 2020a, Open Data Charter 2015) and the following:

Principles for consistent measurement

- Data should be meaningful.
- Data should be consistent and the results comparable across all product categories.

Principles for consistent transparency

- Data must be aggregated, and aggregated data should be open and accessible to everyone by default while maintaining business confidentiality.
- Published data should be timely.

6.2.1. Data Should Be Meaningful

While obtaining accurate data is essential for oversight, the acts of defining, collecting, reporting, evaluating and releasing data impose administrative costs on industry and governments. In order for data users to obtain the greatest value from these costs, data should have a meaningful purpose.

In general, data should help track progress towards goals, in particular achieving zero plastic waste. Data can, by itself, be useful for providing a snapshot of program performance and show continuous improvement through year-over-year comparisons. However, data are most meaningful when tied to objectives, in particular objectives that are quantifiable and embedded in targets.

Certain kinds of data, such as financial and programmatic data, support goals that are not as easy to quantify in targets but are equally important, such as effective oversight and ensuring the integrity of EPR systems. In some jurisdictions, this can include information such as costs incurred by PROs, fees paid by producers, and revenues generated from the sale of recovered materials. These kinds of data provide information complementary to data related to program performance and shed light on how the EPR system is functioning and where policy intervention might be needed.

6.2.2. *Data and Measurements Should Be Consistent and Comparable Across Product Categories*

Common methodologies allow like-for-like comparisons of EPR program performance for different product categories, as well as consolidated performance results for the combined set of regulated product categories in a jurisdiction (e.g., how much plastic was recycled via EPR by designated producers in a jurisdiction for a given year). This gives a more comprehensive and accurate picture of how plastic waste is being addressed by producer groups and by jurisdiction, and how these groups perform relative to one another in different jurisdictions.

Comparing results of EPR programs across different product categories can be useful for some purposes but not others. Different product categories have different challenges and opportunities relating to the diversion of plastics from landfills. Currently, packaging is often non-durable and often uses recyclable resins, and so may favour recycling, while electronics and electrical equipment may use resins that can be difficult to recycle, but products are more easily reused, repaired, remanufactured or refurbished. Differences such as these can be reflected in different targets set by jurisdictions, and EPR program performance should be evaluated relative to these targets rather than compared to data from other product categories.

6.2.3. *Data Should Be Aggregated and Aggregated Data Should Be Open and Accessible to Everyone by Default While Maintaining Business Confidentiality*

While data should be open and accessible to everyone, openness should not mean compromising the competitiveness and confidential business information of producers. Accurate performance measurement means that producers must sometimes provide sensitive information such as how much of a product is placed on the market. Aggregating data means combining information from different producers into a single consolidated data point. Aggregated data that protects confidential business information cannot be picked apart to derive insights about any individual company. For some products, such as electronics, there should be a balance between measuring and reporting on the performance of the system as a whole and on the performance of component parts such as particular products or materials. It is jurisdictions' role to ensure that performance reporting requirements specify that data must be made open and accessible, and also that it be aggregated in a way that protects confidential business information.

Aggregated data that pertains to the performance of EPR policies and programs should be made open and accessible to everyone by default. Based on this principle, governments may justify keeping some information closed to the public for reasons of security or the protection of confidential business information.

Open data formats are intended to be machine-readable and are typically XML-based. Data can also be presented in human-readable formats (e.g., XLS) that can be read using spreadsheet software and that permit data extraction to facilitate integration with other data sets. Open data is subject only, at most, to the Open Government Licence or similar licences that allow for commercial and non-commercial reuse of information, with few exceptions (e.g., for personal information).

6.2.4. Published Data Should Be Timely

In addition to being open and accessible, data should be as up-to-date as possible. When data are outdated, its usefulness to evaluators, researchers and others is limited. Jurisdictions should therefore ensure that their EPR policies require data to be kept updated and published promptly after any necessary aggregation and validation are complete. This includes jurisdictions publishing data according to their open data policies, and also includes regulated entities such as producers and PROs reporting information according to any relevant laws, regulations and other rules as well as their own corporate reporting requirements. For example, as environmental, social and governance reporting becomes more prevalent, producers and PROs will need to provide timely data for their own corporate purposes.

6.3. Common Standards for Performance Measurement in Extended Producer Responsibility Policies for Plastics

In order to measure EPR program performance consistently, jurisdictions are encouraged to adopt consistent standards that apply to all product categories.

The guidance provided in this chapter outlines data points that can be used to track progress towards achieving zero plastic waste. The approach taken focuses on measuring mass, as mass can be measured consistently throughout the lifecycle of plastic products and packaging, including the collection and processing stages at end-of-life. Some EPR policies may also need to track the number of units supplied to the market by producers if, for example, that system uses variable fees intended to incentivize design for environment. Other data points that can be used to improve the accuracy of performance measurement or to track progress towards other policy objectives are discussed in Section 6.3.3.

6.3.1. Collecting the Data for Performance Measurement in EPR Policies

Performance measurement relies on data inputs that must be submitted by producers or PROs. Where multiple EPR programs exist, such as when multiple PROs operate EPR programs for a given product category, then the public authority that oversees the EPR system may need to

combine data from multiple sources to arrive at a global amount for the jurisdiction. CCME's guidance on consistent data inputs for EPR policies is summarized in Table 8.

Table 8: Guidance on consistent data inputs for performance measurement in EPR policies

Data input 1: Plastics in products supplied to the market	
What is it?	The amount, in tonnes, of plastic in products placed on the market in a given year.
Where should it come from and where should it go?	Producers should report to the regulating authority the total amount, in tonnes, of plastic they place on the market each year. This data can then be provided by producers themselves or in aggregate by PROs.
How is it used?	To help calculate the collection rate. Can also be useful for calculating fees to be paid to PROs by individual producers.
Are there any confidential business information considerations?	Yes. Data that are made open and accessible should be aggregated to protect the confidential business information of individual companies.
Data input 2: Plastics collected for diversion	
What is it?	The total amount, in tonnes, of plastic collected by an EPR program and sent to a sorting facility for diversion.
Where should it come from and where should it go?	Producers or PROs should report to the regulating authority the total amounts collected for diversion through the EPR programs they operate.
How is it used?	To help calculate the collection rate.
Are there any confidential business information considerations?	No.
Data input 3: Plastics reused	
What is it?	The total amount, in tonnes, of plastic collected for diversion and sold on to secondary markets to be used again without intensive repair, remanufacture or refurbishment, whether for its original purpose or to fulfil a different function.
Where should it come from and where should it go?	Producers or PROs should report to the regulating authority the total amounts sold for reuse through the EPR programs they operate.
How is it used?	To help calculate the diversion rate.
Are there any confidential business information considerations?	No.
Data input 4: Plastics repaired, remanufactured or refurbished	
What is it?	The total amount, in tonnes, of plastic collected for diversion and either sold on to secondary markets or returned to the original equipment manufacturer for repair, remanufacturing or refurbishment via intensive, standardized industrial processes that provide an opportunity to add value and utility to a product's service life.
Where should it come from and where should it go?	Producers or PROs should report to the regulating authority the total amounts sold or otherwise sent for repair, remanufacture or refurbishment through the EPR programs they operate.

How is it used?	To help calculate the diversion rate, and to calculate rates of repair, remanufacture and refurbishment to measure progress towards zero plastic waste.
Are there any confidential business information considerations?	No.
Data input 5: Plastics recycled	
What is it?	The total amount, in tonnes, of plastic collected for diversion, reprocessed into raw materials and successfully sold on to secondary markets for use as inputs into new product manufacturing.
Where should it come from and where should it go?	Producers or PROs should report to the regulating authority the total amounts successfully recycled and sold to secondary markets through the EPR programs they operate.
How is it used?	To help calculate the quantity diverted and to calculate recycling rates to measure progress towards zero plastic waste.
Are there any confidential business information considerations?	No.
Data input 6: Plastics recovered for energy	
What is it?	The total amount, in tonnes, of plastic collected for diversion and recovered for energy recovery (e.g., engineered fuel, mass burn). This data input should be reported separately.
Where should it come from and where should it go?	Producers or PROs should report to the regulating authority the total amounts sold to secondary markets for energy recovery through the EPR programs they operate.
How is it used?	To help calculate the total diversion rate.
Are there any confidential business information considerations?	No.

Collecting the data inputs described in Table 8 may be complex or challenging. If systems are not yet in place to separate and quantify the amount of plastic collected in a product, jurisdictions may need to allow time for producers or PROs to implement the necessary systems, especially for product categories where plastic is not the primary material. In addition, not all data inputs may be applicable to all product categories, or applicable in the same way. For example, requiring producers to report on data input 4 (plastics repaired, remanufactured or refurbished) for packaging is unlikely to generate meaningful data, given the low-to-nil repair potential of plastic packaging currently.

Due to these challenges and complexities, jurisdictions or the public authority overseeing the EPR program may need to employ a gradual or phased approach to requiring consistent data inputs. As a starting point, CCME encourages jurisdictions to include the amount of plastic products supplied to the market and plastics collected for diversion. All other data inputs that are meaningful for a product category should be included in EPR policies and a gradual timeline allowed for reporting on them. Jurisdictions that are developing performance indicators for EPR policies can also be guided by and learn from the performance indicators already in place in other jurisdictions.

6.3.2. Key Performance Indicators for Zero Plastic Waste

For each of the main product categories discussed in this guidance document, guidance on calculating KPIs is provided in Table 9.

Table 9: Common key performance indicators for plastics in EPR policies

Key performance indicator 1: Diversion rate	
How to calculate it	The quantity diverted (calculated as the sum of data inputs 3, 4, 5 and 6 from Table 8) as a percentage of plastics in products supplied to the market (data input 1).
What to use it for	The diversion rate should be used to measure progress towards overall diversion targets for a given product category.
Key performance indicator 2: Rate of repair, remanufacture and refurbishment	
How to calculate it	Plastics repaired, remanufactured or refurbished (data input 4) as a percentage of plastics in products supplied to the market (data input 1).
What to use it for	The rate of repair, remanufacture and refurbishment should be used to measure progress towards targets for repair, remanufacture and refurbishment for a given product category (where applicable).
Key performance indicator 3: Recycling rate	
How to calculate it	Plastics recycled (data input 5) as a percentage of plastics in products supplied to the market (data input 1).
What to use it for	The recycling rate should be used to measure progress towards recycling targets for a given product category.

6.3.3. Guidance on Performance Indicators for Other Performance Measurement

In addition to the data inputs and KPIs outlined above, jurisdictions may choose to incorporate other performance measurements in their EPR policies. These may be used to track progress towards other policy objectives or improve accuracy in tracking progress towards achieving zero plastic waste.

Jurisdictions that are introducing new EPR programs will need to identify the KPIs they wish to establish as the foundation of their tracking and measurement system. These indicators clearly relate to the desired system outcomes that have been established. There are obvious benefits to making these KPIs consistent between jurisdictions, as harmonization will serve to enhance collaborative reporting opportunities while also offering increased comparative options.

Where applicable, jurisdictions are encouraged to follow the guidance provided in the following sections.

6.3.3.1. Collection Rates

Collection rates can be used to assess the scope and reach of EPR policies. While it can be assumed that collection rates will normally be less than 100%, knowing the extent to which a collection rate

is less than 100% allows the jurisdiction to situate reported rates of diversion, recycling and so forth within the broader context of the plastic waste generated for that product category. This can be very useful in measuring progress towards zero plastic waste.

For example, if an EPR policy generates a reported diversion rate of 75%, but the jurisdiction knows that the collection rate is 50%, then the jurisdiction knows that the true diversion rate for that product category is much less than 75%. This can help the jurisdiction to determine whether policy interventions are needed to address the gaps.

Collection rates can vary significantly by material due to their use, composition, availability and lifespan. Due to a lack of available data, and lack of methods for gathering data for many product categories, overall collection rates are not included in Section 6.3.2 as part of guidance for KPIs in EPR policies. However, for some product categories with short lifespans of less than a year, such as packaging and single-use plastics, collection rates are feasible and can be incorporated into EPR policies.

The collection rate would be data input 2 expressed as a percentage of data input 1 described in Table 8.

Many other product categories have average expected lifespans of more than one year, making it difficult to determine how much waste is generated in a given year. For example, Table 10 shows the estimated product lifespans in 2016 for the major sectors of the plastics end-use economy.

Table 10: Average product lifespan by plastic sector

Sector	Average product lifespan
Construction	35 years
EEE	5 years
Packaging	0.25 years
Textile	3 years
Automotive	10 years
Appliances	5 years
Agriculture	0.5 years
Other	3 years

Source: Deloitte Canada (unpublished – task 1)

A Deloitte Canada study (unpublished – task 1) used these average product lifespans plus data on how much of a product was introduced to the Canadian market for a given year, minus estimates of how much of a product category remained in use in the economy or was being reused, to derive the amounts of waste generated for a product category in 2016 (see Table 11).

Table 11: Estimated amount of waste generated by plastic sector

Sector	Amount of waste generated in 2016 in kilotonnes
Construction	175
EEE	214
Packaging	1,542
Textile	235
Automotive	309
White goods	130
Agriculture	45
Other	617

Source: Deloitte Canada 2019

Jurisdictions are encouraged to explore methods of gathering sufficient data to derive sufficiently accurate estimates of waste generated for product categories with lifespans of more than one year. For example, jurisdictions could survey waste management companies or other entities involved in end-of-life management of products, or jurisdictions could use data collected by organizations such as Statistics Canada. For example, the Deloitte Canada study's model leveraged supply and use tables developed by Statistics Canada to assess the generation (i.e., arrival on the Canadian market) of products containing plastic.

Collection rates can also be calculated or verified by completing residential and commercial landfill waste audits. Independently completed landfill audits with statistically valid sample sizes have been performed in Nova Scotia, with funding provided by stewards. The results can estimate the tonnage of stewarded materials landfilled.

6.3.3.2. Residual Quantities

Residual material is material collected for diversion but not successfully diverted via reuse, repair, remanufacture, refurbishment, recycling or energy recovery. Residual material often ends up in landfill but may also enter the environment as pollution. It can include:

- material inappropriately captured in collection (e.g., non-recyclables)
- appropriate materials in a form and shape that cannot be further handled (e.g., contaminated materials, small fragments)
- in rare cases, leakage into the environment (e.g., blows off or falls from trucks).

Residual material has an impact on costs, as it can increase the complexity of processing activities and require disposal. Keeping track of residual material can be a useful indicator of the quality of collection practices and processing technology.

6.3.3.3. Accessibility

Accessibility can be measured in several ways, depending on the nature of the services offered through the EPR program and any geographic considerations such as population density.
Accessibility metrics may include:

- the average distance within a geographic area (e.g., a county or regional district) to access points (e.g., depots)
- the number of drop-off locations within a geographic area
- the percentage of the population that has access to services such as drop-off locations or curbside collection.

6.3.3.4. Program Costs

EPR promotes innovation by compelling producers to internalize the cost of managing their products once they have reached the end of their lives. In instances where EPR program costs are identified as a separate charge to consumers by way of an environmental fee, eco-fee or recycling fee, it is important that regulating authorities establish clear requirements to ensure that the charge is used in accordance with regulatory requirements and accurately reflects the costs incurred in relation to the end-of-life management of the designated material.

While knowledge of program costs can help jurisdictions, producers and PROs compare the value for money provided by different EPR programs, data on the cost of a program can therefore contain sensitive business information. This is especially true in jurisdictions that allow for multiple programs to manage a designated material. Where warranted, such as in cases where consumers are charged a separate fee, the collection of performance indicators related to program cost should be done in a way that protects confidential data while ensuring that program costs are transparent and clear.

6.3.3.5. Public Awareness

Public awareness of the availability and functioning of an EPR program is considered an important measure linked to collection and contamination rates and to public participation in policy formulation. Where EPR policies require producers and PROs to measure public awareness, this should include measuring the extent to which the public is aware:

- that an EPR program exists
- how to access it (e.g., locations)
- what they can do to improve program performance, such as:
    - knowing what products are covered

- how to properly sort and clean recyclables (in particular for single-use plastic and packaging)
- how to prevent waste by reducing, reusing and repairing products.

Public awareness can be measured through annual public surveys conducted by producers or PROs that show the percentage of the population in a jurisdiction that is aware of an EPR program, how it works and what Canadians can do to improve program performance.

6.3.3.6. Social and Economic Benefits

EPR is known to create social and economic benefits, including jobs and improved services for Canadians. Data and performance indicators related to these benefits can demonstrate the extent to which EPR social benefits can be measured in terms of employment created (e.g., number of full-time equivalent positions, direct and indirect; skills development for disadvantaged populations). For example, the beverage container program in Saskatchewan measures "social benefit." Social benefit is determined by multiplying the number of employees that are individuals experiencing disability or who were previously on the Social Assistance Program by the average costs for providing support under those conditions or social programs.

6.3.4. Guidance on Validation of Key Performance Indicator Data

The ability to verify and to validate data are core elements in all environmental programs and are especially useful in helping to establish and act on changes to improve overall program performance. Verification and validation provide:

- Assurance to stakeholders and interested parties that EPR programs are managed in a transparent manner that furthers environmental stewardship. Accuracy, comparability, and completeness are, therefore, KPIs for EPR.
- Data for compliance monitoring, promotion and enforcement.

Several jurisdictions have developed compliance and enforcement policies, and their data validation requirements are guided by established non-financial standards such as the Canadian Standard on Assurance Engagements 3000 (CSAE 3000), Attestation Engagements Other than Audits or Reviews of Historical Financial Information used in Ontario and the equivalent international standard used in British Columbia.

Governments need to ensure that KPIs include the identification and validation of the data sources as well as the validation of the methodologies and calculations for each. Data validation standards, while having a common core of elements, will vary to some degree depending on the product being recycled. A key source of information to confirm tracking methodologies related to KPIs are

interviews with those who track and report data inputs and visits to the different sites through which plastic products pass (e.g., collection facilities, sorting facilities, and so on).

Common to existing jurisdictional approaches is the use of third-party professionals (e.g., Chartered Professional Accounts) to provide assurance on non-financial information being used in EPR reporting. By employing third parties to conduct assurance, all parties invested in the EPR program have increased confidence in the reliability of the source data and reported outcomes.

For example, Ontario requires producers to undertake an independent third-party audit of their practices and procedures every three years and submit a copy of the findings to the RPRA, which is responsible for compliance and enforcement activities. PROs can facilitate this audit on behalf of the producers they service.

6.4. Common Standards for Transparency in Extended Producer Responsibility Policies

Jurisdictions should seek to make data and other information open and transparent in a consistent way. Transparency includes reporting by producers and PROs, auditing by independent third parties, and the release of data and other information by jurisdictions. Currently, PROs publish annual reports on their websites that are freely available. In addition, some jurisdictions operate websites or webpages that provide access to EPR-related reports and information.

While producers and PROs should continue to be required to publish their annual reports, jurisdictions are ultimately responsible for ensuring that EPR programs are transparent. A common approach for transparency in EPR policies would help make data and information accessible in a consistent way. This would facilitate making jurisdictions' rules and practices comparable in a technical sense (e.g., using the same file formats) and help users easily find information from different sources (e.g., from databases run by different jurisdictions).

6.4.1. Guidance on Consistent Reporting

For producers and PROs, consistent rules for reporting can help lower the administrative burden of participating in or operating EPR programs in multiple jurisdictions, as well as reducing costs and increasing efficiency. In addition, jurisdictions such as the territories, which are new to EPR, may find value in collaborating with neighbouring jurisdictions to establish harmonized reporting systems. This could provide information necessary for system oversight in these jurisdictions while producing efficiencies in delivering reporting outcomes.

Typically, PROs fulfil reporting obligations by preparing reports on behalf of the member producers, whether individually or in aggregate with other producers. In some jurisdictions, PROs can report on aggregated data to help protect the confidential business information of producers. In jurisdictions that use an IPR model, producers or PROs on their behalf must submit discrete data for each obligated producer.

Jurisdictions may also choose to have data and other information held by an arm's-length body, such as Ontario's RPRA. This is not essential, but can provide additional confidentiality for businesses, in particular for systems that allow for-profit PROs that may consider information about producer fees or business relationships in the EPR chain as confidential.

As stated in Section 6.3.4 on data validation, requiring third-party financial and performance audits, by either public bodies or independent auditors, helps ensure that information is reliable and credible. Several Canadian jurisdictions require PROs or producers to have certain information audited by an independent third party at the organization's expense.

Guidance on consistent reporting

Reporting can be done either by producers or by PROs on producers' behalf.

Reporting should be done at least annually. Annual reporting should cover a calendar year and best practice has shown that data should be submitted no later than July 1 the following year.

Reported information should be audited by an independent third party according to recognized standards, such as the International Standard on Assurance Engagements 3000.

6.4.2. Guidance on Consistent Practices for Open Data and Other Information

Many jurisdictions in Canada have adopted open government initiatives that seek to make government more accessible to everyone. As part of these initiatives, many jurisdictions operate open data platforms, data catalogues and portals that are freely accessible and searchable and that allow datasets to be viewed or downloaded. Some jurisdictions also maintain websites dedicated to EPR and related programs, such as Ontario's RPRA website (RPRA n.d.) or British Columbia's webpage on EPR (Government of British Columbia n.d.). Data relating to EPR policies should be made open and available via these platforms. All information accessible via online platforms should be subject only to Open Government or similar licences.

The data made available via online platforms should be machine-readable and XML-based. For greater ease of access, jurisdictions are also encouraged to make data available via formats that can be read using spreadsheet software that permit data extraction, such as XLS or CSV.

Accessibility can be further facilitated by providing data in graphic formats, such as maps, charts and graphs.

In addition to data, other information held by jurisdictions relating to EPR should be made freely accessible on the same online platforms via commonly used formats such as PDF. This can include:

- prepared annual reports submitted by producers and PROs
- EPR program plans
- third-party reports (e.g., audits, research and analysis)
- program evaluations
- guidance documents.

Guidance on consistent practices for open data and information

Data should be published on a central website or open data platform at least annually.

Data should be machine-readable and XML-based. Jurisdictions may also choose to publish data in

- formats that can be read using spreadsheet software that permit data extraction (e.g., XLS or CSV), or
- graphic formats such as maps, charts, and graphs.

Other information should also be made available on a central website or open data platform in an accessible format.

6.4.3. Best Practices for Presenting Information to the Public

While open access to data is important, transparency also means enabling the public to access information in a user-friendly and helpful way. Jurisdictions are encouraged to adopt best practices and innovative options for making EPR transparent to the public by providing tools that allow experts and non-experts alike to find and understand important information. Examples of these tools include:

- **Dashboards:** Graphical interfaces that provide visual representations of KPIs. Dashboards are linked to databases that can allow them to be updated periodically or on an ongoing basis.
    - For example, the Canada Energy Regulator provides interactive visual representations of the quarterly energy trade data between Canada and the U.S. for various energy sources (Canada Energy Regulator 2020). New data are added quarterly.
    - For example, the homepage of Ontario's Independent Electricity System Operator (IESO) provides a dashboard showing real-time data relating to Ontario's power

system, such as hourly and projected levels of demand, a breakdown of supply sources and hourly and average electricity prices (IESO 2020).

- **Data extraction tools:** Such tools can automatically extract data and present it to users in a readable format, such as generating reports or customized dashboards.
    - For example, the Canadian Centre for Climate Services operates a Climate Data Extraction Tool that allows users to download climate data from Environment and Climate Change Canada's datasets (Government of Canada 2020b). Users can specify date ranges, variables, download formats and other ranges. In addition, value-added analysis and climate simulations are also made available.
- **Graphical representations of progress towards targets:** These provide at-a-glance information on the performance of a program or initiative towards targets set by governments.
- **Plain-language information:** In addition to data and other documents, online portals can provide members of the public with information explaining key concepts, trends and the role of information in decision-making. This can help users understand what kinds of data may be useful to them.
    - For example, the website of the Canadian Centre for Climate Services includes a page on climate information basics, which lets users learn about climate services, climate change trends, emissions scenarios, climate models, climate data, the role of climate information in decision-making, and key climate change concepts (Government of Canada 2020c).

7. TRANSITION

7.1. Overview

The transition process to an EPR framework will be dictated by individual jurisdictional circumstances. The time and considerations will depend on the complexity of the new program, which is a product of the number of products and materials that are designated, the population served, geography, and the program it is replacing, if any.

This chapter explores some examples of Canadian jurisdictions with EPR programs and highlights the processes they followed to move to producer responsibility from their existing waste diversion programs, including a change from a:

- grassroots program to EPR
- generator responsibility framework to EPR
- government mandated stewardship programs to an EPR or IPR program
- shared responsibility model to EPR or IPR model.

The second part of the chapter highlights some lessons learned from the case studies that could help to facilitate a successful transition and also promote consistency across programs.

7.2. Extended Producer Responsibility Across Canadian Jurisdictions

7.2.1. EPR in Saskatchewan

Hazardous and problematic items in the environment have been the focus of most Saskatchewan stewardship regulations. Prior to regulations, some products were not managed at all, or were managed through pilot programs or voluntary systems. There are currently seven regulated full stewardship programs in Saskatchewan: for automotive fluids, scrap tires, paint, electronics, agricultural plastics, waste household hazardous materials or pesticides, and consumer batteries. The first regulated Saskatchewan stewardship program was the used oil program, which began operating in 1996. The used oil program was launched in unison with Alberta and Manitoba to limit cross-border shopping and create a standardized system. A shared responsibility model is used for household packaging and paper, and the beverage container deposit system is managed by government and operated through a third party.

EPR programs in the province have been implemented at an average of every three years. This timeframe has allowed for the observation of pilot programs, research, adequate consultation, regulatory drafting and implementation. Saskatchewan's regulations are guided by a results-based regulatory framework, with broad outcome expectations identified, such as the manner a program must operate in and the metrics that must be reported. In this way, the Saskatchewan Ministry of Environment oversees programs once they are developed and monitors annual reporting requirements but typically plays no role in operations. Regulatory interpretation, compliance support and regulation enforcement are the primary functions of the ministry in relation to stewardship programs. During program development, stewardship organizations are provided guidance that identifies policy and accepted best practices. However, stewardship organizations, representing stewards or "first sellers" as set out in regulations, are expected to develop programs by a designated date and to write the program plans on behalf of their members.

7.2.1.1. Case Study: From A Grassroot Program to EPR, Saskatchewan's Agricultural Plastics Program

Saskatchewan saw the rapid uptake of new agricultural single-use plastics products with limited consideration for product disposal, particularly grain bags used for temporary storage. Burning became the primary form of disposal, followed by storage or burying. The average weight of a plastic grain bag is 300 pounds; burning bags was a significant health and environmental issue and

municipal disposal rapidly reduced available landfill space. The temporary storage of bags led to litter blow and clogged culverts.

To address the problem in 2009, after a significant risk to the watershed by burned bags and litter blow had been identified, a local non-profit water stewardship organization began a collection pilot with three locations.

In 2011, to address the continued growth of the volume of waste material, the pilot grew to become a provincially funded grain bag recycling pilot contracted to and operated by non-profit organizations. The pilot grew to include 14 drop-off sites around the province and was free to end users. The pilot helped identify operational logistics, such as the need to provide bag rollers at the site, temporary storage requirements, and end markets. The pilot ran for seven years, during which time government worked on engagement of industry stakeholders and regulations for a permanent solution.

Also, in 2011, Cleanfarms, a non-profit environmental stewardship organization, conducted an industry-led survey regarding agricultural waste management practices, use and disposal and identified the prevalence of both improper disposal (primarily burning) and support for a provincial EPR regulation for grain bags, silage wrap and bailer twine.

In 2013, the government engaged the agricultural plastics industry in discussion on the creation of a regulated EPR program. Cleanfarms was contracted to conduct additional research, facilitate broader industry consultations and develop draft regulations for government review. The government facilitated the development of the Saskatchewan Agricultural Stewardship Council (SASC), made up of stewards and end user industry stakeholder organizations, to regularly advise on program and regulatory development as well as engaging with stakeholder groups representing the agricultural industry.

In July 2016, Saskatchewan passed regulations requiring stewards (i.e., first sellers) to develop and fund a recycling program for agricultural grain bags. Cleanfarms, on behalf of grain bag sellers, completed the product stewardship program and outline for program operations. SASC became the oversight committee made up of only regulated stewards (similar to a board) for the development of the product stewardship program (program plan) and a program advisory committee was developed that allowed input from other stakeholders and interested parties (user groups, municipalities and so on).

In January 2018, nine years after the community identified a waste management problem for agricultural plastics, a full EPR program was launched with 20 sites, many the same as the pilot. The program grew steadily, doubling its return rate in its second year of operations and expanding

to close to full capacity with 38 collection sites. Cleanfarms continues to work with stewards to increase compliance as well as communication to end users.

Due to the small size of the program, the government continued to fund the pilot in 2018, corresponding with the launch of the full EPR program, to mitigate the impacts of legacy material being received in the first year of the program, where no environmental handling fee had been paid on the material. This program is also impacted by seasonal sales cycles; the pilot helped minimize this impact as well.

The proactive approach of the agricultural plastics industry and the identification of the problem by a broad range of stakeholders and interested parties initiated the development of a program. The collection of a single, uniform plastic led to a strong end market. However, because the product category was narrow, the start-up costs were borne by a small number of stewards. As well, the small grain bag industry lacked the capital to launch a program, resulting in extended timelines and limited accessibility before government funding support was obtained. A comprehensive program that included more stewards in the waste category would have distributed start-up costs and been more effective and fair.

Over the course of program development, industry stakeholders' views changed, and so did their representatives; re-engagement to ensure appropriate scope and establish continued support from stakeholders and interested parties were both important. For future such programs, care should be taken to ensure the comprehensive engagement in a timely manner.

Being the first program for an item that can be purchased out of province was an issue, so a regional approach was taken. Saskatchewan worked, and continues to work, with neighbouring prairie provinces to seek opportunities to harmonize to help reduce cross-border issues and increase the alignment of product definitions and environmental handling fees. While such a regional approach is challenging to coordinate, it is the preferred option for positive results.

7.2.2. EPR in New Brunswick

New Brunswick launched its EPR regulatory framework in 2008, establishing Recycle NB as a multi-material stewardship board that oversees all provincial EPR programs. Recycle NB does not receive funding from government and therefore must recover its costs from the programs it oversees through material-specific administrative fees (i.e., there can be no cross-subsidization between the programs).

The regulatory framework allows for the addition of new designated material categories, with the recently announced packaging and paper products as the province's fourth EPR program, alongside paint, oil and glycol, and e-waste. Producers ("brand owners" as set out in regulations)

are responsible for the management of their designated materials, and are required to register with Recycle NB, develop stewardship plans, set or meet performance measures and targets, communicate with the public, and produce annual reporting. Brand owners can assign some or all of their regulatory requirements to PROs.

Recycle NB's oversight role includes approving the brand owner's or PRO's stewardship plan for the designated materials, ensuring the brand owner or PRO is operating the program in accordance with their approved plan and regulatory requirements, promoting public education and awareness, and ensuring regulatory compliance by providing assistance to industry to meet their regulatory obligations. Compliance incidents that cannot be resolved by Recycle NB are referred to the government's Department of Environment and Local Government for enforcement actions.

Figure 3 summarizes the structure of New Brunswick's EPR programs.

Figure 3: EPR model for New Brunswick
Reproduced with permission (copyright Recycle NB, 2018).

7.2.2.1. Case Study: From Generator Responsibility to EPR, New Brunswick's Recycling Program for Electronic Waste

In 2015, New Brunswick amended the *Designated Materials Regulation* under the *Clean Environment Act*, requiring producers to develop, operate and fund a recycling program for electronic waste (e-waste). At the time, the management of post-consumer e-waste throughout the

province was inconsistent, with some Regional Service Commissions and municipalities diverting these products while others were landfilling the material.

New Brunswick began initial consultation and engagement with stakeholders and other interested parties in 2009 to measure the level of interest in and opposition to an e-waste EPR program. The regulation was passed in 2015 after numerous engagement sessions.

One of the more challenging aspects of developing the regulatory framework for e-waste, contributing to the length of time required for this initiative, was the government's requirement that producers internalize environmental handling fees into the price of the product. Ongoing and transparent dialogue with all stakeholders and other interested parties was key to addressing this issue.

Once the regulation was passed the PRO had six months to submit their stewardship plan to Recycle NB for approval. Following approval of the plan, the PRO had six months to implement the e-waste program, which was officially launched in 2017, providing all residents in New Brunswick an opportunity to recycle their used electronics.

7.2.3. EPR in Ontario

Ontario revised its waste diversion policy framework in 2016 with the introduction of the Resource Recovery and Circular Economy Act (2016), setting the stage for the transition of its existing waste diversion programs to a producer responsibility framework called individual producer responsibility (IPR). To announce the direction, Ontario released its Strategy for a Waste-Free Ontario and subsequently released an action plan to implement this strategy.

Ontario's model of producer responsibility is unique in Canada and has been embraced by Ontario to encourage producers to take a more active role in achieving the diversion requirements that are set out in regulations by focusing on outcomes. As well, Ontario's approach does not require government to approve program plans for industry-led recycling solutions. This flexibility is intended to create space for market innovation by fostering competitive markets for compliance services, driving down costs for diversion services and harnessing the benefits of a market-based approach.

Each individual producer is responsible for meeting the expected outcomes, regardless of whether they achieve them on their own or in partnership with a service provider. Producers can choose to contract with a single PRO or with multiple PROs to meet their obligations. However, producers are directly responsible for achieving the expected outcomes even if a PRO is used. Producers cannot pass on their regulatory responsibilities to a service provider. This means that IPR can serve

to sharpen producer focus on factors that can reduce their costs, including product design, collection efficiency and sustainable end markets for recovered materials.

A key outcome of the regulations is verifiable diversion targets that are set as the weight of material that was used in new products expressed as a percentage of the total weight of material that was supplied in the Ontario marketplace.

The RPRA provides the oversight for Ontario's producer responsibility framework and ensures compliance with producer responsibility regulations. The RPRA is a non-crown corporation, whose operation is paid for by fees charged to the regulated community. Ontario's regulatory approach aims to limit burden by focusing registration and reporting requirements on the data needed to ensure compliance with regulated requirements. Third-party oversight and compliance allow for a nimble approach that accommodates the market flexibility inherent to IPR systems. A service provider can register themselves as a PRO with the authority without a requirement for government to approve a program plan. This approach to oversight facilitates the creation of PROs and allows producers to switch PROs in response to market innovation or lower costs.

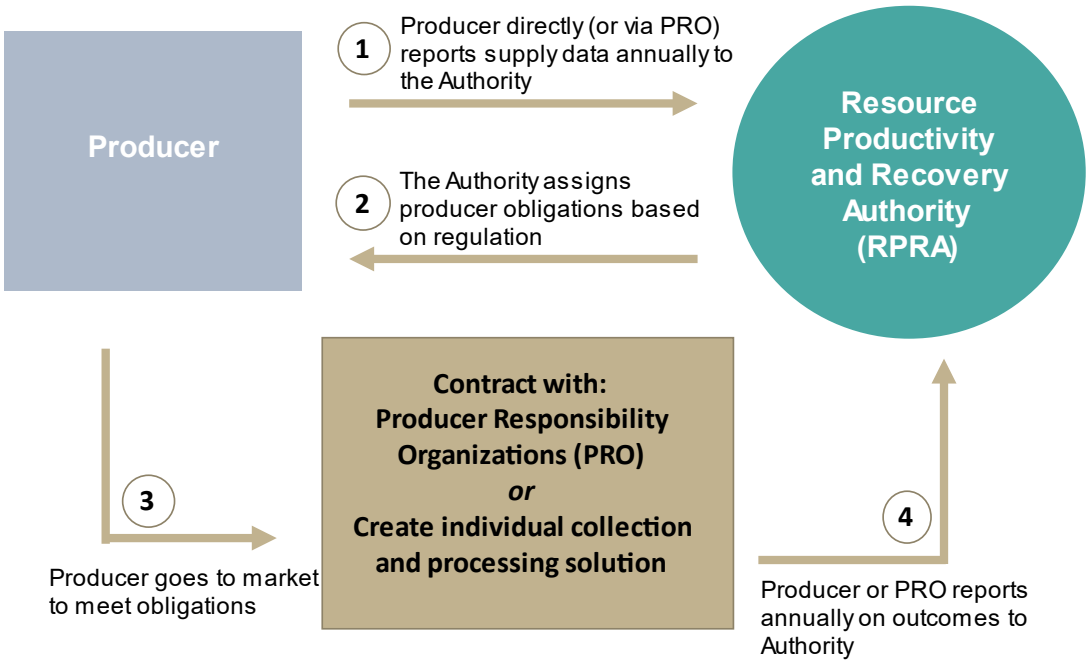

Figure 4: Ontario's individual producer responsibility framework
Reproduced with permission (copyright Queen's Printer for Ontario, n.d.).

Under Ontario's previous stewardship model, the waste diversion programs for tires, municipal hazardous or special waste (including batteries), and electrical and electronic equipment (EEE) operated as collective responsibility models. These programs are now all regulated under the new producer responsibility model—tires transitioned on January 1, 2019, batteries on July 1, 2020,

and EEE on January 1, 2021, while municipal hazardous or special waste transitioned on October 1, 2021. The blue box program will transition to full producer responsibility between July 1, 2023, and December 31, 2025, and producers and PROs are actively preparing for transition.

7.2.3.1. Case Study: From Government-Mandated Stewardship Program to Individual Producer Responsibility: Ontario's Used Tire Program

Prior to adopting IPR, Ontario had a system where used tires were collected by Ontario Tire Stewardship (OTS), the industry-funded organization created by regulation to operate the program on behalf of tire producers. There were over 700 producers (also known as stewards) in this program which included tire brand holders and first importers, as well as vehicle manufacturers. The program was funded through fees charged to producers, who in turn placed a fee on each tire sold to consumers. OTS managed the daily operations of the waste management program based on a program plan they developed, and which was approved by Ontario's Ministry of the Environment.

The process of winding down an existing diversion program warrants consideration. Where an existing program is being replaced, jurisdictions need to consider how the industry-funded organization will treat excess funds and existing program assets. In this case, a key asset the ministry considered was OTS's proprietary software, TreadMarks. The system was developed specifically to track the collection, transportation, processing and re-use of the tires collected. Given the investment to develop TreadMarks and the anticipated cost to develop a similar software for the new program, the ministry directed OTS to ensure that the system would be accessible to all interested users in a fair and equitable manner. In response, OTS agreed to make TreadMarks available at no cost to PROs or others operating under the new program.

Another consideration was how industry-funded organizations would manage excess funds generated from steward fees and program surpluses prior to ceasing operations. In Ontario's case, the ministry directed that the interests of tire consumers should be considered when developing options to deal with program surpluses, since consumers were charged fees when they purchased new tires. Taking into consideration the feedback it got from stakeholders, the ministry decided the excess funds should be returned to stewards in proportion to the steward's contribution to the surplus in regard to tire classes that are in a surplus position.[16] The ministry expected that stewards would in turn use the surplus funds returned to them to pay for current fees under the new producer responsibility framework, which in turn benefits consumers when they purchase new tires.

It took roughly two years from the government's announcement of its intention to move its Used Tires Program to a new IPR framework for the transition to be complete. This transition involved

[16] Letter, Minister of the Environment, Conservation and Parks to Liquidator, Ontario Tire Stewardship, April 21, 2020. https://rpra.ca/wp-content/uploads/OTS-Direction-Letter-April-21-2020.pdf

one material category and limited stakeholders; municipalities had no role in the funding or running of the previous Used Tires Program and there was a limited role for collectors in some areas of the province. Producers, in this case, were already responsible for paying for the previous Used Tires Program and there was a well-established collection network in place that could be used and added to in order to satisfy the new regulatory requirements. These conditions allowed Ontario to issue direction to wind down the previous Used Tires Program in February 2017 and have the new IPR framework come into full effect on January 1, 2019. (It should be noted, however, that the final *Tires Regulation* was only filed in April 2018.)

7.2.3.2. Case Study: From Shared Responsibility to Individual Producer Responsibility, Ontario's Blue Box (Residential Recycling) Program for Packaging and Printed Paper.

Ontario's blue box program is funded by local governments and Stewardship Ontario (SO), the industry-funded organization created by regulation to support producers of packaging and printed paper that ends up in residential blue boxes.

Under this shared responsibility model, producers register and pay fees to SO to fund a portion of the cost of Ontario's municipal blue box programs. SO then redistributes the funds they collect to municipalities and local recycling associations and First Nations communities that also became eligible for funding under this framework. To get their portion of the funds collected by SO, municipalities must submit their tonnes, costs and revenues associated with their blue box service for the previous year. SO funds up to 50% of total municipal net operating costs. In 2019, producers' funding obligation was valued at $152 million.

The specifics of the new blue box program under IPR were finalized in June 2021.

Under the blue box regulation (O Reg 391/21), transition involves producers taking over responsibility for providing blue box services in over 253 municipal and First Nations communities. A transition schedule referenced in regulation specifies when municipalities will transition to producer responsibility between July 1, 2023, and December 31, 2025. By January 1, 2026, producers will be responsible for providing blue box services in every eligible community in Ontario outside of the Far North. In total, it will take over six years from the initial government announcement in August 2019 to complete the transition from the current cost-share model to producer responsibility. From the initial announcement in 2019 to the finalization of regulations in 2021, extensive stakeholder consultation and mediation were undertaken to support the development of the regulatory framework.

The goal for the phased transition plan is to provide certainty to producers, municipalities and service providers on the transition process and what is expected. Ontario proposed to divide

municipalities into three groups, with each group transitioning in turn throughout 2023, 2024 and 2025. Although municipalities were given an opportunity to identify their preferred transition date, many factors were considered in determining the proposed transition schedule. These include contract expiry dates, geographic contiguity, and balancing costs so that approximately one-third of the total blue box tonnage transitions during each transition year.

This phased implementation will help producers better manage the take-up of these new costs by giving them time to organize themselves and the opportunity to find operational efficiencies and economies of scale at each phase, as well as considering whether to purchase municipal assets to process the material collected.

In order to make sure diverse stakeholder, Indigenous, municipal and producer views were taken into account Ontario:

- brought in a Special Advisor to engage with key parties and provide recommendations to government on key elements of the new framework and timing before directing the existing blue box program to wind down
- conducted consultations with municipalities, producers and their industry organizations, waste service providers, packaging manufacturers and environmental non-governmental organizations, both during policy development and after a draft regulation was released
- hosted sector-specific meetings to engage directly on unique issues of interest to specific business types and areas of the economy
- engaged with First Nations communities.

7.2.4. EPR in British Columbia

Extended producer responsibility programs in British Columbia are mandated by *Recycling Regulation 449/2004*, under the *Environmental Management Act*, a single regulatory framework for EPR that establishes the government's requirements for environmental outcomes and program performance for producers to achieve and to report annually.

British Columbia's EPR approach provides producers with flexibility to meet the regulatory outcome targets, which allows for efficiency and innovation. British Columbia views relationships between producers or their EPR agencies (i.e., PROs) and their collectors and providers as business to business, and generally does not interfere.

In British Columbia's experience, transitioning from government stewarded programs to EPR was a two-year process. Most EPR programs were implemented within 18 months of inclusion in the regulation. The one exception was the implementation of the PPP program, which had a 36-month implementation period in consideration of the existing municipal system that EPR supplanted.

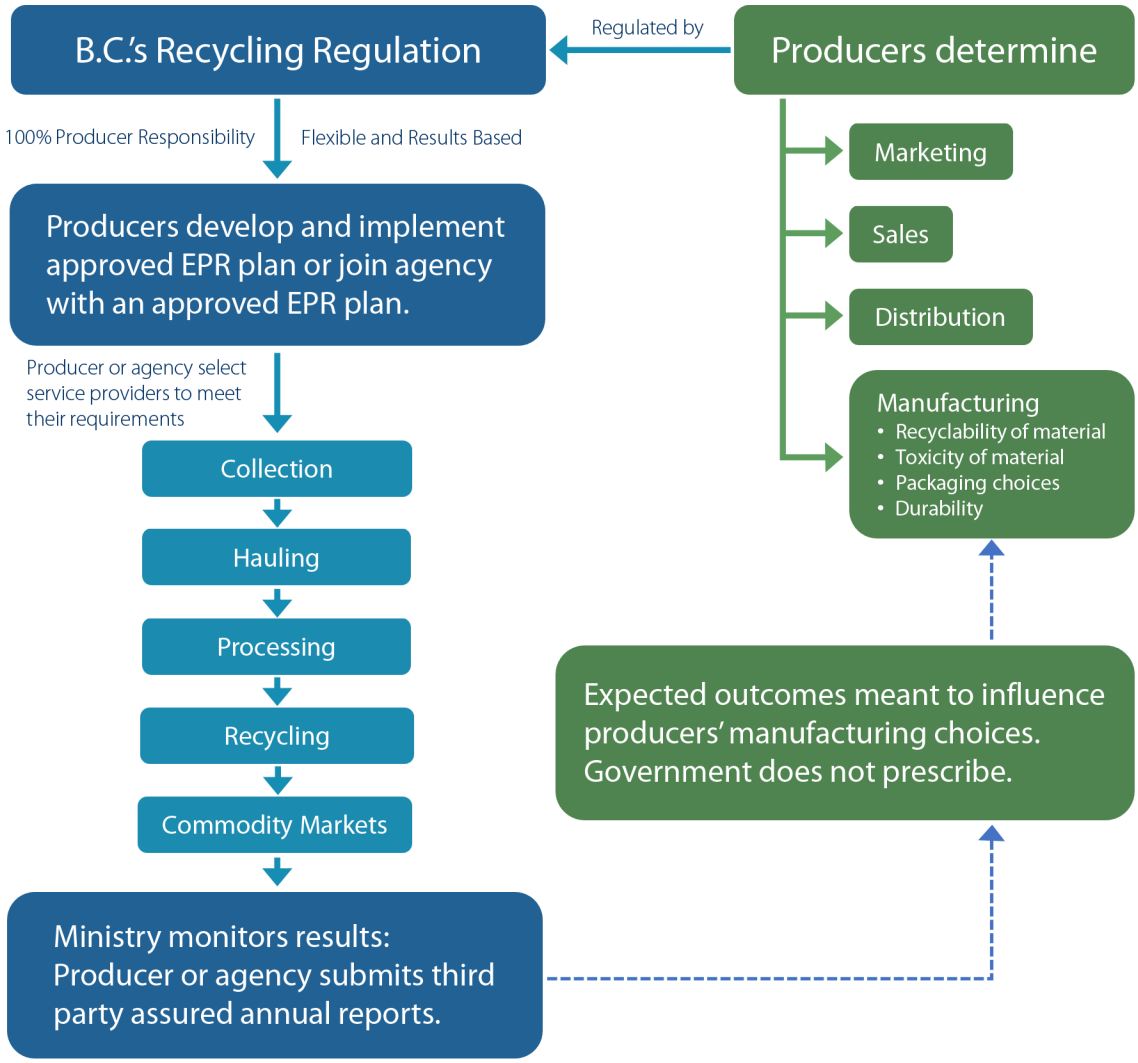

Figure 5: British Columbia's EPR Framework
Reproduced with permission

7.2.4.1. Case Study: From Generator Framework to EPR, British Columbia's Residential Recycling Program for Packaging and Paper Products.

In 2011, British Columbia amended the *Recycling Regulation* to make businesses supplying packaging and paper products responsible for collecting and recycling their products. After years of requests by local governments, the province shifted the approximately $100 million in annual costs and responsibility from local governments and taxpayers to the producers of those materials.

While discussions with producers and their associations began in 2009, as did messaging to local governments, the transition from the patchwork of municipality-run recycling programs to

industry-run ones was protracted and challenging on various fronts; local governments' lack of understanding of fiscal impacts proved to be a challenge, as did outreach to obligated producers.

While many municipal governments had requested for years that the provincial government regulate packaging and paper products under EPR, there appeared to be an expectation that the transition would result in full cost recovery of (often inefficient) individual systems by industry; this was not the case. Local governments requested the option for first right of refusal to contract with the industry-run EPR agency to provide collection services in their respective municipalities. For the majority of those that entered into contracts, the financial incentive offered, based on a common market clearing price that was informed by research on British Columbia's curbside collection costs and designed to drive operational efficiency, often did not fully cover their costs for providing the service. Although moving to a uniform collection system did bring cost efficiencies, in the years following implementation further cost studies were undertaken of actual costs, which resulted in increased clearing prices.

While every effort was made to communicate the pending regulation to obligated producers through workshops and meetings, the ministry relied heavily on industry associations to communicate to their memberships. The process of filtering down the regulatory intent beyond large and medium producers to smaller and independent producers was challenging. As a result, the ministry experienced strong opposition to the program from a variety of businesses and trade associations, including the Canadian Federation of Independent Businesses. As such, the impact to these smaller producers was highlighted much later in the implementation phase and required consideration. For this reason, the ministry developed *de minimis* criteria, exempting small producers from the requirements of the regulation.

7.2.5. EPR in Québec

The concept of EPR in Québec was first introduced in the Québec Residual Materials Management Policy (in French, the *Politique québécoise de gestion des matières résiduelles*) Action Plan 1998–2008 (Government of Québec 2000). EPR as an approach was prioritized in the following 2011–2015 action plan (Government of Québec 2011). Québec's initial EPR regulations focused on hazardous household waste, such as paints and their containers, and used motor oils, their containers and filters.

Québec's *Regulation respecting the recovery and reclamation of products by enterprises* (RRRPE; in French, the *Règlement sur la récupération et la valorisation de produits par les entreprises*) was adopted in 2011. It designated new product categories, including electronic products, batteries, mercury lamps, antifreeze, coolants and other similar products. The regulation also incorporated products previously designated under two earlier regulations. The RRRPE was amended in 2019 to add a category for household appliances and air conditioners.

The RRRPE is intended to be a framework regulation for the main category of products covered by EPR. The regulation leaves producers the latitude to set up a management system for their end-of-life products. It leaves the choice of modalities and partnerships up to the producers, while the government's role includes designating product categories, determining minimal obligations, establishing a general framework for program implementation, and setting goals.

Under RRRPE, any targeted producer must implement its own recovery and reclamation program on an individual basis, or can choose to join an organization (i.e., PRO) recognized by RECYC-QUÉBEC to manage the producer's EPR obligations under the RRRPE. While a few producers have chosen to set up their own program, most producers have preferred to join a PRO.

Since the designation of products under the RRRPE, Québec has seen tangible and measurable results demonstrated by a net improvement of diversion from disposal and an increasing proportion of recovered end-of-life products directed to the appropriate recovery channels.

After 10 years of implementation and oversight, Québec undertook a review of the RRRPE. An October 2021 draft regulation proposed amendments to the RRRPE to include additional products and product categories, as well as additional requirements to address identified issues. It also strengthened the regulation's effectiveness in managing the designated materials. The draft regulation proposes to designate the following new products and product categories:

- agricultural products, including agricultural plastics
- pressurized fuel containers
- pharmaceutical products, including sharps
- rechargeable batteries for road vehicles, except lead-acid batteries
- small, sealed lead-acid cells and batteries weighing 5 kg or less
- refrigeration and freezer equipment designed for non-food applications.

Québec's RRRPE prescribes recovery targets and the payment of penalties to the government if the targets are not reached. This mostly led producers and PROs to budget funds for penalties instead of maximizing their investments in their programs to address performance issues. Therefore, Québec proposed changes that include the transformation of those penalties into mandatory investments in program enhancement, based on specific corrective plans focused on reaching targets and subject to specific reporting.

Another issue linked with prescribed recovery targets regards parallel markets for designated products that have some value, such as electronics and appliances. Those parallel markets not only divert products from official programs, but generally limit their activities to profitable components without optimizing resources management. As well, there is no traceability of materials. The revised regulation includes the obligation for all parties that manage a designated product to be part of an official program.

Another major challenge is providing for a level playing field for traditional producers versus the online marketing of designated products. The draft regulation amending the RRRPE also addresses

online sales more directly to ensure their compliance, whether they have a place of business in Québec or not.

Among other things, with its other proposed modifications, the revised RRRPE:

- postpones and adjusts minimum recovery rates applicable to products already covered by the RRRPE and establishes longer timelines to achieve recovery rates
- introduces eco-design and circular economy objectives that, if attained, will reduce the required minimum recovery rate
- grants compensation for calculating the minimum recovery rate, based on the quantity of products recovered prior to January 1, 2023
- changes the minimum requirements concerning drop-off centres and services offered in Northern and remote communities
- promotes public access to information concerning the recovery program and its performance
- relaxes operating rules for recovery and reclamation programs, the auditing of service providers, annual reporting and audit rules.

In addition to the review of the RRRPE, changes were made to the *Environmental Quality Act* in March 2021 to empower the government to transition to EPR the end-of-life management of containers, packaging and printed products. Two draft regulations were posted in January 2022 to provide an EPR framework for the curbside recycling and the beverage container deposit-refund systems; they are expected to be enacted in 2022.

7.2.5.1. Case Study: From Generator Responsibility to EPR: Québec's EPR Policy to Neutralize Greenhouse Gases of Large Household Appliances

Household appliances and air conditioners have been designated under the RRRPE since 2019 in Québec. Prior to this designation, the recovery of large appliances was done through a variety of voluntary, multifaceted and complex systems managed by different stakeholders. These systems were mainly aimed at recovering the constituent metals in these products. However, some household appliances contain materials that pose a risk to the environment, such as ozone-depleting substances and substances that emit greenhouse gases with a global warming potential that is 1,400 to 10,900 greater than CO_2.[17] The hazardous materials contained in these products were at risk of being released into the environment at any time, whether during the compaction of these residues or at the time of their disposal. For this reason, the end-of-life management methods of these household appliances became a concern.

The designation of refrigeration, freezing and air conditioning products under RRRPE also met one of the priorities identified in Québec's 2013–2020 Action Plan on Climate Change (Government of Québec 2012), namely reducing greenhouse gas emissions associated with

[17] Government of Québec, unpublished report.

residual materials management. The recovery and reclamation of these devices under an EPR regulation ensures adequate measures for the recovery and destruction of the powerful greenhouse gases contained in refrigerant gases and insulating foams. It also provides assurance that the plastics used for their manufacture will be recovered and recycled in order to be reintroduced into a new production cycle.

Québec residents now have access to drop-off points, free of charge, to get rid of their major household appliances. The implementation of an EPR policy on these products supports initiatives that were already in place in some municipalities in Québec. The municipal recovery efforts that existed before the EPR regulation accounted for about a quarter of the large appliances that could be recovered.

The large household appliance market is complex and includes many players, though current practices often leave much to be desired. Though the collection rate for these products is high, their end-of-life management is deficient. Their designation under the RRRPE is based on the need to optimize the retrieval and treatment of all components, including plastics, glass, electronics and halocarbons, as well as the proper removal and management of the hazardous substances. For example, the RRRPE requires the appropriate retrieval of refrigeration and air conditioning units along with the treatment and neutralization of halocarbons and hazardous substances.

7.2.5.2. Case Study: From Grassroot Programs to EPR: Québec's Regulatory Proposition for Agricultural Plastics

According to recent data, in Québec, approximately 10,990 tonnes of agricultural plastics are generated annually (RECYC-QUÉBEC 2019b). There are about 40 initiatives in the province to recover agricultural plastics, mainly municipal and private initiatives that recover some 2,300 tonnes of agricultural plastics, or nearly 20% of the total generated. Despite these actions, many municipalities offer few or no solutions to help farmers get rid of these materials easily. However, since 2019, CleanFarms has developed an action plan and set up municipal pilots projects in the most important agricultural regions of Quebec in order to prepare to EPR.

The addition of agricultural plastics to the main provincial EPR regulation will standardize and clarify the management methods for end-of-life products throughout Québec and would benefit farmers. The transfer of the responsibility to the producers of these plastics will encourage the development of outlets for recycled plastics, eliminate illicit incineration practices and reduce pressure on disposal sites. It will also discourage the prolonged storage of obsolete pesticides, and will facilitate their safe disposal.

The operationalization of EPR may present some challenges. Agricultural plastics can be contaminated with organic matter, pesticides or fertilizers and therefore require additional cleaning

or treatment. It is also necessary to provide for a period of alignment between future EPR programs and the wide variety of different agricultural plastics recovery initiatives that already exist in certain municipalities in Québec.

Another potential challenge is that the draft regulation allows for drop-off points for agricultural plastics, rather than collection at the farm, although farmers prefer on-farm collection. The reduction in program management costs was the main factor that determined the choice of drop-off points rather than on-farm collection.

The consideration of online sales in the draft amendment to the RRRPE also resolves the problem of the obligated producer, because certain agricultural plastics are purchased by farmers directly from distributors through online transactions.

7.2.6. Exploring EPR in the Yukon

At the time of publication, the Yukon does not have any EPR programs, but stewardship programs are in place for beverage containers, tires, electronics and small electrical appliances.

The territorial beverage container recycling program, mandated by regulation, relies on a network of approximately 15 bottle depots operated by community groups and private businesses. In many cases, these depots also function as community recycling facilities. Stewardship programs for tires, electronics and electrical products are also operated under regulation, with administrative assistance from the Alberta Recycling Management Authority and the Electronic Products Recycling Association, respectively, which are contracted by the Yukon to provide these services.

Other materials are collected through local recycling depots. The City of Whitehorse and the Yukon Government offer incentives to recyclers through diversion credits for recyclables they divert from landfills. Diversion credits are a dollars-per-tonne basis (amounts vary by material type), with credits provided to recycling processors once materials have been recycled. This system makes the burden for diverting materials such as packaging rest heavily on the territorial and municipal governments. This ongoing reliance is one of the drivers behind the Yukon's exploration of EPR.

The Yukon connected with various stakeholders in 2020–21 to explore EPR in the territory. Feedback from regulators, PROs and industry was very positive around the potential to collaborate and harmonize elements of EPR between the Yukon and its provincial neighbours. Building on existing EPR systems in other jurisdictions appears to offer the greatest opportunity for bringing EPR to the Yukon. Discussions with existing PROs showed a highly supportive response to the concept of expanding EPR programs from British Columbia into the Yukon.

Elements that have been identified as needing to be considered going forward in the Yukon EPR journey include establishing regulations that outline specific outcomes and consequences for non-performance, and achieving service levels that meet the needs of Yukon citizens. Priority to introduce EPR will likely be given to products that represent significant amounts in the waste stream (packaging) or present problematic issues such as environmental hazards (household hazardous waste, used oil). Secondary focus will be given to materials currently handled through stewardship regulations (beverage containers, tires, electronics and electrical products). In the Yukon's assessment, the most important elements to harmonize were the definitions of obligated producers and obligated products for each program, followed by measurement and reporting requirements and acceptable end-of-life management options. It is accepted that accessibility targets in the Yukon may be different from those in neighbouring jurisdictions. However, material diversion targets should be established and evolve as for any newly introduced EPR system.

As network and infrastructure have been developed for existing stewardship programs, transitioning to EPR should be logistically easier than initiating new programs. However, expectations around existing operational experience, such as service level and cost, will need to be managed as programs transition to producer responsibility.

Northerners' current level of service is based on government efforts to offer consistent and comprehensive recycling services in communities, even though each community has highly different infrastructure capacity and needs, population, waste volumes and types, and transportation challenges.

Local realities mean EPR is likely to evolve differently in the North while the Yukon pursues the goal of ensuring clarity in level of service through programs that are efficient and affordable. The Yukon has a population of 42,000 and must consider how to integrate small communities, only six of which have populations greater than 500, while Whitehorse is home to 80% of the territory's population. The territory has a year-round highway system to all but one community, with reasonable access to both the British Columbia and Alberta markets. However, a small population spread over a vast area combined with large distances to secondary markets present transportation challenges as previously discussed in Chapter 4.

As EPR is a new approach in the Yukon, effective education and promotion will be required for both residents and businesses to build general awareness about the benefits of EPR, to keep groups apprised of plans and developments, and to encourage feedback and participation. The experience of PROs in delivering education in other jurisdictions is anticipated to be very valuable in this regard, and they are likely to be key partners in this work.

The ongoing role of government is a key consideration in bringing EPR to the Yukon. It is anticipated that EPR development will be highly collaborative between territorial government,

neighbouring jurisdictions and producers to bring producer responsibility to a unique jurisdiction like the Yukon. The Yukon government has small staffing resources that may limit the administrative burden it can undertake. Introducing EPR for the first time with these limited resources increases the value and importance of this partnership approach.

7.3. Lessons Learned and Considerations

As the examples above show, the number and amount of products and materials covered by a program, the population served, geography and a jurisdiction's existing waste management model will influence the transition process. A number of lessons learned and common elements for a more seamless transition can be gleaned from the case studies. They include:

- It is important to have constant and regular engagement and re-engagement with stakeholders and interested parties to address turnover in representatives and changes in views.
- A separate non-government body or advisor may hold a key role in advising on program and regulatory development.
- Early identification and assessment of program assets and liabilities is crucial when winding down an existing program. The process can be complex and warrants consideration. Where such a program is being replaced, jurisdictions will need to consider how the industry-funded organization will treat excess funds and existing program assets.
- There may be a need for distinct promotion and educational activities targeting producers (large and small) and consumers during program development, in the early stages of implementation and at program maturity.
- There is a case for a longer and/or phased transition for more complex programs involving a large number of municipalities or designated materials or material categories. This would help to balance the costs for producers and provides time to mitigate potential concerns related to existing and stranded assets and existing contracts.
- For programs focused on a narrow product category and a smaller number of producers, adopting a regional approach with neighbouring jurisdictions may provide opportunities to help reduce program start-up cost and build a self-sustaining program.
- Consideration must be given to the timeframe needed to transition a program from one regulation to another. This allows time to address the complexity of issues that arise when practical changes are made in the collection and recycling system to fit into the new regulatory framework.
- Local realities mean EPR systems can evolve differently in remote or Northern communities, and the solution for efficient and affordable policies and programs may include partnering with neighbouring jurisdictions.

The diversity of Canadian jurisdictions means the transition process to EPR will vary and must be tailored specifically for local priorities and circumstances. The experiences highlighted in this chapter are intended to illustrate how EPR has been adopted in Canada.

Achieving zero plastic waste will require significant increases in collection and recycling rates for end-of-life products and packaging and there is collective agreement that EPR is a key tool. In practice, the introduction of EPR policies is a complex undertaking that, to be successfully implemented, requires government leadership, industry commitment and public support.

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