



HOUSE OF COMMONS  
CHAMBRE DES COMMUNES  
CANADA

# **THE IMPACTS OF A BAN ON CERTAIN SINGLE-USE PLASTIC ITEMS ON INDUSTRY, HUMAN HEALTH AND THE ENVIRONMENT IN CANADA**

**Report of the Standing Committee on Environment and  
Sustainable Development**

**Francis Scarpaleggia, Chair**

**APRIL 2022  
44th PARLIAMENT, 1st SESSION**

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Chair**

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## **NOTICE TO READER**

### **Reports from committees presented to the House of Commons**

Presenting a report to the House is the way a committee makes public its findings and recommendations on a particular topic. Substantive reports on a subject-matter study usually contain a synopsis of the testimony heard, the recommendations made by the committee, as well as the reasons for those recommendations.

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# **THE STANDING COMMITTEE ON ENVIRONMENT AND SUSTAINABLE DEVELOPMENT**

has the honour to present its

## **SECOND REPORT**

Pursuant to its mandate under Standing Order 108(2), the committee has studied single-use plastics and has agreed to report the following:



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## SUMMARY

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Between 12 April and 5 May 2021, the House of Commons Standing Committee on Environment and Sustainable Development (the Committee) studied the Government of Canada's intention to ban certain single-use plastic items by regulating plastic manufactured items under the *Canadian Environmental Protection Act, 1999* (CEPA). The Committee examined, among other things, the impacts that a ban on certain single-use plastic items might have on Canadian small businesses, the plastics industry, the environment, and human health.

The Committee heard that the manufacturing of plastic resins and plastic products in Canada was worth an estimated \$35 billion in 2017, representing approximately 5% of sales in the Canadian manufacturing sector, and employing 93,000 people in just under 2000 firms. It also heard that the annual value of single-use plastic sales in Canada is \$5.5–\$7.5 billion.

Some witnesses emphasized the value of plastics to society, noting, for example, that plastics can extend food shelf life as packaging, they are raw materials in essential medical devices, and their light weight in vehicles can translate to lower greenhouse gas emissions from transportation. The Committee also heard, however, that most plastic in Canada is not recycled but becomes waste. On its current trajectory, annual global plastics production will double by 2050—to a projected one billion tonnes of plastics per year.

The Committee heard from the federal government about its scientific assessment of the impact of plastic pollution on the environment and human health, and the steps it planned to take to reach “zero plastic waste” by 2030. It heard that the government planned to establish regulations related to plastic manufactured items under CEPA. The Committee heard that the government's approach was intended to affect the way plastics are designed, manufactured, used, disposed of, and recovered, with the goal of reducing pollution and creating the conditions needed to achieve a “circular plastics economy.”

In discussing the impacts on jobs and industry, some witnesses felt that banning single-use plastic items would harm the plastics industry and make it harder to transition to a circular economy, while others suggested that a ban could lead to economic benefits through new reuse programs and the manufacture of alternative products.

The Committee heard how the circular economy, which emphasizes repair and reuse before recycling, could be applied to plastics in Canada. Some witnesses spoke about ways the government could help reduce the use of new plastics, particularly those that they said were difficult to recycle and unlikely to contribute to a circular economy, while others emphasized the need for better recycling of plastics, rather than a reduction in their production or use. New technologies and materials were also discussed.

Among its 10 recommendations, the Committee suggested that the Government of Canada expand and strengthen recycling infrastructure and innovation, and that it take steps to support the harmonization of recycling standards and the development of extended producer responsibility programs across Canada. The Committee also recommended that the Government of Canada further examine options that could support greater reuse of plastic items across Canada. Taken together, these steps can help make the one-time use of plastic products a thing of the past.

# LIST OF RECOMMENDATIONS

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*As a result of their deliberations committees may make recommendations which they include in their reports for the consideration of the House of Commons or the Government. Recommendations related to this study are listed below.*

## **Recommendation 1**

**The Committee recommends that the Government of Canada amend its regulatory process to provide more certainty to groups that are affected by potential regulations in terms of economic costs and environmental impacts. .... 27**

## **Recommendation 2**

**The Committee recommends that the Government of Canada convene a working group to study the impacts of microplastics on the environment and human health, including studying the effects of bioaccumulated microplastics. .... 28**

## **Recommendation 3**

**The Committee recommends that the Government of Canada set a clear intention to accommodate the needs of people with disabilities in any policy or regulation it adopts regarding single-use plastics. .... 28**

## **Recommendation 4**

**The Committee recommends that the Government of Canada host a roundtable for reuse companies and organizations, working with the Federation of Canadian Municipalities, to learn more about what infrastructure is needed to support reuse across Canada. .... 35**

## **Recommendation 5**

**The Committee recommends that the Government of Canada invest in expanding the country's recycling infrastructure and innovation, including by supporting the expansion of collection and sorting systems, and by investing in innovative technologies that can improve the rate at which plastics are recycled..... 35**

**Recommendation 6**

The Committee recommends that the Government of Canada publish additional information on its work to harmonize recycling standards across Canada and seek additional opportunities to advance this harmonization in collaboration with provinces and territories, industry and communities. .... 36

**Recommendation 7**

The Committee recommends that the Government of Canada, in collaboration with provinces and territories:

- continue its work with the Canadian Council of Ministers of the Environment (CCME) to develop guidelines for EPR programs across the country; and
- provide an update about the status of its EPR work with the CCME. .... 37

**Recommendation 8**

The Committee recommends that the Government of Canada work with the CCME to provide more regular progress reports on CCME work. .... 38

**Recommendation 9**

The Committee recommends that the Government of Canada work with partners to accelerate the development and implementation of minimum recycled content standards..... 39

**Recommendation 10**

The Committee recommends that the Government of Canada take steps to help Canadians distinguish between plastics and plastic alternatives based on how recyclable, compostable or biodegradable they are by, for example, establishing national labelling standards. .... 41





# THE IMPACTS OF A BAN ON CERTAIN SINGLE-USE PLASTIC ITEMS ON INDUSTRY, HUMAN HEALTH AND THE ENVIRONMENT IN CANADA

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## INTRODUCTION

Between 12 April and 5 May 2021, the House of Commons Standing Committee on Environment and Sustainable Development (the Committee) studied the Government of Canada's announced intention to regulate plastic manufactured items using the *Canadian Environmental Protection Act, 1999* (CEPA), and to ban certain single-use plastic items. The Committee undertook this study to examine, among other things, the impacts that the federal government's approach might have on Canadian small business and the plastics industry, on the environment, and on human health. The Committee heard from witnesses on various topics, including the present operations and the possible future of the Canadian plastics industry, the impacts of plastic pollution on the environment and human health, and how the Government of Canada intends to manage plastics in the future.

The Committee thanks the witnesses for their contributions, and is pleased to present its final report, which includes the study's findings and recommendations to the Government of Canada.<sup>1</sup>

## A PLASTICS PRIMER

Plastics can be divided into two main categories: thermoplastics and thermosets. Thermoplastics make up about 75% of worldwide plastics production and can be melted and re-formed fairly easily.<sup>2</sup> Thermosets, on the other hand, cannot be re-melted once they have been cooled, which makes them strong, but difficult to recycle.<sup>3</sup> Plastics offer

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1 The study on single-use plastics began and witnesses appeared before the House of Commons Standing Committee on Environment and Sustainable Development (the Committee) during the 43rd Parliament. The members of the Committee for the 44th Parliament wish to thank the members who served on the Committee during the 43rd Parliament.

2 Anne Trafton, World Economic Forum, [\*These MIT chemists are making tough plastics easier to recycle\*](#), 29 July 2020.

3 Ibid.



many beneficial properties—including insulation, flexibility and resistance to high temperatures, chemicals and shattering<sup>4</sup>—while being inexpensive and easy to produce.

Plastic products are all made from pellets or flakes of plastic, known as plastic resin. Resins can either be made from raw materials—creating what are known as “primary” or “virgin” resins—or from recycled plastic. Nearly all plastic resins are made from fossil fuels: Environment and Climate Change Canada (ECCC) estimates that 90% of new plastic products are derived from fossil fuel feedstocks.<sup>5</sup> An energy-intensive process is required to create these feedstocks, which are then converted into polymer resins, which are in turn made into plastic products. Overall, it takes less energy to produce recycled, or “secondary,” resins, compared to virgin resins. However, recycled plastics do not necessarily cost less money. Firstly, recycled plastics have higher labour costs than other plastics. Also, because virgin resins are mostly made from fossil fuels, they are usually cheaper to produce when the price of fossil fuels is low.<sup>6</sup>

Table 1 presents common types of plastic according to their Resin Identification Code, or RIC. These codes may be familiar to many Canadians: the RIC is the number that appears on the bottom of many plastic packages.

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4 American Chemistry Council, [\*Plastic Packaging Resins\*](#).

5 Government of Canada, [\*Moving Canada toward zero plastic waste: Closed consultation\*](#).

6 Ibid.

**Table 1: Common Types of Plastic**

Resin Identification Code	Type of Plastic	Products Commonly Made from this Plastic
1	Polyethylene terephthalate (PET or PETE, also called polyester)	<ul style="list-style-type: none"> <li>• Plastic drink bottles and microwavable food containers</li> </ul>
2	High-density polyethylene (HDPE)	<ul style="list-style-type: none"> <li>• Bottles for milk, water, juice</li> <li>• Bottles for cosmetics, shampoo, dish, laundry detergents, and household cleaners</li> </ul>
3	Plasticized polyvinyl chloride or polyvinyl chloride (PVC)	<ul style="list-style-type: none"> <li>• Rigid packaging such as blister packs and clamshells</li> <li>• Flexible packaging like bags for bedding and medical devices, shrink wrap, deli and meat wrap</li> <li>• Pipes, window frames, fencing, medical tubing, and flooring</li> </ul>
4	Low-density polyethylene (LDPE)	<ul style="list-style-type: none"> <li>• Bags for dry cleaning, newspapers, fresh produce, and household garbage</li> <li>• Shrink wrap and stretch film</li> <li>• Coatings for paper milk cartons and hot and cold beverage cups</li> <li>• Container lids</li> <li>• Toys</li> <li>• Squeezable food bottles</li> <li>• Used in injection molding, adhesives and sealants, and wire and cable coverings</li> </ul>
5	Polypropylene (PP)	<ul style="list-style-type: none"> <li>• Containers for yogurt, margarine, takeout meals, and deli foods</li> <li>• Syrup bottles</li> <li>• Medicine bottles</li> <li>• Bottle caps and closures</li> <li>• Flexible and rigid packaging, fibres, and large molded parts for automotive and consumer products</li> <li>• Used in fibres, appliances, and consumer products</li> </ul>



Resin Identification		
Code	Type of Plastic	Products Commonly Made from this Plastic
6	Polystyrene (PS)	<ul style="list-style-type: none"> <li>• Food service items like cups, plates, bowls, cutlery, meat trays, and rigid food containers</li> <li>• Protective foam packaging for delicate items</li> <li>• Loose fill</li> <li>• Compact disc cases and aspirin bottles</li> <li>• Used in agricultural trays, electronic housings, cable spools, building insulation, coat hangers, and medical products and toys</li> </ul>
7	Other (material made with a plastic resin other than the six listed above, or a combination of multiple resins)	<ul style="list-style-type: none"> <li>• Reusable water cooler bottles</li> <li>• Oven-baking bags, barrier layers, custom packaging</li> </ul>

Source: Table prepared by the Committee using data obtained from the American Chemistry Council, [Plastic Packaging Resins](#).

## PLASTICS IN CANADA

### Production

Plastics production is a significant part of the Canadian manufacturing sector. According to a report commissioned by ECCC, the manufacturing of plastic resins and plastic products in Canada was worth an estimated \$35 billion in 2017. This amount represented approximately 5% of sales in the Canadian manufacturing sector, employing 93,000 people across 1,932 establishments.<sup>7</sup> These establishments fall into two main categories: large multinational firms that produce raw plastic resins and smaller firms that convert these resins into plastic products.<sup>8</sup>

Single-use plastics—plastics that are used only once before being disposed of or recycled—represent a significant share of the products produced by the plastics industry. According to the Chemistry Industry Association of Canada (CIAC), annual sales of Canadian single-use plastics are worth \$5.5–\$7.5 billion, and those sales

7 Environment and Climate Change Canada (ECCC), [Economic Study of the Canadian Plastic Industry, Markets and Waste: Summary Report to Environment and Climate Change Canada](#), 2019.

8 House of Commons, Standing Committee on Environment and Sustainable Development (ENVI), [Evidence](#), 21 April 2021, 1540 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

represent between 13,000 and 20,000 direct jobs, and as many as 26,000 to 40,000 indirect jobs. CIAC noted that these jobs are spread across nearly 2,000 firms, of which approximately 60% are in Ontario, 25%–30% are in Quebec, and most of the remainder are in Alberta and British Columbia, with a small number in other provinces.<sup>9</sup>

Canada's plastics industry mainly produces "virgin" resins, also known as "primary" plastics, in contrast with "secondary" plastics, which are made from recycled plastic.<sup>10</sup> In 2016, 256,000 tonnes of plastic were recycled in Canada, while almost 20 times more virgin resin was produced in the same period.<sup>11</sup>

## Use

Plastics are used throughout the Canadian economy. Their single largest end use is for packaging, followed by building and construction materials, and then for parts in the automotive sector.<sup>12</sup> Witnesses drew the Committee's attention to certain uses of plastics. John Galt, President and Chief Executive Officer at Husky Injection Molding Systems Ltd. pointed out that plastics make up 73% of the value of raw materials in disposable medical devices, which have been particularly crucial during the COVID-19 pandemic.<sup>13</sup> Likewise, plastics can play a role as Canada transitions to a lower-carbon economy. Bob Masterson, President and Chief Executive Officer of CIAC, explained that the light weight of plastics makes them a useful component in vehicles, allowing cars and aircraft to use less fuel and produce fewer emissions.<sup>14</sup>

Single-use plastics also have many applications. They are especially widely used in food packaging because they can meet food safety standards and help extend the shelf life of

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9 ENVI, *Evidence*, 12 April 2021, 1715 (Elena Mantagaris, Vice-President, Plastics Division, Chemistry Industry Association of Canada).

10 New technologies, such as bioplastics, are being developed and their role is explored later in this report.

11 ECCC, *Economic Study of the Canadian Plastic Industry, Markets and Waste: Summary Report to Environment and Climate Change Canada*, 2019.

12 ENVI, *Evidence*, 3 April 2019, 1610 (Carol Hochu, President and Chief Executive Officer, Canadian Plastics Industry Association).

13 ENVI, *Evidence*, 12 April 2021, 1635 (John Galt, President and Chief Executive Officer, Husky Injection Molding Systems Ltd.); see also Norbert Sparrow, "[Global medical disposables market to hit \\$273 billion in 2020](#)," *Plastics Today*, 31 August 2016.

14 ENVI, *Evidence*, 12 April 2021, 1720 (Bob Masterson).



food products.<sup>15</sup> In health care, single-use plastic products have enabled innovation and decreased the risk of cross-contamination.<sup>16</sup>

Given its widespread use, plastic will be produced in ever greater quantities in the coming years. Manjusri Misra, Professor and Tier 1 Canada Research Chair in Sustainable Biocomposites at the University of Guelph, told the Committee that the world will make 1 billion tonnes of plastics a year by 2050, more than doubling the current production of 450 million tonnes a year. Approximately half of plastics produced today are single-use plastics.<sup>17</sup>

## Disposal

In Canada, most plastic becomes waste. Of all the plastic used in the country in 2016, about 70%—roughly 3.3 million tonnes—was disposed of as waste. Of this amount, ECCC estimated that 86% was sent to landfill.<sup>18</sup> Similarly, the Canada Plastics Pact estimated that, of the 1.9 million tonnes of plastic packaging produced in Canada, 88% is landfilled or incinerated.<sup>19</sup>

As the Committee heard, Canada’s widespread landfilling of plastic waste represents a lost economic opportunity.<sup>20</sup> In 2016, landfilled plastic waste represented approximately \$7.8 billion of material that could have been put to other uses.<sup>21</sup> Only a small part of the plastic used in Canada is recycled. According to ECCC, in 2016 approximately 9% of all plastic waste was recycled.<sup>22</sup> George Roter, Managing Director of the Canada Plastics Pact, said that plastic packaging is recycled at a slightly higher level: about 12%.<sup>23</sup>

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- 15 ENVI, [Evidence](#), 6 May 2019, 1600 (Philippe Cantin, Senior Director, Circular Economy and Sustainable Innovation, Montreal Office, Retail Council of Canada).
- 16 Emily J. North and Rolf U. Halden, “[Plastics and Environmental Health: The Road Ahead](#),” in *Reviews on Environmental Health*, Vol. 28, No. 1, January 2013.
- 17 ENVI, [Evidence](#), 21 April 2021, 1540 (Manjusri Misra, Professor and Tier 1 Canada Research Chair in Sustainable Biocomposites, University of Guelph).
- 18 ENVI, [Evidence](#), 5 May 2021, 1550 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of Environment).
- 19 ENVI, [Evidence](#), 12 April 2021, 1550 (George Roter, Managing Director, Canada Plastics Pact).
- 20 Ibid.
- 21 ENVI, [Evidence](#), 28 April 2021, 1620 (Sonya Savage, Minister of Energy, Government of Alberta).
- 22 ENVI, [Evidence](#), 5 May 2021, 1630 (Dany Drouin, Director General, Plastics and Waste Management Directorate, Department of Environment).
- 23 ENVI, [Evidence](#), 12 April 2021, 1550 (George Roter).

Certain kinds of plastics are more widely recycled than others. Beverage containers, for example, are recycled at high levels.<sup>24</sup> Witnesses noted that these containers are more commonly recycled partly because they are made of more easily recyclable plastics, like PET, but also because of the existence of collection and deposit programs in some provinces.<sup>25</sup> Deposit programs encourage consumers to recycle the material, while collection programs help recyclers secure more supply of recyclable material.

However, in most cases the inverse situation applies, as Norman Lee, Director of Waste Management at the Regional Municipality of Peel, explained:

One of the most significant waste management challenges faced by municipalities today is the recycling of plastic packaging, which is becoming lighter and more complex, making it more difficult and more expensive to manage. The lack of mandatory recycled content requirements results in weak demand for some recovered plastics, such as the plastic film used in grocery bags. Messages from brand owners and retailers often conflict with municipal messaging about what can be recycled or composted. This results in materials being put in the wrong bin, which increases cost and decreases diversion.<sup>26</sup>

The Committee heard that the Government of Canada could play a role in increasing the rate of plastic recycling across Canada, as described in the “Reuse and Recycle” section of this report. Table 2 presents the roles of federal, provincial and municipal governments in waste management.

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24 ENVI, [Evidence](#), 28 April 2021, 1535 (Jim Goetz, President, Canadian Beverage Association); ENVI, [Evidence](#), 28 April 2021, 1540 (Jim Goetz); and ENVI, [Evidence](#), 5 May 2021, 1635 (Helen Ryan).

25 ENVI, [Evidence](#), 28 April 2021, 1535 (Jim Goetz).

26 ENVI, [Evidence](#), 28 April 2021, 1550 (Norman Lee, Director, Waste Management, Regional Municipality of Peel).



**Table 2: The Roles of Federal, Provincial and Municipal Governments in Waste Management**

Government	Roles
Federal	<ul style="list-style-type: none"> <li>Identifying and sharing best practices to reduce toxic pollution from waste</li> <li>Overseeing waste management and recycling on federal lands and First Nations reserves</li> <li>Managing clean-ups of federal contaminated sites</li> <li>Regulating hazardous waste</li> </ul>
Provincial	<ul style="list-style-type: none"> <li>Creating waste reduction policies</li> <li>Creating waste management programs</li> <li>Monitoring waste management facilities and operations</li> </ul>
Municipal	<p>Overseeing the following steps in the management of household waste:</p> <ul style="list-style-type: none"> <li>collection;</li> <li>composting;</li> <li>recycling; and</li> <li>disposal.</li> </ul>

Source: Table prepared by the Committee based on information from Government of Canada, [Municipal solid waste: a shared responsibility](#); and Government of Canada, [Management of hazardous waste and hazardous recyclable material](#).

## THE GOVERNMENT OF CANADA’S PROPOSED BAN ON CERTAIN HARMFUL SINGLE-USE PLASTICS

### The Government of Canada’s Approach

On 23 September 2020, in the Speech from the Throne, the Government of Canada announced that it would “ban harmful single-use plastics next year.”<sup>27</sup> The following month, in October 2020, the Government of Canada published a science assessment that examined how plastic pollution affects the environment and human health.<sup>28</sup> The government also issued a discussion paper proposing how the federal government

27 Government of Canada, [A stronger and more resilient Canada: Speech from the Throne to open the Second Session of the Forty-Third Parliament of Canada](#).

28 Government of Canada, [Science assessment of plastic pollution](#).



would manage plastic waste and pollution.<sup>29</sup> This paper indicated that, to reach “zero plastic waste” by 2030, the government would:

- manage single-use plastics, including banning or restricting certain single-use plastics that cause harm, where warranted and supported by scientific evidence
- establish performance standards for plastic products to reduce (or eliminate) their environmental impact and stimulate demand for recycled plastics, and
- ensure end-of-life responsibility, so that companies that manufacture or import plastic products or sell items with plastic packaging are responsible for collecting and recycling them.<sup>30</sup>

In support of this agenda, the Government of Canada intends to use its power under CEPA to regulate plastics. Helen Ryan, Associate Deputy Minister of the Environmental Protection Branch at ECCC, explained that:

[Regulating certain plastic manufactured items under CEPA] will allow the government to enact regulations to change behaviours at key stages in the life cycle of plastic products, such as in design, manufacture, use, disposal and recovery, in order to reduce pollution and create the conditions to achieve a circular plastics economy.<sup>31</sup>

One of these regulations could be a ban on “harmful single-use plastics.” The Government of Canada proposes to ban six single-use plastic items, based on evidence that “they are found in the environment, are often not recycled, and have readily available alternatives.”<sup>32</sup> The six items are listed in Figure 1.

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29 Government of Canada, [\*A proposed integrated management approach to plastic products to prevent waste and pollution.\*](#)

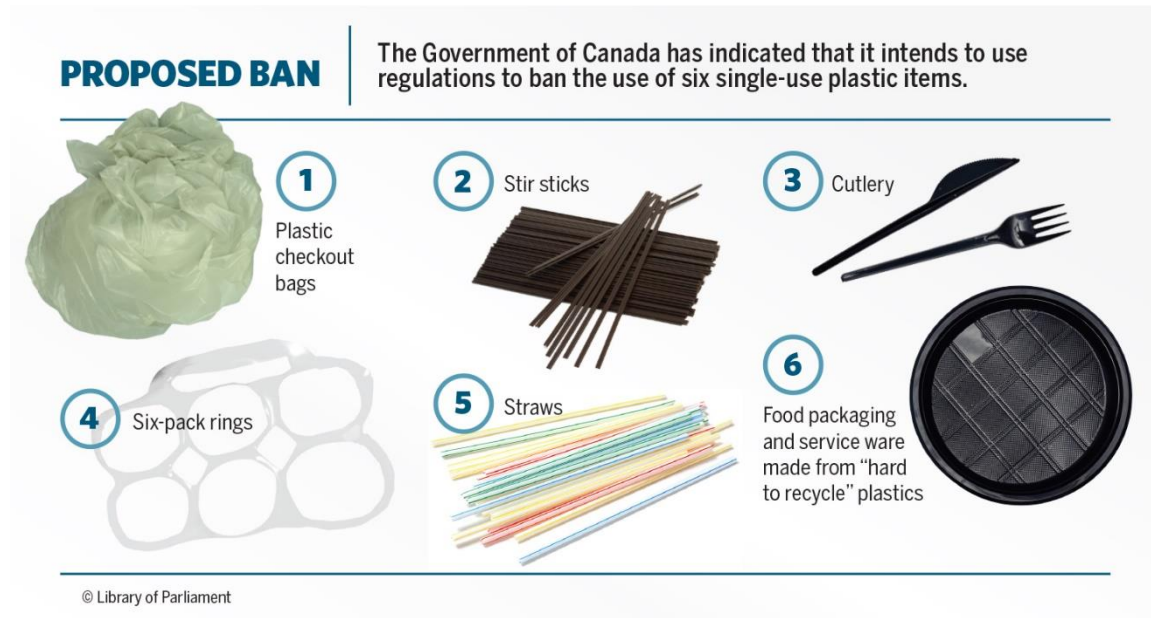
30 Government of Canada, [\*“Choosing the best instruments,” A proposed integrated management approach to plastic products to prevent waste and pollution.\*](#)

31 ENVI, [\*Evidence\*](#), 5 May 2021, 1550 (Helen Ryan).

32 Government of Canada, [\*Canada one-step closer to zero plastic waste by 2030\*](#), News release, 7 October 2020.



**Figure 1: Items proposed to be banned under the *Canadian Environmental Protection Act, 1999***



Note: The proposed regulations include some exceptions related to flexible plastic straws.

Source: Figure prepared by the Library of Parliament using information from Government of Canada, [Discussion paper: A proposed integrated management approach to plastic products to prevent waste and pollution](#).

### The Listing Process of the *Canadian Environmental Protection Act, 1999*

The federal government plans to use CEPA to establish regulations affecting plastic manufactured items, including the proposed ban on certain single-use plastic items. CEPA is the main federal law for protecting human health and the environment. Its purpose is to prevent and manage risks posed by toxic and other harmful substances.<sup>33</sup> Within CEPA, a substance is toxic if

it is entering or may enter the environment in a quantity or concentration or under conditions that:

- a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity;

<sup>33</sup> Government of Canada, "[2. Environmental management in Canada](#)," *Guide to understanding the Canadian Environmental Protection Act: chapter 2*.

- b) constitute or may constitute a danger to the environment on which life depends; or
- c) constitute or may constitute a danger in Canada to human life or health.<sup>34</sup>

If the federal government determines—through a scientific assessment—that a substance is toxic, it may add the substance to Schedule 1 to CEPA, also known as the Toxic substances list. This list includes over 150 substances or groups of substances.<sup>35</sup> Schedule 1 lists substances that are easily associated with the everyday usage of the term “toxic” such as lead, mercury and its compounds, inorganic arsenic compounds, and dichlorodiphenyltrichloroethane (DDT). Schedule 1 also lists substances that may not immediately be associated with the term but that meet the definition of “toxic” under CEPA, including greenhouse gases such as carbon dioxide, methane and nitrous oxide.

Once a substance is added to Schedule 1, the federal government is empowered to use various preventive or control measures to reduce or eliminate the release of the substance into the environment. These measures “may target any aspect of the substance’s life cycle, from the research and development stage through manufacture, use, storage, transport and ultimate disposal.”<sup>36</sup> CEPA provides for various preventive or control measures, such as regulations, pollution prevention plans, and environmental emergency plans.<sup>37</sup>

Table 3 presents the steps the Government of Canada must take in order to add “plastic manufactured items” to Schedule 1 to CEPA and develop regulations to ban certain single-use plastic items, and includes notes about actions taken to date.

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34 [Canadian Environmental Protection Act, 1999](#) (CEPA), S.C. 1999, c. 33, s. 64.

35 Government of Canada, [Toxic substances list: schedule 1](#).

36 Government of Canada, [“5. Existing substances,” Guide to understanding the Canadian Environmental Protection Act: chapter 5](#).

37 [Current, proposed and repealed regulations, pollution prevention plans and environmental emergency plans](#) are available online on the CEPA registry.



**Table 3: Regulating Plastics under the *Canadian Environmental Protection Act, 1999***

Step in regulatory process	Timing and actions taken for plastic manufactured items and single-use plastics
Identification of a substance as toxic under CEPA	On 7 October 2020, the Government of Canada published the <i>Science Assessment of Plastic Pollution</i> . It determined that plastic pollution harms the environment and that the government should act to prevent plastic from entering the environment.
Publication of proposal to add a substance to Schedule 1 followed by comment period	On 10 October 2020, the Government of Canada published a proposal in Part I of the <i>Canada Gazette</i> to add “plastic manufactured items” to the Toxic substances list (also known as Schedule 1 to CEPA).
Consideration of comments received	The Government of Canada received several Notices of Objection to the proposal to add plastic manufactured items to Schedule 1, which criticized the science and called for further study. The Minister of Environment and Climate Change rejected these requests. The Government of Canada published a summary of the public comments received on the proposed addition of “plastic manufactured items” to Schedule 1.
Addition of substance to Schedule 1	On 12 May 2021, the Government of Canada published the final order adding “plastic manufactured items” to Schedule 1 to CEPA in Part II of the <i>Canada Gazette</i> .
Development of regulations using socio-economic analysis and cost-benefit analysis	Completed between May 2021 and December 2021.
Publication of draft regulations followed by comment period	<p>On 25 December 2021, the Government of Canada published proposed regulations banning the manufacture, import or sale of single-use plastic checkout bags, single-use plastic cutlery, single-use plastic foodservice ware, single-use plastic ring carriers, single-use plastic stir sticks and single-use plastic straws. Exceptions are proposed for the manufacture, import and sale of single-use plastic flexible straws. Exceptions are proposed for the manufacture, import and sale of single-use plastic items for the purposes of export. In the case of export, certain records are required to be kept.</p> <p>Comments on the proposed regulations could be submitted to the Minister of Environment and Climate Change for 70 days after the publication—i.e., until 5 March 2022. A notice of objection requesting that a board of review be established could be filed for 60 days following publication—i.e., until 23 February 2022.</p>

Step in regulatory process	Timing and actions taken for plastic manufactured items and single-use plastics
Consideration of comments received from the public and stakeholders with the possibility to modify the proposed regulations based on the comments received	Beginning after 5 March 2022.
Publication of the final regulations in Part II of the <i>Canada Gazette</i>	The Government of Canada may publish final regulations after consideration of the comments received and other factors.
Coming into force of regulations	The final regulations would come into force on the date they are registered or on a subsequent date identified in the regulations.

Source: Prepared by the Committee using data obtained from Government of Canada, [Science assessment of plastic pollution; Order Adding a Toxic Substance to Schedule 1 to the Canadian Environmental Protection Act, 1999](#), 5 October 2020, in *Canada Gazette*, Part I, 10 October 2020; Government of Canada, [“Notice of objection and request for board of review in relation to proposed order adding plastic manufactured items to Schedule 1 to the Canadian Environmental Protection Act, 1999 \(CEPA\),” Notices of objection](#); Government of Canada, [Summary of public comments received on the proposed Order adding “plastic manufactured items” to Schedule 1 to the Canadian Environmental Protection Act, 1999; Order Adding a Toxic Substance to Schedule 1 to the Canadian Environmental Protection Act, 1999](#), SOR/2021-86, 23 April 2021, in *Canada Gazette*, Part II, 12 May 2021; [Single-Use Plastics Prohibition Regulations](#), 25 December 2021, in *Canada Gazette*, Part I, 25 December 2021.

CEPA has already been used to ban plastic microbeads in personal care products. This process took approximately three years. Between August 2015 and June 2017, the government published proposed and final orders that added microbeads to Schedule 1, and then published proposed and final regulations that banned these microbeads. Regulations prohibiting the manufacture and import of all toiletries containing microbeads came into force on 1 July 2018.<sup>38</sup> Chelsea Rochman, Assistant Professor at the University of Toronto, told the Committee that the ban on microbeads has been effective and that fewer microbeads appear in the environment since the ban was issued.<sup>39</sup>

## Impacts on Jobs and Industry of a Ban on Certain Single-Use Plastics

Various businesses and industry groups told the Committee that the government’s approach to regulating plastic manufactured items—particularly the proposed ban on

38 Government of Canada, [Microbeads](#).

39 ENVI, [Evidence](#), 12 April 2021, 1615 (Chelsea M. Rochman, Assistant Professor, University of Toronto).



some single-use plastics implemented through CEPA—would threaten jobs and deter investment in the plastics industry.<sup>40</sup>

In their testimony and submissions to the Committee, several witnesses cited an analysis from CIAC that estimated the economic impacts of a ban on all single-use plastics. As Elena Mantagaris, Vice-President of the Plastics Division at CIAC, explained: “bans in this country on single-use plastics writ large” could affect up to one-quarter of Canada’s existing plastic shipments.<sup>41</sup> As noted earlier, CIAC estimated that single-use plastics represent \$5.5–\$7.5 billion in annual sales, 13,000 to 20,000 direct jobs, and as many as 26,000 to 40,000 indirect jobs.<sup>42</sup> Sonya Savage, Minister of Energy of Alberta, said that a ban would be particularly damaging in her province, which is working to diversify its economy and attract new investment outside the oil and gas sector.<sup>43</sup> She cited analysis from CIAC estimating that a ban on all single-use plastics would put \$100–\$500 million in sales in Alberta at risk, “representing between 500 and 2,000 jobs.”<sup>44</sup>

In their testimony, representatives of CIAC said that a ban on some single-use plastics would disproportionately affect small- and medium-sized enterprises. Bob Masterson explained that many of these businesses produce a limited range of products, and that the government’s proposed ban might shut some enterprises out of the Canadian market.<sup>45</sup>

Witnesses told the Committee that the government’s proposed ban would damage the industry’s reputation and deter investment. According to Michael Burt, Vice-President and Global Director of Climate and Energy Policy at Dow:

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40 CKF Inc., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 31 March 2021; CCC Plastics, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 5 April 2021; Hymopack Ltd., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 5 April 2021; Peel Plastic Products Inc., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 5 April 2021; INEOS Styrolution, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; Pack All Manufacturing Inc., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; Pactiv Evergreen, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; Winpak, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; and Dart Container Corporation, “[Re: Standing Committee on Environment and Sustainable Development’s study on the ban of single-use plastics](#),” Brief submitted to ENVI, 19 April 2021.

41 ENVI, [Evidence](#), 12 April 2021, 1715 (Elena Mantagaris).

42 Dart Container Corporation, “[Re: Standing Committee on Environment and Sustainable Development’s study on the ban of single-use plastics](#),” Brief submitted to ENVI, 19 April 2021.

43 ENVI, [Evidence](#), 28 April 2021, 1715 (Sonya Savage).

44 ENVI, [Evidence](#), 28 April 2021, 1620 (Sonya Savage).

45 ENVI, [Evidence](#), 12 April 2021, 1540 (Bob Masterson).

This [ban] will significantly impact the perception of plastic in Canada and around the globe. This will negatively impact the investment climate in Canada for the petrochemical sector and is directly at odds with the government's initiative to restart the economy, in which the petrochemical sector plays a critical role.<sup>46</sup>

Minister Savage raised a similar point, saying the federal government's approach would give the impression that Canada was hostile to the plastics industry:

We know that the global demand for petrochemicals is growing and companies are looking to invest. They have billions of dollars to invest. We believe this [ban] could drive investment away from Canada into other jurisdictions. Companies will look for jurisdictions that are the most competitive and that are not hostile to the business the company is trying to do.<sup>47</sup>

In their briefs to the Committee, plastics producers feared that designating plastic manufactured items as "toxic" could make it harder for their businesses to secure bank loans.<sup>48</sup>

One group argued that a ban on certain single-use plastics would not only threaten jobs and investment but could increase costs for some consumers: In its brief to the Committee, the Canada Coalition of Plastic Producers of the Foodservice Packaging Institute argued that "[b]ans will increase the cost of living and impact Canadians," particularly "those out of work due to the pandemic and low-income groups."<sup>49</sup> Commenting on the same issue, Philippe Cantin, Senior Director of Sustainability Innovation and Circular Economy at the Retail Council of Canada, said that it was difficult to anticipate how a ban on some single-use plastics would affect the cost of plastic items, and that the matter needed further study. However, he noted that materials generally become more expensive as their supply decreases. Mr. Cantin added that

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46 ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt, Vice-President and Global Director, Climate and Energy Policy, Dow).

47 ENVI, [Evidence](#), 28 April 2021, 1715 (Sonya Savage).

48 CKF Inc., "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 31 March 2021; CCC Plastics, "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 5 April 2021; Hymopack Ltd., "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 5 April 2021; Peel Plastic Products Inc., "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 5 April 2021; INEOS Styrolution, "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 6 April 2021; Pack All Manufacturing Inc., "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 6 April 2021; Pactiv Evergreen, "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 6 April 2021; Winpak, "[Re: Study on Single-Use Plastics](#)," Brief submitted to ENVI, 6 April 2021.

49 Canada Coalition of Plastic Producers of the Foodservice Packaging Institute, "[Brief Submitted to The Standing Committee on Environment and Sustainable Development Study on the Ban of Single-Use Plastics](#)," Brief submitted to ENVI, 1 April 2021.



an implementation period would help small businesses adjust to any cost impacts of a ban.<sup>50</sup>

Some witnesses believed that the government was creating uncertainty by listing all “plastic manufactured items” on Schedule 1 to CEPA. They argued that this approach made it difficult for businesses and investors to anticipate the government’s intentions in the long term, for example, in relation to whether it would choose to expand the ban to other plastic items.<sup>51</sup> Minister Savage said there was a “great cloud of uncertainty” that was exacerbated by the “toxic” label,<sup>52</sup> while John Galt argued that uncertainty would deter investment and increase Canada’s reliance on imported goods.<sup>53</sup> In their briefs to the Committee, several businesses called on the Government of Canada to analyze the economic impacts of designating plastic manufactured items under CEPA and banning certain single-use plastic items.<sup>54</sup>

When the federal government published the order that added plastic manufactured items to Schedule 1 to CEPA, it noted that it had analyzed the potential impacts of its action. This included an analysis using a “small business lens” to examine the possible burden imposed on small businesses.<sup>55</sup> The government concluded that simply adding these items to Schedule 1 would have no impact on businesses, mainly because the listing does not create compliance costs. However, the government acknowledged that adding these items to Schedule 1 will allow ministers to develop risk management measures for plastic manufactured items, and that these measures “could result in

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50 ENVI, [Evidence](#), 26 April 2021, 1710 (Philippe Cantin).

51 ENVI, [Evidence](#), 12 April 2021, 1605 (Bob Masterson); ENVI, [Evidence](#), 12 April 2021, 1635 (John Galt); and ENVI, [Evidence](#), 21 April 2021, 1605 (Michael Burt).

52 ENVI, [Evidence](#), 28 April 2021, 1720 (Sonya Savage).

53 ENVI, [Evidence](#), 12 April 2021, 1705 (John Galt).

54 CKF Inc., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 31 March 2021; CCC Plastics, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 5 April 2021; Hymopack Ltd., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 5 April 2021; Peel Plastic Products Inc., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 5 April 2021; INEOS Styrolution, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; Pack All Manufacturing Inc., “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; Pactiv Evergreen, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; Winpak, “[Re: Study on Single-Use Plastics](#),” Brief submitted to ENVI, 6 April 2021; and Dart Container Corporation, “[Re: Standing Committee on Environment and Sustainable Development’s study on the ban of single-use plastics](#),” Brief submitted to ENVI, 19 April 2021.

55 The principles that the Government of Canada follows when analyzing the potential impact of regulations on business are outlined in the [Policy on Limiting Regulatory Burden on Business](#). See: Government of Canada, [Policy on Limiting Regulatory Burden on Business](#).



incremental costs for stakeholders and the Government of Canada.”<sup>56</sup> The government explained that it would hold consultations and conduct a cost-benefit analysis as it developed these measures.

When the federal government published the proposed *Single-Use Plastics Prohibition Regulations* on 25 December 2021, it noted that the proposed regulations were expected to affect approximately 242,000 businesses that sell or offer the six categories of single-use plastic manufactured items affected by the proposed ban, 79 businesses that manufacture them and 43 businesses that import them.<sup>57</sup> The proposed regulations were expected to result in \$1.9 billion in present value costs between 2023 and 2032. The costs, while representing a significant total, would be dispersed across Canadian consumers and represent a cost of approximately \$5 per person per year. According to the analysis, the proposed regulations would result in benefits, mainly because of avoided costs related to terrestrial cleanup, worth \$619 million over the same period. The net costs were therefore calculated to be \$1.3 billion in present value costs between 2023 and 2032.<sup>58</sup>

Other witnesses described possible economic benefits from a ban on certain single-use plastics. Sophie Langlois-Blouin, Vice-President of Operational Performance at RECYC-QUÉBEC, said that businesses could reduce their costs by using more sustainable products,<sup>59</sup> while Karen Wirsig, Program Manager, Plastics at Environmental Defence Canada, argued that “there are immensely more job opportunities available with getting away from single-use plastics, getting to the manufacturing of more durable containers, including durable plastic containers, and setting up reuse systems.”<sup>60</sup> She urged the government to phase out subsidies for the petrochemical industry, and to redirect those funds to help workers from the industry to transition into other roles.<sup>61</sup> Ashley Wallis, Plastics Campaigner at Oceana Canada, added that banning some single-use plastics might bring another kind of economic benefit by helping to reduce the costs associated with plastic pollution and even the costs of managing potential healthcare risks from

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56 [\*Order Adding a Toxic Substance to Schedule 1 to the Canadian Environmental Protection Act, 1999\*](#), SOR/2021-86, 23 April 2021, in *Canada Gazette*, Part II, 12 May 2021.

57 [\*Single-Use Plastics Prohibition Regulations\*](#), 25 December 2021, in *Canada Gazette*, Part I, 25 December 2021.

58 Ibid.

59 ENVI, [\*Evidence\*](#), 12 April 2021, 1555 (Sophie Langlois-Blouin, Vice-President, Operational Performance, RECYC-QUÉBEC).

60 ENVI, [\*Evidence\*](#), 28 April 2021, 1705 (Karen Wirsig, Program Manager, Plastics, Environmental Defence Canada).

61 ENVI, [\*Evidence\*](#), 28 April 2021, 1540 (Karen Wirsig).



that pollution.<sup>62</sup> Ashley Wallis also pointed to a study from the Ellen MacArthur Foundation that estimates “replacing 20% of single-use plastics globally with reusables would generate \$10 billion in economic activity.”<sup>63</sup>

### Significance of the “Toxic” Label

Schedule 1 to CEPA is also known as the “Toxic substances list.” The Committee heard diverging opinions about whether it was appropriate to add “plastic manufactured items” to such a list.

Several witnesses, including businesses throughout the plastics supply chain, argued that CEPA was the wrong tool for regulating plastic manufactured items. Above all, they argued that it was inaccurate to call plastics a “toxic” substance, noting that plastics are widely used in medical and food-safe applications.<sup>64</sup> Some of these witnesses supported a ban on certain single-use plastics, but objected to the designation of all plastic manufactured items as toxic.<sup>65</sup>

Several witnesses also contended that the Government of Canada took a flawed approach in adding the items to Schedule 1. In their briefs to the Committee, various businesses claimed that the government’s Science Assessment was incomplete and

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62 ENVI, [Evidence](#), 28 April 2021, 1745 (Ashley Wallis, Plastics Campaigner, Oceana Canada).

63 Ibid.

64 CKF Inc., [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 31 March 2021; CCC Plastics, [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 5 April 2021; Hymopack Ltd., [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 5 April 2021; Peel Plastic Products Inc., [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 5 April 2021; INEOS Styrolution, [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 6 April 2021; Pack All Manufacturing Inc., [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 6 April 2021; Pactiv Evergreen, [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 6 April 2021; Winpak, [“Re: Study on Single-Use Plastics,”](#) Brief submitted to ENVI, 6 April 2021; and Dart Container Corporation, [“Re: Standing Committee on Environment and Sustainable Development’s study on the ban of single-use plastics,”](#) Brief submitted to ENVI, 19 April 2021.

65 ENVI, [Evidence](#), 26 April 2021, 1605 (Philippe Cantin); and ENVI, [Evidence](#), 26 April 2021, 1705 (Marc Olivier, Research Professor, Université de Sherbrooke).

should not have made a recommendation about the management of plastics.<sup>66</sup> Minister Savage raised a further objection, saying that the federal government was intruding on provincial jurisdiction by using CEPA to regulate plastics.<sup>67</sup> The governments of Alberta, Manitoba, Ontario, Quebec and Saskatchewan have objected to the use of CEPA for regulating plastics.<sup>68</sup>

Other witnesses disagreed, arguing that CEPA was the appropriate tool for regulating plastics. They emphasized that plastic meets the definition of a toxic substance as defined in CEPA.<sup>69</sup> Moreover, as Karen Wirsig told the Committee, “I think you won't be surprising, shocking or scaring any Canadian when you tell them that plastic is toxic to the environment.”<sup>70</sup> Whereas several witnesses worried that the government's proposed ban would confuse consumers, others agreed with Ms. Wirsig, arguing that the public is aware that plastic can be toxic to the environment.<sup>71</sup>

## Impacts on the Environment of a Ban on Certain Single-Use Plastics

Plastic mainly affects the environment in the form of pollution. When plastic is disposed of improperly and leaks into the environment, it becomes plastic pollution. As of 2016, roughly 1% of plastic used in Canada leaked into the environment as pollution.<sup>72</sup> Thanks

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66 The Vinyl Institute of Canada, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 25 March 2021; Norwich Plastics, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 26 March 2021; Shintech, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 8 April 2021; and PVC Pipe Association, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 29 March 2021.

67 ENVI, [Evidence](#), 28 April 2021, 1620 (Sonya Savage).

68 ENVI, [Evidence](#), 28 April 2021, 1710 (Sonya Savage); and ENVI, [Evidence](#), 12 May 2021, 1745 (Helen Ryan).

69 ENVI, [Evidence](#), 12 April 2021, 1650 (Chelsea Rochman); ENVI, [Evidence](#), 21 April 2021, 1610 (Deborah Curran, Executive Director, Environmental Law Centre, University of Victoria); and ENVI, [Evidence](#), 28 April 2021, 1630 (Ashley Wallis).

70 ENVI, [Evidence](#), 28 April 2021, 1720 (Karen Wirsig).

71 ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt); ENVI, [Evidence](#), 26 April 2021, 1545 (Philippe Cantin); ENVI, [Evidence](#), 26 April 2021, 1550 (Tony Moucachen); ENVI, [Evidence](#), 21 April 2021, 1650 (Deborah Curren); and ENVI, [Evidence](#), 28 April 2021, 1630 (Ashley Wallis).

72 ECC, [Economic Study of the Canadian Plastic Industry, Markets and Waste: Summary Report to Environment and Climate Change Canada](#), 2019.



in part to sound waste management, Canada is not a leading global source of plastic waste to marine environments.<sup>73</sup> Canada does, however, export waste overseas for processing, which could increase the potential for Canada's plastic waste to be poorly managed and to be released into the environment. In 2020, Canada exported approximately 92,000 tonnes of plastic waste to other countries, primarily the United States.<sup>74</sup>

Plastic pollution can be released into the environment through littering, through environmental emergencies such as flooding events, through the wear and tear, abrasion or maintenance of certain items and through inadequate wastewater or stormwater management practices. Plastic pollution can be released into terrestrial or aquatic environments and move from one to another. Although plastic fragments and degrades in the environment, it persists for many years. Deborah Curran, Executive Director of the Environmental Law Centre at the University of Victoria, recommended that the Government of Canada take a long-term approach to managing plastics as "the persistence or legacy of plastics in our environment will now be with us for thousands of years."<sup>75</sup>

Once it enters the environment, plastic can have negative effects on the natural world and on wildlife. For wildlife, plastics pose both physical threats (e.g., through entanglement, or gastrointestinal blockage by larger plastics) and chemical threats (through the internal accumulation of chemicals particularly associated with microplastics).<sup>76</sup> More than 600 marine species are harmed by marine litter and at least 15% of those are endangered.<sup>77</sup> For example, a study of 159 coral reef ecosystems in the Asia-Pacific region showed that contact with plastic waste increased the likelihood of disease among corals from 4% to 89%.<sup>78</sup> There are reports of hundreds of animal species being found entangled or having ingested pieces of plastic. Plastic can injure or even kill animals and leads to changes in the presence of different species at a particular location.<sup>79</sup>

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73 J.R. Jambeck et al., "[Plastic waste inputs from land into ocean](#)," *Science*, Vol. 347, Issue 6223, 2015.

74 Statistics Canada, "[Table 980-0039: Domestic exports—Plastics and articles thereof, 391590 Plastics waste and scrap, nes](#)," Canadian International Merchandise Trade Database, accessed 29 May 2021.

75 ENVI, [Evidence](#), 21 April 2021, 1650 (Deborah Curran).

76 United States Environmental Protection Agency, [Toxicological Threats of Plastic](#).

77 Government of Canada, [Moving Canada toward zero plastic waste: Closed consultation](#).

78 J.B. Lamb et al., "[Plastic waste associated with disease on coral reefs](#)," *Science*, Vol. 359, 2018.

79 ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman).

Plastic waste—and plastic pollution—is often categorized into “macroplastics” and “microplastics.” Macroplastics are plastic items measuring more than 5 mm in diameter, while microplastics are plastic items measuring less than 5 mm in diameter. There is no lower limit to the size of microplastics, but the term “nanoplastic” is often used for particles smaller than a few micrometres.<sup>80</sup> Microplastics are often found during waterfront clean-ups, but they are difficult to identify once they have broken down. Identifiable sources of microplastics include rubber tires and textiles, which are durable plastics.<sup>81</sup> Single-use plastics can also be a source of microplastics in the environment. Microplastics are “ubiquitous in the environment, including in our Arctic and in seafood and drinking water extracted from the Great Lakes.”<sup>82</sup>

Animals at every level of the food web are exposed to microplastics.<sup>83</sup> The tiny particles can cause behavioural and reproductive changes in wildlife, and can be toxic to fish and invertebrates.<sup>84</sup> Microplastic concentrations are high enough in the Great Lakes to harm 5% of the species present.<sup>85</sup> Chelsea Rochman explained that there is some evidence that certain types of microplastics may “be more toxic than others” but she argued that “microplastics in general, as a mixture, [should] be kept out of the environment, regardless of material type.”<sup>86</sup> She acknowledged that there are many paths by which plastics can enter the environment, and that it is difficult to know the exact source of microplastic pollution.<sup>87</sup>

While all witnesses agreed that plastic does not belong in the environment, some wondered why the Government of Canada has focused on regulating plastic manufactured items instead of plastic waste or plastic pollution.<sup>88</sup> Some witnesses also pointed out that certain alternatives to single-use plastics can have larger environmental impacts than the single-use plastics they replace. For example, a life-cycle analysis of

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80 Nature Nanotechnology, [Nanoplastic should be better understood](#), Editorial, 3 April 2019.

81 ENVI, [Evidence](#), 12 April 2021, 1610 (Chelsea Rochman).

82 ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman).

83 ENVI, [Evidence](#), 12 April 2021, 1610 (Chelsea Rochman).

84 ENVI, [Evidence](#), 28 April 2021, 1700 (Ashley Wallis); and ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman).

85 ENVI, [Evidence](#), 12 April 2021, 1610 (Chelsea Rochman).

86 ENVI, [Evidence](#), 12 April 2021, 1625 (Chelsea Rochman).

87 ENVI, [Evidence](#), 12 April 2021, 1610 (Chelsea Rochman).

88 ENVI, [Evidence](#), 12 April 2021, 1610 (Chelsea Rochman); ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt); ENVI, [Evidence](#), 21 April 2021, 1625 (Deborah Curran); ENVI, [Evidence](#), 28 April 2021, 1540 (Karen Wirsig); and ENVI, [Evidence](#), 12 May 2021, 1720 (Jonathan Wilkinson, Minister of Environment and Climate Change, Department of Environment).



shopping bags by RECYC-QUÉBEC found that the single-use plastic bag had a lower environmental impact over its entire lifespan compared to reusable plastic or cotton bags.<sup>89</sup>

Both the production and lifecycle management of plastic have implications for greenhouse gas (GHG) emissions, which in turn affect the environment. Because most plastics are made from fossil fuels, their production contributes to GHG emissions. The production of recycled plastic resins, on the other hand, creates 1.5 times fewer GHG emissions compared to virgin resins.<sup>90</sup>

At the same time, the use of plastic can reduce emissions compared to alternatives. John Galt stated that plastic requires less energy to produce or recycle because of its low melting point and that “[r]elative to the PET plastic used in a beverage container, paper composites have 1.6 times the carbon footprint, aluminum 1.7 times, and glass 4.4 times the carbon footprint. PET plastic does also not require deforestation or open-pit mining the way paper and aluminum do.”<sup>91</sup> As noted above, the light weight of plastics makes them useful for vehicles and aircraft parts, allowing these vehicles to use less fuel and produce fewer emissions.<sup>92</sup>

## Impacts on Human Health of a Ban on Certain Single-Use Plastics

When used for their intended purposes, plastic items can play an important role in improving, or protecting, the health and safety of Canadians. Witnesses reminded the Committee of the critical role plastic had recently played, and continued to play, during the COVID-19 pandemic, in part for its role in masks.<sup>93</sup> Plastic can also be found in many other medical items, such as heart stents and other medical devices. John Galt saw irony in adding plastic manufactured items to the Toxic substances list: “life-giving products and waste, both captured under the same designation.”<sup>94</sup> Ashley Wallis argued that using CEPA to ban unnecessary single-use plastic can “prioritize plastic for the places in our society where they might have real value, for example, in the medical space.”<sup>95</sup>

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89 ENVI, [Evidence](#), 12 April 2021, 1555 (Sophie Langlois-Blouin).

90 ENVI, [Evidence](#), 26 April 2021, 1645 (Tony Moucachen).

91 ENVI, [Evidence](#), 12 April 2021, 1545 (John Galt).

92 ENVI, [Evidence](#), 12 April 2021, 1720 (Bob Masterson).

93 ENVI, [Evidence](#), 12 April 2021, 1635 (John Galt); and ENVI, [Evidence](#), 26 April 2021, 1540 (Tony Moucachen).

94 ENVI, [Evidence](#), 12 April 2021, 1700 (John Galt).

95 ENVI, [Evidence](#), 28 April 2021, 1630 (Ashley Wallis).

Human beings can also be exposed to plastics that have leaked into the environment. Exposures to macroplastics are not considered a concern for human health. In contrast, the effects of microplastics on human health are not well understood, but there is a consensus that more research is needed.<sup>96</sup>

Microplastics are found in drinking water as well as in the seafood human beings consume.<sup>97</sup> People breathe in microplastics, and it is possible that these plastic particles could damage human lungs.<sup>98</sup> Ashley Wallis highlighted a recent study that found microplastics in human umbilical cords and placentas, indicating that “unborn babies are exposed to plastic pollution in utero ... We are exposed to plastic before we are born.”<sup>99</sup> However, the full impacts of these microplastics on human health, including the effect of gradually accumulating—or “bioaccumulating”—microplastics in the human body, are not currently known. To address these gaps and inform next steps, Chelsea Rochman suggested, the Government of Canada could convene a working group to research the impacts of microplastics on human and animal health.<sup>100</sup>

## Recommendation 1

**The Committee recommends that the Government of Canada amend its regulatory process to provide more certainty to groups that are affected by potential regulations in terms of economic costs and environmental impacts.**

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96 A. Dick Vethaak and Juliette Legler, “[Microplastics and human health](#),” *Science*, Vol. 371, No. 6530, 12 February 2021; [Order Adding a Toxic Substance to Schedule 1 to the Canadian Environmental Protection Act, 1999](#), 5 October 2020, in *Canada Gazette*, Part I, 10 October 2020; and World Health Organization, [WHO calls for more research into microplastics and a crackdown on plastic pollution](#), News release, 22 August 2019.

Since the Committee heard from its last witnesses in May 2021, more research has been published on the impacts of microplastics on human health. This research indicates that microplastics are likely to have negative impacts on human health. For example, a review accepted for publication in November 2021 found that cell death, allergic response and damage to cell membranes were detectable at the levels to which people are exposed to microplastics through contaminated drinking water, seafood and table salt. See: E. Danopoulos, et al., “[A rapid review and meta-regression analyses of the toxicological impacts of microplastic exposure in human cells](#),” *Journal of Hazardous Materials*, Vol. 427, 2022.

97 ENVI, [Evidence](#), 28 April 2021, 1700 (Ashley Wallis).

98 ENVI, [Evidence](#), 28 April 2021, 1700 (Ashley Wallis).

99 ENVI, [Evidence](#), 28 April 2021, 1545 (Ashley Wallis).

100 ENVI, [Evidence](#), 12 April 2021, 1620 (Chelsea Rochman).



## Recommendation 2

**The Committee recommends that the Government of Canada convene a working group to study the impacts of microplastics on the environment and human health, including studying the effects of bioaccumulated microplastics.**

Committee members expressed concerns about the impacts a single-use plastics ban could have on accessibility. On that subject, Philip Cantin gave the example of plastic straws, which can be an important accessibility tool for people with certain disabilities. He stated that “[e]xemptions [to the proposed ban] also need to be clearly defined, with considerations for accessibility, health, food safety, and security.”<sup>101</sup> Helen Ryan indicated that as the government designs regulations for single-use plastic items, ECCC will consider how to ensure that people with certain disabilities have the appropriate access to necessary tools.<sup>102</sup> As it develops regulations, she noted, the department will follow the *Cabinet Directive on Regulation*. This directive requires the department to “undertake an assessment of social and economic impacts of each regulatory proposal on diverse groups of Canadians” including people with a physical or mental disability.<sup>103</sup>

## Recommendation 3

**The Committee recommends that the Government of Canada set a clear intention to accommodate the needs of people with disabilities in any policy or regulation it adopts regarding single-use plastics.**

Plastic packaging plays a role in preserving and extending the shelf life of food, which reduces food spoilage and food waste, and helps to ensure food safety.<sup>104</sup> William St-Hilaire, Vice-President, Sales Business Development at Tilton, asserted that “[i]n the sectors we serve, eliminating plastics would lead to major food safety, security, sanitation and food waste issues.”<sup>105</sup> Sophie Langlois-Blouin believed that it would be possible to reduce both plastic packaging and food waste but “it must be done in an informed manner.”<sup>106</sup> Helen Ryan agreed it was “extremely important” that issues

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101 ENVI, [Evidence](#), 26 April 2021, 1545 (Philippe Cantin).

102 ENVI, [Evidence](#), 5 May 2021, 1555 (Helen Ryan).

103 Treasury Board of Canada Secretariat, “[5.2.3 Gender-based analysis plus \(GBA+\)](#),” *Cabinet Directive on Regulation*.

104 ENVI, [Evidence](#), 12 April 2021, 1555 (Sophie Langlois-Blouin); and ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt); and ENVI, [Evidence](#), 26 April 2021, 1640 (Philippe Cantin).

105 ENVI, [Evidence](#), 21 April 2021, 1555 (William St-Hilaire, Vice-President, Sales Business Development, Tilton).

106 ENVI, [Evidence](#), 12 April 2021, 1555 (Sophie Langlois-Blouin).



of food security be taken into account during the design of any potential regulation on plastics. She noted that the proposed ban on certain single-use plastic items did not apply to plastics used for food conservation in grocery stores but rather to food ware containers use for take-out purposes.<sup>107</sup>

## TOWARDS A CIRCULAR ECONOMY FOR PLASTICS

**“In summary, the era of take, make and toss, otherwise referred to as the linear economy, is over, and I think we can all agree with that.”<sup>108</sup>**

Canada’s plastics economy is mostly linear; that is, most plastic materials are not recovered or reused after being used. However, there is an alternative: witnesses were unanimous that Canada should work to establish a more “circular” plastics economy.<sup>109</sup>

A circular economy is an economic model that is intended to minimize resource consumption and waste. In contrast to a linear economic model in which resources are extracted, made into goods, and discarded, a circular economy emphasizes repair, reuse and/or recycling—maintaining the value of goods and services for as long as possible.<sup>110</sup>

Figure 2 shows how the principles of the circular economy could apply to plastics, compared to a linear economy for plastics.

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107 ENVI, [Evidence](#), 5 May 2021, 1620 (Helen Ryan); and ENVI, [Evidence](#), 5 May 2021, 1620 (Helen Ryan).

108 ENVI, [Evidence](#), 12 April 2021, 1545 (John Galt).

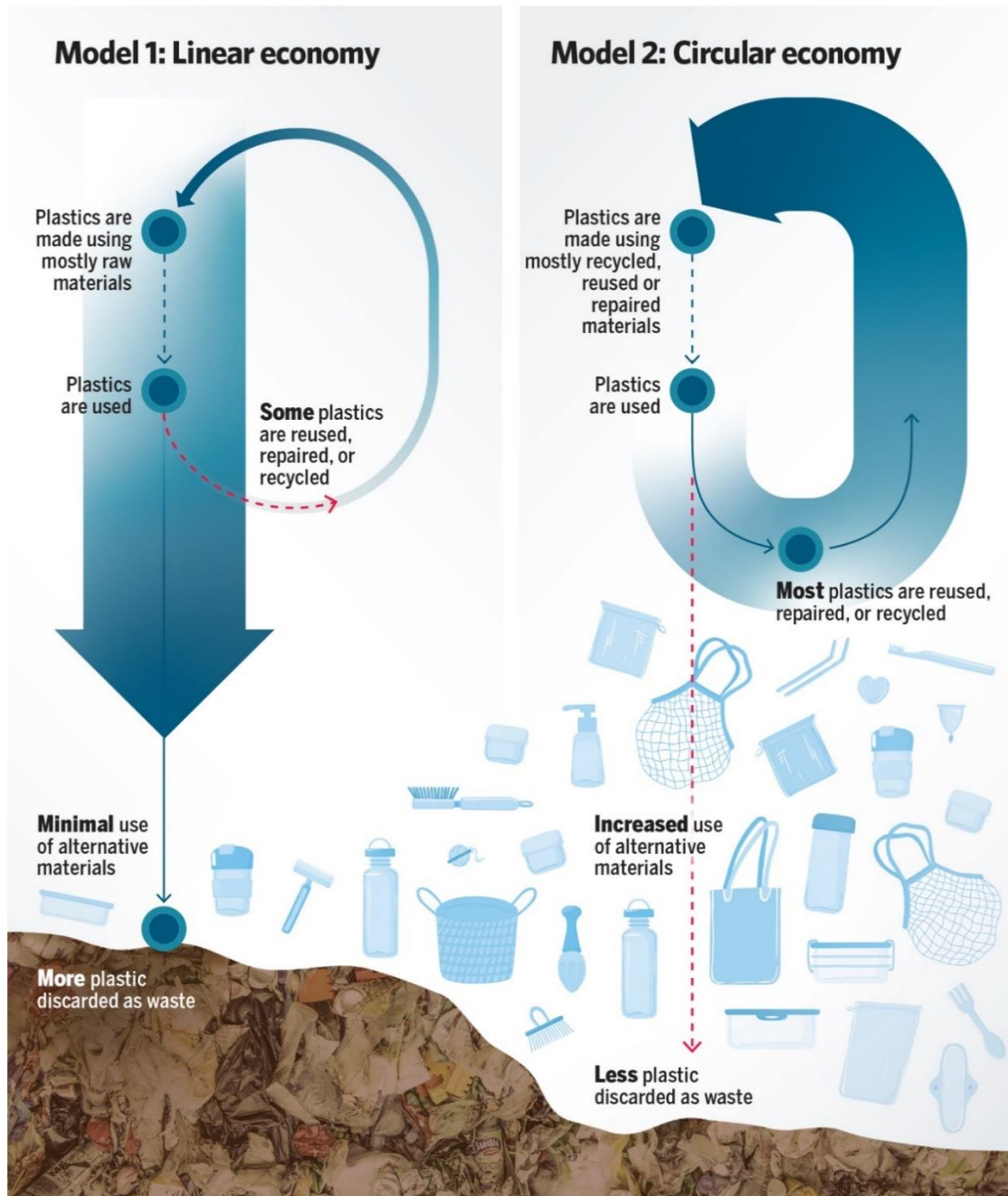
109 ENVI, [Evidence](#), 12 April 2021; 1530 (Chelsea Rochman); ENVI, [Evidence](#), 12 April 2021; 1540 (Bob Masterson); ENVI, [Evidence](#), 12 April, 1545 (John Galt); ENVI, [Evidence](#), 12 April 2021, 1550 (George Roter); ENVI, [Evidence](#), 12 April 2021, 1620 (Sophie Langlois-Blouin); ENVI, [Evidence](#), 21 April 2021, 1535 (Deborah Curren); ENVI, [Evidence](#), 21 April 2021, 1545 (Laurence Boudreault, General Manager, Bosk Bioproducts Inc.); ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt); ENVI, [Evidence](#), 21 April 2021, 1555 (William St-Hilaire); ENVI, [Evidence](#), 21 April 2021, 1650 (Manjusri Misra); ENVI, [Evidence](#), 26 April 2021, 1530 (Maja Vodanovic); ENVI, [Evidence](#), 26 April 2021, 1555 (Philippe Cantin); ENVI, [Evidence](#), 26 April 2021, 1700 (Tony Moucachen); ENVI, [Evidence](#), 28 April 2021, 1535 (Jim Goetz); ENVI, [Evidence](#), 28 April 2021, 1545 (Ashley Wallis); ENVI, [Evidence](#), 28 April 2021, 1605 (Norman Lee); ENVI, [Evidence](#), 28 April 2021, 1610 (Karen Wirsig); ENVI, [Evidence](#), 28 April 2021, 1620 (Sonya Savage); ENVI, [Evidence](#), 5 May 2021, 1550 (Helen Ryan).

110 Government of Canada, [Circular Economy](#); and Stephanie Cairns et al., [Getting to a Circular Economy: A Primer for Canadian Policymakers](#), Policy Brief, Smart Prosperity Institute, January 2018.



Figure 2: Two models for the lifecycles of plastics

### Two models for the lifecycle of plastics



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Source: Figure prepared by the Library of Parliament

## Building a Circular Economy

**“As you know, there's no one-size-fits-all solution. Instead, we need a tool box of solutions that include those that help us build a circular economy.”<sup>111</sup>**

### Reduce

Many Canadians are familiar with the “Three Rs:” reduce, reuse, recycle. As Sophie Langlois-Blouin noted, this means that the first step in waste management is to reduce the use of materials at their source.<sup>112</sup> Several witnesses emphasized that building a circular economy for plastics also means reducing the use of plastic, particularly single-use plastics.<sup>113</sup>

Some witnesses argued that a ban on certain single-use plastics would help reduce Canada’s use of plastic, as well as plastic pollution.<sup>114</sup> Ashley Wallis likened the problem of plastic pollution to an overflowing bathtub. She said that governments have so far focused on the wrong end of the supply chain, trying to mop up the overflow rather than “turning off the tap.” Bans, she argued, would help stop the “flow” of plastics and reduce their overall use.<sup>115</sup> Similarly, Chelsea Rochman supported a ban on certain single-use plastic items, saying that by reducing Canada’s reliance on unnecessary single-use plastics, the country can “bend our linear plastic economy toward a more circular one.”<sup>116</sup>

For other witnesses, particularly from the plastics industry, it was unnecessary to ban single-use plastics to reduce their use. Instead, these witnesses said that governments should focus on policies that improve waste management and allow plastic to recirculate in the economy, effectively eliminating one-time uses of plastic.<sup>117</sup> As William St-Hilaire

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111 ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman).

112 ENVI, [Evidence](#), 12 April 2021, 1555 (Sophie Langlois-Blouin).

113 ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman); ENVI, [Evidence](#), 12 April 2021, 1715 (Sophie Langlois-Blouin); ENVI, [Evidence](#), 21 April 2021, 1540 (Deborah Curren); ENVI, [Evidence](#), 28 April 2021, 1545 (Ashley Wallis).

114 ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman); and ENVI, [Evidence](#), 28 April 2021, 1625 (Ashley Wallis).

115 ENVI, [Evidence](#), 28 April 2021, 1630 (Ashley Wallis).

116 ENVI, [Evidence](#), 12 April 2021, 1530 (Chelsea Rochman).

117 ENVI, [Evidence](#), 12 April 2021, 1715 (Elena Mantegar); and ENVI, [Evidence](#), 12 April 2021, 1545 (John Galt).



put it: “[t]he problem isn't single-use plastic, it's the single use of plastic that's the problem.”<sup>118</sup> These witnesses argued that the government should focus its attention on measures that improve the management of plastic waste, including through increased recycling.

## Reuse and Recycle

The Committee heard significant discussion about the role that recycling will play in the circular economy. Witnesses generally agreed that the federal government could take additional steps to improve Canada’s recycling infrastructure and increase the rate at which plastics are reused and recycled.

The Committee heard from several witnesses who argued, as Michael Burt did, that “post-consumed plastic is a resource to be captured, not designated as a waste.”<sup>119</sup> These witnesses said that recycling would help keep plastic in the economy and out of the environment. However, some expressed concern that the government’s proposed ban on certain single-use plastic items would reduce the supply of post-consumer plastic, making it harder to scale-up recycling, and potentially deterring investments needed for a circular economy.<sup>120</sup> In the view of Tony Moucachen, President and Chief Executive Officer at Merlin Plastics, an approach focused on banning certain plastics “fails to recognize the value of post-consumer plastics to industry and society...suggest[ing] that the material is problematic, when in fact it is the absence of appropriate waste management systems that is the issue.”<sup>121</sup>

Other witnesses disputed this argument. They pointed out that the Government of Canada proposes to ban six single-use plastic items that are difficult or expensive to recycle, and that are unlikely to contribute to a circular economy.<sup>122</sup> Norman Lee summarized this challenge, noting that these plastic items “are often undetected and increasingly difficult to separate in municipal facilities. They contaminate our recycling and our compost, and are a major contributor to litter in our streets, parks and

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118 [Evidence](#), 21 April 2021, 1555 (William St-Hilaire).

119 ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt). See also: ENVI, [Evidence](#), 12 April 2021, 1545 (John Galt); ENVI, [Evidence](#), 26 April 2021, 1700 (Maja Vodanovic); ENVI, [Evidence](#), 28 April 2021, 1705 (Norman Lee)

120 ENVI, [Evidence](#), 12 April 2021; 1540 (Bob Masterson); ENVI, [Evidence](#), 12 April 2021, 1630 (John Galt); and ENVI, [Evidence](#), 26 April 2021, 1540 (Tony Moucachen).

121 ENVI, [Evidence](#), 26 April 2021, 1540 (Tony Moucachen).

122 ENVI, [Evidence](#), 26 April 2021, 1640 (Maja Vodanovic); and ENVI, [Evidence](#), 12 May 2021, 1720 (Jonathan Wilkinson).

waterways.”<sup>123</sup> Karen Wirsig agreed with this point and mentioned that banning these items would help reduce the cost of recycling, which is mainly borne by municipalities.<sup>124</sup> Chelsea Rochman added that although in theory these six single-use plastic items can be recycled, in practice there is no market to do so.<sup>125</sup> In fact, some witnesses suggested that a single-use plastic ban could be expanded to include such items as wet wipes, plastic tampon applicators, single-use coffee cups and lids, cigarette butts, and all forms of polystyrene.<sup>126</sup>

It may be possible to improve the recyclability of some plastic products. The main technology used in the recycling sector—mechanical recycling—has several limitations. In addition to being expensive and energy intensive, it cannot remove contaminants from many types of plastic. However, there are other technologies that could make it easier to recycle various kinds of plastics and remove contaminants from used plastic.<sup>127</sup> One possibility is a group of technologies known collectively as “chemical recycling.” These technologies subject plastic to a combination of heat, pressure and chemicals, breaking the plastic down into its constituent chemicals. These chemicals can be repolymerized into new plastics or used as fuels or raw materials for other products.<sup>128</sup>

However, this technology is still developing and has yet to be deployed at scale. Accordingly, some witnesses—and several businesses that submitted briefs to the

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123 ENVI, [Evidence](#), 28 April 2021, 1550 (Norman Lee).

124 ENVI, [Evidence](#), 28 April 2021, 1750 (Karen Wirsig).

125 ENVI, [Evidence](#), 12 April 2021, 1615 (Chelsea Rochman).

126 ENVI, [Evidence](#), 12 April 2021, 1620 (Chelsea Rochman); and ENVI, [Evidence](#), 28 April 2021, 1750 (Ashley Wallis).

127 ENVI, [Evidence](#), 1 May 2019, 1625 (Michael Burt).

128 Andrew N. Rollinson and Jumoke Oladejo, [Chemical Recycling: Status, Sustainability and Environmental Impacts](#), Global Alliance for Incinerator Alternatives, 2020; and Allan Gerlat, [“The promise of chemical recycling,” Recycling Today](#), 8 October 2018.



Committee—encouraged the federal government to invest in these technologies, to help them commercialize and scale up.<sup>129</sup>

Other witnesses were less optimistic about the advantages of chemical recycling. Norman Lee acknowledged that “chemical recycling and other advanced recycling technologies ... hold some promise or potential” but said that “in practice they're still not there.”<sup>130</sup> He noted that pilot projects in advanced recycling showed that these technologies remain sensitive to contamination and moisture, and were not yet capable of producing new plastic polymers.<sup>131</sup> Some witnesses went further, arguing that the federal government could not rely on recycling alone to create a circular economy for plastics.<sup>132</sup> Ashley Wallis likewise rejected waste-to-energy and advanced recycling methods, calling them “waste disposal in disguise.”<sup>133</sup> She said the federal government should focus its investments in areas that would replace the use of virgin resins.

On increasing recycling capacity as a solution to plastic waste, Ashley Wallis argued that “we cannot recycle our way out of this crisis” and noted that “even in the best recycling scenario, by 2040, 45 million tonnes of plastic would be flowing into the global environment every year,” an increase of 7 million metric tonnes per year over today.<sup>134</sup>

Nonetheless, witnesses generally felt that the federal government could—and should—help strengthen Canada’s recycling sector. It can start by investing in the country’s recycling infrastructure, which Karen Wirsig described as “sorely lacking.”<sup>135</sup> William St-Hilaire suggested that the federal government should invest in sorting

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129 ENVI, *Evidence*, 12 April 2021, 1725 (Elena Mantagaris); ENVI, *Evidence*, 21 April 2021, 1710 (Michael Burt); The Vinyl Institute of Canada, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 25 March 2021; Norwich Plastics, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 26 March 2021; Shintech, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 8 April 2021; and PVC Pipe Association, “[Re: Submission to the Standing Committee on Environment and Sustainable Development—Study on Ban of Single Use Plastics and Designating Plastics Under the Canadian Environmental Protection Act](#),” Brief submitted to ENVI, 29 March 2021.

130 ENVI, *Evidence*, 28 April 2021, 1705 (Norman Lee).

131 Ibid.

132 ENVI, *Evidence*, 28 April 2021, 1540 (Karen Wirsig); and ENVI, *Evidence*, 28 April 2021, 1545 (Ashley Wallis).

133 ENVI, *Evidence*, 28 April 2021, 1545 (Ashley Wallis).

134 Ibid.

135 ENVI, *Evidence*, 28 April 2021, 1540 (Karen Wirsig).

centres, particularly in automated systems that can grade plastics according to their resin type.<sup>136</sup> Witnesses argued that these investments would not only help increase the recycling of plastics,<sup>137</sup> but would also encourage the plastics industry to manufacture more recyclable products.<sup>138</sup>

Some witnesses argued that the ban on single-use plastics should be paired with incentives and investments that support the development of reuse systems and noted that jobs in logistics, sanitation and technology for reuse can be created with relatively little investment. Karen Wirsig suggested that ECCC should host a round table for reuse companies and organizations to learn more about what infrastructure is needed to support reuse across the country.<sup>139</sup>

#### **Recommendation 4**

**The Committee recommends that the Government of Canada host a roundtable for reuse companies and organizations, working with the Federation of Canadian Municipalities, to learn more about what infrastructure is needed to support reuse across Canada.**

#### **Recommendation 5**

**The Committee recommends that the Government of Canada invest in expanding the country's recycling infrastructure and innovation, including by supporting the expansion of collection and sorting systems, and by investing in innovative technologies that can improve the rate at which plastics are recycled.**

The federal government can also play an important role in harmonizing the different recycling systems that exist across Canada.<sup>140</sup> Municipalities are responsible for designing and implementing recycling programs, and these programs vary widely. Tony Moucachen explained that these differences are problematic for plastic producers, but also for consumers. He said: "There are many different approaches, especially in the blue box program... [This] confuses residents when they travel from one municipality to the next. The same is true with our green bin programs."<sup>141</sup> However, municipalities are

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136 ENVI, [Evidence](#), 21 April 2021, 1555 (William St-Hilaire).

137 ENVI, [Evidence](#), 12 April 2021, 1630 (John Galt).

138 ENVI, [Evidence](#), 26 April 2021, 1540 (Tony Moucachen); ENVI, [Evidence](#), 28 April 2021, 1540 (Karen Wirsig); and ENVI, [Evidence](#), 12 April 2021, 1620 (Sophie Langlois-Blouin).

139 ENVI, [Evidence](#), 28 April 2021, 1545 (Ashley Wallis); and ENVI, [Evidence](#), 28 April 2021, 1540 (Karen Wirsig).

140 ENVI, [Evidence](#), 28 April 2021, 1710 (Norman Lee).

141 ENVI, [Evidence](#), 28 April 2021, 1600 (Norman Lee).



not the only players in the design of recycling programs. Sophie Langlois-Blouin noted that RECYC-QUEBEC coordinates with companies that market plastic, as well as with packers and recyclers<sup>142</sup>—and of course, provincial governments also play an important role in developing recycling and waste collection programs.<sup>143</sup> In their testimony, representatives of ECCC said that the Government of Canada was taking some steps to harmonize recycling standards in Canada. Helen Ryan mentioned that the government was developing proposals for these standards with the Standards Council of Canada and the Bureau de normalisation du Québec.<sup>144</sup>

## Recommendation 6

**The Committee recommends that the Government of Canada publish additional information on its work to harmonize recycling standards across Canada and seek additional opportunities to advance this harmonization in collaboration with provinces and territories, industry and communities.**

### Extended Producer Responsibility

One of the recurring challenges in expanding the reuse and recycling of plastics is a shortage of material.<sup>145</sup> Extended producer responsibility (EPR) schemes could help increase the supply of this material. EPR is a policy that makes producers, rather than consumers, responsible for managing a product at the end of its life.<sup>146</sup> It can expand the collection of post-consumer material and incentivize producers to incorporate environmental considerations into product design.<sup>147</sup>

British Columbia and Quebec currently have EPR systems in place for a range of goods, including plastic products. In Quebec, the system includes selective collection and a refundable deposit system.<sup>148</sup> In British Columbia, producers finance residential recycling

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142 ENVI, [Evidence](#), 12 April 2021, 1715 (Sophie Langlois-Blouin).

143 ENVI, [Evidence](#), 21 April 2021, 1655 (Jim Goetz).

144 ENVI, [Evidence](#), 5 May 2021, 1640 (Helen Ryan).

145 ENVI, [Evidence](#), 12 April 2021, 1710 (Bob Masterson); and ENVI, [Evidence](#), 21 April 2021, 1700 (William St-Hilaire).

146 Government of Canada, [Overview of extended producer responsibility in Canada](#).

147 Canadian Council of Ministers of the Environment (CCME), [Canada-Wide Action Plan for Extended Producer Responsibility](#), October 2009.

148 ENVI, [Evidence](#), 12 April 2021, 1600 (Sophie Langlois-Blouin).



programs, through curbside, multi-family, or depot collection programs.<sup>149</sup> The province has the highest recycling rates in Canada.<sup>150</sup>

Witnesses supported the expansion of EPR across Canada.<sup>151</sup> Usman Valiante, Technical Advisor at Canada Plastics Pact, explained that “when you make producers responsible for collecting and recycling materials, they then invest in systems to do so ... [t]hat creates the supply of plastics that feed into the recycling systems that would go to companies ... to produce the next cycle of products.”<sup>152</sup> Norman Lee added that EPR could attract investment in recycling processing since products would be collected in higher quantities.<sup>153</sup>

Some witnesses suggested that the federal government could establish a national EPR strategy to harmonize different EPR schemes across the country.<sup>154</sup> Jonathan Wilkinson, then Minister of Environment and Climate Change, informed the Committee that the federal government is working “with provinces and territories to put in place Extender Producer Responsibility Systems where they are responsible for collecting the plastics, and over time we will be ratcheting up the percentage that are going to have to be required to be recycled.”<sup>155</sup> The Canadian Council of Ministers of the Environment approved a *Canada-wide Action Plan for Extended Producer Responsibility* in October 2009.<sup>156</sup>

## Recommendation 7

**The Committee recommends that the Government of Canada, in collaboration with provinces and territories:**

- **continue its work with the Canadian Council of Ministers of the Environment (CCME) to develop guidelines for EPR programs across the country; and**

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149 Recycle BC, [Recycle BC FAQs](#).

150 ENVI, [Evidence](#), 26 April 2021, 1530 (Maja Vodanovic).

151 ENVI, [Evidence](#), 26 April 2021, 1620 (Maja Vodanovic); ENVI, [Evidence](#), 28 April 2021, 1535 (Jim Goetz); ENVI, [Evidence](#), 28 April 2021, 1550 (Norman Lee); and ENVI, [Evidence](#), 28 April 2021, 1620 (Sonia Savage).

152 ENVI, [Evidence](#), 12 April 2021, 1710 (Usman Valiante).

153 ENVI, [Evidence](#), 28 April 2021, 1600 (Norman Lee).

154 ENVI, [Evidence](#), 26 April 2021, 1620 (Maja Vodanovic); ENVI, [Evidence](#), 28 April 2021, 1655 (Jim Goetz); and ENVI, [Evidence](#), 28 April 2021, 1550 (Norman Lee).

155 ENVI, [Evidence](#), 12 May 2021, 1720 (Jonathan Wilkinson).

156 CCME, [Canada-Wide Action Plan for Extended Producer Responsibility](#), October 2009.



- **provide an update about the status of its EPR work with the CCME.**

## **Recommendation 8**

**The Committee recommends that the Government of Canada work with the CCME to provide more regular progress reports on CCME work.**

### **Improved Product Design**

The circular economy depends partly on systems, like recycling and EPR. These systems, in turn, depend on effective product design. Witnesses explained that the federal government can introduce new product design standards that encourage the reuse and recycling of plastic products.

The federal government told the Committee about some of the work it is already doing in this area. Minister Wilkinson explained that the Government of Canada intends to use its authority under CEPA to require all plastic products to be made with a certain percentage of recycled material.<sup>157</sup> Many witnesses agreed that Canada should establish a recycled content requirement for plastic products, saying this requirement would incentivize more sustainable product design.<sup>158</sup> The Government of Canada's long-term goal, outlined in the Ocean Plastics Charter, is to reach a 50% recycled content standard by 2030. It intends to develop these requirements in concert with various partners, including the Canada Plastics Pact and the Standards Council of Canada.<sup>159</sup>

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157 ENVI, [Evidence](#), 12 May 2021, 1710 (Jonathan Wilkinson).

On 11 February 2022, ECCC published [a technical issues paper](#) seeking feedback from interested parties on the proposed development of regulations under CEPA that would “set minimum recycled content requirements for certain plastic manufactured items.” The paper includes 14 consultation questions about how the regulations should be developed. The consultation period ended 14 March 2022. ECCC has indicated that proposed regulations on minimum recycled content could be published as early as late 2022.

158 ENVI, [Evidence](#), 12 April 2021, 1545 (John Galt); ENVI, [Evidence](#), 12 April 2021, 1550 (George Roter); ENVI, [Evidence](#), 21 April 2021, 1550 (Michael Burt); ENVI, [Evidence](#), 26 April 2021, 1555 (Philippe Cantin); ENVI, [Evidence](#), 26 April 2021, 1555 (Tony Moucachen); ENVI, [Evidence](#), 26 April 2021, 1620 (Maja Vodanovic); ENVI, [Evidence](#), 28 April 2021, 1535 (Jim Goetz); ENVI, [Evidence](#), 28 April 2021, 1540 (Karen Wirsig); and ENVI, [Evidence](#), 28 April 2021, 1730 (Norman Lee).

159 ENVI, [Evidence](#), 5 May 2021, 1625 (Dany Drouin); and ENVI, [Evidence](#), 12 May 2021, 1710 (Jonathan Wilkinson).

## Recommendation 9

**The Committee recommends that the Government of Canada work with partners to accelerate the development and implementation of minimum recycled content standards.**

Just as the federal government can set minimum standards for the content of plastic products, it can also set minimum standards for their marketing and labelling. Norman Lee suggested that the Government of Canada should establish “national labelling and advertising standards” for plastic products, “to reduce consumer and resident confusion.”<sup>160</sup> Other witnesses agreed.<sup>161</sup> Sophie Langlois-Blouin suggested that the Competition Bureau of Canada could issue labelling directions that would make it easier for consumers and businesses to recognize and sort plastic products.<sup>162</sup>

The Government of Canada could go further and incentivize the manufacture and purchase of more sustainable packaging. Witnesses mentioned two—complementary—approaches that the government could take. First, jurisdictions could levy “eco-fees” on packaging. An eco-fee is a surcharge that is added to a good depending on its carbon footprint. The proceeds from the fee finance the recovery and recycling of the good at the end of its life cycle. Tony Moucachen and Maja Vodanovic, Mayor of the Borough of Lachine in Montreal, told the Committee that jurisdictions should charge an eco-fee—and the federal government should require the value of the fee to be posted on the product label. They argued that these fees would help change consumer behaviour and incentivize better product design.<sup>163</sup> In the second approach, the federal government could establish certification programs for different materials to help promote products with a lower carbon footprint and to simplify recycling and reuse.<sup>164</sup> Witnesses pointed out that these certification and labelling standards would only become more important as new types of materials enter the market.<sup>165</sup>

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160 ENVI, [Evidence](#), 26 April 2021, 1550 (Norman Lee).

161 ENVI, [Evidence](#), 26 April 2021, 1700 (Maja Vodanovic).

162 ENVI, [Evidence](#), 12 April 2021, 1715 (Sophie Langlois-Blouin).

163 ENVI, [Evidence](#), 26 April 2021, 1540 (Tony Moucachen); and ENVI, [Evidence](#), 26 April 2021, 1635 (Maja Vodanovic).

164 ENVI, [Evidence](#), 21 April 2021, 1555 (William St-Hilaire); and ENVI, [Evidence](#), 28 April 2021, 1550 (Norman Lee).

165 ENVI, [Evidence](#), 21 April 2021, 1720 (Manjusri Misra); and ENVI, [Evidence](#), 28 April 2021, 1550 (Norman Lee).



## Alternative Materials

Manufacturers are exploring alternatives to conventional plastics. “Bioplastics” is a term commonly used to refer to plastic alternatives that mimic the useful qualities of fossil fuel-based plastics but are made from renewable sources, including waste or by-products from other industries.<sup>166</sup> Bioplastics can be broadly divided into natural polymers<sup>167</sup> and materials, such as cellulose, and biomass-based polymers, such as polyhydroxyalkanoates (PHA).

Some bioplastics are made with biomass but are recyclable in the same waste streams as fossil fuel-derived plastic.<sup>168</sup> Other bioplastics are compostable. Bioplastics are mainly produced in China, and in the United States and Europe to a certain extent. Dr. Misra suggested that this was an area where Canada could develop its capacities and become a world leader. She noted that bioplastics were unlikely to be produced in sufficient quantities to replace conventional plastics for many years.<sup>169</sup>

Despite their name, bioplastics are not necessarily biodegradable. Marc Olivier, Research Professor and the Université de Sherbrooke, acknowledged that “[t]he word bioplastics causes a lot of confusion. Because the word starts with the prefix ‘bio,’ people believe that bioplastics are biodegradable. That is not the case at all.”<sup>170</sup> Furthermore, certain “compostable” bioplastics are only truly compostable in industrial facilities and not in backyard compost bins.<sup>171</sup> Even at industrial facilities, bioplastics can present new challenges to waste systems. These materials can contaminate the waste stream of recyclable plastics or compostable materials, making them impossible to reuse.<sup>172</sup>

### Recommendation 10

**The Committee recommends that the Government of Canada take steps to help Canadians distinguish between plastics and plastic alternatives based on how recyclable, compostable or biodegradable they are by, for example, establishing national labelling standards.**

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166 ENVI, *Evidence*, 21 April 2021, 1545 (Laurence Boudreault).

167 Polymers are large molecules composed of repeating units, such as cellulose, starch, and plastics.

168 ENVI, *Evidence*, 26 April 2021, 1635 (Marc Olivier).

169 ENVI, *Evidence*, 21 April 2021, 1715 (Manjusri Misra).

170 ENVI, *Evidence*, 26 April 2021, 1635 (Marc Olivier).

171 ENVI, *Evidence*, 21 April 2021, 1715 (Manjusri Misra).

172 ENVI, *Evidence*, 28 April 2021, 1550 (Norman Lee).

## CONCLUSION

Everyone can agree that plastic does not belong in the environment. The challenge is to identify the right tools that stop plastic from becoming plastic pollution. Witnesses who testified during this study were divided about whether a ban on harmful single-use plastics is one of these tools. The Committee heard from various witnesses, particularly from the plastics industry, who argued strongly against the Government of Canada's proposal to regulate plastic manufactured items using CEPA. They contended that the government's approach, including a possible ban on some single-use plastics, would harm the plastics industry and make it harder to transition to a circular economy. Other witnesses felt equally strongly that the federal government should ban certain single-use plastics. They agreed with the government's argument that certain single-use plastics are simply unnecessary: that they harm the environment, are too difficult to recycle, and can be replaced with other products.

The ways that we make, use, and manage plastic are changing. Witnesses emphasized that Canada—and the world—must move toward a circular economy for plastics that minimizes the use of raw materials and the creation of waste. To build this circular economy, the Committee has outlined steps that the Government of Canada can take to strengthen the country's recycling sector, harmonize waste management programs, encourage better product design, and foster innovation. Taken together, these steps can help to make the one-time use of plastic products a thing of the past.



## APPENDIX A LIST OF WITNESSES

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The following table lists the witnesses who appeared before the committee at its meetings related to this report. Transcripts of all public meetings related to this report are available on the committee’s [webpage for this study](#).

### 43rd Parliament – 2nd Session

Organizations and Individuals	Date	Meeting
<b>As an individual</b>	2021/04/12	24
Dr. Chelsea M. Rochman, Assistant Professor University of Toronto		
<b>Canada Plastics Pact</b>	2021/04/12	24
George Roter, Managing Director Usman Valiante, Technical Advisor		
<b>Chemistry Industry Association of Canada</b>	2021/04/12	24
Elena Mantagaris, Vice-President Plastics Division Bob Masterson, President and Chief Executive Officer		
<b>Husky Injection Molding Systems Ltd.</b>	2021/04/12	24
John Galt, President and Chief Executive Officer		
<b>RECYC-QUÉBEC</b>	2021/04/12	24
Sophie Langlois-Blouin, Vice-President Operational Performance		
<b>As an individual</b>	2021/04/21	26
Deborah Curran, Executive Director, Environmental Law Centre University of Victoria Dr. Manjusri Misra, Professor and Tier 1 Canada Research Chair in Sustainable Biocomposites University of Guelph		
<b>Bosk Bioproducts Inc.</b>	2021/04/21	26
Laurence Boudreault, General Manager		

<b>Organizations and Individuals</b>	<b>Date</b>	<b>Meeting</b>
<b>Dow</b> Michael Burt, Vice-President and Global Director Climate and Energy Policy	2021/04/21	26
<b>Tilton</b> William St-Hilaire, Vice-President Sales Business Development	2021/04/21	26
<b>As an individual</b> Marc Olivier, Research Professor Université de Sherbrooke	2021/04/26	27
<b>City of Montréal</b> Maja Vodanovic, Mayor of the Borough of Lachine	2021/04/26	27
<b>Merlin Plastics</b> Tony Moucachen, President and Chief Executive Officer	2021/04/26	27
<b>Retail Council of Canada</b> Philippe Cantin, Senior Director Sustainability Innovation and Circular Economy	2021/04/26	27
<b>Canadian Beverage Association</b> Jim Goetz, President	2021/04/28	28
<b>Environmental Defence Canada</b> Karen Wirsig, Program Manager, Plastics	2021/04/28	28
<b>Government of Alberta</b> Hon. Sonya Savage, Minister of Energy	2021/04/28	28
<b>Oceana Canada</b> Joshua Laughren, Executive Director Ashley Wallis, Plastics Campaigner	2021/04/28	28
<b>Regional Municipality of Peel</b> Norman Lee, Director, Waste Management	2021/04/28	28



<b>Organizations and Individuals</b>	<b>Date</b>	<b>Meeting</b>
<b>Department of the Environment</b> Dr. Marc D'Iorio, Assistant Deputy Minister Science and Technology Branch Dany Drouin, Director General Plastics and Waste Management Directorate Jacqueline Gonçalves, Director General Science and Technology Branch Helen Ryan, Associate Assistant Deputy Minister Environmental Protection Branch	2021/05/05	29



## **APPENDIX B LIST OF BRIEFS**

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The following is an alphabetical list of organizations and individuals who submitted briefs to the committee related to this report. For more information, please consult the committee's [webpage for this study](#).

### **43rd Parliament – 2nd Session**

**A Friendlier Company Inc.**  
**Association of Home Appliance Manufacturers Canada**  
**Canada Coalition of Plastic Producers**  
**Canadian Environmental Law Association**  
**Canadian Manufacturers and Exporters**  
**Cannery Brewing Company**  
**CCC Plastics**  
**Celanese Corporation**  
**Chemistry Industry Association of Canada**  
**CKF Inc.**  
**Dart Container Corporation**  
**DreamZero Inc.**  
**Enerkem**  
**Environmental Defence Canada**  
**Health and Environment Justice Support**  
**Husky Injection Molding Systems Ltd.**  
**Hymopack Ltd.**  
**INEOS Styrolution Canada Ltd.**  
**Medicom**  
**National Association for PET Container Resources**  
**Norwich Plastics**  
**NOVA Chemicals Corporation**

**Oceana Canada**  
**Pack All Manufacturing Inc.**  
**Packaging Technology and Research**  
**Pactiv Evergreen Inc.**  
**Peel Plastic Products Ltd.**  
**PVC Pipe Association**  
**Retail Council of Canada**  
**Shintech Inc.**  
**Tetra Pak**  
**U.S. Grains Council**  
**Value Chain Management International Inc.**  
**Vinyl Institute of Canada**  
**Winpak Ltd.**  
**Zero Waste Hub Toronto**

## REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the committee requests that the government table a comprehensive response to this Report.

A copy of the relevant *Minutes of Proceedings* ([Meetings Nos. 24, 26, 27, 28, 29, 30](#)) from the 43rd Parliament, 2nd Session and ([Meetings Nos. 4, 8, 10](#)) from the 44th Parliament, 1st Session is tabled.

Respectfully submitted,

Francis Scarpaleggia  
Chair



## **Supplementary Report of the New Democratic Party of Canada**

New Democrats would like to thank all the witnesses who appeared before the Standing Committee on the Environment and Sustainable Development and those who submitted written briefs during the Committee's study of single-use plastics.

While we support the majority of the report and recommendations, we differ on some of the conclusions and recommendations.

As the report notes, many Canadians are familiar with the "Three Rs" – reduce, reuse, recycle. While improving recycling is an essential element of moving towards a circular economy and zero plastic waste, we feel that further emphasis is needed on reducing plastic production and use and moving to more reusable items and reuse systems to meaningfully address the plastic pollution crisis.

### Reduce

Canadians are concerned about plastic pollution and widely support a ban on single-use plastic items. However, the Government's proposed ban on six single-use plastic items currently covers less than one per cent of Canada's current plastic use. A poll by Oceana Canada in December 2020 found that two-thirds of Canadians supported expanding the list of items to be banned.

The Committee heard from witnesses and received briefs that recommended that proposed list of items should be expanded to include other items, including:

- Items often found littered in the environment, such as coffee cups and lids, cigarette butts and all forms of polystyrene
- Items already banned in other jurisdictions, such as lightweight produce bags and plastic egg cartons
- Materials and resins that are particularly harmful in the environment, or that contain toxic chemicals

Since the Committee last heard from witnesses in May 2021, the Government has published draft regulations. The University of Victoria's Environmental Law Centre has responded to those draft regulations with recommendations including expanding the narrow definitions of single-use plastics away from durability requirements and towards their intended use and expanding the scope of the ban on foodservice ware materials to include bisphenols, phthalates, and perfluoroalkyl substances.

New Democrats recommend that Government of Canada expand the list of harmful single-use plastics to be banned to include other problematic plastics items in order to reduce plastic pollution and the strain on municipal recycling facilities.

### Reuse

While relatively little time was spent during the study discussing reuse, the Committee heard from some witnesses that the ban on harmful single-use plastics should be paired with incentives and investment to support the development of reuse systems, which can create good local jobs with relatively little investment.

New Democrats endorse the recommendation heard by the Committee that the Government should stop subsidizing the production of virgin plastics, a segment of the oil and gas industry, and instead support a just transition plan for chemical workers and plastics manufacturers that shifts the focus of manufacturing to durable products,

develops widespread reuse systems and invests in mechanical recycling able to turn durable materials back into reusable products of a similar value.

New Democrats feel that reuse systems merit further attention and study. We strongly support the recommendation that the Government of Canada host a roundtable for reuse companies and organizations, working with the Federation of Canadian Municipalities, to learn more about what infrastructure is needed to support reuse across Canada.

### Recycle

The Committee heard from witnesses that recycling alone will not be the solution to our plastic pollution problem and warned against relying on new recycling technologies in place of taking measures to reduce plastic production and use. Without further intervention Canada's plastic use is predicted to increase by 30 percent by 2030 and will outpace any improvements in recycling.

Witnesses also warned that so-called advanced or chemical recycling systems are "false solutions" to the plastic pollution crisis that are "waste disposal in disguise" and face some of the same challenges as traditional recycling when it comes to the need to have a relatively pure homogenous flow of plastic to be economically viable. As Ashley Wallace told the Committee, "The vast majority of chemical recycling systems that exist today are not actually turning plastic into new plastic. They are turning plastic into fuel, and that fuel is then burned, which means that plastics are really only a pit stop in a fossil fuel's existence from extraction to tail pipe."

While New Democrats welcome the recommendation to invest in expanding the recycling infrastructure in Canada and improving the rate at which plastics are recycled, we caution that such investments should focus on improving mechanical recycling capacity and not on false solutions to the plastic pollution crisis.