HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

THE LAST STRAW: TURNING THE TIDE ON PLASTIC POLLUTION IN CANADA

Report of the Standing Committee on Environment and Sustainable Development

John Aldag, Chair

JUNE 2019
42nd PARLIAMENT, 1st SESSION

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NOTICE TO READER

Reports from committee 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

TWENTY-FIRST REPORT

Pursuant to its mandate under Standing Order 108(2), the Committee has studied plastic pollution and has agreed to report the following:

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SUMMARY

Canada must reduce plastic pollution and plastic waste. In 2016, approximately 86% of Canada's plastic waste ended up in landfills, only 9% was recycled, 4% was burned for energy, and 1% was discharged to the environment as litter. Plastic litter harms and kills wildlife, and microplastics are inadvertently consumed by people through seafood, drinking water, and sea salt. In light of these issues, the House of Commons Standing Committee on Environment and Sustainable Development (the Committee) studied plastic pollution in Canada over seven meetings beginning on 1 April 2019, and made 21 recommendations to the federal government.

Although the targets contained within the Ocean Plastic Charter and Canada's *Strategy on Zero Plastic Waste* are encouraging, the Committee would like Canada to move faster to address plastic pollution and waste. The Committee recommends that Canada establish a more ambitious goal of reaching zero plastic waste by 2030. The Committee also recommends that the federal government commit to banning harmful single-use plastic products – such as straws, bags, cutlery, cups, cigarette filters and polystyrene packaging – in Canada, and, where warranted based on existing scientific evidence, take other steps under the *Canadian Environmental Protection Act, 1999* to regulate their use, composition and disposal. The Committee identified a need for a funding program and incentives for scientific and industry research into sources of plastic pollution and plastic waste management innovation.

In order for Environment and Climate Change Canada to manage toxic plastics with the regulatory tools afforded by the *Canadian Environmental Protection Act, 1999* (CEPA 1999), the Committee recommends that plastics which are scientifically assessed as toxic be added to the List of Toxic Substances pursuant to the CEPA 1999. For plastics that are suspected of being toxic, Environment and Climate Change Canada should conduct scientific toxicity assessments pursuant to the CEPA 1999, while other plastics should be added to the Priority Substances List pursuant to the CEPA 1999.

To ensure that plastic products are designed for reuse and recycling, and to support economies of scale in the plastic recycling industry, the Committee recommends that standards be developed for plastic products made or sold in Canada, and that plastic recycling systems be standardized and harmonized. Standardization could be informed by a national model recycling system and extended producer responsibility framework for plastics, for which the Committee would like the federal government to take the lead.

Witnesses described that new plastic made from fossil fuels is currently cheaper than recycled plastic, which provides an economic disincentive to recycle plastic waste or to use recycled resin in manufacturing. To address this issue, the Committee recommends that fossil fuel subsidies related to new plastics be thoroughly examined and eliminated, and that plastic goods made or sold in Canada be required to contain at least 50% recycled plastic by 2030. A directive should be issued by 2022 to federal departments and agencies so that their purchases support recycled plastics and innovative alternatives to plastic, while eliminating their use of single-use plastics.

Finally, the Committee heard that Canadians want to make more environmentally responsible choices but do not always have the information needed to do so. The Committee recommends more detailed labelling of plastics made or sold in Canada, and that plastic manufacturers and importers be required to disclose the chemical composition or their products and resins. The federal government should ensure that extended producer responsibility funds support information campaigns about the life-cycle environmental impacts of plastic goods, how to properly dispose of plastics so that they do not enter the environment, and how to reduce plastic use and waste. The Committee encourages all Canadians to help fight plastic pollution by reducing, reusing, recirculating, recycling, and recovering plastics in their daily lives.

LIST OF RECOMMENDATIONS

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.

HOUSE OF COMMONS
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THE LAST STRAW: TURNING THE TIDE ON PLASTIC POLLUTION IN CANADA

INTRODUCTION

On 4 December 2018, the Standing Committee on Environment and Sustainable Development (the Committee) agreed to study plastic pollution.[1] The Committee's study began on 1 April 2019 and was carried out over seven meetings, during which Committee members heard from 41 witnesses and received 9 written briefs. The members of the Committee sincerely thank each of the witnesses for contributing to the Committee's work.

The Study

The issue of plastic pollution, particularly of marine and freshwater environments, has been the subject of an increasing level of public concern in recent years. Globally, inadequate land-based plastic waste management – including littering – is responsible for the vast majority (about 80%) of marine plastic litter,[2] with an estimated 8 million tonnes[3] of plastic entering the ocean annually worldwide.[4] Although the Committee heard that most of the mismanaged waste that becomes plastic pollution globally comes from countries other than Canada,[5] leakage of plastic waste into the environment from Canada does occur. A recent report by Deloitte and ChemInfo on behalf of Environment and Climate Change Canada (ECCC) estimated that plastic litter and poorly managed plastic waste are responsible for the annual leakage of 29,000 tonnes of plastic into the environment in Canada.[6]

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1 House of Commons, Standing Committee on Environment and Sustainable Development (ENVI), 42nd Parliament, 1st Session, *Minutes*, 4 December 2018.

2 ENVI, *Evidence*, 3 April 2019, 1615 (Carol Hochu, President and Chief Executive Officer, Canadian Plastics Industry Association).

3 Government of Canada, *Moving Canada toward zero plastic waste: Closed consultation*.

4 J.R. Jambeck et al., "Plastic waste inputs from land into ocean," *Science*, Vol. 347, Issue 6223, pp. 768–771, 2015.

5 ENVI, *Evidence*, 3 April 2019, 1615 (Carol Hochu, President and Chief Executive Officer, Canadian Plastics Industry Association).

6 Deloitte and Cheminfo Services Inc., *Economic Study of the Canadian Plastic Industry, Market and Waste: Summary Report to Environment and Climate Change Canada*, March 2019; ENVI, *Evidence*, 6 May 2019, 1550 (Keith Brooks, Program Director, Environmental Defence Canada).

The Committee undertook this study in order to further inform how the federal government can act to address the issue of plastic pollution. The Committee focused its attention on finding solutions to reduce plastic waste by:

1) reducing plastic use;

2) encouraging plastic reuse; and

3) fostering plastic recycling.

BACKGROUND

The Paradox of Plastic

Some of the same characteristics that make plastic so widely used - namely its low cost and its durability – also contribute to the volume of plastic waste generated and the persistence of plastic litter that enters the environment. Due to plastic's durability, the estimated lifespan of plastic litter ranges from hundreds to thousands of years,[7] even though many single-use plastic items are used for less than one day. Although plastic innovations have been important in health care and in preventing food spoilage, "[t]he many benefits that plastics confer will be threatened or harmed if plastic litter harms our natural environment."[8]

Canada is not a leading global source of plastic waste to marine environments,[9] but plastic originating from Canada and abroad is impacting the Canadian environment. ECCC reports that plastic marine litter, including microplastics, is found on all of Canada's coasts and in freshwater areas, including the Great Lakes. Since 1994, 700,000 volunteers have collected over 1,200 tonnes of waste from shorelines across Canada while participating in the Great Canadian Shoreline Cleanup.[10] The Committee learned that "Canada is one of the countries, according to a study by the International Energy Agency,[11] with the biggest demand for plastics per capita, at 99.6 kilograms per person in 2015."[12]

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7 J. Wang et al., "The behaviors of microplastics in the marine environment," *Marine Environmental Research*, Vol. 113, pp. 7–17, 2016.

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

9 J. R. Jambeck et al., "Plastic waste inputs from land into ocean," *Science*, Vol. 347, Issue 6223, pp. 768–771, 2015.

10 Ibid.

11 International Energy Agency, *The Future of Petrochemicals*.

12 ENVI, *Evidence*, 3 April 2019, 1645 (Vito Buonsante, Plastic Program Manager, Environmental Defence).

Ecological and Human Health Impacts of Plastic Pollution

The Committee heard testimony that the consumption of plastic litter by wildlife has ecological impacts. Dr. Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise, noted that plastic is frequently confused for food by wildlife such as albatross and sea turtles—and represents a serious conservation threat to a number of species and populations.[13] Larger pieces of plastic litter (as opposed to microplastics, discussed below) pose physical threats, such as entanglement, gastrointestinal blockage, and malnutrition.

Microplastics

Dr. Ross stated that there is evidence from his research laboratory and others that microplastics[14] derived over time from "larger products and items like old bags, containers, shipping materials and microfibres from textiles are actually escaping their intended use or leaking into the environment."[15] Microplastics can be of a similar size to some plankton and are ingested by aquatic organisms, including some species of commercial fisheries importance.

Greenhouse Gas Implications of Plastic

The production and lifecycle management of plastic has implications for greenhouse gas (GHG) emissions. ECCC estimates that 90% of plastic products are made from fossil fuels.[16] Calvin Sandborn, Legal Director of the Environmental Law Centre at the University of Victoria, noted that 8% of global oil and gas production is currently used for plastic production, and that this is expected to rise to 20% of oil and gas production globally by 2050.[17] Overall reduction in the use of plastic would reduce GHG emissions from the production of new resin. Recycling one tonne of plastics prevents up to two tonnes of GHG emissions by reducing the need for new resin.[18]

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13 ENVI, *Evidence*, 10 April 2019, 1535 (Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise).

14 "Microplastics" are plastic items measuring less than 5 mm in diameter. "Primary microplastics" are manufactured to be that size and include microbeads in cosmetics and plastic feedstock intended to be melted and moulded into plastic products. "Secondary microplastics" are the result of the degradation and fragmentation of larger plastic items, and include fibres released from washing synthetic textiles.

15 ENVI, *Evidence*, 10 April 2019, 1535 (Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise).

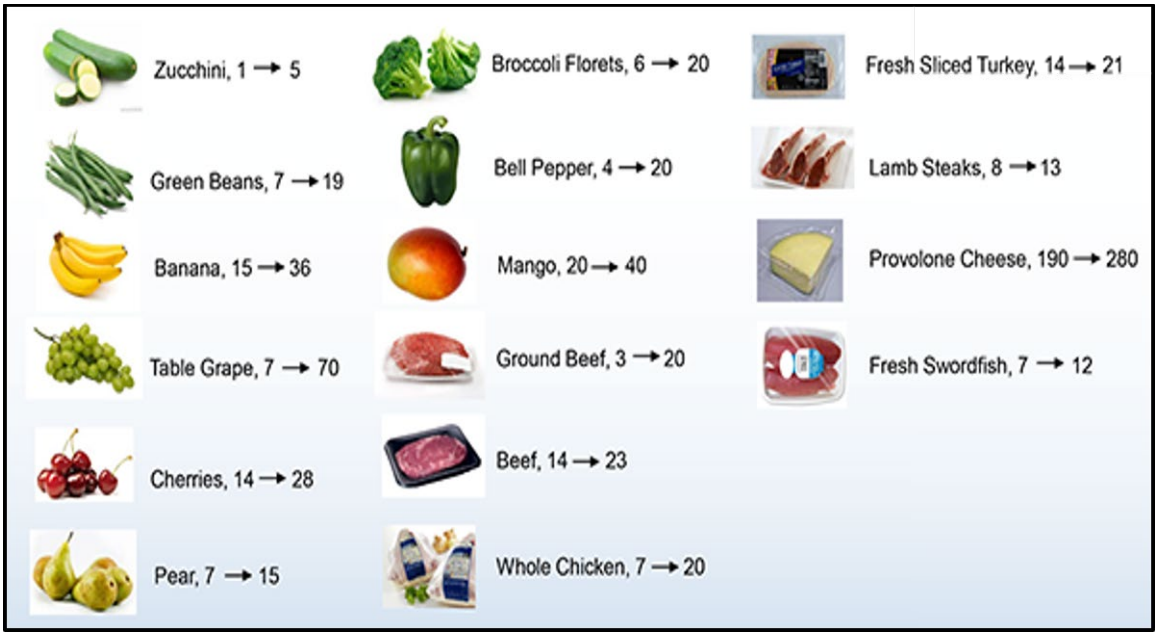
16 Government of Canada, *Moving Canada toward zero plastic waste: Closed consultation*.

17 ENVI, *Evidence*, 1 May 2019, 1545 (Calvin Sandborn, Legal Director, Environmental Law Centre, University of Victoria).

18 Government of Canada, *Moving Canada toward zero plastic waste: Closed consultation*.

On the other hand, several witnesses noted that plastic packaging requires less energy to produce and is lighter to ship than many of its alternatives, like glass, metal, and paper. As well, the use of plastic packaging can reduce food spoilage, thus preventing GHG emissions associated with food waste. James Downham, President and Chief Executive Officer of PAC Packaging Consortium, presented information from the Flexible Packaging Association on the number of days that shelf life can be extended through the use of flexible packaging, particularly plastic packaging,[19] as shown in Figure 1.

Figure 1 – Comparison of the Shelf Life of Selected Grocery Items without Flexible Packaging (in days) and with Flexible Packaging (in days)



Source: Flexible Packaging Association, *Food Waste Reduction*.

Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association Canada, described plastics in relation to the committee's previous studies of *Clean Growth and Climate Change in Canada*:

> Much of this committee's work over the past year has focused on the pressing issue of climate change. In many instances, plastics are the solution to the climate change problem, and that is a key contributor to the drive in growth. That includes lightweight, high-strength plastic composites in the automotive sector, improved insulation in the building sector, enormous quantities of plastic resins that are vital to the production of

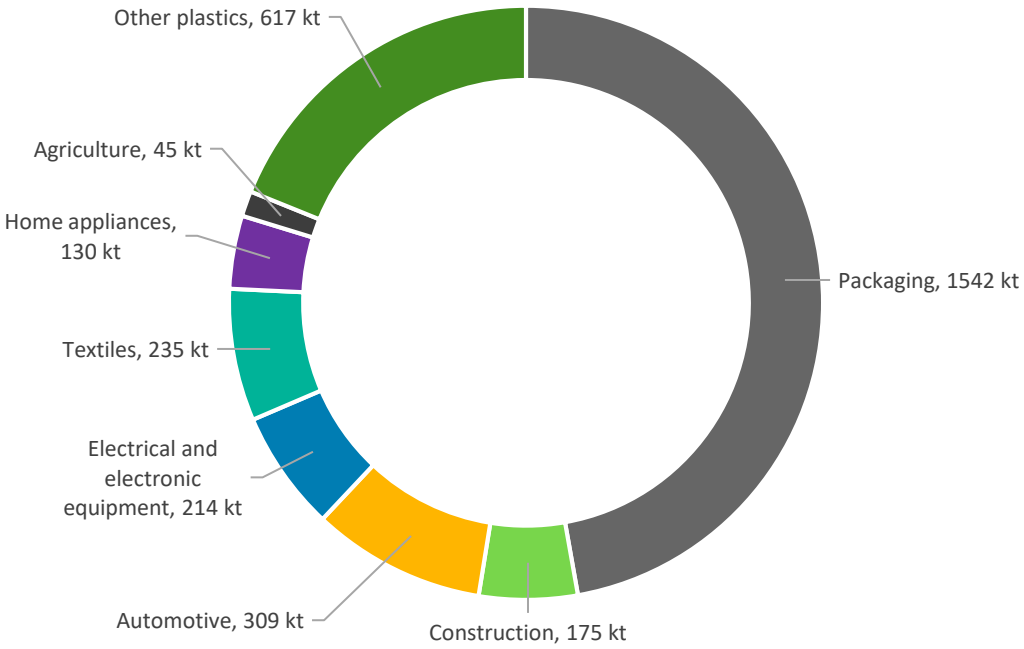
19 ENVI, *Evidence*, 6 May 2019, 1530 (James D. Downham, President and Chief Executive Officer, PAC Packaging Consortium).

renewable energy from wind turbines and solar panels, as well as the very important role of plastic packaging in reducing food waste.[20]

The Plastics Industry and Plastics Recycling in Canada

The Committee was informed about Canada's plastics industry and its rates of plastic waste, recycling, and pollution. According to the study conducted by Deloitte and ChemInfo for ECCC, plastics represented a $35-billion industry in 2017 in Canada, including production, manufacturing and recycling activities. Figure 2 shows that, in 2016, the largest category of plastic waste produced in Canada was from packaging.

Figure 2 – Plastic Waste Produced in Canada by Sector, 2016 (kilotonnes)



Source: Figure adapted by the Library of Parliament from Deloitte and Cheminfo Services Inc., *Economic Study of the Canadian Plastic Industry, Market and Waste: Summary Report to Environment and Climate Change Canada*, March 2019.

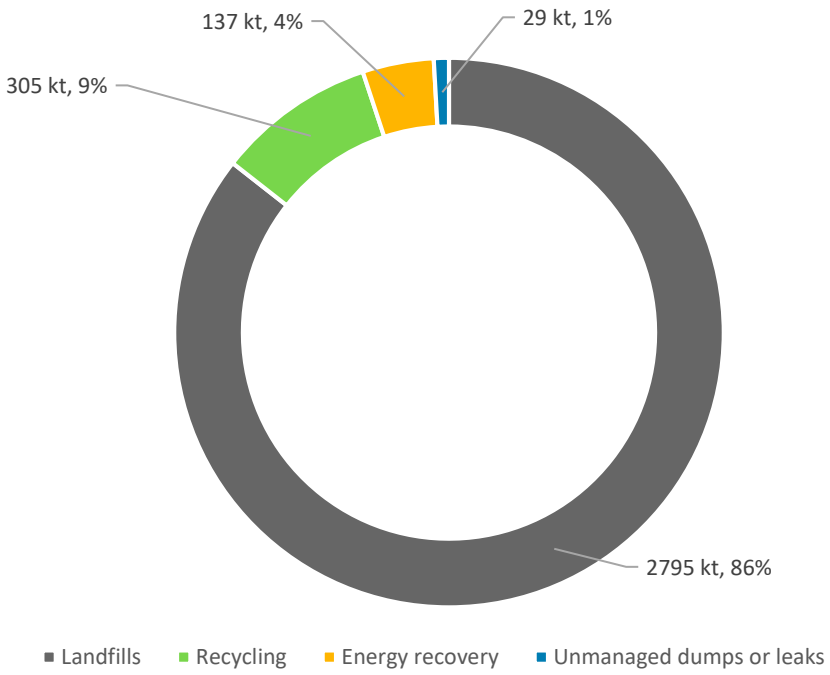
Note: The category "Other plastics" includes plastics used in medical, dental and personal care, toys, household furniture, sporting goods, mattresses, industrial machinery, and chemical products and resins.[21]

20 ENVI, *Evidence*, 10 April 2019, 1550 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

21 Deloitte and Cheminfo Services Inc., *Economic Study of the Canadian Plastic Industry, Market and Waste: Summary Report to Environment and Climate Change Canada*, March 2019.

The study estimated that, in 2016, Canada generated 3.3 million tonnes of plastic waste. Of this, about 86% of plastic ended up in landfills and 4% was burned for energy. 1%, or 29,000 tonnes, was discharged to the environment as litter. Only 9% was recycled, as shown in Figure 3.[22]

Figure 3. Fate of Plastic Waste in Canada, 2016 (kilotonnes and percentages)



Source: Figure adapted by the Library of Parliament from Deloitte and Cheminfo Services Inc., *Economic Study of the Canadian Plastic Industry, Market and Waste: Summary Report to Environment and Climate Change Canada*, March 2019.

According to ECCC officials, "this represents a lost value of $7.8 billion in 2016. This loss is projected to grow to $11 billion in 2030 if our recycling and recovery rates remain at their current levels. Over 200 businesses in Canada are involved in plastics recycling, 80 of which make up the core of our recycling sector."[23]

22 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment); ENVI, *Evidence*, 1 May 2019, 1605 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

23 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

The Canadian Plastics Industry Association noted that 90% of Canadians live in an area with some plastic recycling, however, the types of plastics that can be recycled vary from municipality to municipality.[24] The extent of plastic recycling across Canada is impacted by the cost and availability of infrastructure required for collecting, sorting, and processing recyclables (particularly in remote or sparsely populated areas) and by technological barriers to managing hard-to-recycle plastics.

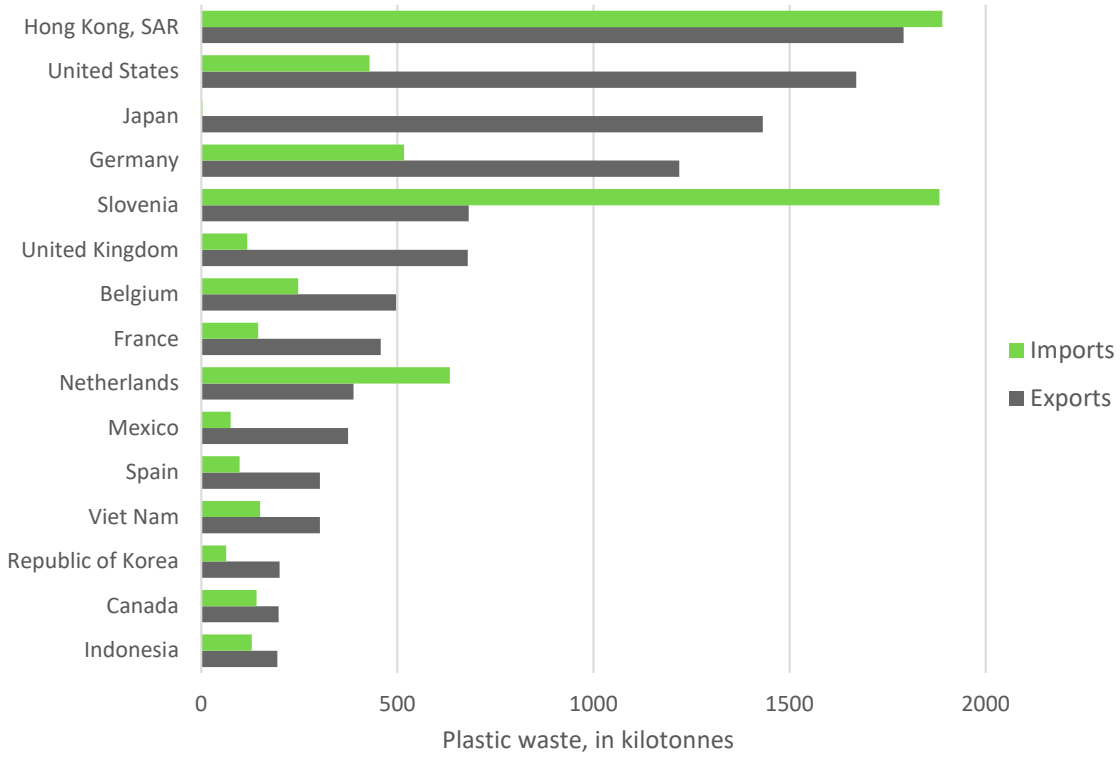
In 2018, out of the approximately 380,000 tonnes of plastic waste collected for recycling in Canada, over one-quarter was exported overseas for processing, which could increase the potential for Canada's plastic waste to be poorly managed and to be released into the environment. In 2018, Canada exported just under 100,000 tonnes of its plastic waste to other countries, which was down from 150,000 tonnes in 2016.[25] This marked decrease was mostly due to China adopting higher standards for imported materials for recycling, including plastics. China's updated contamination standards came into force in 2018 and left recycling processors in many countries – including Canada – searching for new markets.[26] Figure 4 shows the imports and exports of plastic waste for the 15 top global plastic waste exporters in 2017.

24 Canadian Plastics Industry Association, *Waste Management*.

25 Statistics Canada, "Table 980-0039: Domestic exports – Plastics and articles thereof," (see "391590 Plastics waste and scrap, nes"), Canadian International Merchandise Trade Database, accessed 18 March 2019.

26 Frances Bula, "China's tough new recycling standards leaving Canadian municipalities in a bind," *Globe and Mail*, 9 January 2018.

Figure 4. Plastic Waste Trade Flow of the Top 15 Plastic Waste Exporters in 2017 (kilotonnes)



Source: Figure prepared by the Library of Parliament using data obtained from the United Nations, "HS 3915: Waste, parings and scrap, of plastics," *UN Comtrade Database*, accessed 28 May 2019.

Past and Present Actions to Reduce Plastic Pollution in Canada

A Shared Responsibility

Ms. Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Environment and Climate Change Canada, explained that the management of plastic waste is a shared responsibility in Canada. The federal government is responsible for the transboundary movement of hazardous waste and for the prevention of toxic substances from entering the environment. Provincial and territorial governments manage the operation of landfill sites and recycling facilities. Municipalities typically establish litter by-laws and manage household recycling programs, and therefore are responsible for educating citizens on waste reduction related to the administration of those by-laws and

programs. In addition, industry is increasingly "playing a role in funding and operating recycling programs as part of producer responsibility programs."[27]

Canadian Council of Ministers of the Environment

In order to foster collaboration between provinces, territories, and the federal government on environmental matters, the Canadian Council of Ministers of the Environment (CCME) provides a forum for cooperation on a range of environmental issues, including plastic waste.[28] The CCME ministers adopted a Canada-wide action plan to develop a nationally-harmonized approach to extended producer responsibility (EPR)[29] programs in 2009.[30]

In November 2018, the CCME "approved in principle the Canada-wide strategy on zero plastic waste, and also agreed to work collectively toward a common overall waste reduction goal."[31] The *Strategy on Zero Plastic Waste* emphasizes a) preventing plastic waste (e.g., by reducing demand and designing plastic products for longevity), b) collecting all plastics so they are channelled back into the economy, and c) recovering value from plastics, using a range of strategies and processes. The strategy presents a hierarchy for recovering value from plastics, as follows:

27 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

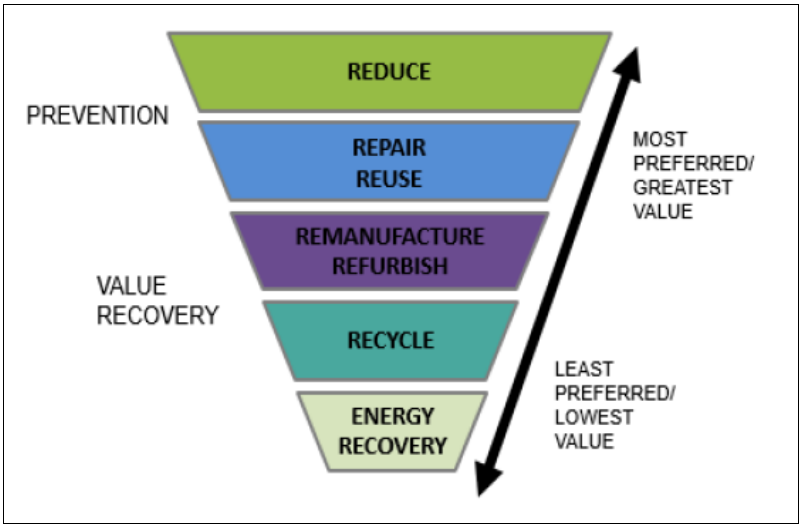
28 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

29 ECCC defines extended producer responsibility (EPR) as a policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product's life cycle.

30 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

31 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

Figure 5 – Hierarchy of Priority in Plastics Management



Source: Canadian Council of Ministers of the Environment, *Strategy on Zero Plastic Waste*, November 2018, p. 5.

The *Strategy on Zero Plastic Waste* identifies 10 result areas requiring action, namely: "product design, single-use plastics, collection systems, markets, recycling capacity, consumer awareness, aquatic activities, research and monitoring, clean up and global action."[32] Ms. Ryan noted that the first phase of an action plan, addressing the first five of the aforementioned results areas, is expected to be submitted to environment ministers in June 2019.[33]

Ocean Plastics Charter and G7

Ms. Ryan of ECCC also highlighted that Canada used its 2018 G7 presidency to champion the development of the Ocean Plastics Charter, which contains targets for the recycling, reuse, and recovery of plastics in order to stop "the flow of plastics into the environment."[34] She explained that these targets include:

32 ENVI, *Evidence*, 1 April 2019, 1615 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

33 Ibid.

34 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

- working with industry towards 100% reusable, recyclable and recoverable plastics by 2030;
- increasing the recycled content by at least 50% in plastic products, where applicable, by 2030; and
- working with other orders of government to recycle and reuse at least 55% of plastic packaging by 2030 and recover 100% of all plastics by 2040.[35]

As of 1 April 2019, 18 governments and 54 organizations had signed on to the Ocean Plastics Charter.[36] Although the Oceans Plastics Charter is not legally binding, as a treaty would be, Mr. Dany Drouin, Acting Executive Director, Plastics Initiative, International Affairs Branch, Environment and Climate Change, expressed that it represents a real commitment to implement change.[37]

Provincial, Territorial, and Municipal Initiatives Regarding Plastic Waste

In response to concerns regarding plastic litter, provinces, territories and municipalities have taken various measures to reduce plastic pollution. These measures take the form of restrictions, levies, or bans on certain single-use plastics, such as plastic bags and straws. Certain provinces, such as British Columbia and Québec, have implemented EPR programs that make companies responsible for the costs of managing the plastic they manufacture or import into Canada at the post-consumer stage.

Industry and Non-Governmental Organization Plastic Waste Targets

Industry associations are setting their own goals to reduce plastic packaging and waste. In 2018, the Canadian Plastics Industry Association, the Chemistry Industry Association of Canada, and the American Chemistry Council, committed to an interim goal that 100% of plastic packaging be recyclable or recoverable by 2030, with an ultimate goal of 100% of plastic packaging actually being reused, recycled or recovered by 2040.[38] Isabelle Des Chênes, Executive Vice-President, Chemistry Industry Association of Canada, explained that

35 Ibid.

36 Ibid.

37 ENVI, *Evidence*, 1 April 2019, 1650 (Dany Drouin, Acting Executive Director, Plastics Initiative, International Affairs Branch, Department of the Environment).

38 ENVI, *Evidence*, 3 April 2019, 1610 (Carol Hochu, President and Chief Executive Officer, Canadian Plastics Industry Association); ENVI, *Evidence*, 10 April 2019, 1550 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

the timeline of 2030 was selected to allow for the time to study, develop, and market the technology needed to achieve the interim goal.[39] Jim Goetz, President, Canadian Beverage Association informed the Committee that "beverage companies have committed to making all plastic packaging 100% reusable, recyclable or compostable by 2025, as part of the Ellen MacArthur Foundation's new plastics economy initiative."[40]

Non-governmental organizations are also coordinating to provide leadership to address plastic pollution. Vito Buonsante of Environmental Defence added that his organization drafted a declaration, *Towards a Zero Plastic Waste Canada*, which was signed by 43 non-governmental organizations throughout Canada. Mr. Buonsante highlighted three of the policy measures contained within the declaration that would reduce the amount of plastic waste, as follows:

> [O]ne, harmonize provincial recycling targets to ensure that 100% of single-use plastics, at a minimum, is captured and that at least 85% is recycled; two, establish recycled content standards for single-use plastics; and, three, declare problematic plastics toxic under the Canadian Environmental Protection Act.[41]

Alternatives to Plastics

The United Nations Environment Program produced a report, *Exploring the potential for adopting alternative materials to reduce marine plastic litter* in 2018. This detailed report is targeted at governments and businesses and provides recommendations for action to reduce marine plastic litter.[42] When considering alternatives to plastics, life cycle analysis is advised to compare the total environmental impacts of the conventional plastic product against those of the alternative product at all stages of life, including fate of any litter. Due to the limited number of meetings in the Committee's study, some areas within the expansive topic of plastic pollution and waste solutions could not be investigated, and alternatives to plastic products is one such area.

39 ENVI, *Evidence*, 10 April 2019, 1655 (Isabelle Des Chênes, Executive Vice-President, Chemistry Industry Association of Canada).

40 ENVI, *Evidence*, 10 April 2019, 1545 (Jim Goetz, President, Canadian Beverage Association).

41 ENVI, *Evidence*, 3 April 2019, 1645 (Vito Buonsante, Plastic Program Manager, Environmental Defence).

42 United Nations Environment Programme, *Exploring the potential for adopting alternative materials to reduce marine plastic litter*, Nairobi, May 2018.

SUMMARY OF WHAT THE COMMITTEE HEARD

Problems

Plastic Waste as an Economic Problem

After hearing from many witnesses, the Committee reflected that several issues around plastic waste have economic roots. First, partly due to the low price of oil and gas, including due to fossil fuel subsidies,[43] using virgin plastic is cheaper for manufacturers than using post-consumer recycled plastic. As a result, products made from recycled plastic may be more expensive than those made from virgin plastic. Michael Wilson, Executive Director, University of Ottawa, Smart Prosperity Institute, stated that there is evidence that if consumers "are given choices at comparable prices, they will choose the less wasteful."[44] However, currently, less wasteful alternatives are not comparable in price to virgin plastic products. Usman Valiante of Smart Prosperity Institute discussed the economic dimension of plastic use, waste, and pollution as follows:

> We've got this fundamental disconnect in economics between virgin plastics and plastics that end up as waste and recovering those plastics. Why is plastic so cheap? Some are due to direct subsidies that we give for fossil resources. The plastics manufacturing sector is very large; it has large scale efficiencies; it's integrated into the oil and gas sector; it's part of the petrochemical sector. To give you some idea of scale, again, these are numbers that came from Deloitte.… The virgin plastic production sector is 30 times the size of the recycling industry in Canada today. That will give you an idea of the scale efficiencies that exist for the production of virgin plastics. Then we have disposal, which is unpriced, so today you can dump plastics into the landfill and there's very little cost for disposing of it or sending it to energy from waste.[45]

Witnesses stated that it is often cheaper to landfill plastic waste in Canada than it is to recycle it. Mr. Buonsante of Environmental Defence observed, "[t]here has been a failure to appropriately price waste disposal, and so in some cases it is easier for waste managers to throw plastic waste in landfills rather than recycle it."[46] Ryan L'Abbe, Vice-President, Operations, GreenMantra Technologies, expressed that landfilling is too cheap in Canada

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43 ENVI, *Evidence*, 1 May 2019, 1605 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute); ENVI, *Evidence*, 1 May 2019, 1705 (Calvin Sandborn, Legal Director, Environmental Law Centre, University of Victoria).

44 ENVI, *Evidence*, 1 April 2019, 1720 (Michael Wilson, Executive Director, University of Ottawa, Smart Prosperity Institute).

45 ENVI, *Evidence*, 1 May 2019, 1605 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

46 ENVI, *Evidence*, 3 April 2019, 1645 (Vito Buonsante, Plastic Program Manager, Environmental Defence).

and that economies that would emerge to reuse more plastics if landfill were more expensive.[47] Dan Lantz, Director, Sustainability, PAC Packaging Consortium agreed that" landfill is way too cheap in this country" and is an important factor in this waste issue.[48] The Committee notes that landfill fees fall under provincial and territorial jurisdiction.

Brock Carlton, Chief Executive Officer, Federation of Canadian Municipalities, informed the Committee about the economic cost of plastic waste to municipalities:

> As Canada's residential waste management leaders, municipalities know this is also an economic issue, a cost centre in municipal budgets that competes with other local priorities. Whether it's plastic bags, straws, cutlery, packaging, etc., all of these single-use plastics are swelling landfill sites, littering our shorelines and our natural spaces and in some cases, damaging municipal machinery and increasing cost of repairs.[49]

Officials from ECCC recognized the economic drivers of industry action to reduce plastic pollution, stating that "[t]o reach our goals of diverting 55% of plastic packaging from landfills by 2030, and 100% of all plastic waste by 2040, the competitive recycling sector needs the right conditions to expand and diversify."[50]

The Committee heard that many recyclers struggle to find an economically viable market for their post-consumer recycled plastic. As stated by Benoit Delage, Conseil régional de l'environnement et du développement durable de l'Outaouais (CREDDO), "[c]urrently, the plastics used by recycling facilities [don't] sell at a high enough price. Adding value to the plastic is key, because it doesn't really have any value as we speak."[51] Mr. Valiante agreed about the economic difficulties for plastics recyclers, stating that "there's no demand for what they're producing, because what they produce competes with virgin plastic resins made from fossil fuels, which are very cheap today."[52] This situation leads to plastic waste, which is technically recyclable, being landfilled, and does not provide an economic incentive to invest in research and development for waste reduction or recycling technologies.

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47 ENVI, *Evidence*, 8 May 2019, 1625 (Ryan L'Abbe, Vice-President, Operations, GreenMantra Technologies).

48 ENVI, *Evidence*, 6 May 2019, 1700 (Dan Lantz, Director, Sustainability, PAC Packaging Consortium).

49 ENVI, *Evidence*, 8 May 2019, 1635 (Brock Carlton, Chief Executive Officer, Federation of Canadian Municipalities).

50 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

51 ENVI, *Evidence*, 1 April 2019, 1715 (Benoit Delage, General Director, Conseil régional de l'environnement et du développement durable de l'Outaouais).

52 ENVI, *Evidence*, 1 April 2019, 1730 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

Mr. Lantz of PAC Packaging Consortium observed that the plastics that are worth the most as recycled resins are the ones that are the most commonly recycled (namely clear polyethylene [PET] bottles).[53] The national average recycling rate for PET bottles is 75% according to Jim Goetz, President of the Canadian Beverage Association,[54] in comparison to an estimated 9% for all plastics.[55]

A 2014 report prepared for the CCME, *State of Waste Management in Canada*, concluded that sending plastics to landfill "represents a missed opportunity to extract value from materials in the waste stream."[56] The report identified an opportunity for continued harmonization of plastic material categories to improve diversion from landfill, particularly in smaller Canadian jurisdictions such as Atlantic Canada and the territories. If plastic recycling labelling and systems were more consistent, the report argued, smaller jurisdictions could establish joint diversion programs "to access economies of scale for program operations, shared infrastructure, and administrative functions."[57]

Mr. Valiante explained that, if recycled plastic were more in demand, the economics would dictate a transition to a circular economy for plastics:

> Certainly when recycling gets to scale the same companies that are producing virgin plastics today will more than likely be in the recycled plastics business because it will be a money maker. It will deliver the same value that we get today from virgin plastics without the waste.[58]

Regional Variation in Plastic Pollution

Dr. Max Liboiron of Memorial University of Newfoundland informed the Committee that the characteristics of plastic pollution of water bodies differ among the regions of Canada. She noted that in Newfoundland and Labrador, the major source of plastic pollution is fishing gear, which she finds in the guts of all of the marine species she studies. In urban areas, cigarette butts and food packaging make up most plastic

53 ENVI, *Evidence*, 6 May 2019, 1625 (Dan Lantz, Director, Sustainability, PAC Packaging Consortium).

54 ENVI, *Evidence*, 10 April 2019, 1545 (Jim Goetz, President, Canadian Beverage Association).

55 Deloitte and Cheminfo Services Inc., *Economic Study of the Canadian Plastic Industry, Market and Waste: Summary Report to Environment and Climate Change Canada*, March 2019.

56 Giroux Environmental Consulting, prepared for: Canadian Council of Ministers of the Environment, *State of Waste Management in Canada*, 2014.

57 Ibid.

58 ENVI, *Evidence*, 1 May 2019, 1610 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

pollution. In the Great Lakes, pre-production plastic pellets, microbeads and microfibres from sewage form most of the plastic pollution. Dr. Liboiron advised that, because the issue of plastic pollution is not uniform across Canada, any Canada-wide intervention should be tailored to the plastics that matter most in different regions.[59] Solutions to plastic pollution in Canada, therefore, need to be diverse, flexible and adaptable enough to accommodate regional variation.

Human Health and Ecological Concerns of Plastic Pollution

Dr. Liboiron explained the main reason that the consumption of microplastics is of ecological and human health concern: harmful contaminants attached to the plastic are also inadvertently ingested. The use of persistent chemicals with harmful human health or environmental properties, such as PCBs, some flame-retardants, and DDT, may have been restricted, but these chemicals are still circulating in the aquatic environment. Due to the chemical properties (hydrophobicity) of these substances, they become attached to plastic litter also circulating in the environment. When microplastic particles are inadvertently consumed in seafood or drinking water, any toxic contaminants associated with them can transfer to humans or animals.[60]

Dr. Chelsea Rochman, Assistant Professor, University of Toronto, informed the committee that microplastics “could infiltrate every level of the food chain” as they are found in the stomachs of animals of all sizes, in our seafood, sea salt, and drinking water. She noted:

> We find plastic debris on our shorelines, relatively large concentrations in our Great Lakes—sometimes finding more than 100 pieces of plastic per individual fish—and microplastics in the surface water, sediments and zooplankton in our Arctic.… In my own research, I've demonstrated that microplastic can be a source of hazardous chemicals to fish and that this exposure can lead to physiological effects. Other researchers have demonstrated that microplastics can interfere with the reproductive system and lead to changes in behaviour.[61]

Dr. Ross highlighted concerns regarding the health of members of indigenous communities who consume traditional seafoods on Canada's three coastlines.

> Coastal communities along our three ocean coastlines rely heavily on seafoods. In coastal British Columbia, we have shown that the average first nations consumer eats

59 ENVI, *Evidence*, 3 April 1545, 1635 (Max Liboiron, Assistant Professor and Associate Vice-President Research, Memorial University of Newfoundland).

60 ENVI, *Evidence*, 3 April 2019, 1640 (Max Liboiron, Assistant Professor and Associate Vice-President Research, Memorial University of Newfoundland).

61 Ibid.

> up to 15 times more seafood than the average Canadian. In the Arctic, this can be as much as 25 times more seafood than the average Canadian. This means that seafood is far more important to these individuals in these communities, and it means that plastic pollution in the oceans threatens the quality and safety of their seafood.[62]

Possible Solutions

Witnesses noted that there is no single solution to preventing plastic pollution, and so provided the Committee with a range of solutions to achieve plastic waste reduction, improved plastic waste management, and an increasingly circular economy for plastics. While recounting her experience as part of the first scientific expedition to the Great Pacific Garbage Patch, Dr. Rochman of the University of Toronto reflected that plastic pollution is "not an issue of cleanup but rather an issue of prevention".[63] She suggested that policy solutions to prevent microplastic pollution "might include, but are not limited to, emissions standards for microplastics such as from washing machines, wastewater or stormwater, filters on washing machines to trap microfibres, bioretention cells on storm drains."[64]

Dr. Love-Ese Chile of Grey to Green Sustainable Solutions provided the Committee with a number of solutions to address plastic pollution:

> These include things like circular economy, bio-economy, sustainable materials management, zero waste, life cycle analysis, cradle-to-cradle design, industrial symbiosis, compostable and biodegradable plastics. These tools can be used in combination or by themselves in different scenarios to trace out the most sustainable course of action.[65]

In considering the many solutions presented in witness testimony and written briefs, the Committee followed the prioritization of the waste management hierarchy: reduce, reuse, recycle. Dr. Chile described an expanded hierarchy, the five Rs: 1) reduce, 2) reuse, 3) recirculate, 4) recycle, and 5) recover.[66] The Committee emphasizes that the reduction of plastic waste is the preferred option.

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62 ENVI, *Evidence*, 10 April 2019, 1535 (Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise).

63 ENVI, *Evidence*, 1 May 2019, 1640 (Chelsea Rochman, Assistant Professor, University of Toronto).

64 Ibid.

65 ENVI, *Evidence*, 8 May 2019, 1615 (Love-Ese Chile, Researcher and Consultant, Grey to Green Sustainable Solutions).

66 Ibid.

Investing in Knowledge and Innovation

The Committee heard from witnesses that funding scientific research into sources of plastic pollution and innovative solutions to plastic waste is important for addressing plastic pollution. Dr. Peter Ross of Ocean Wise expressed the importance of further research: "If we are to effectively tackle this problem, we'll need to identify the sources of plastics in the ocean so as to be able to track those back to source."[67] Andrew Marr of Metro Vancouver and the National Zero Waste Council explained why he considers continued research and development to be so important, whether it is industry or government who supports it.

> Some plastic items have no clear solution yet. An example is tires. Just like textiles, the particles that are released from tires happen from their normal use. The wear and tear of a tire loses up to 20% of the weight of the tire. Those particles go into the environment. They are washed off into streams and rivers and so on. You can't ban the automotive tire; there's no realistic alternative to it, so we're suggesting that in this particular case, the industry should be mandated to carry out research and development for better materials, surface water treatment and other options, recognizing that while there are no solutions, no solutions will be found unless somebody is looking for them.[68]

Implementing robust and standardized plastic waste data collection across Canada could help identify opportunities for collaboration between jurisdictions to achieve economies of scale. Mr. Delage of CREDDO expressed the importance of the priority area of "research and monitoring systems" from the CCME Canada-wide strategy on zero plastic waste. He noted that much plastic leaving recycling plants is exported and some may end up in the environment. Due to a lack of data collection, much remains unknown about the movement of plastic waste between municipalities, provinces and territories, and countries. Mr. Delage believes that a monitoring system to track the movement of plastic waste is warranted to learn the ultimate fate of Canadian plastic waste and to help identify the sources of plastic found in the environment. By having robust data to analyze on plastic waste sources, movements, and fates, opportunities for improving the efficiency and outcome of Canada's plastics recycling system may be found. In his view, "[w]e need more data to bring about a circular economy, especially in the plastic sector."[69]

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67 ENVI, *Evidence*, 10 April 2019, 1540 (Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise).

68 ENVI, *Evidence*, 3 April 2019, 1630 (Andrew Marr, Director, Solid Waste Planning, Metro Vancouver, National Zero Waste Council.

69 ENVI, *Evidence*, 1 April 2019, 1705 (Benoit Delage, General Director, Conseil régional de l'environnement et du développement durable de l'Outaouais).

Dr. Liboiron of Memorial University of Newfoundland highlighted the need for data in order to accurately assess whether interventions to reduce plastic waste are effective. For instance, she noted that there was no "before and after" data collection designed to assess whether the implementation of extended producer responsibility (EPR) in British Columbia in 2014 had been effective at reducing plastic pollution. As a result, evaluating the EPR program is a challenge using piecemeal data such as citizen science data from shoreline cleanups. She advised that any federal government interventions to address plastic waste should include scientific monitoring programs to allow for objective evaluation of their effectiveness.[70]

Geneviève Dionne of Éco Entreprises Québec emphasized the importance of facilitating knowledge transfer between jurisdictions within Canada regarding plastic waste innovation and best practices. Ms. Dionne saw a role for the federal government in this regard.[71] Ms. Dionne also highlighted that there is little research in Canada analyzing the composition of plastics and its additives, as well as how to effectively recycle them and appropriately use recycled resin, as is being done in France.[72]

Education and Public Engagement to Change Behaviour

The Committee heard from many witnesses that public education and engagement is important to addressing plastic pollution. Mr. Downham of PAC Packaging Consortium emphasized that it is important to reach "confused and disengaged consumers"[73] when trying to reduce plastic waste. Dr. Peter Ross agreed that engaging Canadians should be high priority in the federal government's approach to addressing the "plastic pollution crisis".[74] Mr. Masterson of the Chemistry Industry Association of Canada attributed consumer confusion and frustration in Ontario to the lack of harmonized recycling

70 ENVI, *Evidence*, 3 April 2019, 1640 (Max Liboiron, Assistant Professor and Associate Vice-President Research, Memorial University of Newfoundland).

71 ENVI, *Evidence*, 6 May 2019, 1545 (Geneviève Dionne, Director, Eco-conception, Circular Economy, Éco Entreprises Québec).

72 ENVI, *Evidence*, 6 May 2019, 1620 (Geneviève Dionne, Director, Eco-conception, Circular Economy, Éco Entreprises Québec).

73 ENVI, *Evidence*, 6 May 2019, 1530 (James D. Downham, President and Chief Executive Officer, PAC Packaging Consortium).

74 ENVI, *Evidence*, 10 April 2019, 1540 (Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise).

programs, as evidenced by over 250 different municipal curbside recycling programs.[75] He reflected that:

> [Recycling] shouldn't be that hard. We have to find a way to better educate people and to make the system work. There are jurisdictions that outperform us by seven to one in the amount of plastic material and other waste recovered and recycled. Surely if Japan and Scandinavia can figure it out, so can we in Canada. It does not have to be so confusing.[76]

Dr. Rochman of the University of Toronto and Calvin Sandborn of the Environmental Law Centre at the University of Victoria also expressed their support for public education and engagement regarding responsible plastic waste management.[77]

Leading through Federal Government Operations and Procurement

Several witnesses discussed how the federal government could lead by example to address plastic pollution. ECCC officials discussed the federal government's commitments to eliminate the unnecessary use of single-use plastics in government operations, events and meetings and to promote reducing plastic packaging waste. The federal government has committed to divert at least 75% of the plastic waste from its operations by 2030, which will partly be accomplished through the procurement of more sustainable plastic products.[78] Mr. Valiante of Smart Prosperity Institute emphasized how important government procurement could reduce plastic waste and create demand for sustainable plastics:

> Government procurement is a very, very powerful tool. Governments across Canada at all three levels are large consumers of services that use plastics. The recycled content standards or renewable chemistry plastic standards that get written into government procurement will start to create demand for recycled plastics as well. Policies around green procurement or procurement of low carbon plastics will definitely have an impact.[79]

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75 ENVI, *Evidence*, 10 April 2019, 1550 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

76 Ibid.

77 ENVI, *Evidence*, 1 May 2019, 1540 (Chelsea Rochman, Assistant Professor, University of Toronto).

ENVI, *Evidence*, 1 May 2019, 1630 (Calvin Sandborn, Legal Director, Environmental Law Centre, University of Victoria).

78 ENVI, *Evidence*, 1 April 2019, 1610 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

79 ENVI, *Evidence*, 1 May 2019, 1610 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

Mr. L'Abbe of GreenMantra Technologies recommended that the federal government exercise its ability to immediately expand the minimal recycled content requirements in the goods and services that it purchases.[80] The Committee notes that, unlike some other potential solutions discussed, improving federal procurement is clearly within federal jurisdiction and would not require legislative changes or coordination with other levels of government.

Banning Some Plastics or Some Plastic Additives

Witness testimony regarding the banning of certain plastics was mixed. The Committee heard that Canadian municipalities that have enacted plastic bans have focused on single-use plastics such as straws and carrier bags. Ms. Ryan of ECCC noted that straws are 0.1% of the waste stream and that single-use plastics are also a "small portion of the waste stream, albeit a visible one".[81] Dr. Liboiron noted that bag bans, straw bans, and even curbside recycling programs have not significantly impacted the increasing production of plastic.[82] Dr. Liboiron added that, "if Canada bans straws, I wouldn't notice it in my daily activities, which is taking plastics out of the guts of animals, because I've never met a straw in the gut of an animal."[83]

Mr. Brooks of Environmental Defence provided an explanation as to why bans and other interventions have been targeted at single-use plastic packaging as opposed to durable plastics:

> Plastic packaging is about 40% of all the plastic that's used. Durable plastics that go into automotive things or the shell of a computer or phone, those things live much longer, they're much more likely to end up in a landfill and not in the environment. One of the major concerns that people are having globally and why they're acting on plastics is because of this leakage into the environment, which we cannot deny is happening. A whale washes up on the beach every week now practically with a belly full of plastic. That's why people are targeting the single-use plastics, because of the amount of leakage into the environment.[84]

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80 ENVI, *Evidence*, 8 May 2019, 1625 (Ryan L'Abbe, Vice-President, Operations, GreenMantra Technologies).

81 ENVI, *Evidence*, 1 April 2019, 1635 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

82 ENVI, *Evidence*, 3 April 2019, 1635 (Max Liboiron, Assistant Professor and Associate Vice-President Research, Memorial University of Newfoundland).

83 Ibid.

84 ENVI, *Témoignages*, 6 mai 2019, 1610 (Keith Brooks, directeur des programmes, Protection environnementale Canada).

Mr. Delage of CREDDO cautioned the committee against banning some plastics in order to address plastic pollution. “It may be tempting to move quickly and impose bans, but that can have adverse effects, as we saw in the case of biodegradable and oxo-biodegradable bags. They had a harmful impact on the environment. Systemic change is really what's needed in terms of economic drivers.”[85]

Andrew Telfer of the Retail Council of Canada advised that, prior to implementing a ban on some plastics, governments should “ensure replacement materials are both available and have a smaller impact on the environment and ensure bans are harmonized across multiple jurisdictions to decrease consumer confusion and burden to businesses.”[86] Mr. Masterson of the Chemistry Industry Association of Canada cautioned the Committee to keep in mind that, “Banning one thing doesn't mean the problem goes away; you could be replacing it with something else.” [87]

Dr. Chile of Grey to Green Sustainable Solutions discussed the importance of problematic plastic bans in bringing about a consumer behavioral shift to reduce in the use of plastics.

> Reduce is the first [step of the waste management hierarchy] and the hardest. Our social and cultural norms are at the centre of plastic pollution. Zero waste initiatives and problematic plastic bans challenge the core assumption that we need all these things. We need to support these steps and make policies that harmonize the conversation across the whole country so that Canadians and business operators know that this is now what we call normal.[88]

Setting Performance Standards

Witnesses described the requirement for minimum post-consumer recycled content in plastic products as key to addressing plastic waste and pollution.[89] Mr. Valiante of Smart Prosperity Institute discussed how an intended impact of minimum recycled content

85 ENVI, *Evidence*, 1 April 2019, 1705 (Benoit Delage, General Director, Conseil régional de l'environnement et du développement durable de l'Outaouais).

86 ENVI, *Evidence*, 6 May 2019, 1600 (Andrew Telfer, Vice-President, Health, Wellness and Industry Relations, Retail Council of Canada).

87 ENVI, *Evidence*, 10 April 2019, 1605 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

88 ENVI, *Evidence*, 8 May 2019, 1615 (Love-Ese Chile, Researcher and Consultant, Grey to Green Sustainable Solutions).

89 ENVI, *Evidence*, 3 April 2019, 1645 (Vito Buonsante, Plastic Program Manager, Environmental Defence); ENVI, *Evidence*, 6 December 2018, 1720 (Karel Ménard, Executive Director, Front commun québécois pour une gestion écologique des déchets).

standards is to create demand for recycled plastics.[90] Mr. Wilson of Smart Prosperity Institute explained that policies that set recycled content performance standards "can either set a minimum percentage of recycled content that has to be in a product or in packaging, or they can operate as a tax mechanism whereby you pay less and less tax the closer your recycled content comes to the legislated or government-sanctioned standard."[91]

Philippe Cantin of the Retail Council of Canada expressed his organization's support for national minimum recycled plastic content standards to improve the market for recycled plastic resin, however he cautioned that the integrated global market should be kept in mind. He advised the Committee that interventions to reduce plastic waste should be analyzed to ensure that they will provide a net benefit for the environment over the status quo.[92]

Regarding how high performance targets should be, Mr. Valiante added: "People balk at high numbers for performance targets but you're not going to get the innovation and the scale shooting for low numbers like 30%. So the European Union has gone for a 70% recycling rate for all plastics, and 90% for plastic beverage containers."[93] Regarding recycling targets, Michael Burt, Vice-President, Dow Chemical Canada, recommended sector-specific targets that take into consideration the characteristics of each industry, including how easily that sector could reach a given target.[94] He cautioned against targets that are too aggressive, stating:

> What you really don't want is to hit a target that's unrealistic, that nobody's ever going to be able to hit. It will spur innovation, but it also sometimes spurs companies leaving one jurisdiction to go manufacture in another. You always have to be careful about capital—capital risk, capital flight.[95]

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90 ENVI, *Evidence*, 1 May 2019, 1615 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

91 ENVI, *Evidence*, 1 April 2019, 1710 (Michael Wilson, Executive Director, University of Ottawa, Smart Prosperity Institute).

92 ENVI, *Evidence*, 6 May 2019, 1600 (Philippe Cantin, Senior Director, Circular Economy and Sustainable Innovation, Montreal Office, Retail Council of Canada).

93 ENVI, *Evidence*, 1 May 2019, 1615 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

94 ENVI, *Evidence*, 1 May 2019, 1715 (Michael Burt, Vice-President, Dow).

95 Ibid.

Standardization and Harmonization

The need for harmonization of plastic waste policies and programs across Canada was expressed by many witnesses.[96] Mr. Wilson from Smart Prosperity Institute identified an opportunity for the federal government to provide leadership for provincial, territorial, and municipal governments by creating common definitions, performance standards, and measurement and assessment protocols for plastic waste in Canada. He stated that these "are the keys to enabling policies to operate harmoniously across the country or across an economy", to avoid fragmented systems and markets, and to provide consistency.[97] Mr. L'Abbe from GreenMantra agreed, noting, "there's a great opportunity for the federal government to lead harmonization of policy and help the CCME in forging a new consensus amongst themselves so we can find a way forward and re-establish the new norm for recycling in Canada."[98] Mr. Cantin from the Retail Council of Canada added that standards which are harmonized across Canada, and which reflect American standards in an integrated North American market, would be most helpful for Canadian retailers.[99]

National harmonization of plastic waste management programs was presented as a way to achieve the economies of scale that would make plastic recycling economically viable. Mr. Valiante of Smart Prosperity Institute expressed that the rules for EPR need to be consistent across the country to simplify the proportion of large-scale suppliers adopting EPR. He also believes that recycling programs should be integrated at the provincial or regional levels (as opposed to the municipal level, as is currently typical) to realize scale efficiencies.[100] He noted that this would "require these policies to be harmonized at national level so the rules are the same across provinces."[101]

Nathan Cullen, M.P. Skeena – Bulkley Valley, who proposed a Private Members' bill requiring that all packaging sold in Canada be recyclable or compostable,[102] believes that the federal government should focus its efforts on standardizing the type of plastic

96 ENVI, *Evidence*, 1 April 2019, 1725 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

97 ENVI, *Evidence*, 1 April 2019, 1710 (Michael Wilson, Executive Director, University of Ottawa, Smart Prosperity Institute).

98 ENVI, *Evidence*, 8 May 2019, 1625 (Ryan L'Abbe, Vice-President, Operations, GreenMantra Technologies).

99 ENVI, *Evidence*, 6 May 2019, 1610 (Philippe Cantin, Senior Director, Circular Economy and Sustainable Innovation, Montreal Office, Retail Council of Canada).

100 ENVI, *Evidence*, 1 April 2019, 1610 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

101 Ibid.

102 Bill C-429, An Act to amend the Canadian Environmental Protection Act, 1999 (packaging)

packaging sold in Canada, with the goal of optimizing how recyclable or compostable that packaging will be at the end of its life.[103]

Matt Gemmel, Manager, Policy and Research, Federation of Canadian Municipalities, agreed that standardization and harmonization around product design would be helpful. He noted that plastics with certain additives or multi-layer construction are currently very difficult or expensive to recycle or compost, creating challenges for municipalities that have collected and/or processed these plastics.[104] In its written brief to the Committee, the Federation of Canadian Municipalities recommended that the federal government create a common set of definitions and performance standards for plastic, including standards for the recyclability and compostability of packaging and plastic products, and performance targets for the amount of plastic that must be recovered and reused or recycled. The Federation of Canadian Municipalities proposed the federal government could implement these such standards through legislation such as the *Canadian Environmental Protection Act, 1999* and the *Consumer Packaging and Labelling Act*.[105]

The Committee previously heard about standardization and harmonization of plastic waste policies across Canada during its *Clean Growth and Climate Change in Canada: Forestry, Agriculture and Waste* study. W. Scott Thurlow of Dow Chemical Canada spoke of a need for a more nationally-harmonized waste management system across Canada, to: increase recycling rates, reduce recycling costs through economies of scale, improve the quality of recycling stock, and facilitate innovation among national brands to minimize the non-recyclable content in their products.[106]

Making Producers Fully Responsible for their Products

An extended producer responsibility (EPR) program is "a policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product's life cycle."[107] Through EPR programs, the company that puts a product on the Canadian market, whether they manufacture it or import it, is responsible for the costs of managing it at the end of its life. EPR programs offer the

103 ENVI, *Evidence*, 10 April 2019, 1555 (Nathan Cullen, M.P., Skeena—Bulkley Valley).

104 ENVI, *Evidence*, 8 May 2019, 1650 (Matt Gemmel, Manager, Policy and Research, Federation of Canadian Municipalities).

105 Written brief to ENVI from the Federation of Canadian Municipalities, received 29 April 2019.

106 ENVI, *Evidence*, 6 December 2018, 1620 (W. Scott Thurlow, Senior Advisor, Government Affairs, Dow Chemical Canada Inc.).

107 Government of Canada, *Introduction to extended producer responsibility*.

benefits of connecting disparate members of the plastics supply chain, i.e. producers, retailers, waste collectors, recyclers, and those who purchase recycled resin for use in their own products. Innovative plastic waste solutions may be found when those who produce plastic products understand the difficulties with those products at the end of their lives. Innovation is encouraged when producers have an economic incentive to ensure that there is value in the reuse or recycling of their products.

Many witnesses, including those representing industry, highlighted the benefits of EPR programs. When discussing the provincial and territorial leaders in plastic recycling, Ms. Ryan of ECCC noted that British Columbia and Quebec have strong EPR programs that include packaging, and that British Columbia has a much higher recycling rate (20% to 30%) than the Canadian average (9%), making it the current provincial leader.[108] Mr. Masterson of the Chemistry Industry Association of Canada discussed the success of British Columbia' EPR program where "industry says that they're happy to take 100% of the costs of the blue box recovery program, provided they have 100% control of how it operates."[109] He observed that this key feature of EPR is lacking in many jurisdictions.[110]

Mr. Valiante of Smart Prosperity Institute agreed that producers should actually operate the plastic recycling collection system. He reasoned that, if producers are spending their own money to collect plastic and direct it to recycling facilities, they will ensure that the system is efficient and achieves the economics of scale necessary to reduce costs. This could include reduced use of plastic in the first place by encouraging manufacturers to use alternative materials.[111] Benoit Delage highlighted that, by transferring the product end-of-life financial burden to industry, EPR programs give industry an economic incentive to make the plastic waste management system more efficient and less expensive overall.[112]

Regarding the implementation of EPR programs in Canada, Mr. Goetz, Canadian Beverage Association, noted that all members of the CCME agreed in 2009 to work towards the development of EPR legislation and regulation. However, he observed that "many provinces have not begun to transition existing recycling programs into EPR

108 ENVI, *Evidence*, 1 April 2019, 1650 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch, Department of the Environment).

109 ENVI, *Evidence*, 10 April 2019, 1615 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

110 Ibid.

111 ENVI, *Evidence*, 1 April 2019, 1700 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

112 ENVI, *Evidence*, 1 April 2019, 1705 (Benoit Delage, General Director, Conseil régional de l'environnement et du développement durable de l'Outaouais).

programs".[113] Mr. Goetz suggested that the federal government encourage the implementation of the CCME harmonized EPR guidelines by provinces and territories.[114] Mr. Marr of the National Zero Waste Council also expressed support for EPR for packaging that is harmonized across Canada. Although he recognized that "there is no federal mechanism to require or to enforce provincial harmonization of EPR programs for packaging," he suggested that the federal government somehow incentivize interprovincial agreements.[115]

Mr. Brooks of Environmental Defence summarized his views on the importance of EPR as follows:

> It shouldn't be the consumer's responsibility to know whether the thing is recyclable. That's why we need the harmonized standards across jurisdictions and we need extended producer responsibility. It's not up to municipalities to put the infrastructure in place, and it's not up to consumers to have the right thing. It's up to producers who want to sell the products and make the money from them to make sure that systems are in place to capture, recycle, and deal with those products' end of life.[116]

Mr. Marr also discussed the possibility of non-traditional EPR. He explained:

> Traditional EPR makes the manufacturers responsible for handling the material after it becomes waste, but that doesn't help you if the pollution from that product occurs from its regular use and not from the disposal of the material. For example, recycling of clothing doesn't address the fact that synthetic fibres shed many plastic microfibres from regular washing and laundering of clothing. In this particular case, one of the suggestions we're coming up with—and it's controversial even within our panel—is that manufacturers of textile synthetic fibres could be required to contribute toward the increased cost of sewage treatment or, for example, toward the redesign of washing machines to include filtration systems to reduce the number of plastic microfibres.[117]

Modernizing Plastic Waste Management Infrastructure

Mr. Valiante of Smart Prosperity Institute emphasized the greenhouse gas savings as a result of recycling as part of the circular economy. He informed the committee that,

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113 ENVI, *Evidence*, 10 April 2019, 1545 (Jim Goetz, President, Canadian Beverage Association).

114 Ibid.

115 ENVI, *Evidence*, 3 April 2019, 1630 (Andrew Marr, Director, Solid Waste Planning, Metro Vancouver, National Zero Waste Council).

116 ENVI, *Evidence*, 6 May 2019, 1655 (Keith Brooks, Programs Director, Environmental Defence Canada).

117 ENVI, *Evidence*, 3 April 2019, 1630 (Andrew Marr, Director, Solid Waste Planning, Metro Vancouver, National Zero Waste Council).

when plastic is recycled and used in new products, 70% of the greenhouse gases can be saved in comparison with making virgin plastic from fossil fuels.[118]

Mr. Burt of Dow Chemical Canada discussed the benefits of chemical recycling and explained it in comparison to mechanical recycling. "We're urging everyone in industry to start investing in technologies around chemical recycling. That is different from traditional mechanical recycling that grinds down plastic bottles into materials, flaked typically, for reuse. Chemical recycling uses chemistry to turn previously unrecyclable plastics into feedstocks and fuels to be used again in the production of clothing, bottles and everyday products."[119]

> "Reduction is important, but we will still end up using plastics. The plastics we do use, however, we need to be able to recycle."
>
> *Mark Butler, Policy Director, Ecology Action Centre*

Mr. Masterson of the Chemistry Industry Association encouraged investment in recycling infrastructure to reduce plastic waste bound for landfill, describing: "a paucity of modern recycling and recovery infrastructure across Canada. Many of the plastic materials going to the landfill could be easily recycled with investments in more modern infrastructure."[120] The Federation of Canadian Municipalities also identified that "new investment will be required to assist municipalities and the private sector [to] better collect, sort and process plastic, including … optical sorting facilities and the latest mechanical and chemical plastic recycling technologies."[121]

In contrast, Mr. Sandborn of Environmental Law Centre warned the Committee against being lulled into a false sense of security by the promise of recycling. He does not want people to start thinking, "[n]ow we have this new chemical recycling that's going to be the answer so that we can continue to be as wasteful as we have been over the last few decades." He believes the real solution will be putting a priority on reduction and reuse as opposed to recycling.[122]

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118 ENVI, *Evidence*, 1 May 2019, 1610 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

119 ENVI, *Evidence*, 1 May 2019, 1555 (Michael Burt, Vice-President, Dow).

120 ENVI, *Evidence*, 10 April 2019, 1555 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

121 Written brief to ENVI from the Federation of Canadian Municipalities, received 29 April 2019.

122 ENVI, *Evidence*, 1 May 2019, 1630 (Calvin Sandborn, Legal Director, Environmental Law Centre, University of Victoria).

Dr. Chile of Grey to Green Solutions discussed the potential for compostable plastics to be useful in applications such as where food waste and plastics come together and are difficult to clean for recycling:

> [T]here are many applications, mostly when you have food waste and plastics coming together, where it's very difficult to clean off the food or the oil, etc., from the plastic in order to be able to recycle it appropriately. It would be much easier to be able to put both the food and the plastic in some sort of composting operation where it all gets broken down into the same soil material.[123]

She explained the complications around the disposal of compostable plastics:

> One of the main reasons that we're not seeing the environmental potential of these [compostable plastic] materials being met is that we simply don't have the infrastructure to handle them. The first generations of these materials were not designed in collaboration with waste management operators. They were designed in their own kind of little silo. They've slowly been making their way into the market. Now, we're wanting compost operators to handle these materials that they don't really understand. So, there are many reasons why we're not seeing them degrade in the way that we want them to.[124]

Improved plastic waste management infrastructure, as well as increased communication between manufacturers, waste collectors, and composting facilities, could improve waste management outcomes for compostable plastics.

Canadian Environmental Protection Act, 1999

Some witnesses specifically suggested that the federal government use its powers under the *Canadian Environmental Protection Act, 1999*[125] (CEPA 1999) to address the plastic waste problem.

The ban on microbeads in personal care products through the CEPA 1999 was cited by witnesses as an example of an effective federal intervention. Microbeads in personal care products were added to the List of Toxic Substances in Schedule 1 under the CEPA 1999 and banned through the publication of the Microbeads in Toiletries Regulations on 14 June 2017.[126] As a result, as of 1 July 2018, the manufacture and import of toiletries

123 ENVI, *Evidence*, 8 May 2019, 1650 (Love-Ese Chile, Researcher and Consultant, Grey to Green Sustainable Solutions).

124 Ibid.

125 *Canadian Environmental Protection Act, 1999* (S.C. 1999 c. 33).

126 *Microbeads in Toiletries Regulations*, SOR/2017-111, *Canadian Environmental Protection Act, 1999*.

containing plastic microbeads are prohibited in Canada. As Mr. Sandborn advised, "[w]e need to regulate microplastics as the government has already done with microbeads."[127] This view was shared by other witnesses, including James Gunvaldsen Klaassen, Lawyer at Ecojustice Canada, and Mr. Brooks of Environmental Defence.

Ecojustice Canada and Environmental Defence, along with nine other organizations, formally requested that the Minister of Environment and Climate Change Canada add single-use plastics, microplastics and microfibers to the Priority Substances List under the CEPA 1999 on 7 June 2018.[128] This addition would trigger a scientific toxicity assessment of those substances that must be completed by the federal government within five years.[129] If found to be toxic or capable of being toxic to the environment or human health, the federal government could then add the substance(s) to the CEPA 1999 List of Toxic Substances and exercise a broad range of regulatory authorities over them throughout their entire lifecycle, to mitigate the risks identified in the assessment.[130] In its submission to the Committee, Environment and Climate Change Canada (ECCC) explained:

> The addition of a toxic substance to Schedule 1 of CEPA enables a wide range of regulatory actions, including regulations that target any aspect of the substance's life cycle, from the research and development stage through manufacture, use, storage, import, export, transport and disposal. This could include a total, partial or conditional ban on the manufacture, use, processing, sale, offering for sale, import or export of a plastic substance or of products containing that substance.[131]

In her testimony to the Committee, Ms. Ryan of ECCC noted that the federal government could add plastics – or certain forms of plastic – to the Toxic Substances List without listing them first on the Priority Substances List**.** Ms. Nancy Hamzawi, Assistant Deputy Minister, Science and Technology Branch at ECCC, added that enough scientific information about the toxicity of plastics is required before they can be directly added to the List of Toxic Substances, and clarified that this information is currently incomplete. She added that ECCC is planning to have a research agenda to fill this gap ready in June 2019.[132]

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127 ENVI, *Evidence*, 1 May 2019, 1550 (Calvin Sandborn, Legal Director, Environmental Law Centre, University of Victoria).

128 Written brief submitted to ENVI by Ecojustice, Appendix B, received 22 May 2019.

129 ENVI, *Evidence*, 8 May 2019, 1635 (James Gunvaldsen Klaassen, Lawyer, Ecojustice Canada).

130 ENVI, *Evidence*, 13 May 2019, 1645 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch).

131 Written response to questions submitted to ENVI by Environment and Climate Change Canada, "Regulatory Authority Under CEPA PART 5 (Toxic Regime)," received 8 May 2019.

132 ENVI, *Evidence*, 13 May 2019, 1550 (Nancy Hamzawi, Assistant Deputy Minister, Science and Technology Branch).

The Chemistry Industry Association of Canada expressed its opposition to listing plastic microfibres, microplastics, or single-use plastics on the CEPA 1999 Priority Substances List in a letter to the Minister of Environment and Climate Change.[133] It stated that "there is no need for further study on the harm to aquatic species from poorly managed post-consumer plastics". It expressed concern that announcing "further study" through listing these plastics on the Priority Substances List would delay "meaningful actions" such as addressing behavioural, infrastructure and plastic waste management issues.[134]

FINDINGS AND RECOMMENDATIONS

Throughout this study, the Committee sought to examine how plastic pollution can be reduced in Canada and what the federal government could do to help achieve this. The observations and suggestions brought forward by witnesses during testimony to the Committee on this matter, and in briefs submitted by various stakeholders, were enlightening. The findings and recommendations that follow were informed by this advice.

The federal, provincial and territorial governments have already committed to address plastic pollution in the *Strategy on Zero Plastic Waste.* The Committee also notes that industry-led initiatives are underway. The Committee stresses the importance of reaching the goals established in the Ocean Plastic Charter and the *Strategy on Zero Plastic Waste*, particularly:

- that the use of single-use plastics be reduced;
- that 100% of plastic products be reusable or recyclable by 2030;
- that at least 55% of plastic packaging be recycled or reused by 2030 and that 100% of all plastic be recovered by 2040;
- that plastic products contain, where applicable, at least 50% recycled content by 2030;
- that public procurement support the reduction of plastic waste and the secondary plastics markets and alternatives to plastic; and
- that Canada's recycling capacity be increased.

133 Written brief submitted to ENVI from the Canadian Plastics Industry Association, received 10 April 2019.

134 Ibid.

Accordingly, the Committee has focused its study on finding actions that the federal government could take to facilitate the implementation of these goals. The Committee advises that multiple initiatives be implemented concurrently – with the first priority on reduction – in order to tackle the problem of plastic pollution from many fronts.

The zero plastic waste goal in the Ocean Plastic Charter – to reuse, recycle, or recover all plastic by 2040 – will require cumulative actions from government, industry, consumers, and all stakeholders. However, the Committee feels that this target should be more ambitious to better reflect the urgency of plastic pollution. As such:

Recommendation 1

The Committee recommends that Environment and Climate Change Canada, in collaboration with the Canadian Council of Ministers of the Environment, develop and implement ambitious targets to meet the goal of zero plastic waste by 2030.

There is a Need for Coordinated Action

Although plastic recycling programs have been in place for years in Canada, witnesses expressed that too much plastic still ends up in landfill or leaks into the environment. As suggested by Dr. Liboiron of the Memorial University of Newfoundland during her testimony, there is a need to ensure that "the scale of intervention and the scale of the problem are commensurate."[135] To achieve this required scale of intervention, each level of government and the private sector must cooperate and act in a coordinated and meaningful manner. So far, the plastic waste problem has been mostly left to municipalities, which, despite their good intentions, haven't always had the means required to effectively tackle the issue. In addition, their effectiveness has been restricted by a lack of coordination at the national level that has resulted in a patchwork of initiatives.

If Canada is serious about tackling the plastic waste problem, resources must be dedicated accordingly. No single government in this country can address the situation alone given that jurisdiction over the matter is split between various levels of government. The federal government, provinces and territories, municipalities and industry must all coordinate their efforts in their fight against plastic pollution. For these reasons:

135 ENVI, *Evidence*, 3 April 2019, 1635 (Max Liboiron, Assistant Professor and Associate Vice-President Research, Memorial University of Newfoundland).

Recommendation 2

The Committee recommends that Environment and Climate Change Canada set up a permanent secretariat and a working group, with representatives from provinces, territories, Indigenous communities, municipalities, industry, academia, and other relevant stakeholders, specifically dedicated to coordinate the fight against plastic pollution in Canada.

Plastic Toxicity Should be Assessed through the *Canadian Environmental Protection Act, 1999*

Several witnesses have pointed to the CEPA 1999 as a way to address plastic waste pollution. Adding plastic – whether single-use plastics, microplastics, or plastic microfibers – to the List of Toxic Substances found in Schedule 1 of the Act would empower the federal government to implement many of the measures to fight plastic pollution proposed in this report through subsequent regulations under the CEPA 1999.

Before a substance can be added to the List of Toxic Substances, the federal government must be satisfied – based on a scientific risk assessment– that the substance is toxic. For the purposes of the Act:

> 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;
>
> (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.[136]

If plastic – or certain forms of it – is added to the List of Toxic Substances, then the federal government is conferred broad authority to take measures to reduce or eliminate its release into the environment at each stage of its life cycle, from

136 *Canadian Environmental Protection Act, 1999*, section 64.

development to transportation, distribution, use, storage and ultimate disposal as waste.[137] These measures must also be informed by scientific evidence.[138]

Ms. Hamzawi from ECCC informed the Committee that the "best available knowledge globally" could be used in the state of the science assessment to identify any remaining gaps in knowledge.[139] The Committee understands that ECCC is preparing a research agenda to gather more scientific evidence related to whether some plastics can be considered toxic or capable of being toxic to the environment or human health.

The science that would be gathered during this process would inform a robust scientific risk assessment to determine whether plastics should be added to the CEPA 1999 List of Toxic Substances, as well as which risk management measures should be implemented. This science would also give Canadians evidence-based information about the impacts of plastic on human health and the environment.

The Committee believes that the federal government should avail itself of all of the regulatory powers and authorities to regulate single-use plastics granted by the CEPA 1999, including through the addition of single-use plastics to the CEPA 1999 Priority Substances List. In doing so, Environment and Climate Change Canada should, whenever possible, rely on scientific assessments of plastic toxicity that have been conducted by other member countries of the Organisation for Economic Co-operation and Development. Accordingly:

Recommendation 3

The Committee recommends that the federal government add single-use plastics, and any other plastic substances for which there is a scientific assessment – using existing science combined with the precautionary principle – warranting a conclusion of toxicity under the *Canadian Environmental Protection Act, 1999,* to Schedule 1, the List of Toxic Substances, so that the range of regulatory tools can be applied to these substances.

137 Government of Canada, *Overview of Canadian Environmental Protection Act*.

138 ENVI, *Evidence*, 13 May 2019, 1535 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch).

139 ENVI, *Evidence*, 13 May 2019, 1545 (Nancy Hamzawi, Assistant Deputy Minister, Science and Technology Branch).

Recommendation 4

The Committee recommends that, for other types of plastic and plastic waste, the Ministers of Environment and Climate Change and of Health add these substances to the Priority Substances List established under the provisions of the *Canadian Environmental Protection Act, 1999,* and proceed with the scientific assessments needed to determine the toxicity of these plastics.

Recommendation 5

The Committee recommends that Environment and Climate Change Canada make public its research agenda related to determining the toxicity of plastics, as well as all resulting scientific studies.

In the meantime, the Committee believes that there is a need to immediately stop using single-use plastic products where alternatives exist. These products needlessly add to the amount of plastic waste produced every day in Canada. Where alternatives to single-use plastic products exist and have a smaller impact on the environment, they should be favoured, or even required. As such:

Recommendation 6

The Committee recommends that the federal government commit to banning harmful single-use plastic products – such as straws, bags, cutlery, cups, cigarette filters and polystyrene packaging – in Canada, and, where warranted based on existing scientific evidence, take other steps under the *Canadian Environmental Protection Act, 1999* to regulate their use, composition and disposal.

Standardization is Key to Increasing Plastic Recycling

Witnesses who appeared before the Committee depicted Canada as having highly fragmented plastic recycling systems, plastic waste markets and plastic recycling policy directions. Such fragmentation creates inefficiencies, increases the overall cost of plastic recycling in Canada, and confuses Canadians about which plastic types and products can or cannot be recycled. In addition, the lack of standardization has prevented certain innovations, such as compostable plastics, to fully achieve their potential.

The Committee believes that the federal government can play a leading role in establishing standards. These standards could ensure that plastic products are designed in such a way as to facilitate reuse and recycling. Standards could also ensure greater harmonization of plastic recycling systems in Canada. Such standardization and

harmonization would increase the market size for plastic waste, allow for scale efficiencies, and reduce the cost of plastic recycling in Canada. These standards should apply to Canadian producers and manufacturers, but also to importers to prevent unfair competition from foreign businesses.

Using its role in developing building standards in Canada as an example, the Committee believes the federal government should take the lead in developing plastic product composition and plastic recycling standards. These standards could then be implemented both by the federal government and the provinces and territories, in accordance with their own jurisdictional requirements. The Standards Council of Canada was suggested as a possible starting place.[140] As such:

Recommendation 7

The Committee recommends that the federal government, after having consulted with provinces and territories, Indigenous communities, municipalities and industry, develop harmonized national standards concerning the chemical composition, material categories, and recyclability and compostability of plastic products manufactured or sold in Canada.

Recommendation 8

The Committee recommends that the federal government require importers and manufacturers of plastic products and resin in Canada to disclose – on the Internet or otherwise – the chemical composition of these products and resins.

Witnesses also indicated that harmonization between provinces is required for plastic recycling systems and EPR programs. Producers are incentivized to find innovative plastic waste solutions when they are responsible for plastic products and packaging at the end of their lives. Currently, numerous recycling programs exist across Canada that are not coordinated with each other. In addition, despite the adoption of the CCME *Canada-wide Action Plan for Extended Producer Responsibility* in 2009 – plastic producers and manufacturers of plastic goods can be subject to various types of EPR programs – even within the same province – each with its own set of requirements.

140 ENVI, *Evidence*, 13 May 2019, 1615 (Helen Ryan, Associate Assistant Deputy Minister, Environmental Protection Branch)

Better harmonized recycling systems and EPR programs would allow scale efficiencies to be created within the recycling industry.[141] This, in turn, should reduce the amount of plastic waste destined for landfill. Accordingly:

Recommendation 9

The Committee recommends that Environment and Climate Change Canada, in consultation with provinces and territories, Indigenous communities, municipalities and industry, lead the development of a model recycling system and a model extended producer responsibility framework specifically for plastic that could be adopted, with or without adaptation, in each province or territory. If required, the federal government should propose legislation within its areas of jurisdiction to facilitate the adoption of the model recycling system and extended producer responsibility framework.

Fostering Recycling

To become economically viable, plastic recycling needs to reach a scale at which efficiencies lower the price of recycled resin to be competitive with virgin resin. Standards for the composition of plastic products would contribute to such efficiencies and reduce the cost of recycling plastic, but more needs to be done to increase the demand for recycled plastic.

Requiring producers and manufacturers to include post-consumer recycled content in their products would foster demand for recycled plastic. This would encourage businesses to innovate and to find uses for recycled plastic. This should also displace some demand for virgin plastic. As indicated by Mr. Valiante of Smart Prosperity Institute, Canada has "all of the technological capability and know-how, and because we have a petrochemical sector, we also have a lot of expertise on how to recycle plastics."[142] Increasing recycled content should be feasible and, as indicated by Mr. Burt from Dow Chemicals Canada, setting targets could spur innovation, as long as they are realistic enough that businesses do not flee to other countries.[143]

In accordance with the commitment made in the Ocean Plastics Charter:

141 ENVI, *Evidence*, 1 May 2019, 1610 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

142 ENVI, *Evidence*, 1 May 2019, 1615 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute).

143 ENVI, *Evidence*, 1 May 2019, 1715 (Michael Burt, Vice-President, Dow).

Recommendation 10

The Committee recommends that the federal government work with provinces and territories to require that plastic resin and plastic goods sold in Canada be made from at least 50% recycled plastic by 2030.

With an increased demand for recycled plastic resins, Canada must ensure enough plastic waste remains available to recyclers in Canada. As such, plastic waste should be diverted from landfilling in foreign countries. For this:

Recommendation 11

The Committee recommends that the federal government prohibit the export of plastic waste to be landfilled in a foreign country.

In recognition that landfilling falls under provincial jurisdiction:

Recommendation 12

The Committee recommends that the federal government work with provinces and territories to ban the landfilling of plastic waste in each province and territory as part of Canada's national zero plastic waste strategy.

Mr. Valiante, Mr. Sandborn, and Mr. Brooks mentioned the relationship between fossil fuel subsidies and the economics of new plastic resin made from fossil fuels, in comparison to the economics of recycled plastic resin.[144] The low price of fossil fuels, aided by fossil fuel subsidies, contributes to an economic disadvantage for recycled plastic resin, thereby discouraging expansion of the plastics recycling industry.

The Committee points out that the Commissioner of the Environment and Sustainable Development's 2019 Spring Reports included audits relevant to this topic: *Report 3 – Tax Subsidies for Fossil Fuels–Department of Finance Canada*, and *Report 4 – Non-Tax Subsidies for Fossil Fuels–Environment and Climate Change Canada*. The audits conducted investigated to what extent the Department of Finance Canada and Environment and Climate Change Canada provided advice to support decision making on inefficient subsidies for fossil fuels that was based on analysis of all relevant and reliable

144 ENVI, *Evidence*, 1 May 2019, 1605 (Usman Valiante, Senior Policy Analyst, Corporate Policy Group, Smart Prosperity Institute); ENVI, *Evidence*, 1 May 2019, 1705 (Calvin Sandborn, Legal Director, Environmental Law Centre, University of Victoria); ENVI, *Evidence*, 6 May 2019, 1555 (Keith Brooks, Programs Director, Environmental Defence Canada).

information.[145] The Commissioner concluded the following regarding Finance Canada's work on fossil fuel subsidies:

> Overall, we found that the Department of Finance Canada's assessments to identify inefficient tax subsidies for fossil fuels were incomplete, and that advice it provided to the Minister was not based on all relevant and reliable information.
>
> The Department of Finance Canada conducted an overall assessment of tax expenditures–which reduce taxes payable by certain taxpayers and the amount of revenue that the government would collect–and identified those that provided a specific advantage to the fossil fuel sector as subsidies. At the end of June 2018, the Department had also begun assessing 2 of the 12 benchmark tax measures–general tax measures in the tax system–specific to the fossil fuel sector to identify those that could potentially be fossil fuel subsidies.
>
> The Department of Finance Canada did not clearly define how a tax subsidy for fossil fuels would be inefficient. The Department's assessments focused almost exclusively on fiscal and economic considerations and did not consider the integration of economic, social, and environmental sustainability in subsidizing the fossil fuel sector over the long term.[146]

The Commissioner concluded the following regarding Environment and Climate Change Canada's work regarding fossil fuel subsidies:

> Overall, we found that Environment and Climate Change Canada's work to identify inefficient non-tax subsidies for fossil fuels was incomplete and not rigorous. In our view, this is partially because the Department used unclear definitions.
>
> To identify non-tax subsidies for the fossil fuel sector, Environment and Climate Change Canada considered 23 of approximately 200 government organizations and identified 36 ongoing potential non-tax subsidies that supported the consumption or production of fossil fuels. We found that the Department missed some potential subsidies that in our opinion it should have considered. Of the 36 potential non-tax subsidies identified, it determined that 4 were subsidies for the fossil fuel sector.
>
> Once Environment and Climate Change Canada identified non-tax subsidies for the fossil fuel sector, it assessed whether these were inefficient. We found that the Department identified no inefficient non-tax subsidies. However, it had not defined "inefficient" to guide its determinations.

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145 Office of the Auditor General of Canada, 2019 Spring Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, *Report 3 – Tax Subsidies for Fossil Fuels – Department of Finance Canada*; Office of the Auditor General of Canada, 2019 Spring Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, *Report 4 – Non-Tax Subsidies for Fossil Fuels – Environment and Climate Change Canada*.

146 Ibid.

> We also found that in its assessments, the Department did not consider the economic, social, and environmental sustainability of subsidizing the fossil fuel sector. The Department informed us that its assessments were only preliminary.[147]

To assist recycled plastics in achieving a greater market share, in order to encourage increased plastic recycling rates:

Recommendation 13

The Committee recommends that the Department of Finance Canada and Environment and Climate Change Canada conduct a thorough assessment to identify all federal fossil fuel subsidies related to plastics, addressing the shortcomings identified by the Commissioner of the Environment and Sustainable Development in her 2019 Spring Reports, *Report 3 – Tax Subsidies for Fossil Fuels–Department of Finance Canada*, and *Report 4 – Non-Tax Subsidies for Fossil Fuels–Environment and Climate Change Canada*, and that the federal government eliminate the fossil fuel subsidies identified.

Funding is Required to Foster Innovation and to Modernize Recycling

One of the key messages the Committee heard during this study is that much remains to be learned about plastic pollution and waste management. We have yet to fully understand how plastic leaks into the environment and from where that leaked plastic comes. There is no nationally standardized data collected about EPR programs on plastic, making it difficult to asses their effectiveness.[148]

There does not yet appear to be a clear solution for certain uses of problematic plastics and for certain plastic waste management issues, such as tire residue and textile microfibres. These are leaking into the environment, not because they are mismanaged at the end of their lives, but just from their normal use and wear and tear.

Funding is therefore required for research and development to ensure that potential solutions are investigated. The expertise to develop such solutions exists in Canada, within the petrochemical sector and within our academic institutions, but research and development funding would accelerate advancing knowledge about better plastic management, from design to disposal. Therefore:

147 Ibid.

148 ENVI, *Evidence*, 3 April 2019, 1640 (Max Liboiron, Assistant Professor and Associate Vice-President Research, Memorial University of Newfoundland).

Recommendation 14

The Committee recommends that the federal government create a funding program to foster research and development regarding sources of plastic pollution and the effects of plastic pollution on human health and the environment.

Recommendation 15

The Committee recommends that the federal government create incentives, such as grants and contributions or a tax credit, to encourage businesses and universities and other research bodies to invest in research and development related to:

- **plastic waste monitoring and standardized data collection;**
- **preventing microplastic pollution through wastewater;**
- **recyclability and compostability of plastics;**
- **recycling technology and infrastructure, including chemical recycling; and**
- **alternatives that are less toxic for the environment and human health.**

Recommendation 16

The Committee recommends that the federal government study how it can best support and encourage the expansion and diversification of modern recycling and recovery infrastructure across Canada, and that it implement these supports.

Recommendation 17

The Committee recommends that the federal government establish a funding program to help the plastic recycling industry modernize and expand its facilities across Canada.

Recommendation 18

The Committee recommends that the federal government establish a funding program to help municipalities in meeting any new federal regulations related to removing microplastics from drinking water and wastewater.

Canadians Need Better Information to be Fully Engaged

There is no doubt that Canadians are willing to do more to protect the environment from plastic pollution. They are willing to make more responsible choices, where accessible, when buying products and disposing of them. But Canadians are finding that this isn't an easy task.

Harmonizing recycling programs across Canada would certainly help Canadians better understand how to correctly dispose of plastic. According to Mr. Masterson of the Chemistry Industry Association, the lack of consistency between recycling programs "contribute[s] to the nearly 80% of post-consumer plastics that end up in Canadian landfills"[149] instead of being recycled.

> "If we are to solve the plastic pollution crisis, we'll need to arm Canadians with a better understanding of the topic. Engaging Canadians of all walks of life should be a very high priority."
>
> *Peter Ross, Director, Ocean Pollution Research Program, Ocean Wise*

The Committee notes that there is also a need for greater consumer awareness about the products Canadians buy. This would allow them to make more informed choices when buying plastic products and would equip Canadians with the knowledge to consider alternatives to plastic. Such information could be shared through product labelling – an area over which the federal government already exercises authority – and through an information campaign. So that consumers are well-informed about the composition of plastic products they buy, and how to properly dispose of them:

Recommendation 19

The Committee recommends that the federal government consider legislation and regulations to require that products made from plastic sold or imported into Canada be labelled – on the product itself or on a QR code – with information about the type of plastic contained in the product, the proportion of recycled plastic content, and how to properly dispose of the product.

149 ENVI, *Evidence*, 10 April 2019, 1550 (Bob Masterson, President and Chief Executive Officer, Chemistry Industry Association of Canada).

As well, a public education campaign to increase awareness of the impacts of plastic pollution and Canada's plastic waste management situation could have the following goals:

- Changing consumer behaviour to reduce demand for plastics made from fossil fuels (that is, to reduce overall plastic use and to increase demand for sustainable plastics and alternatives);
- Changing consumer behaviour to improve recycling outcomes (that is, to reduce contamination within recycling programs and to increase plastic diversion from landfill); and
- Changing consumer behaviour to reduce leakage of plastics into the environment (that is, to reduce littering).

The Committee heard that ECCC is supporting third party organizations in their community education initiatives this year.[150] For this:

Recommendation 20

The Committee recommends that Environment and Climate Change Canada ensure, through an extended producer responsibility framework, funding for delivering information campaigns to inform Canadians about:

- **the life-cycle environmental impacts of plastic goods;**
- **how to properly dispose of plastics so that they stay out of the environment; and,**
- **how to reduce plastic use and waste.**

The Federal Government Can Set an Example through its Procurement

The federal government must lead by example to address the plastic pollution problem. The federal government's commitments to eliminate the unnecessary use of single-use plastics in government operations, events and meetings, and to promote the procurement of sustainable plastic products and the reduction of associated plastic packaging waste, are a good start. The Committee agrees with the witnesses who

150 ENVI, *Evidence*, 13 May 2019, 1600 (Jacinthe Seguin, Director, Plastics Initiative, Environmental Protection Branch).

suggested that the federal government could go further by requiring or favouring recycled plastic over virgin plastic in its procurement. This would not only stimulate demand for recycled plastic and reduce plastic waste, but it would also encourage provincial governments and municipalities to do the same. In order to support innovation:

Recommendation 21

The Committee recommends that the Treasury Board Secretariat of Canada, no later than 2022, establish a directive requiring federal departments and agencies, where economically justified and technically feasible, to:

- **eliminate the use of single-use plastic products;**
- **buy alternatives to plastics; and**
- **buy plastic goods and materials that contain recycled content rather than those that do not.**

CONCLUSION

For years, plastic waste has been leaking into the environment without much public concern. The consequences of this inaction to ecosystems, wildlife species, and food and drinking water sources are only now beginning to be understood. The federal government must take actions within its jurisdiction to turn off the flow of plastics from Canada into the environment. The federal government must provide leadership to fight plastic pollution, so that provincial, territorial, and other interested governments can act in a coordinated manner and yield maximum impacts. Finally, all Canadians can take action to ensure that they reduce, reuse, recirculate, recycle, and recover plastic and keep litter out of our environment.

APPENDIX A
LIST OF WITNESSES

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.

Organizations and Individuals	Date	Meeting
Conseil régional de l'environnement et du développement durable de l'Outaouais	2019/04/01	148
Benoit Delage, General Director		
Department of the Environment	2019/04/01	148
Dany Drouin, Acting Executive Director Plastics Initiative, International Affairs Branch		
Nancy Hamzawi, Assistant Deputy Minister Science and Technology Branch		
Helen Ryan, Associate Assistant Deputy Minister Environmental Protection Branch		
Jacinthe Seguin, Director Plastics Initiative, Environmental Protection Branch		
Smart Prosperity Institute	2019/04/01	148
Usman Valiante, Senior Policy Analyst Corporate Policy Group		
Michael Wilson, Executive Director University of Ottawa		
As an individual	2019/04/03	149
Max Liboiron, Assistant Professor and Associate Vice-President Research Memorial University of Newfoundland		
Canadian Plastics Industry Association	2019/04/03	149
Carol Hochu, President and Chief Executive Officer		
Joe Hruska, Vice-President Sustainability		
Green Budget Coalition	2019/04/03	149

Organizations and Individuals	Date	Meeting
Vito Buonsante, Plastic Program Manager Environmental Defence		
Mark Butler, Policy Director Ecology Action Centre		
National Zero Waste Council	2019/04/03	149
Joanne Gauci, Policy Coordinator Metro Vancouver		
Andrew Marr, Director, Solid Waste Planning Metro Vancouver		
Heather Schoemaker, General Manager External Relations Department, Metro Vancouver		
Canadian Beverage Association	2019/04/10	151
Jim Goetz, President		
Chemistry Industry Association of Canada	2019/04/10	151
Isabelle Des Chênes, Executive Vice-President		
Bob Masterson, President and Chief Executive Officer		
Nathan Cullen, M.P. Skeena—Bulkley Valley	2019/04/10	151
Ocean Wise	2019/04/10	151
Peter Ross, Director Ocean Pollution Research Program		
As individuals	2019/05/01	153
Chelsea Rochman, Assistant Professor University of Toronto		
Calvin Sandborn, Legal Director Environmental Law Centre, University of Victoria		
Dow	2019/05/01	153
Michael Burt, Vice-President		
W. Scott Thurlow, Senior Advisor Government Affairs		
Smart Prosperity Institute	2019/05/01	153
Usman Valiante, Senior Policy Analyst Corporate Policy Group		
Éco Entreprises Québec	2019/05/06	154

Organizations and Individuals	Date	Meeting
Geneviève Dionne, Director Eco-conception, Circular Economy		
Environmental Defence Canada	2019/05/06	154
Keith Brooks, Programs Director		
Vito Buonsante, Plastic Program Manager		
PAC Packaging Consortium	2019/05/06	154
James D. Downham, President and Chief Executive Officer		
Dan Lantz, Director Sustainability		
Retail Council of Canada	2019/05/06	154
Philippe Cantin, Senior Director Circular Economy and Sustainable Innovation, Montreal Office		
Andrew Telfer, Vice-President Health, Wellness and Industry Relations		
As an individual	2019/05/08	155
Love-Ese Chile, Researcher and Consultant Grey to Green Sustainable Solutions		
Ecojustice Canada	2019/05/08	155
James Gunvaldsen Klaassen, Lawyer		
Federation of Canadian Municipalities	2019/05/08	155
Brock Carlton, Chief Executive Officer		
Matt Gemmel, Manager Policy and Research		
GreenMantra Technologies	2019/05/08	155
Ryan L'Abbe, Vice-President Operations		
Department of the Environment	2019/05/13	156
Dany Drouin, Acting Executive Director Plastics Initiative, International Affairs Branch		
Nancy Hamzawi, Assistant Deputy Minister Science and Technology Branch		
Helen Ryan, Associate Assistant Deputy Minister Environmental Protection Branch		

Organizations and Individuals	Date	Meeting
Jacinthe Seguin, Director Plastics Initiative, Environmental Protection Branch		

APPENDIX B
LIST OF BRIEFS

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.

Association of Home Appliance Manufacturers Canada

Chile, Love-Ese

Conseil régional de l'environnement et du développement durable de l'Outaouais

David Suzuki Foundation

Éco Entreprises Québec

Ecojustice Canada

Federation of Canadian Municipalities

Liboiron, Max

National Zero Waste Council

Retail Council of Canada

LIST OF MEMBERS' BRIEFS

Amos, William (Pontiac, Quebec)

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. 148, 149, 151, 153 to 156, 158, 159, 161 to 163) is tabled.

Respectfully submitted,

John Aldag
Chair

DISSENTING REPORT FROM THE OFFICIAL OPPOSITION CONSERVATIVE MEMBERS REGARDING THE REPORT ON PLASTIC POLLUTION IN CANADA

SUMMARY

The Conservative Members of the Standing Committee on Environment and Sustainable Development agree that Canada needs to do more to reduce plastic pollution and waste. However, the report makes a number of recommendations that either are not supported by the testimony heard at committee, impose financial commitments on the public purse that are not justified within the context of Canada's current fiscal challenges, or represent overreach or heavy-handedness on the part of the government. For this reason, the Conservative Members oppose Recommendations 2, 3, 4, 5, 13, 14, 15, 17, and 20 contained in the majority report. Subject to the qualifications outlined herein, the Conservative Members support the remainder of the recommendations contained in the Committee's majority report.

A PERMANENT SECRETARIAT

Recommendation 2 proposes the establishment of a permanent secretariat to coordinate the fight against plastic pollution in Canada. We take note that protecting the environment is a shared responsibility of the federal and provincial governments. As such, a collaborative approach is required to produce the desired results on plastic waste reduction and increased recycling rates. The Canadian Council of Ministers of the Environment (CCME) is the appropriate forum for this collaboration, augmented by departmental support at both levels of government. As such, a permanent secretariat is unnecessary. A working group, as recommended in the report, is sufficient to facilitate the inclusion of industry and ensure the expected outcomes are attained. The working group should only be established within existing resources, given the challenging fiscal pressures facing the government. Given that spending by Environment and Climate Change Canada is set to reach a record $1.8 billion next year, up 64% from last year and representing an additional 223 full-time equivalents, there are more than enough human resources available to support such a working group.

USING CEPA TO REGULATE PLASTIC

With respect to Recommendation 3, we do not believe that the federal government should add single-use plastic to the Priority Substance List under CEPA. The term "single-use plastic" encompasses a wide range of plastic products, including packaging, straws and bottles. A blanket listing of the type envisioned by this recommendation fails to take into account the unique nature and recycling profile of each product and may result in unintended consequences.

As a general principle, the Conservative Members of the Committee encourage the government to consider a more targeted listing of specific higher risk single-use plastics rather than imposing blanket bans when developing a plastics policy.

With respect to Recommendation 4, we do not believe that CEPA is the appropriate tool for regulating plastics. Using CEPA as recommended would require plastic to be declared "toxic" by the Minister under Section 90(1), or under Section 64 by individuals who are presumably more qualified to make that assessment. Common sense is sufficient to conclude that plastic does not belong on Schedule 1, the List of Toxic Substances, alongside the likes of mercury, lead, asbestos, and sulfuric acid. Similarly, the use of what the Supreme Court of Canada (*R. v. Hydro-Quebec*) declared to be a criminal statute to regulate plastic is inappropriate and heavy-handed.

Collaboration between industry, the federal and provincial governments is required if we want to reduce plastic waste and increase recycling. The federal government should resist the temptation to act unilaterally through CEPA for short-term political gain. Doing so would be symbolic, with marginal results at best. At worst, it could send a false signal to Canadians that progress is being made and undermine efforts toward a more sustainable and satisfactory outcome.

For these reasons, the Conservative Members believe that using CEPA to regulate plastics would be disingenuous, heavy-handed, and ill-suited for the particular problem that plastic pollution and waste presents. We further believe that a new framework is required to reduce plastic waste and increase recycling rates, building on the collaborative work that has been done under the auspices of the CCME and incorporating the participation of industry stakeholders and their technical expertise.

Our disposition of Recommendation 5 flows from our opposition to the use of CEPA as noted above.

A COLLABORATIVE APPROACH

With respect to Recommendation 9, Canadians expect that the industries and companies that produce, use and profit from plastic should play a major role in the recovery and recycling of the waste created by those plastics. Extended producer responsibility (EPR) is one of the tools available to harness the expertise and knowledge of the private sector. However, EPR should not be implemented without prior extensive and sustained consultation with industry, whose buy-in is necessary to achieve the desired results. The same holds true for product standardization, labelling, and minimum content requirements, given that the related considerations are highly technical and can lead to unintended consequences.

PROHIBITION ON THE EXPORT OF PLASTIC WASTE

With respect to Recommendation 11, it is imperative that the export prohibition be extended to plastic waste that will be incinerated in the destination country. Both landfilling and incineration of waste plastics are less than optimal ways of maximizing environmental outcomes. Furthermore, testimony at Committee indicated that the absence of a critical mass of waste plastic feedstock was contributing to industry's preference of using virgin resins over recycled plastic to manufacture new plastic products.

ELIMINATION OF FOSSIL FUEL SUBSIDIES

With respect to Recommendation 13, the Conservative Members note that this recommendation by any reasonable measure falls outside of the scope of this study and should be rejected by the Committee.

NEW PLASTICS RESEARCH AND DEVELOPMENT FUNDING PROGRAM

Recommendation 14 implies the creation of a new funding program for research and development in plastic management. Given the current government's ballooning deficits, burgeoning debt and serious fiscal challenges, all research and development into plastics management should be conducted within existing funding envelopes.

We note that Recommendation 15 asks the government to create incentives such as grants, contributions and tax credits to encourage businesses to invest in research and development related to various aspects of plastic waste management. It is the opinion of the Conservative Members that this kind of research and development activity should be carried out by the businesses themselves using their own resources rather than new taxpayer subsidies. A number of the other recommendations contained in this report are already intended to send the market signals that would prompt this kind of research and development by industry.

Recommendation 17 asks that the government establish a funding program to help the plastic recycling industry modernize and expand its facilities across Canada. We believe this represents overreach into areas that are best left to industry to undertake and fund. As mentioned before, the government faces significant budgetary and fiscal pressures which should provide Members with reason to pause before recommending new spending programs that benefit in the first instance the private sector. There is no compelling reason for taxpayers to subsidize the modernization and expansion of recycling facilities across Canada.

MANDATORY LABELLING

Recommendation 19 proposes the establishment of legislation and regulations to require plastic products to contain labelling which would identify the type of plastic contained in the product, the proportion of recycled plastic content, and how to properly dispose of the product. Although this recommendation is laudable, in many cases it will be impractical in its application. Plastics are used in a wide range of products, including packaging, construction, automotive, electrical and electronic equipment, textiles, home appliances, agriculture (food products), medical, dental and personal care, toys, household furniture, sporting goods, mattresses and industrial machinery. Many of these applications do not lend themselves well to conventional mandatory labelling requirements. Similarly, many plastic products are too small to incorporate additional labelling information, and labelling requirements for imported plastic goods represent additional enforcement and competitiveness challenges.

We take note of the reference to QR codes and the ability to use this technology to reduce the logistical burden on producers of plastic goods.

The Conservative Members conditionally support this recommendation but encourage the government to consider a more targeted approach that reflects the diversity of plastic products used within Canada and the impact which such requirements will have on Canada's economic competitiveness.

EDUCATION CAMPAIGN & PUBLIC PARTICIPATION

Recommendation 20 calls for stable funding for campaigns to inform Canadians about the life-cycle environmental impacts of plastic goods, how to properly dispose of plastics, and how to reduce plastic use and waste.

Although most Canadians understand that littering is wrong and that recycling plastic is the responsible thing to do, most plastic waste is, in fact, not recycled or reused. Similarly, the effect of public education campaigns to encourage recycling will remain negligible until the outstanding barriers to public participation are overcome. More specifically, the greatest barrier to robust participation in recycling programs is the limited range of plastics that our recycling systems can accept and the high degree of variance between such systems across Canada. This inherent barrier to participation is compounded by the limited time, energy, and attention that households are able to dedicate to sorting plastic waste, the myriad of rules that determine what can and cannot be recycled, and the generally poor way in which recycling programs and their rules are communicated and promoted by the operators of same. For this reason, a public education campaign should only be considered at a point in time when these outstanding barriers have been overcome. Even then, given that recycling falls primarily within provincial jurisdiction, education campaigns are best conducted by provincial agencies and the operators of recycling programs.

FEDERAL GOVERNMENT'S PROCUREMENT POWER

With respect to Recommendation 21, the federal government can provide leadership by leveraging its procurement powers to promote the purchase of plastic products made from recycled plastic. However, this should not compromise value-for-money, given the government's responsibility to exercise wise stewardship over taxpayer dollars.

We note that Recommendation 10 expressly asks the government to implement a minimum recycled content standard. If the government moves forward with Recommendation 10, Recommendation 21 may effectively be rendered moot. In any event, either the government regulates mandatory recycled content or leads industry on using recycled products. The latter approach is more likely to impose additional costs on government operations, at least in the short term, so Recommendation 10 is probably a better option and is more likely to be supported by industry.