



CHEMISTRY INDUSTRY
ASSOCIATION OF CANADA
PLASTICS DIVISION

ASSOCIATION CANADIENNE DE
L'INDUSTRIE DE LA CHIMIE
DIVISION DES PLASTIQUES

February 17, 2022

The Honourable Steven Guilbeault, P.C., M.P.
Minister, Environment and Climate Change
200 boul., Sacré-Coeur
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Tracey Spack
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Dear Minister Guilbeault,

RE: Notice of Objection and Request for Board of Review in relation to the Single-Use Plastics Prohibition Regulations, *Canada Gazette*, Part I, Volume 155, Number 52, 2021-12-25

I am writing to you today on behalf of the members of the Chemistry Industry Association of Canada (CIAC). CIAC is the Association for leaders in Canada's chemistry and plastics sectors. Our members are innovators, solution providers, and world class stewardship pioneers. Representing an \$85 billion industry, CIAC members transform raw materials into the building blocks needed to manufacture some 70,000 products that we depend on every day.

The CIAC Plastics Division represents Canada's leaders in plastics industry sustainability – a \$35 billion sector that contributes over 100,000 jobs to Canada's economy. Division members encompass the entire plastics value chain, including resin and raw material suppliers, processors/converters, equipment suppliers, recyclers, and brand owners.

This submission responds to the December 25th, 2021, *Canada Gazette Notice* ("Notice") in which the Departments of Environment and Climate Change and Health sponsored Single-Use Plastics Prohibition Regulations were published. The CIAC formally objects to the proposed regulation and requests the establishment of a Board of Review under section 333 of the *Canadian Environmental Protection Act* (the Act) to review the recommendations.

The sections below provide the supporting details of CIAC's objection and outline the areas where new or expanded information is available for consideration by a Board of Review.

Expansion of the Scope of the Prohibitions Beyond What was Included in October 2020 Consultations

The October 2020 consultation proposed six single-use plastic items be prohibited based on the following criteria: environmentally problematic, recovery problematic, and alternatives exist. Those six items were reflected in the December 25th *Canada Gazette Notice, Part I*: checkout bags, cutlery, stir stick, straws, ring

carriers and foodservice ware. Although the draft regulation itself is silent on the treatment of compostable plastics, the RIAS indicates that compostable plastic versions of these six items to be prohibited will be treated the same as single-use plastics and will also be banned.

This inclusion of compostable plastics is an expansion of the list of six items that has not been publicly consulted on and goes beyond those items assessed as problematic in the government's *Proposed integrated management approach to plastic products to prevent waste and pollution*. The management approach even recognises "the potential for new and innovative technologies to improve the environmental outcomes of some single-use products. For example, the use of compostable, bio-based or biodegradable plastics may in some cases improve a product's environmental footprint or increase recovery rates of single-use items when they become waste. The government will consider how the ban or the restriction on certain harmful single-use plastics might be designed to support the growth of new and innovative technologies that further the goals of environmental protection and the transition to a circular economy."

Suggestions that compostable plastic items are difficult to distinguish from plastic versions is also not a credible or evidence-based position in the context of the proposed prohibitions. For example, if all single-use polypropylene straws are banned, then compostable plastic straws would be the only available single-use product on the market that might have a similar look and feel to plastics. In fact, compostable plastics could simply be added to green bins as well as effectively managed in an existing waste management program.

The same expansion of scope occurred for polystyrene. In this case the October 2020 management approach document identifies 'food packaging and service ware made from problematic plastics' as including "foamed plastics". The December 2021 RIAS aligns with the management approach by referring to "polystyrene foam, including expanded and extruded polystyrene". However, in the proposed regulatory text the definition of foodservice ware simply states "extruded" and "expanded" polystyrene without the "foamed" qualifier. It is important to note that extruded polystyrene can take many forms including rigid or foamed. Thus, by simply including "extruded polystyrene" in the regulations, it is yet another expansion to the list of prohibited items without scientific evidence that this material and associated product lines fit the criteria for a prohibition identified earlier.

To add compostable plastic alternatives as well as all extruded polystyrene to the prohibitions, without further scientific analysis, engagement or consultation is a breach of the regulatory process.

Innovative Technologies and Processes not Assessed in Determining Whether Materials are Recovery Problematic

The Federal Government's criteria used to assess items for prohibition can be briefly summarized as: is it environmentally problematic, is it value-recovery problematic, and alternatives are available.

A review of the Regulatory Impact Analysis Statement (RIAS) revealed a number of critical technology solutions, already in place, were not considered in the assessment process.

Carbon Black Plastics

Plastics that contain a black pigment produced through the partial or incomplete combustion of hydrocarbons, which are categorized as problematic plastics and are included in the proposed prohibitions, are a valuable source of polypropylene resin. ReVital Polymers, located in Sarnia, Ontario, is a North American leader in processing post-use plastics into high value re-manufactured plastic resin and products. Currently, approximately 10 per cent of ReVital Polymers' total polypropylene recovery is sourced from black plastics, representing roughly 1,500 Mt of black plastic per year. ReVital, using well-known technology available on the market today, has the capacity to process higher volumes of carbon black plastics; sourcing the increase is the challenge. As a result of municipal budgetary constraints, and the absence of investment in available technology by many sortation and recycling facilities, many cities currently advise residents to discard black plastics rather than recycle them.

The ReVital Polymers example demonstrates that the technology exists to both sort and process carbon black plastics at commercial scale. Furthermore, on the other side of the country, Merlin Plastics in Delta, British Columbia is processing the black plastic collected through Recycle BC¹, organisation responsible for delivering the provincewide extended producer responsibility program. Given there is an industry solution in place for value-recovery, a prohibition on 'carbon black' foodservice ware does not meet the Government's criteria for prohibition.

Expanded and Extruded Polystyrene Foam Foodservice Ware

Polystyrene is one of the most recyclable materials, either through mechanical recycling or through advanced recycling, which turns it into a monomer that can be reused over and over again. Over the last decade, a number of companies in Québec like Eco-Captation, Pyrowave and Polystyvert have developed a circular economy for polystyrene. Increased collection, densification and technology advances have addressed past issues with the economics and logistics around polystyrene recycling. Recycled polystyrene is in high demand, and has a multitude of applications, including food and non-food packaging, durable goods, and insulation and construction materials.

In addition, advanced recycling technologies are rapidly being developed in Canada to address less-recycled polystyrene products. Polystyvert uses dissolution processes to revert polystyrene products to its monomer building blocks and can filter out food contaminants from take-out containers. The result is that the recycled polystyrene is indistinguishable from virgin. Pyrowave uses a microwave catalytic depolymerization technology to process the full range of post-consumer polystyrene products and packaging, including expanded, rigid, and high impact polystyrene, to regenerate 100 per cent recycled polystyrene resin. While some polystyrene products have been traditionally considered hard-to-recycle, like take-out containers, this Canadian-made pilot technology can recover these valuable polystyrene materials from post-consumer streams. Moreover, Pyrowave and Polystyvert have received funding from both federal and provincial governments to develop their facilities and identify markets for their technologies.

In short, the circular economy of polystyrene is already in place in Québec. The above examples demonstrate that collection and management of extruded or expanded foamed polystyrene foodservice ware is underway

¹ [What Goes Where: A Recycling Bin Refresher » Recycle BC - Making a difference together.](#)

and demonstrating value recovery. Not acknowledging the current commercial polystyrene recycling technologies and established market led to the erroneous determination that foamed polystyrene was recovery problematic contributing to its inclusion in the proposed prohibition regulations.

[Plastic Checkout Bags](#)

While the RIAS includes a significant value associated with the re-usability of items, when it comes to plastic checkout bags, it fails to fully account for the benefits of secondary uses and basis the re-use rate on a single California study. There are Canadian studies² that show that plastic checkout bags are not single use and have high re-use and recycle rates.

- Canadian studies show that 77 per cent of plastic checkout bags are re-used.
- Of the remaining 23 per cent, 15 per cent are recycled and only 8 per cent are not re-used or recycled.
- The net result is that plastic checkout bags have a 92 per cent reuse and recycling rate.
- Provincial Extended Producer Responsibility programs have recycling targets that will lead to improved recycling rates.

In addition, a 2020 study by Materials Recovery for the Future³ concluded successful pilot projects demonstrating that flexible plastic packaging can be collected, sorted and baled at a material recovery facility (MRF) through curbside recycling programs. In Québec, a company called Modix Plastique processes 100 per cent post-consumer low-density polyethylene (e.g., plastic film checkout bags) from curbside collection. They recycle this into high-quality raw material for plastic manufacturers of flexible packaging, injection and moulding. Currently, demand for their products and services continues to grow.

Moreover, the recyclability of plastic bags is demonstrated in Canada's largest city, Toronto, which accepts plastic bags in its residential blue box system.⁴ In fact, many cities in Canada use a bag-in-bag approach to collecting plastic check out bags and "soft plastics", including ring carriers. Calgary, AB; Kingston, ON; and Halton, ON are a few examples.

Through the establishment of a Board of Review, CIAC is requesting that the contribution of each of the technologies above be considered when determining if a plastic manufactured item is truly recovery problematic. CIAC believes when taken into consideration these technologies demonstrate that prohibitions are not required to deliver against the stated regulatory goal of reducing plastic waste and plastic leakage into the environment.

[Extended Producer Responsibility Programs Address Many Concerns about Post-Use Management of Single-Use Plastics](#)

The implementation of other regulations that would address recovery challenges were also ignored or misrepresented. Although the RIAS did recognise many existing provincial extended producer responsibility (EPR) programs include single-use plastics (SUP), the conclusion was that the prohibitions would be positive

² [Faits saillants des résultats de l'analyse du cycle de vie environnementale et économique des sacs d'emplettes \(gouv.qc.ca\)](#). See also City of Toronto 2010/2011 Waste Audit.

³ www.materialsrecoveryforthefuture.com/research-results/2020-research-results

⁴ [Plastic bags - recycling process \(toronto.ca\)](#)

for provincial EPR programs. This demonstrates a fundamental lack of understanding of EPR programs. Under EPR programs, not only do producers take on post-use management for the products they supply to the market, but it also provides those same producers with the opportunity to recover the value retained in the post-use product through recycling or re-use. By removing certain single-use plastic items from EPR programs producers are required to find substitutes that in many cases do not have the value recovery proposition plastics do. In these instances, the substitutes become a pure system cost or end up in landfills because they are not readily recyclable. This is not a positive for the province or the producer, counter to the position stated in the RIAS.

Provinces are putting in place EPR programs to ensure that plastics are continuously recycled and re-circulated in the economy and do not end up in landfills or as litter in the environment. EPR programs require that producers meet recycling targets thereby ensuring that value-recovery is derived from plastics. Thus, the concept of a single-use item will disappear as value will be recovered from all plastic items. Investment in recycling infrastructure and innovation is one outcome of EPR, which will in turn increase the capacity of the recycling ecosystem to manage not only black plastics and foodservice ware but also create the economic incentive to increase capture of many products that are too small to be managed within the current infrastructure (straws, stir sticks and cutlery). Commercialisation of advanced recycling facilities to meet the increase feedstock supply and market demands for recycled plastic will also drive higher capture, diversion, and recovery rates.

By incorporating regulatory actions underway across Canada, with respect to EPR, into the assessment of recovery problematic plastics, CIAC believes a Board of Review would conclude that plastic manufactured items currently deemed recovery problematic would no longer be evaluated as such. Thereby removing the requirements to implement prohibitions of any sort for plastics.

Trades one Source of Pollution for Another Without Fully Evaluating Impacts

The RIAS focuses heavily on single-use plastic litter and its impact on the environment being the driving force behind the proposed prohibitions. Littering is a construct of human behaviour and is not inherent within a specific product or substance. The implementation of prohibitions on specific products will not prevent littering, it will only change the material of the product littered.

As a point in fact, the RIAS states that it is assumed the single-use plastic alternatives will be littered at the same rate as their single-use plastic counterparts. This indicates that the outcome of the regulation will be swapping one source of pollution for another. The RIAS does not attempt to quantify the impact of the new/increased source of pollution, instead it states that since the alternatives are likely to be made of wood, paper and moulded fibre, they are not expected to result in long term harm. This statement is based on perception rather than evidence and science.

Paper and moulded fibre may have additives⁵ that could have impacts over time as a result of cumulative exposure; this concept was not evaluated or explored, however, we also note that risk assessors are the

⁵ [Maria F Poças, Jorge C Oliveira, Joel R Pereira, Timothy Hogg. Consumer exposure to phthalates; Screening assessment - Phthalate substance grouping - Canada.ca](#)

experts with regard to the attributes that must be considered in a risk assessment. The concept of cumulative exposure should be brought back to the assessors, to be evaluated and incorporated at their discretion. Although those substances in the environment today do not pose a threat, increasing their presence may. Additionally, the concerns around wildlife/human injury and the potential for plastic cutlery to create floating platforms for invasive species, would also apply to some alternatives such as wooden cutlery.

The RIAS also indicates due to the increased weight of the alternative there will be an increase in tonnes of litter and waste generated as a result of the proposed regulation. Table 9 in the RIAS illustrates that the Regulations are expected to increase waste generated from substitutes by around 3.2 million tonnes over the 10 year period between 2032 to 2032. Ultimately, the result of the proposed prohibitions will be a greater mass of waste and litter in the environment with unknown, or unstudied, long-term impacts.

Assumptions in Strategic Environmental Assessment are Based on Incomplete Science

The approach taken in the RIAS to review Life Cycle Assessment (LCA) literature, then dismiss it due to inconsistencies, was not aligned to standard practice; LCA sources are not cited; and LCAs are not compared through any appropriate, standard methodology such as ISO14040/44. Instead, during the downstream segment of the Strategic Environmental Assessment (SEA), analysis relies on other evidence sources, including the Science Assessment of Plastic Pollution. The government, itself, identified limitations in the Science Assessment when it was published in October 2020. This included “significant data gaps ... that preclude the ability to conduct a quantitative risk assessment”, calling for additional studies to determine the scientific factors and consequent risks associated with plastic in the environment. Without completing those additional studies, the government then used that same Science Assessment as a statement of the impacts associated with plastic in the environment.

In terms of end-of-life outcomes at the downstream stage, it was assumed because of current low recycling rates, no recycling or value recovery was available. However, once EPR programs are fully implemented in Canada these items will have higher collection rates and the economies of scale will also be present to allow for the investment in technology with will provide value recovery.

Furthermore, the downstream analysis of the substitutes does not consider the increased transportation emissions as a result of increased weight of material being transported to management facilities. Also missing was the terrestrial impact of substitutes; in this section the SEA only references the long life and smothering effect of macroplastics on vegetation as outlined in the Science Assessment. This same consideration should be made for the substitutes. Even paper, when buried in soil, will last for a long time and could pose the same smothering potential. This is the basis for the many websites⁶ and gardening pages recommending the use of newspaper and cardboard as a weed barrier.

No evidence is provided in the RIAS that the use of substitutes will reduce littering and pollution in the environment. Bans will not address the behaviours causing the environmental leakage. In fact, the assessment acknowledges that alternatives to plastic will lead to higher pollution, thus the government is proposing

⁶ [How to Use Newspaper as a Weed Blanket Barrier \(gardenguides.com\)](http://gardenguides.com); [How I Smother Weeds with Newspaper – Kevin Lee Jacobs \(agardenforthehouse.com\)](http://agardenforthehouse.com); [Use Newspaper to Prevent Weeds Naturally in the Garden - Get Green Be Well](http://getgreenbe.com)

substitutes that will not actually achieve environmental goals. To accurately reflect environmental impacts and benefits of the proposed regulation, a full and complete assessment is needed, not only for plastics, but also the substitutes. It is critical the analysis of substitutes includes the emissions associated with sourcing, manufacturing, transporting and their end of life. Assumptions, without scientific backing, should not form the basis for a SEA.

Conclusion

As a government committed to sound science, collaboration, and engagement, we believe the establishment of an independent Board of Review is required to review the work of the government due to the selective analysis outlined in the RIAS. This is consistent with the Prime Minister's instructions in the Minister's mandate letter: "We will work to build that brighter future through continued collaboration, engagement, and the use of science and evidence-based decision-making."

Government decisions and regulations must be based on current and complete science, technology and practices that will actually achieve stated environmental outcomes rather than create future environmental impacts that may be difficult to manage.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Mantagaris", written over a light blue horizontal line.

Elena Mantagaris
Vice President, Plastics Division