



CPMA Plastics Packaging Roadmap / 2019

CPMA  **ACDFL**
CANADIAN PRODUCE MARKETING ASSOCIATION
ASSOCIATION CANADIENNE DE LA
DISTRIBUTION DE FRUITS ET LÉGUMES



Plastics Packaging Roadmap 2019

BACKGROUND

The increasing awareness of plastics pollution in the global environment is leading consumers to express growing concerns regarding the unnecessary use of plastics, notably “single-use plastics,” many of which have been highlighted in numerous media stories in Canada and around the world. The image of plastic waste harming ocean wildlife has shifted public discourse towards the need to reduce the use of unnecessary and problematic plastics that end up in the global ecosystem. As a result, governments around the world, including those at the municipal, provincial and federal level in Canada have begun to act in order to reduce the use of single use plastics.

In the early summer of 2019, the Government of Canada advised that it would take action to ban single-use plastics that cause harm as early as 2021, under the Canadian Environmental Protection Act. Where supported by scientific evidence, other steps to reduce plastic waste could also include enabling industry innovation by government supporting the development of harmonized systems that lead to the effective collection and recycling of plastics.

In June 2019, Canadian federal, provincial and territorial environment ministers released the first phase of the action plan to implement a Canada-wide Strategy on Zero Plastic Waste, which aims to reduce plastic waste across Canada. The action plan lays out concrete measures to achieve the vision of keeping plastics in the economy and out of the environment.

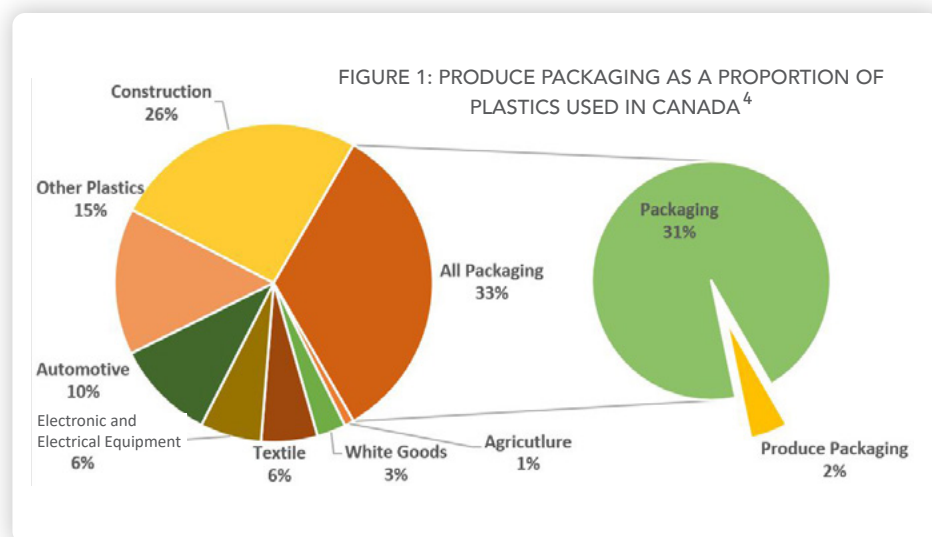
BACKGROUND

Given the province's role in regards to the management of waste, this announcement by the Canadian Council of the Ministers of the Environment is a watershed moment, as it brings all the provinces together under a single-action plan to address waste across the country.

For Canada's produce industry, and the global produce industry which serves Canadian consumers, these developments provide a unique opportunity to leverage the industry's record of driving the use of sustainable produce packaging as well as bringing together Canada's leading produce industry stakeholders to determine how they can do more, together, to further reduce the produce sector's use of unnecessary or problematic plastics packaging. An analysis of 20 categories of fruits and vegetables¹

(chosen based on sales volume and likelihood of being packaged in single-use plastics)² estimated that the produce sector accounts for 5.1 percent (79,000 metric tonnes)³ of plastic packaging in Canada. Total plastic packaging in Canada is reported to be 1,553 thousand metric tonnes or 33 percent of annual plastic products used in Canada (ECCC, 2019).

Therefore, as illustrated below in Figure 1, produce packaging accounts for approximately five percent of total packaging, and 2 percent of total plastic usage in Canada.



¹ Categories examined, each of which contain numerous types of fruits or vegetables, include potatoes, citrus, leafy greens, apples, onions, tomatoes, carrots, berries, grapes, peppers, cucumbers, celery, broccoli, soft fruit, mushrooms, pears, cherries, beets, beans, kiwis. The analysis encompasses the vast majority of single-use plastics associated with Canadian produce given that produce not encompassed in these categories are much less likely to be sold pre-packaged.

² Availability data sourced from Statistics Canada; incidence of packaging data sourced from Canadian retailers, Summer 2019.

³ Value Chain Management International (VCMI) estimation.

⁴ Adapted from ECCC (2019) and VCMI (2019) research.

CANADA'S FRESH FRUIT AND VEGETABLE VALUE CHAIN – DRIVING PACKAGING INNOVATION

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Canada's produce industry has been active in the use of more sustainable produce packaging solutions, including the use of light-weighting techniques to incrementally reduce the total mass of packaging, the migration to alternate packaging solutions that produce a step-change reduction in the weight of packaging, and the move to more recyclable packaging forms. Although some of these packaging changes have been visible to the public, others have not. Consumers are largely unaware of the incremental changes made by the produce industry's ongoing drive to reduce the use of environmentally adverse packaging. Given the increasing call to more rapidly address the concern of plastics in the environment, Canada's produce industry has acknowledged that it can do more, together.

The extent to which the produce industry has used light-weighting to remove single-use plastic from the environment is illustrated for tomatoes and cucumbers. Based on 1) 50 percent of tomatoes previously sold in clamshells with a rigid lid being replaced with a flexible film (lessening the per pack volume of plastic by ~40 percent) and 2) the volume of plastic used to wrap English cucumbers being reduced by 30 percent through the use of thinner film, over 4,500 tonnes per year of single-use plastics have been removed from the environment by the tomato and cucumber sectors alone. Similar light weighting has been applied to other products such as kiwi, beets, lettuce and berries, underlining the significance of this proactive move by industry.

DRIVING PACKAGING INNOVATION

Canada's produce sector ranges from small scale growers to national retailers, supported by a network of distributors and wholesalers across the country. Together, the produce sector produces and delivers a broad range of high quality and affordable produce to Canadian consumers, while also being part of the global supply chain that moves produce around the world. It also does this while ensuring that food safety is assured and food waste is minimized.

The produce supply chain has invested many years' effort and enormous capital, and leveraged innovative technologies and tools developed in other sectors, to ensure that the Canadian public has access to a wide variety of fresh and affordable produce year-round. Four out of five dollars spent on fresh produce at retail in Canada is on imported product. Cold chain management, improved and efficient transportation models, and controlled atmosphere packaging that improves shelf life – all of which have been essential to address consumer demands for a year-round supply of fresh produce and public policy interests supporting food safety and security – have

been enabled by the development of effective packaging.

As such, Canada's produce sector is best positioned to ensure that produce packaging evolves and continues to play an integral role in delivering the important outcomes of produce choice, quality, affordability, safety, and minimized food waste – while also reducing packaging's environmental impact. The produce sector is also best positioned to assess the impact and benefits of state-of-the-art packaging technologies such as plastics with increased post-consumer content, or driving development to ensure the viability of emerging packaging options made of novel compostable or biodegradable materials.

DRIVING PACKAGING INNOVATION

A number of key challenges must be overcome if more sustainable plastics packaging solutions are to be implemented. The need to maintain the various outcomes of choice, quality, affordability, food safety, and minimized food waste must be achieved, while operating in very different waste and recycling regimes at the municipal and provincial level. The current lack of national standards and fragmented waste management practices results in highly inconsistent recycling rates and consumer behaviour.

Secondly, produce is sourced and shipped from all over the world, requiring international standards and approaches that permit the implementation of effective solutions across borders to enable ongoing access to affordable fresh produce year-round. All of this needs to be done while accounting for packaging solutions that are optimal for the various types of produce which Canadians buy every day.

Canada's produce sector welcomes the opportunity to work more effectively together to ensure that produce packaging is more sustainable through the reduction and elimination of unnecessary and problematic plastics packaging. Building on the sector's success and lessons learned, it will continue to be a leader in addressing the risks – while actively seeking to reduce the reliance on single-use plastics, maintaining food safety and food quality, and minimizing food waste – by applying innovation that is sensitive to the cost impact on consumers.

In order to create a measurable impact that is truly national and international in scope, Canada's produce sector has agreed to come together to develop and implement a national produce packaging strategy.



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A CALL TO ACTION: A NATIONAL PRODUCE PACKAGING STRATEGY

Although Canada's produce sector has a record of driving innovation in produce packaging, the increasing need to significantly reduce the environmental impact of plastics packaging requires a more strategic approach that will:

- Maintain and support the means to deliver produce choice at an affordable level to consumers;
- Maintain the requirement for food safety, food security, and minimized food waste;
- Fully leverage the entirety of the packaging and produce ecosystem; and
- Account for the total lifecycle that packaging undergoes – from raw materials through to recycling and final disposal.

Only through such an industry-wide strategic approach can fully circular economic models be developed and implemented at a scale that achieves the economies of scale required for the effective deployment of sustainable produce packaging.

Produce packaging plays an integral role to:

- Maintain and support the means to deliver produce choice at an affordable level to consumers;
- Maintain the requirement for food safety, food security, and minimized food waste;
- Fully leverage the entirety of the packaging and produce ecosystem; and
- Account for the total lifecycle that packaging undergoes – from raw materials through to recycling and final disposal.

A NATIONAL PRODUCE PACKAGING STRATEGY

MEETING REQUIREMENTS FOR FOOD SAFETY, FOOD SECURITY & MINIMIZED FOOD WASTE

Produce packaging plays an integral role in ensuring food safety and food security, while also minimizing food waste. In many instances, packaging is so integral to minimizing food waste that the removal of packaging of any form would make shipping certain produce untenable and largely unaffordable. Research indicates that, without effective packaging, 16 to 32 percent of the food that is currently sold in packaging will be lost and/or wasted. This equates to a 10 to 20 percent loss in total available product, which at wholesale prices is valued at between \$2.5 and \$5 billion per year.

ENSURING FOOD CHOICE, QUALITY & AFFORDABILITY

Produce packaging permits the collection and shipping of a wide array of produce, both from within Canada and from around the world. The elimination of current packaging, or the introduction of less effective packaging solutions, would lead to significant disruption and subsequent economic implications for the produce industry. Bagged salads, soft berries, tender fruit – along with frozen fruit

and vegetables – are among the products that could only be sold locally and in season, or would cease to be accessible for Canadian consumers. A premature transition away from effective packaging would severely affect the economic viability of businesses supplying both the domestic and export markets. Beyond production and market implications, the capital investment in equipment and expertise required to enable a transition to new packaging materials could conservatively increase businesses' operating costs by 50 percent or more.

Without packaging, many produce types Canadians enjoy would not be available, or would only be available at a higher cost which would be prohibitive for many. Today's complex produce supply chain relies on packaging to enable the most effective, expedient and timely delivery of fresh, high quality produce. That the majority of Canadians' diets could not match the Canada Food Guide raises the potential of widespread nutritional, health and societal implications.

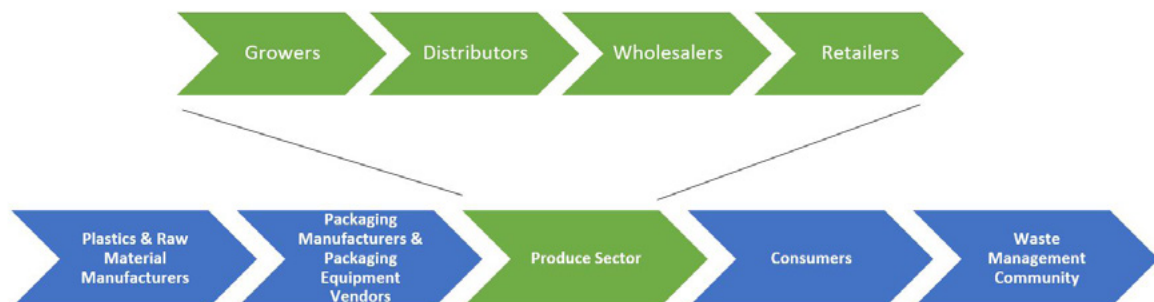
A NATIONAL PRODUCE PACKAGING STRATEGY

ACCOUNTING FOR THE PRODUCE PACKAGING ECOSYSTEM

A plastics packaging reduction, recycling and reuse strategy within the produce sector must take into account the fact that the network that interconnects the packaging, food and recycling sectors is complex. At one end, the manufacture and utilization of virgin plastic resins occur on a global scale. At the other, the collection and transformation of post-consumer packaging into recycled resin largely occurs on a localized scale. In between are networks of growers, wholesalers and retailers who operate at the local, regional and national level.

Consequently, achieving a high level of sustainable produce packaging will require a systems approach that reflects the realities that exist across the produce packaging ecosystem and civil society. These realities range from the availability of virgin and recycled materials, the current state of packaging manufacturing capabilities, produce packing technologies and best practices, distribution channel considerations, retail sector considerations, consumer behavior and education, as well as rural and urban waste management practices and policies. Successful approaches will require collaboration and cooperation across the ecosystem illustrated in Figure 2 below.

FIGURE 2. PRODUCE PACKAGING ECOSYSTEM KEY STAKEHOLDERS



A NATIONAL PRODUCE PACKAGING STRATEGY

Presented in Table 1 are Canadian industry statistics regarding the number of business operating throughout the overall food and packaging material chain. It is important to acknowledge that this is just the businesses with operations in Canada.

Much of the produce sold in Canada is imported in their packaged format, therefore the packaging ecosystem is largely influenced by stakeholders that lie outside of Canada's jurisdiction.

TABLE 1: CANADIAN PRODUCE, PACKAGING, WASTE MANAGEMENT AND RECYCLING INDUSTRY STATISTICS

Stakeholders	Sector	Canada
Plastic Product Manufacturing		2624 ⁵
Growers	Fruit and tree nut farms	3648
	Vegetable and melon farms	3076
Food Processing	Fruit and vegetable preserving and specialty food manufacturing	581
Wholesalers	Fresh fruit and vegetable merchant wholesalers	1385
Retail	Grocery stores	23,652 ⁶
Waste Management	Waste collection ⁷	2040
	Other recyclable material merchant wholesalers ⁸	859

Source: Canadian Industry Statistics

⁵Food packaging industry would be a small subset of this; more granulated data of the industry is not available.

⁶ Dominated by a few large players (e.g., Loblaws, Sobeys, Walmart, etc.).

⁷This industry comprises establishments primarily engaged in collecting and hauling non-hazardous or hazardous waste within a local area. Establishments engaged in hazardous waste collection may be responsible for treating and packaging the waste for transport. Waste transfer stations are also included.

⁸This industry comprises establishments, not classified to any other industry, primarily engaged in: buying, breaking up, sorting, grinding, shredding and selling recyclable materials, such as plastic, glass, textiles, liquids and sludges.

A NATIONAL PRODUCE PACKAGING STRATEGY

REFLECTING THE FULL LIFECYCLE OF PLASTICS PACKAGING

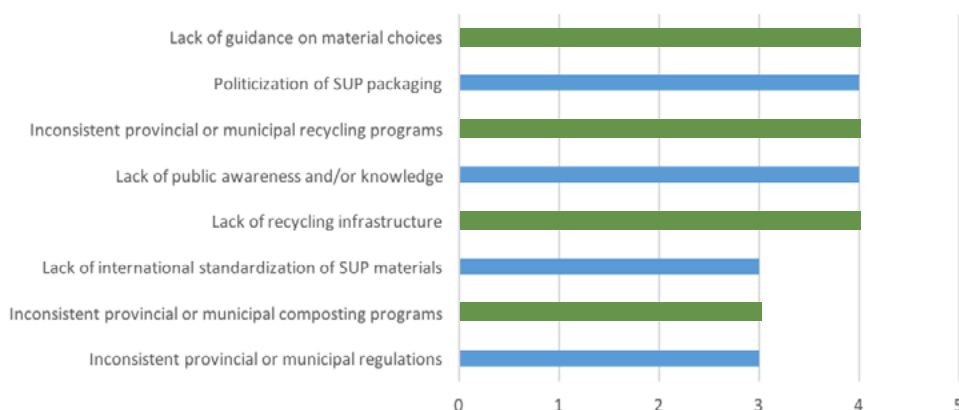
Along with the ecosystem-based considerations comes the need to accurately reflect the full lifecycle of plastics packaging and address the lack of understanding that exists between stakeholders, from the initial manufacturing through to repeated recycling steps and eventual final disposal or repurposing. Discrete approaches to reducing the environmental impact of plastics packaging may result in marginal impacts at a local level, but fail to deliver the large-scale impacts required to have long-lasting benefits to society.

By fully leveraging the packaging and produce ecosystem, and applying a total lifecycle approach, strategic outcomes will be achieved

that will fundamentally transition the produce sector to fully sustainable packaging – an approach that is also expected to benefit other food sector stakeholders in Canada and around the world.

Respondents to an industry survey in 2019 identified key factors that are influencing their ability to minimize the environmental impact of plastic packaging through collaboration with stakeholders from the packaging and post-consumer recycling industries. Presented in Figure 3 below are the gaps that respondents said must be addressed to enable the creation of effective and sustainable packaging solutions.

FIGURE 3: FACTORS IMPACTING THE PRODUCE INDUSTRY'S ABILITY TO MINIMIZE THE ENVIRONMENTAL IMPACT OF SINGLE-USE PLASTICS (SUP)



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MEASURABLE AND IMPACTFUL OUTCOMES

A produce packaging strategy will be developed to provide guidance to companies operating within Canada's produce industry and its domestic and international partners in its work with packaging manufacturers and the waste management community in producing a measurable reduction in the use of unnecessary and problematic plastics packaging.

The strategy will deliver three measurable and impactful outcomes: reduce and eliminate the use of unnecessary and problematic plastics packaging through best practices and national standards, drive innovation in packaging, and help create and enhance essential systems in Canada towards a fully sustainable close loop model.

A series of industry-led action items will be incorporated in the strategy – each to be developed and delivered to have maximum impact and benefit to the public, the environment, and Canada's produce industry at large.

As such, each strategy action item will include the following elements: Scoping & stakeholder engagement; Options analysis; Standards, regulations & policy; Scale-up and deployment; and Communications.

MEASURABLE AND IMPACTFUL OUTCOMES

OUTCOME 1: CLOSING THE LOOP WITH RECYCLING

In recognition of the impact that plastics is having on the environment, Canada's produce industry – from growers to retailers – is taking a leadership position to reduce and eliminate the use of unnecessary or problematic plastics packaging in Canada's food sector. It will achieve this outcome through a systematic approach of best practices and standards focusing on a combination of activities, such as, but not limited to:

- The elimination of non-recyclable opaque plastics in produce packaging;
- Pilot projects to validate new packaging forms that permit closed-loop recycling;
- The reduction of the materials used for produce packaging to only those that are highly recyclable;

- Undertaking research to fully assess the effectiveness and impact of alternative packaging options;
- Define specifications and standards for industry to adopt to drive a circular plastics economy; and
- Educate the industry (growers to retailers) and the public on a sustainable circular plastic economy – including benefits and challenges.



MEASURABLE AND IMPACTFUL OUTCOMES

OUTCOME 2: DRIVE PACKAGING INNOVATION

In addition to minimizing the impact on the environment, Canada's produce industry is leading in the use of innovative and novel produce packaging that provides consumers with choice, quality and affordability, while ensuring food safety and minimizing food waste. To drive innovation towards increasingly sustainable packaging options, Canada's produce industry is working more closely with packaging manufacturers to select and migrate to materials and packaging designs that enable a more circular packaging economy. It will achieve these outcomes through a combination of activities, such as, but not limited to:



- Establishing a principles-based packaging requirement to drive the development of fully sustainable produce packaging;
- Establishing a pathway to maximize the use of post-consumer recyclable content in produce packaging,
- Driving the development and use of more sustainable produce labels; and
- Accelerating innovation and commercialization of new Canadian packing technologies.

MEASURABLE AND IMPACTFUL OUTCOMES

OUTCOME 3: SUPPORT CANADA'S FOOD SECTOR TOWARDS FULLY SUSTAINABLE PACKAGING

While the fresh produce industry represents just five percent of single use plastic packaging and two percent of total plastic usage in Canada, other sectors of the food industry use similar forms of packaging. Therefore, the produce packaging strategy will guide cooperation between Canada's produce industry and other food sector stakeholders in a collective effort to eliminate the use of unnecessary and problematic plastics in Canada's food and beverage sector. It will achieve this outcome through a combination of activities such as:

- Developing a packaging material minimization best practices inventory;
- Enhancing collaboration within the packaging ecosystem;
- Striving for harmonized recycling standards; and
- Strengthening the working relationships with allied partners in the food industry, including

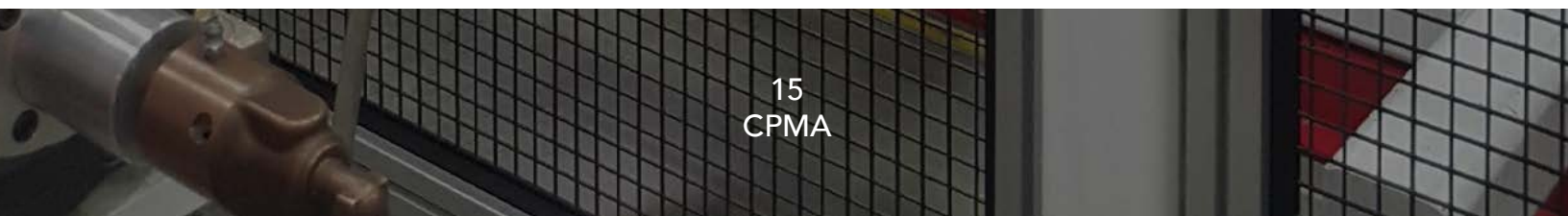
the meat sector, consumer products, and processed foods sectors.

In order to enable and support the strategic outcomes outlined above, the produce packaging strategy will be supported by three pillars, which will provide the framework for ongoing and future action items: Guidelines & Standards, Ecosystems & Stakeholders, and Education.



PRODUCE PACKAGING STRATEGY FRAMEWORK

In order to achieve the strategy outcomes identified, the conditions need to be created to enable and support the strategy action items that apply to one or more of the desired outcomes. The conditions for success will be achieved by way of the three following pillars, which themselves will be composed of key action items as illustrated.



PRODUCE PACKAGING STRATEGY FRAMEWORK

PILLAR 1: GUIDELINE, STANDARDS & BEST PRACTICES

The application of packaging standards and related guidelines will be instrumental in directing and guiding cooperation between Canada's produce industry, other food sector stakeholders and government in a collective effort to eliminate the use of unnecessary and problematic plastics in Canada's food and beverage sector. Furthermore, the collection of quantitative information on an ongoing basis will help to inform the development of guidelines and standards in the future, as will the development of industry best practices to permit more effective decision making. In support of this pillar, action items to be undertaken will include:

- Establish standards to reduce the use of virgin plastics and increase the content of post-consumer recycled content;
- Work with international partners to mobilize support to address plastic pollution by way of emerging or evolving global standards;
- Address any ambiguity by ensuring a common set of definitions for key terms (e.g., "single use plastics," recyclable, etc.);

- Seek harmonized recycling standards across key markets and jurisdictions;
- Work with packaging industry stakeholders to develop guidelines to advance the state of the art in sustainable packaging which recycling systems can utilize;
- Establish ongoing packaging data collection to provide accurate baseline data regarding plastics packaging in Canada; and
- Develop a best practice to permit effective packaging options analysis that accounts for various produce sector considerations, including costs, lifecycle impact, etc.

PRODUCE PACKAGING STRATEGY FRAMEWORK

PILLAR 2: ECOSYSTEMS AND STAKEHOLDERS

Successful deployment of sustainable packaging will only be possible by working across the various stakeholders who make up the packaging ecosystem: upstream in the form of plastics producers and packaging manufacturers, as well as downstream in the form of the recycling and waste management community. To further reduce the environmental impact of produce packaging, Canada's produce industry will work closely with the recycling and waste management stakeholders to increase the rates of recycling, as well as explore alternatives such as composting and packaging reuse. To support this pillar, action items will include:

- Enhance collaboration with the recycling and waste management community to support and accelerate key innovations, pilot projects or other industry-enabling activities;
- Ongoing engagement with the provincial and federal stakeholders via the Canadian Council of Ministers of the Environment (CCME) to drive for national outcomes, such as harmonized recycling standards and other best practices, including Extended Producer Responsibility (EPR) to ensure that companies that manufacture plastic products or sell items with plastic packaging are responsible for their collection and recycling; and
- Maintain an ongoing dialogue with key policy and regulatory stakeholders to advise on the best options going forward in support of increasingly sustainable packaging options.

PRODUCE PACKAGING STRATEGY FRAMEWORK

PILLAR 3: EDUCATION

The relative complexity of packaging technologies, as well as the current state of Canada's recycling and waste management systems, is largely misunderstood or unknown to most consumers. As such, there remains an important need to inform and educate consumers of the current state of packaging, the benefits made to date, and the innovations that will further reduce the environmental impact of plastic packaging, while not compromising the requirement to ensure food safety or minimize food waste. Consequently, an education campaign building on existing public outreach activities will be instrumental to maximizing the impact of the strategy's action items and achieving the desired strategic outcomes. To support this third and final pillar, the following action items are examples of what is currently under consideration:

- A general public awareness campaign of the benefits of plastics packaging, including success stories achieved within Canada's produce sector;
- Focused consumer engagement to collect information on consumer concerns, viewpoints and overall packaging trends re adoption of new packaging and related consumer behavior; and
- Supporting community-led action and citizen-science activities (e.g. the Great Canadian Shoreline Cleanup).

TIMELINES

The produce packaging strategy will be completed and released in 2020. At the time of release, the intent is to align the strategy's action items with the most up-to-date plans and priorities of ECCC and the CCME in regards to addressing the use of unnecessary and problematic plastics packaging.

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Markon Cooperative Inc.

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