Brampton, ON

Calgary, AB

Wolfville, NS

Montreal, QC

Vancouver, BC

Packaging Innovation Gateway

2018

Roadshow Summary

PACKAGING CONSORTIUM pac

pac NEXT A WORLD WITHOUT PACKAGING WASTE

Introduction

The Packaging Innovation Gateway project was formed in 2014 with the purpose to bridge the communications gap between packaging producers and those who manage packaging waste. The project carried forward the knowledge from PAC's former Material and System Optimization committees and kicked off with developing the *Top 10 Challenges for Recycling in a MRF* report, which was released in 2014. The purpose of this report was to initiate conversations between stakeholders in the packaging value chain helping them understand what happens to those packages in a MRF so they can make informed decisions regarding packaging designs. Due to the success of the project garnered through significant media coverage of the report and growing attention to the need to address recycling challenges, today, the Packaging Innovation Gateway project team continues to drive solutions and gather information in an open and collaborative forum. Each team member has equal representation of their stakeholder group and abides by the PAC's Competition Law policy. This year, instead of producing an updated report, the team agreed that an in-person forum would help to reach new stakeholders while helping to understand regional factors that affect a package's ability to be recycled.

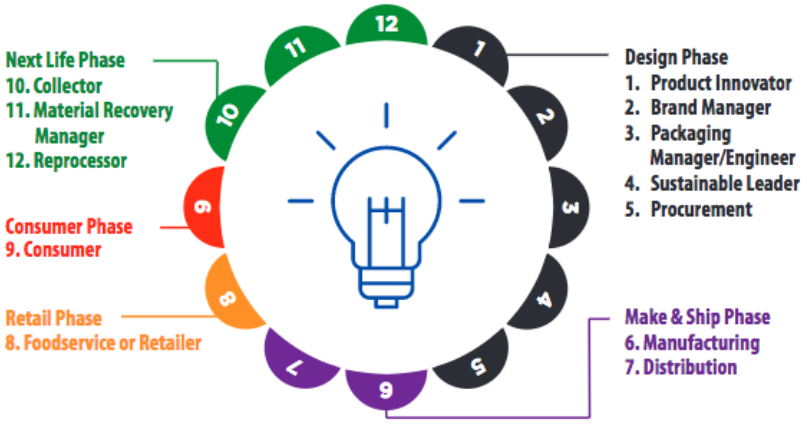

Figure 1 – The PAC SEESCAPE Model indicates a collaborative team where every stakeholder group has equal status.

Methodology

The concept of a roadshow event series was established in order to provide an opportunity for stakeholders, both members and non-members alike, to assess new or modified packaging innovations in a non-judgmental and collaborative forum in various regions across Canada. Each event invited three subject matter experts from different stakeholder groups to present their experiences in driving solutions to manage and reduce packaging waste. To help provide more context to the presentations and group discussion, each event hosted a relevant tour to show how packaging is produced, managed, processed or researched.

The following locations were selected based on membership reach and facility tours available (*please refer to Appendix for more detailed information of the individual events*):

Brampton, Ontario
Calgary, Alberta
Wolfville, Nova Scotia
Montreal, Quebec
Vancouver, British Columbia

Attendees of the roadshows participated in a group forum that was designed to identify and then discuss high priority items and to discuss regional opportunities. The in-person experience allowed attendees the chance to present innovative packaging examples to the group for panel assessment and review.

The following questions were raised for each packaging example that was presented:

- *What recycling problem does the packaging attempt to solve?*
- *What sustainability considerations were made?*
- *What must happen in order for the packaging to achieve circularity?*

Analysis

❖ **Key opportunity areas:**
Packaging types that were raised across the different regions and discussed similar themes are listed below:

• **Multi-material laminates (MMLs)** – With respect to packaging reduction and sustainable materials management, the benefits of using MMLs are indisputable and this packaging format will continue to be prevalent. Solving the recycling challenges of this material ranged from solutions that work with existing recycling systems, such as scaling up the use of mono-material laminates (e.g., packaging innovations from Dow, Amcor, Tempo) to exploring emerging depolymerization technologies, such as Loop industries based in Quebec and IONIQA based in the Netherlands. MMLs are currently accepted at depots under the Recycle BC program where the material is being processed into fuel pellets.

• **Compostable materials** – Given today's attention on plastics, the interest of compostable materials as an alternative is stronger than ever. However, there is still much confusion on packaging that can actually be composted. There lacks a clear understanding of the accessibility to commercial composting versus anaerobic digestion facilities in North America to determine what materials are acceptable and what limitations exist for different types of facilities. There is increasing dialogue on

the need for international definitions, standards, and testing protocols for compostable and biodegradable packaging. There is also need for significant industry and consumer education on how these materials should be managed post-use.

• **Expanded polystyrene and Extruded Polystyrene (e.g., foam take-out containers (coffee cups) and takeout clamshells)** – Whereas some regions accept both EPS and XPS in their local recycling program, there are still challenges in managing this material to ensure it is collected without contamination and is economically viable with secure end markets. One thing of note is that the coloured PS must be kept separate from white PS and be densified if it is to be sold to traditional recycling markets. This colour separation would not be an issue where chemical recycling alternatives were pursued.

• **Flexible low-density polyethylene (e.g., grocery bags)** – Bag bans were raised for multiple concerns, including impacts to existing recycling systems (i.e., wrapping around equipment and contaminating other commodity bales); unintended consequences of consumers using other types of bags, such as those made of another material with a higher carbon footprint; and consumers purchasing more bags. The perception of the public is that these reusable bags are also completely recyclable and can go in the box or cart, thus continuing the contamination issue.

❖ **Regional specific areas:**
Other packaging formats that were discussed ranged across regions depending on how packaging materials are managed locally or provincially~~,~~ and the end markets that are available for that region. Discussions were also based on local trends and recent media coverage that impacted the region.

• ***Black plastics containers (Brampton, ON)*** – Whereas the Region of Peel is able to accept black plastic containers, confusion about the recyclability of this packaging arose due to the City of Toronto, the municipality that neighbors the Region of Peel, announcing that black plastics would not be accepted in their curbside recycling program. The different factors that affect why one municipality versus another may choose to accept certain materials were discussed, such the ability of the facility to successfully identify and sort the package, the volume of materials that flow through the facility, the levels of contamination, and the availability of end markets.

• ***Full wrap labels on aluminum cans (Wolfville, NS)*** – An article was published by the CBC only a few days prior to the Wolfville event that described concerns with plastic sleeve labels on aluminum cans, especially with the growth of craft breweries in Nova Scotia. These labels create marketability issues with aluminum end markets.

• ***Single-serve coffee pods (Brampton, ON & Calgary, AB)*** – This packaging format has significant media attention over the years as a result of varying formats and recovery challenges due to residual coffee grinds; however, this packaging was not

raised in Montreal or Vancouver since there are local facilities that accept recyclable pods. One of the biggest issues is that a product category must be in either recyclable or compostable exclusively in order to be universally acceptable in all programs, as it is too difficult to explain to the public that some brands need to be put into recycling while others in the compostable streams.

• ***Home delivery meal kits (Vancouver, BC)*** – The growing meal-kit business targets people with busy lifestyles who still desire a home-cooked meal. As there are different companies that provide this service, there are also various ways in which food may be packaged, especially to ensure cold chain management of fresh produce. A Vancouver-based company described their business model that allows for reusable packaging to reduce waste. The concern over these meal kits comes from the multi-material packaging format (i.e., foil, foam and fiber) and how it could impact marketability.

Action Steps

Identifying packaging challenges and the various reasons why these challenges exist in moving towards a circular economy have already been discussed in great length. Many new packaging innovations have substantial benefits (e.g., shelf life extension, fuel transport efficiency, portion control, increased recyclability); however, the speed at which changes to conventional packaging formats are made make it challenging for MRFs and organics processing facilities to adapt. Packaging change may significantly impact recovery systems, meaning capital investment is required so that the new package can be managed in the MRF. Regardless, packaging innovation for environmental, social or economic benefits must be encouraged and not be solely driven by its impact on the MRF. This does not mean that the recyclability is to be ignored as that would not be in keeping with the circular economy. Packaging costs must be balanced with performance and other sustainability needs (e.g., reduced carbon footprint during manufacturing) before adopting new packaging formats or materials for the sake of recycling or composting. In order to address these challenges, the focus must shift to finding scalable, long-term solutions that require involvement from all stakeholder groups. Key action steps that were listed as a result of the roadshow event discussions are listed below:

• Support optimized packaging design and science-based decisions that drive a low-carbon circular economy;

• Effective mechanisms that provide incentives and disincentives, respectively, for helpful or problematic design and materials;

• Encourage sustainable procurement practices to support recycling thus generating recycled content materials; reward and prioritize recycled content;

• Support infrastructure development, and facility expansions and investments; consider alternative methods where traditional recycling and composting are not feasible;

• Fund research, innovation in packaging design and diversion, and litter clean-up efforts;

• Improve recycling communication, especially on-pack labelling, while also adhering to federal marketing guidelines; and

• Maintain/Improve/Strengthen collaboration across all areas of the value chain.

Conclusion

This timing of the Packaging Innovation Gateway project work is more critical than ever due to **emerging policies** where single-use plastics reduction strategies are being developed in order to fulfill the G7 Ocean Plastics Charter; **corporate goals** to meet recycling and waste diversion targets as a result of the Ellen MacArthur Foundation's Global Commitment on the New Plastics Economy and **corporate goals** to meet CSR requirements for carbon reduction and carbon neutrality; and a looming sense of **global urgency** where climate change, resource scarcity, food waste, and ocean pollution remain critical threats to the future of our planet, its people, and the economy.

Moving forward, the Packaging Innovation Gateway project is to be renamed the Packaging Innovation Pathway (PIP) and will evolve to reach more geographic regions. PAC is working to formalize the strategic development process that will continue the transparent collaboration approach allowing all stakeholders to reach their packaging sustainability and waste diversion targets.

Acknowledgements

PAC would like to thank all members of the Packaging Innovation Gateway project team as well as the facility tour hosts, organizers, presenters, and attendees of the PAC roadshow events throughout the year.

Appendix

Brampton, Ontario
May 10th, 2018

Presenters:
• Arin Selby, *Specialist, Packaging Procurement,* **Sobeys**
• Fiona Terry, *Specialist, Waste Processing and Disposal*, **Region of Peel**
• Eadaoin Quinn, *Communications & Outreach Manager,* **Canada Fibers Ltd.**

Facility Tour:
Peel Integrated Waste Management Facility, Brampton, Ontario

Packaging Types Discussed:
Black plastics
Multi-material laminates, LDPE pouches
Coffee cups, including expanded polypropylene (PP)
Cookie Trays
Spiral wound containers
PET additives (e.g., titanium oxide)
Foam - expanded polystyrene (EPS), PP, polylactic acid (PLA)
PLA-lined coffee cups
Single-serve coffee pods

Calgary, Alberta
June 18th, 2018
Co-hosted with the Recycling Council of Alberta (RCA)

Presenters:
• Kayley Fesko, *Waste Diversion Specialist*, **City of Calgary**
• Carlson Yepes, *Waste Diversion Specialist,* **City of Calgary**
• Dave Pullar, *CEO,* **Left Field Foods**

Facility Tours:
Shepard Waste Management Facility, Calgary, Alberta
Cascades Recovery Inc., Calgary, Alberta

Packaging Types Discussed:
EPS foam
Spiral wound containers
Single-serve coffee pods
Multi-material laminates
Flexible low-density polyethylene (LDPE) bags
Fresh produce netting

Wolfville, Nova Scotia
June 20th, 2018

Presenters:
• Dwight Whynot, *CEO,* **Scotia Recycling**
• Chuck McKenna, *Manager, Resource Management,* **Nova Scotia Department of Environment (NSE)**
• Jeff MacCallum, *CEO,* **Divert NS**

Facility Tours:
Scotian Gold, Coldbrook, Nova Scotia
Apple Valley Foods, Kentville, Nova Scotia

Packaging Types Discussed:
Flexible low-density polyethylene (LDPE) bags
Compostable materials
Full sleeve labels on aluminum cans

Montreal, Québec
September 25th, 2018

Presenters (in conjunction with the PAC TO THE FUTURE Conference):
• Brent Heist, *R&D Packaging Sustainability,* **P&G**
• Dan Lantz, *Principal,* **Crow's Nest Environmental**

Facility Tour:
2M Ressources**,** Saint-Jean-Sur-Richelieu, Québec

Packaging Types Discussed:
Multi-material laminates
EPS foam for frozen seafood
Waxed cardboard
Plastic cutlery

Vancouver, British Columbia
October 29th, 2018

Presenters:
• Gary Calicdan, *Ethical Buying Team,* **Lush Fresh Handmade Cosmetics**
• Sam Baker, *Logistics Manager*, **Recycle BC**
• Monica Kosmak, *Sr. Project Manager, Zero Waste,* **City of Vancouver**
• Dr. Anna Posacka, *Research Manager* & Dr. Peter Ross, *VP of Research*, **Ocean Wise**

Facility Tour:
Vancouver Aquarium, Vancouver, British Columbia

Packaging Types Discussed:
EPS foam take-out containers
Flexible low-density polyethylene (LDPE) bags
Multi-material laminates
Compostable materials
Home delivery meal kits
Glass