

Phase I of the CPT

Rethinking plastic packaging recycling

Solutions towards increased circularity in Québec and Canada



GRUPE D'ACTION PLASTIQUES CIRCULAIRES
CIRCULAR PLASTICS TASKFORCE

Who is the CPT?



GOAL

Optimize plastics management throughout the recycling value chain through a better alignment between MRFs, processors and the needs of PCR end markets.

+130 Interviews

with members of the plastics value chain in Québec were held
BETWEEN APRIL AND DECEMBER 2020.

5 Key Findings

- There is a strong demand for recycled plastics, but it is not aligned with supply.
- This misalignment is exacerbated by a lack of communication between members of the value chain.
- Ensuring that every plastic is captured in the right bale on a consistent basis is a challenge that must consider the various types of plastic.
- The current situation differs depending on the plastics, their shapes, sizes and properties.
There is no such thing as a one-size-fits-all solution.
- The high rejection rate associated with bales from sorting centers is a major issue for recyclers.

5 Simulation Tests

- QUALITY CONTROL**
of bales from sorting centers in real time
- DEVELOPMENT**
of specifications for the sorting center by the value chain
- VALORIZATION**
of packaging rejects
- DEODORIZATION**
of packaging rejects
- USE**
of an optimization model for the packaging of thermoformed PET

Recommendations



01

Specify market needs to recyclers and sorting centers and establish clear quality standards for bales;

02

Establish long-term agreements between members of the value chain to stabilize local markets (supply, outlets, quality, etc.), increase the competitiveness of recycled resin in the long term and encourage investments;

03

Set up financial incentives for the production of quality plastic bales (price scale according to the level of contamination, government programs, etc.);

04

Work, in collaboration with Health Canada, to simplify the process for obtaining food grade for post-consumer plastics from curbside collection;

05

Monitor emerging practices in terms of traceability and support the implementation of a rigorous and harmonized system, particularly in order to be able to certify recycled content;

06

Set up incentives promoting the increased use of recycled resins (eco-modulation of EPR rates, tax exemptions, procurement policies, etc.);

07

Promote greater synergy within the value chain and the means of exchange and communication between industry players;

08

Test the technical and economic feasibility of the secondary sorting of post-consumer plastic bales in order to model the best practices to be put in place (configuration, location, logistics, etc.);

09

Communicate the limits of current collection, sorting and recycling processes to manufacturers and brand owners in order to promote good eco-design and recyclability practices.



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Evaluate, considering geographic, economic and market conditions, the types of plastic bales to be produced by the different sorting centers;

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Establish real-time quality control of outbound bales, to ensure continued achievement of the quality criteria required by buyers.



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Explore synergies between recyclers to facilitate greater recovery of packaging rejects in an industrial symbiosis logic;

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Invest in the development of alternative outlets (chemical recycling, manufacturing of composite materials, energy recovery, etc.) to avoid the landfilling of plastics difficult to recycle as well as the rejects from recyclers.



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Implement best practices in eco-design and recyclability among brand owners and packaging manufacturers;

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Increase the rate of recycled content in products placed on the market;

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Develop innovative business models between market players and other players in the value chain (closed loops, vertical integration, joint ventures, etc.).



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Test new sorting technologies (artificial intelligence, optical sorting, robotics, etc.) and improve existing processes to optimize plastic capture and operational performance, while considering the diversity of physical characteristics of the incoming plastic packaging (format, density, colors, etc.).



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Promote the use of an intermediate resin grade to ensure the use of recycled food grade resins for uses requiring it and dissociate the notion that the recycled food grade is the only guarantee of quality.

Phase II

The second phase of the project will begin in the fall of 2021. Throughout this phase, the CPT will support the deployment of several pilot projects in sorting centers and at recycling facilities to concretely improve, in the short term, the quality of outgoing materials and the recycling rate of all post-consumer plastic packaging.