



ÉEQ, partnering with the government to divert waste from landfills

Brief submitted to the *Bureau d'audiences publiques sur l'environnement* as part of its mandate "Current Status and Management of Final Waste"

TABLE OF CONTENTS

About Éco Entreprises Québec	3
ÉEQ, partnering with the government to divert waste from landfills	3
1. Findings on the current curbside recycling system in Quebec	5
A fragmented system, with no formal link between companies and the curbside recycling value chain	5
Limited data that does not allow for accountability and the desired traceability	6
Limits of the current curbside recycling system in Quebec.....	8
2. The contribution expected from modernizing curbside recycling for waste diversion and disposal	7
A systemic approach to oversee the value chain	8
Companies responsible from ecodesign to the reinsertion of their materials into the economy....	8
3. ÉEQ's proposals regarding possible solutions applicable to government authorities for waste diversion and disposal.....	10
Financial support for infrastructure and innovation:	10
Streamlining and aligning the regulatory framework:	10
Green taxation	11
The State's exemplarity:	12
4. Conclusion.....	12
APPENDIX 1	14
Summary of data reported to RECYC-QUÉBEC by municipal organizations under the Compensation plan for the selective collection of recyclable materials	14
APPENDIX 2	15
Biodegradable and compostable packaging in Quebec – A status report	16

About Éco Entreprises Québec

Since 2005, Éco Entreprises Québec (ÉEQ), a private non-profit organization, has represented companies who market containers, packaging and printed matter in Québec in their responsibility to finance the net costs of municipal curbside recycling services. As part of the Quebec compensation plan, those businesses pay 100% of the efficient and effective net costs for curbside recycling. This represents approximately \$180 million for 2020 and more than \$1.5 billion since the compensation plan started 15 years ago.

Moreover, as an expert, ÉEQ optimizes the curbside recycling value chain and implements innovative approaches, with a view to sustainable development and circular economy.

The voluntary approaches include:

- Container and packaging ecodesign, as ÉEQ was the first extended producer responsibility (EPR) organization in North America to develop an [Ecodesign and circular economy plan](#)
- Sharing best practices with municipalities, including the [away-from-home program](#), now ended, which financed around 19,000 recyclable materials recovery equipment pieces in public places.
- Developing markets for recyclable materials, including the [Innovative Glass Works Plan](#) and the [Plastics Action Plan](#).

Éco Entreprises Québec participated in four committees of the Environment minister of Quebec, including the current *Comité aviseur de l'industrie de la récupération et du recyclage* set up by Minister Charette on the management of residual materials, and we are actively participating in the work of the Waste Reduction and Recovery Committee of the Canadian Council of Ministers of the Environment (CCME). Éco Entreprises Québec builds upon international best practices as a member of the Extended Producer Responsibility Alliance (EXPRA), based in Brussels. ÉEQ is regularly called upon for its expertise in Quebec, in Canada and abroad, to share its vision of curbside recycling and solutions to current issues.

ÉEQ, partnering with the government to divert waste from landfills

While the Quebec government announced its intention to modernize the curbside recycling system based on an extended producer responsibility (EPR) approach, ÉEQ and its associative partners took an active part in preparatory work for the modernization process instigated by the Quebec Minister of the Environment and the Fight Against Climate Change. Éco Entreprises Québec signalled its desire to serve as future designated management organization for the transition period, as well as its commitment to actively continuing to cooperate with government bodies and all curbside recycling partners.

This brief aims to contribute to the reflection of the *Bureau d'audiences publiques sur l'environnement (BAPE)* within the framework of the mandate entrusted to it by the Quebec Minister of the Environment and the Fight against Climate Change regarding the "Current Status

and Management of Final Waste". The brief focuses primarily on the potential of curbside recycling as a means to divert waste from landfill. Indeed, the increased recovery rate and recycling rate of containers, packaging, printed matter and newspapers designated as part of the modernization of curbside recycling will help reduce the amount of such materials sent to landfills.

1. Findings on the current curbside recycling system in Quebec

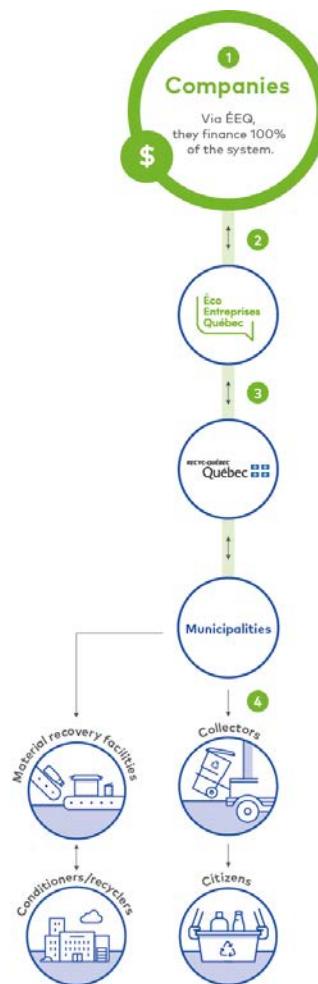
A fragmented system, with no formal link between companies and the curbside recycling value chain

Against the background of the current compensation plan, Quebec municipalities have been handling the curbside recycling service for their citizens. However, companies are the ones who offset 100% of the costs to collect, transport, sort and process the containers, packaging and printed matter (C, P & PM) they place on the market. Within the legal framework of the compensation plan, companies do not have a formal link with municipalities or the various partners of the recyclables value chain to ensure the system's efficiency.

Thus, ÉEQ remits the compensation to RECYC-QUÉBEC, which redistributes it to municipalities. Municipalities have the contracts with collectors and material recovery facilities, and the latter decide to whom the materials are sold.

Figure 1. The current curbside recycling system

1. Companies:
 - Market containers, packaging and printed matter (C, P & PM).
 - Annually report quantities and weights of C, P & PM they market.
 - Pay financial compensation in the amount according to their report.
2. ÉEQ remits the compensation to RECYC-QUÉBEC.
3. RECYC-QUÉBEC redistributes the compensation to municipalities.
4. Municipalities award contracts to collectors to provide curbside recycling service for citizens and handle the sorting and processing of materials collected.



However, according to RECYC-QUÉBEC's compensation plan portal for the selective collection of recyclable materials, 557 municipal organizations have claimed partial or complete competence regarding curbside recycling for calendar year 2019, whether on the basis of territory served or service provided - collection and transport (CT), sorting and processing (TC) or both (CTTC). Each municipal body may also make several claims of competence and manage several contracts. Moreover, a study of the various municipal contracts is underway as part of the preparatory work for the modernization of curbside recycling.

As there are as many ways of doing things as there are contracts, this fragmentation of the curbside recycling system leads to many differences in the lists of materials accepted in recycling bins in Quebec, as well as in indications given to citizens regarding sorting. This lack of consistency creates confusion among citizens, which affects the system's performance. A contamination rate of 11.5% is observed at the entrance to MRFs¹, which impacts the quality of recyclable materials bales leaving the MRFs, and therefore, on the recycling of those materials.

In Quebec, virtually all (99%) households have the recyclable materials collection service in their municipality and almost all the people who handle the management of household waste (97%, of which 70% handle it all the time and 27%, often) say they place recyclable materials in the recycling bin². However, the 2018 report on the management of residual materials in Quebec (in French)³ produced by RECYC-QUÉBEC indicates that only 64% of recyclable materials used at home are recovered via municipal collections, i.e. 772,000 tonnes of materials which may include materials from industries, businesses and institutions (ICI).

In addition, the lack of clarity on materials accepted in MRFs also leads some people to use recycling bins as a collection tool for all the goods they would like to see recycled, including materials that are not containers, packaging, printed matter and newspapers (C, P, PM & N). This "wishcycling" means additional impacts and costs on the system (diversion of materials, equipment breakage, etc.) that is not designed to receive these materials, and it sometimes poses health and safety risks for workers.

Limited data that does not allow for accountability and the desired traceability

As illustrated by the summary of data reported to RECYC-QUÉBEC by municipal bodies under the compensation plan (*Résumé des données déclarées à RECYC-QUÉBEC par les organismes municipaux dans le cadre du régime de compensation pour la collecte sélective des matières recyclables*), reproduced in Appendix 1 of this brief, the data provided by municipalities to get financial compensation from companies are limited to:

- The population
- The distance to Quebec City and Montreal
- Global reported costs and tonnes of recyclable materials recovered.

¹¹ Éco Entreprises Québec and RECYC-QUÉBEC, Caractérisation à destination : Résultats 2017-2018, https://www.eeq.ca/wp-content/uploads/Carac_destination-2017-18_FR.pdf (The contamination rate is the portion of non-designated materials, i.e. other than C, P, PM & N, excluding returnable containers)

² RECYC-QUÉBEC, Portrait des comportements et attitudes des citoyens québécois à l'égard des 3RV : Étude réalisée par Recherches et sondages SOM (2015), <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/etude-portrait-comportements-citoyens.pdf>

³ RECYC-QUÉBEC, Bilan 2018 de la gestion des matières résiduelles au Québec, <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/bilan-qmr-2018-complet.pdf>

They therefore do not allow for

- performing accountability reports regarding the system's performance
- establishing performance indicators, standards and quality controls
- ensuring the chain of custody or traceability of recycled materials from marketing to recycling.

In addition, the lack of traceability and consolidation of quantities sorted complicates the development of local markets for these materials, as processors and recyclers require a stable, predictable and quality supply in order to be able to operate.

Limits of the current curbside recycling system in Quebec:

In short, the current system has the following limitations:

- Silo management of the curbside recycling system
- Lack of formal link between businesses (who market the containers, packaging, printed matter and newspapers (C, P, PM & N) and finance the system), municipalities and value chain partners.
- Lack of accountability regarding the system's performance.
- Lack of performance indicators, standards and quality control of the value chain.
- Lack of traceability of materials.
- No consolidation of sorted material quantities to promote stable, predictable and quality supply to processors and recyclers.

2. The contribution expected from modernizing curbside recycling for waste diversion and disposal

As provided for under Bill 65 — An Act to amend mainly the Environment Quality Act with respect to deposits and selective collection⁴, and as specified by RECYC-QUÉBEC in its document (in French) titled “Système modernisé de collecte sélective au Québec : Différences prévues par rapport au régime actuel”⁵, the modernization of curbside recycling based on an approach of extended producer responsibility (EPR) means the following:

“The responsibility of companies that market non-returnable containers, packaging, printed matter and newspapers (C, P, PM & N, etc.) will go beyond funding curbside recycling, as is currently the case within the framework of the municipal curbside recycling compensation plan. A single management body appointed by the government (DMO) to represent these companies will be responsible for supervising and supporting the management of the various designated products across the territory and the value chain, from recovery to recycling.”⁶

⁴ Les Publications du Québec, Projet de loi no 65 (2021, chapitre 5) Loi modifiant principalement la Loi sur la qualité de l'environnement en matière de consigne et de collecte sélective,
<http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2021C5F.PDF>

⁵ RECYC-QUÉBEC, Système modernisé de collecte sélective au Québec : Différences prévues par rapport au régime actuel,
<https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/modernisation-coll-sel-differences-systeme-actuel.pdf>

⁶ IDEM

A systemic approach to oversee the value chain

This systemic approach to curbside recycling across Quebec will be based on the skills and know-how of all curbside recycling stakeholders and will allow the adoption of best collection, transport, sorting, processing and recycling practices, thus reducing the landfill system rejects. Indeed, oversight by producers will be managed through agreements based on standards and quality controls, which will include the traceability of recyclable materials throughout the value chain.

Local service contracts, including collection and transport, will be awarded by municipal bodies, in accordance with framework agreements signed with the DMO, which will include standard specifications taking regional specificities into account.

MRF sorting and processing contracts will, for their part, be granted by the DMO, which will take into account the volume of materials sorted, including elements such as preventive maintenance practices, types of bales to be produced as well as compliance with local and neighboring market requirements.

The systemic vision of curbside recycling across Quebec will also make it possible to establish a standardized list of accepted materials and sorting instructions for the entire territory and strengthen communications with citizens through a national awareness campaign on curbside recycling, regional tools and green patrols.

From companies responsible for ecodesign to the reinsertion of their materials into the economy

In keeping with the EPR approach, companies will be assigned performance targets for the recovery and recycling of their materials, with realistic targets for market development. This responsibility means that companies will have to take steps to:

- Use eco-designed materials and eliminate over-packaging
- Ensure recovery and recycling of their C, P, PM & N
- Integrate recycled content in their C, P, PM & N and foster the development of local and adjacent markets with a view to circular economy.

By working directly with players in the recycling value chain through agreements to ensure accountability and performance indicators at all levels, companies, represented by their DMO, will have the information they need to better understand the compatibility of their C, P, PM & N with existing and future infrastructures, in order to ensure recyclability. Ecodesign will therefore have to become the standard, reinforced by the application of new measures to balance the contributions of companies paid to ÉEQ as part of their financial obligation with regard to curbside recycling.

This concern for the compatibility of C, P, PM & N with residual materials management infrastructures is reflected in two recent positions taken by Éco Entreprises Québec:

- I. The launch of the report “Biodegradable and compostable packaging in Quebec - Current Status”⁷ produced jointly with consulting firm SOLINOV, which underlines that a large proportion of this packaging goes to disposal as the residual materials management systems in place are not able to treat them. A summary of issues and recommendations in the report is presented in Appendix 2 herein.

⁷ Éco Entreprises Québec, Biodegradable and compostable packaging in Quebec - Current status, April 2021, https://www.eeq.ca/wp-content/uploads/EEQ_Rapport_EmbComp_VFF.pdf

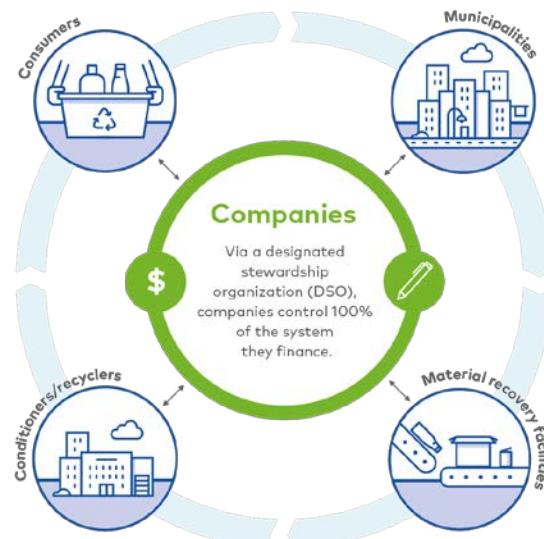
- II. The adoption of positions by the governance of ÉEQ specifying the approaches to be recommended for institutions, businesses and industries (ICIs), namely:
 - a. Standardized approach to serving small ICIs generating quantities similar to those seen in the residential sector.
 - b. Preparation and implementation of a specific management plan for C, P, PM & N generated by medium and large ICIs to enable the DMO to meet its accounting, traceability and recycling rate obligations.

Moreover, as they will collectively own the recyclable materials collected and sorted, companies will be in a better position to improve the alignment of materials they market with local demand for recycled materials, to innovate and position the curbside recycling system as a real economic lever and to ensure the development of new local markets for recyclable materials with a view to a circular economy.

Figure 2 summarizes the expected contribution of the modernization of curbside recycling to divert from disposal.

Figure 2. The modernized curbside recycling system and its contribution to diverting from disposal

- Establish a systemic approach to curbside recycling across Quebec: best practices for collection, transportation, sorting, processing and recycling.
- Strengthen packaging ecodesign
- Oversee collection and transportation of recyclable materials through agreements signed with municipalities.
- Establish a standardized list of materials that are accepted for curbside recycling across Quebec.
- Develop awareness campaigns for citizens, including certain tools to be developed in collaboration with the municipalities.
- Manage bilateral agreements with materials recovery facilities.
- Integrate quality standards for collection and sorting.
- Control and ownership of recyclable materials.
- Ensure traceability of materials and transparency of accounting.
- Develop new markets for recyclable materials.
- Innovate and position the curbside recycling system as a true economic lever.



3. ÉEQ's proposals regarding possible solutions applicable to government authorities for waste diversion and disposal

While the modernization of curbside recycling using an EPR approach will provide systemic solutions to the challenges of curbside recycling by promoting awareness, standardization, quality controls, accountability and traceability, the fact remains that government authorities will also have a role to play in promoting this modernization with a view to a circular economy.

Financial support for infrastructure and innovation:

Recycling must be seen as a true industry that needs to be optimized in order to expand its full commercial potential and generate economic benefits that involve many players, who are in turn customers and suppliers.

Significant commitments have been made in favor of recycling in the 2019-2020 and 2020-2021 budgets of the Government of Quebec, as well as in the 2019-2024 action plan of the Residual Materials Management Policy. Additional investment requirements are to be expected, taking into account the results of diagnostics carried out as part of the preparatory work for the modernization of curbside recycling.

Proposal 1: Continue investments in recycling infrastructure, taking into account the diagnostics period for the modernization of curbside recycling

With a view to a green recovery based on innovation and the circular economy, the Quebec government would benefit from focusing on residual materials recycling and recovery technologies, including innovative solutions for waste from MRFs, by financially supporting research, innovation and development of these new technologies.

As an example, the Plastics Solutions Forum, presented by ÉEQ and its French counterpart, CITEO, in February 2019, made it possible to showcase the most promising technologies for the “chemical” or “molecular” recycling of plastics, including technologies from Canadian companies such as Pyrowave and Polystyvert, targeting the recycling of complex plastics such as polystyrene, polypropylene or polyethylene.

Proposal 2: Financially support research, innovation and the development of new technologies for recycling and recovery of residual materials, including innovative solutions for MRF rejects

Streamlining and aligning the regulatory framework:

The current definitions of “residual material” and “recovery of residual materials” in the Environment Quality Act (EQA) make the regulation of the recovery of recyclable materials heavy and expensive, even when the materials have been packaged, which in turn penalizes recycled materials compared to virgin materials as inputs in an industrial or commercial process.

As underlined by the Conseil Patronal en Environnement du Québec, the strict and numerous conditions contained in the *Règlement sur l'encadrement d'activités en fonction de leur impact sur l'environnement* (REAFIE) and the *Règlement concernant la valorisation de matières résiduelles* (RVMR) for an activity to be exempted or benefit from a declaration of conformity are, moreover, dissuasive.

To promote a circular economy and facilitate the use of recycled materials, the definition of “residual material” in the EQA should therefore be amended, particularly in order to exclude

packaged materials and to simplify the regulation of recycling projects planned under the REAFIE.

Proposal 3: Amend the definition of "residual materials" in the Environment Quality Act and streamline the oversight of recycling projects under the REAFIE to promote the emergence of eco-materials and facilitate use thereof.

Moreover, the legal uncertainty regarding the possible ban of all manufactured single-use plastic items might lead to substitution with alternatives that are made from other materials with environmental impacts that are just as harmful, if not more, when their lifecycle analysis is taken into account. Among the frequently mentioned substitutes for single-use plastic products are so-called "biodegradable" or "compostable" plastic products.

However, as indicated in the Biodegradable and compostable packaging in Quebec - Current status report, the use of the terms "biodegradable" and "compostable" is subject to oversight, albeit imperfect and incomplete. A better framework for the oversight of environmental claims should therefore be set up, as well as better alignment of laboratory conditions for compostability certification and those used in the field in the composting and anaerobic digestion industry, in order to limit the use of unverified self-declarations leading to disposal in landfills.

With respect to the 3R-RD hierarchy, the Quebec government has clearly stated the management method to be prioritized for OM was recycling, by composting and anaerobic digestion. For fiber C, P, PM & N, both recyclable and compostable, the situation is not yet defined. As the pandemic has highlighted the importance C, P, PM & N to the local supply, ÉEQ feels that the government must take a firm stance in favour of recycling in a circular economy perspective so that fibre and plastic packaging are recycled and transformed into new products.

Proposal 4: Regarding C, P, PM & N, prioritize recycling before composting so that fiber and plastic packaging is recycled and transformed into new products.

Green taxation

For 15 years, Éco Entreprises Québec has been a true pioneer in ecodesign and eco-modulation of fees for companies. As the first producer responsibility eco-organization in the world to offer a credit for recycled content in 2009, it is also the first eco-organization in North America to provide an ecodesign portal for its member companies and the first eco-organization in Canada to extend its Schedule of Contributions to C, P & PM sold as products.

Some eco-modulation measures proposed for its 2021 Schedule of Contributions include the introduction of an ecodesign incentive bonus financed by company contributions. Several initiatives will be eligible for a single company, up to a cumulative incentive bonus of \$25,000.

This pilot project with a budget of \$1 million is an incentive. However, it should be noted that for companies, a packaging ecodesign approach can entail significant expenses that extend way beyond the ÉEQ bonus. In order to encourage the implementation of such initiatives, the Quebec government could support businesses that invest in the transition to packaging ecodesign through tax measures, such as credits.

Proposal 5: Support businesses that invest in the transition to eco-designed packaging, made from recycled and/or recyclable materials via tax measures.

The experience acquired by ÉEQ within the framework of its *Innovative Glass Works Plan* has shown that the development and diversification of markets for recycled materials is a long-term process that requires efforts to standardize and harmonize regulations.

In this regard, companies who use eco-materials that contain recycled materials to replace virgin materials should receive tax credits that reflect the environmental benefits of their choices.

In addition to the examples of Quebec recyclers such as Soleno, Fibers Sustana, Groupe Bellemare, Kruger, Cascades, etc., ÉEQ would like to salute the leadership of the five companies - Cascades, Danone Canada, Dyne-A-Pak, Keurig Dr Pepper Canada, TC Transcontinental - that have created the Circular Plastics Action Group (GAPC) in collaboration with the Plastics Division of the Chemical Industry Association of Canada. This initiative, supported by Environment and Climate Change Canada and for which ÉEQ acts as an advisor and financial partner, will test innovative solutions through pilot projects with materials recovery facilities, processors and for the use of recycled materials by end markets.

Proposal 6: Support businesses that use eco-materials containing recycled materials to replace virgin materials.

The State's exemplarity:

With the upcoming launch of the Centre d'acquisitions gouvernementales, as well as discussions surrounding the Quebec government's Strategy for Sustainable Development and the World Circular Economy Forum to be held in Toronto in 2021, the time is right for developing concerted initiatives promoting the circular economy, both in terms of responsible procurement and regulatory changes.

The various levels of government (federal, provincial and municipal) could impose responsible procurement criteria that include eco-materials (including a minimum of recycled content) and ecodesign criteria from government contractors.

Proposal 7: Impose responsible procurement criteria that include eco-materials (including a minimum of recycled content) and ecodesign criteria from government contractors (federal, provincial and municipal).

4. Conclusion

In conclusion, ÉEQ is of the opinion that the Commission could take advantage of the drafting of its report to underline the contribution of the modernization of curbside recycling to reducing the final waste sent to landfill.

The Commission could also investigate possible solutions applicable to the following government bodies:

1. Continue investments in recycling infrastructure, taking into account the diagnostic period for the modernization of curbside recycling.

2. Financially support research, innovation and the development of new technologies for recycling and recovery of residual materials, including innovative solutions for MRF rejects.
3. Amend the definition of "residual materials" in the Environment Quality Act and streamline the oversight of recycling projects under the REAFIE to promote the emergence of eco-materials and facilitate use thereof.
4. Regarding C, P, PM & N, prioritize recycling before composting so that fiber and plastic packaging is recycled and transformed into new products.
5. Support businesses that invest in the transition to eco-designed packaging, made from recycled and/or recyclable materials via tax measures.
6. Support businesses that use eco-materials containing recycled materials to replace virgin materials.
7. Impose responsible procurement criteria that include eco-materials (including a minimum of recycled content) and ecodesign criteria from government contractors (federal, provincial and municipal).

Submitted in Montreal, May 14, 2021



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APPENDIX 1

The following information illustrates the limited data on the curbside recycling system declared to RECYC-QUÉBEC by the municipalities since the implementation of the compensation plan.

Summary of data reported to RECYC-QUÉBEC by municipal organizations under the Compensation plan for the selective collection of recyclable materials

- The terms of the compensation plan for curbside recycling and the calculation of performance are governed by the Environment Quality Act and the Regulation respecting compensation for municipal services provided to ensure recovery and reclamation of residual materials (chapter Q-2, r.10).
- Performance is calculated by taking into account the costs and tonnages declared by each municipal body with jurisdiction. Several factors can have an impact on these costs and tonnages, for example population density, distance from markets/buyers, income from material sales, etc.
- Performance of municipal bodies is compared by group. Six groups are formed for this purpose and are based on population and distance from Québec City and Montreal. The performance of municipal organizations that are not part of the same group should therefore not be compared.

Groupe	Distance par rapport à	Population
1	Plus petite que 100 km	Moins de 3 000
2	Plus petite que 100 km	3 000 à 25 000
3	Plus petite que 100 km	Plus de 25 000
4	Plus grande ou égale à 100 km	Moins de 3 000
5	Plus grande ou égale à 100 km	3 000 à 25 000
6	Plus grande ou égale à 100 km	Plus de 25 000

Compensation 2020

Groupe	Population MAMOT 2019	Coûts CTTC globaux déclarés 2019	Tonnes déclarées 2019	Coût / tonne	kg / hab	Contribution ÉEQ	Contribution RecycMédias	Contribution total
1	110 780	3 147 601 \$	10 487	300 \$	89	2 814 416 \$	134 230 \$	2 948 646 \$
2	475 022	10 443 862 \$	46 851	223 \$	92	9 375 818 \$	447 166 \$	9 822 984 \$
3	5 531 512	109 798 541 \$	487 706	225 \$	82	91 020 625 \$	4 341 100 \$	95 361 725 \$
4	113 319	4 970 230 \$	11 997	414 \$	99	4 466 750 \$	213 035 \$	4 679 785 \$
5	379 555	15 706 834 \$	47 070	334 \$	116	13 943 960 \$	665 038 \$	14 608 998 \$
6	1 812 674	56 267 541 \$	189 823	296 \$	98	52 392 705 \$	2 498 796 \$	54 891 501 \$
Estimation-retard	10 881	-	-	-	-	96 987 \$	4 626 \$	101 612 \$
Total	8 433 743	200 334 610 \$	793 935	252 \$	94	174 111 260 \$	8 303 991 \$	182 415 251 \$

Source: RECYC-QUÉBEC, <https://www.recyc-quebec.gouv.qc.ca/sites/default/files/documents/rsm-donnees-compensation-2020-resume.pdf>

APPENDIX 2

Biodegradable and compostable packaging in Quebec - a Issues and Recommendations

Issues and recommendations_

This overview of biodegradable and compostable plastic packaging highlights certain important issues. These come with recommendations that aim to address the problems identified in order to improve the situation:

A. Consumers are confused when it comes to biodegradable and compostable plastic packaging: they seem to believe that it prevents the negative environmental impacts of packaging while being an alternative to single-use plastics, which influences their buying choices and sorting actions. The use of the terms "biodegradable" and "compostable" is subject to oversight, but it is imperfect and incomplete:

- a. The terms "biodegradable" or "compostable" that appear on packaging are an environmental claim that is not verified by a third party (unless the packaging is certified): one can therefore reasonably doubt the biodegradability or compostability of packaging identified as such by its manufacturer.
- b. Although there are certifications to the effect that a product is suitable for composting, these are voluntary and carried out in a laboratory under specific and controlled conditions (time, temperature, humidity, etc.), that are different from those in the field.
- c. Compostable plastic packaging is difficult to differentiate from other plastic packaging, which makes it more challenging for consumers to make purchasing decisions and sort their waste.

Recommendation 1: Ensure a better framework for environmental claims and better alignment of laboratory conditions for compostability certification and those used in the field in the composting and anaerobic digestion industry, in order to limit the use of unverified self-declarations.

B. In the near future, we can expect a significant increase in the amount of compostable packaging on the market as well as in the composting and anaerobic digestion industrial stream:

- a. The Quebec government's new recovery strategy for organic material, *Stratégie de valorisation de la matière organique* (MO) (MELCC, 2020a), with its goal of managing 100% of the OM from the residential and industrial, commercial and institutional (ICI) sectors by 2025, will lead to an increase in the amount of organic material recovered and, consequently, the amount of compostable packaging.
- b. Bans on single-use plastic products and packaging, often related to agri-food, are driving innovation towards so-called compostable solutions.

Recommendation 2: Implement tracking of this progress (quantities and end-of-life streams) by including compostable packaging as an actual category in province-wide characterization studies.

C. With respect to the Quebec government has clearly stated the management method to be prioritized for organic material (OM): recycling (by composting and anaerobic digestion). For compostable packaging, the situation is not defined:

- a. As a result, compostable packaging ends up in all three collection streams - recyclable materials, organic material and garbage - and, therefore, in all three processing streams with their own specific issues:
 - Recycling: Contamination of other recyclable materials
 - Composting/anaerobic digestion: Packaging is likely to be removed with other unwanted materials (and sent to disposal) or not sufficiently broken down by the end of the composting/anaerobic digestion process.
 - Disposal: In a landfill or incinerator, they are deprived of the required conditions for decomposition to occur.
- b. There is no harmonized list of materials accepted in organic material collections in Quebec. It is currently up to each facility to decide whether or not to accept compostable packaging.

Recommendation 3: The government must take a firm position in favour of recycling in a circular economy perspective so that fiber and plastic packaging is recycled and transformed into new products.

Recommendation 4: A charter for organic material and a unified list of accepted/rejected materials/packaging, including control measures in the field, would clarify the application of the 3R-RD hierarchy in the end-of-life management of compostable packaging.

Issues and recommendations_ (cont'd)

- D. In practice, the journey of compostable packaging through the Industrial composting and anaerobic digestion stream is closely tied to the management of unwanted materials:
 - a. The mission of the Industrial composting and anaerobic digestion stream is not to manage packaging or to sort materials.
 - b. The Industrial composting and anaerobic digestion stream aims to produce quality compost or digestate that can be returned to the soil. To do this, unwanted materials (including plastics) are removed as much as possible.
 - c. Plastic packaging (compostable or not) removed from other unwanted materials is sent for disposal.

Recommendation 5: As some organizations have done¹, identify specific applications where compostable packaging might be preferred (e.g., to facilitate food waste collection) and clarify the management method to be prioritized for these.

Recommendation 6: Biodegradable and compostable plastic packaging should be included in extended producer responsibility (EPR) and be subject to eco-modulation measures linked to their impact in end-of-life management. The worst signal to give to companies is to imply a lack of financial responsibility for packaging placed on the market.

Recommendation 7: Provide a clear legal framework so that packaging being marketed is reusable, recyclable or made of recycled content.

- E. The purpose of composting/anaerobic digestion is to return organic material into its production cycle, i.e. in the form of compost and digestate (to contribute to soil structure and nutrient supply for plant growth):
 - a. Packaging that is truly compostable does not harm but does not add value to compost.
 - b. Even if plastic packaging is largely removed upstream and/or downstream of the composting/anaerobic digestion process, small fragments may remain in the compost or digestate. The environmental impact of these residual microplastics as a source of soil contamination is of increasing concern to experts.

Recommendation 8: Document the impact of compostable packaging on the quality of compost/digestate used in soil conditioner and study the environmental impact of residual microplastics - from composting/anaerobic digestion - on soils.

F. Not all forms of innovation are a source of progress. Ecodesign allows companies to have a comprehensive view of the factors to be considered regarding design choices, procurement choices, as well as end-of-life management scenarios for packaging, without compromising product protection and preservation. Applying "Life Cycle Thinking" and life cycle analysis, when necessary, means that companies can assess various impact scenarios for a package and make better environmental choices. The key factors of ecodesign allow to:

- a. Meet the specific needs of the product to protect it (avoid product loss) and preserve it (avoid and reduce food waste).
- b. Think about the end of life right from the design stage, based on the management systems and channels in place where the packaging is likely to end up.
- c. Reduce impacts and use of resources: In a circular economy approach, ecodesign aims to integrate "Life Cycle Thinking" that takes into account the full profile of a product's environmental impacts (life cycle analysis), but also the reduction of resource consumption by keeping the products in circulation in the system (reduction at source, reuse, recycling).
- d. Ensure transparency and traceability right from the time of procurement regarding choice of materials and suppliers (methods of extraction of raw materials, worker conditions, origin, transportation methods, etc.), but also in the choice of the packaging's end of life.

Recommendation 9: Democratize access to ecodesign for companies that place packaging on the market.

¹Ellen MacArthur Foundation, 2016 and 2020; SPC, 2021; WRAP and The UK Plastics Pact, 2020.