2019-2020 Waste Disposal Characterization Study

RECYC-QUÉBEC
Québec

Foreword

In recent years, residual material management in Quebec has been undergoing many changes. An accurate portrait can guide decision-making and identify opportunities for improvement. There are several possible approaches to find out trends in residual material management and measure the results of the policies and actions put in place in recent years. One of these consists of documenting materials that for various reasons, could not be reduced at the source, reused, recycled or reclaimed, and therefore sent to disposal. This is why RECYC-QUÉBEC has conducted a provincial waste disposal characterization study. The study was conducted from October 2019 to November 2020 at 19 disposal sites—10 engineered landfills, one incinerator, six waste transfer centres, and two construction and demolition debris landfills—which were representative throughout Quebec and located in 13 different administrative regions. In addition to the origin of materials entering the disposal sites, the composition of materials was also analyzed.

A total of 600 material samples were collected—200 waste samples from municipalities, 250 from the industrial, commercial and institutional (ICI) sector, and 150 samples from the construction, renovation and demolition (CRD) sector.

This extensive study was the second of its kind in Quebec—the first was conducted by RECYC-QUÉBEC in 2011–2012 (for more information, see the 2010–2011 Report, section 5) [in French only]. As almost 10 years has elapsed between the two studies, it is therefore possible to examine how disposed waste has changed during this period since both studies used very similar methodologies.

> For ease of reading, results have been rounded off. Consequently, totals or percentages in the tables and figures, do not possibly fully match the totalled results. All totals, variances and percentage distribution calculations are based on raw data.

List of tables and figures

Overall composition of disposed waste in 2019 compared with 2011

The following table, for which a preliminary version[1] was recently published in the RECYC-QUÉBEC sectoral report pursuant to the BAPE mandate on the situational analysis and the management of ultimate waste (in French only), compares results by categories, between the 2011–2012 and 2019–2020 studies.

Table 1 – Composition of materials disposed of in 2011 and 2019 from the municipal, ICI and CRD sectors

	2011		2019-2020		Difference 2011-2019	
Material category	**Tonnage**	**%**	**Tonnage**	**%**	**%**	**Tonnage**
Paper and cardboard	542,000	10.4%	564,000	11.5%	4.1%	22,000
Glass	85,000	1.6%	78,000	1.6%	-9.0%	(8,000)
Metal	168,000	3.2%	143,000	2.9%	-14.8%	(25,000)
Plastic	547,000	10.5%	471,000	9.6%	-13.9%	(76,000)
Subtotal Paper, cardboard, plastic, glass, metal	**1,343,000**	**25.8%**	**1,256,000**	**25.6%**	**-6.4%**	**(86,000)**
Organic materials	2,249,000	43.3%	1,485,000	30.2%	-34.0%	(763,000)
Bulky items	89,000	1.7%	215,000	4.4%	141.4%	126,000
CRD debris	1,122,000	21.6%	1,362,000	27.7%	21.3%	239,000
Textiles	161,000	3.1%	292,000	6.0%	81.9%	132,000
HHW	26,000	0.5%	61,000	1.2%	136.9%	35,000
Other	205,000	3.9%	242,000	4.9%	18.0%	37,000
Total	**5,194,000**		**4,913,000**		**-5.4%**	**(281,000)**

Three key findings were made. First, we note a 6% overall reduction in the amount of recyclables such as paper, cardboard, plastic, glass and metal (subtotal on Table 1) sent to disposal (all sectors combined—municipal, ICI and CRD) for the 2011–2019 period. However, collection services should be extended to the industrial, commercial and institutional (ICI) sector—particularly for fibres— in order to reduce the disposal rate of these materials. Despite this drop, we note a significant increase (54%) in disposed cardboard from the ICI sector during this period: an estimated 257,000 tonnes of cardboard (corrugated, pressed, flat and kraft paper) was sent to disposal in 2019 from this sector alone (see Appendix 2 in this regard). An increase in laminated or composite paper and cardboard from the ICI sector has also been observed. There is no doubt that increased consumption of composite products (cardboard boxes, trays and other moulded or pressed pulp products, coffee cups and other beverage containers, bags and envelopes, etc.) largely accounts for this situation.

Another interesting observation is that organic materials declined sharply between 2011 and 2019, both in terms of total tonnage disposed of (763,000-tonne reduction) and the proportion it accounts for in all disposed waste. In 2011, organic materials accounted for 43% of total disposed waste while in 2019, it was only 30% of the total. This significant reduction is observed in the municipal sector (reduction from 58% to 46% of the disposed total) and the ICI sector (reduction from 41% to 27% of the disposed total). At the municipal level, this situation is doubtless explained by the rollout of numerous organic waste collection programs in recent years. Sixty percent of Quebec municipalities currently offer a combined food and yard waste collection program to their residents or another management method for these organic materials, such as backyard or community composting.

1. Certain disposal data for 2019 has been revised since the publication of this preliminary version. The composition of disposed material is calculated on the basis of quantities reported by disposal sites for the following categories of materials: household waste (municipal), ICI sector waste and CRD debris. Other categories of materials, presented in the tables shared with the BAPE, are not considered for this characterization study.

The reduction in ICI sector materials disposal is surprising, as few ICI-specific collection programs have been put in place in recent years. Although it may be necessary to wait for the results of additional studies to provide confirmation, reduction at the source—notably by reducing food waste—is a possible assumption. The major generators have been able to divert significant quantities of unsold foodstuffs to food banks and large amounts of organic ICI waste to other streams—such as animal feed, for example. It is also possible that the suspension of the study in the spring of 2020 due to the pandemic, as well as reduced ICI activities in the summer and autumn of 2020, may have influenced the results.

Increase in CRD debris disposal

Contrary to the reductions in waste quantities observed for certain materials, we note a significant increase in disposal of CRD debris—close to 239,000 additional tonnes between 2011 and 2019. This represents 28% of all materials disposed of in 2019, and this proportion could be further increased if we add CRD discharges from sorting centres sent to disposal in that same year, that were not considered in this characterization study. However, the CRD increase is largely explained by a hike in the quantity of disposed wood. In 2011, an estimated 415,000 tonnes of wood was disposed of, while more than 699,000 tonnes of wood was disposed of in 2019—an increase of 284,000 tonnes or 69% between 2011 and 2019. The problems experienced in recent years in the CRD debris industry clearly explains this situation and reinforces the need to intensify research into viable and stable end uses for materials processed by sorting centres. However, the observed increase of wood waste from the ICI sector (more than 150% between 2011 and 2019)—that was not processed by a sorting centre before disposal—brings to light another problem. Evidently, recycling wood at end of life for reuse, recycling or reclamation must become systematic if Quebec seeks to reduce its wood waste.

Along with the CRD debris situation, bulky waste has also increased significantly (141%) between 2011 and 2019, particularly in the furniture and other household items category. The increase in bulky waste has almost tripled in the municipal sector and more than doubled in the ICI sector. The high number of renovations observed in the residential and other housing sectors in the last decade have certainly played a role in this situation.

Given the very large amounts on offer, reuse organizations will typically give preference to furniture in excellent condition. As recycling and reclamation options have not been structured and developed in every region of Quebec, a high proportion of these products therefore end up in the waste stream.

Increase in textile and HHW disposal

We are seeing sharp increases in quantities of disposed textile and hazardous household waste (HHW). The quantity of disposed textile has nearly doubled between 2011 and 2019, while quantities of disposed HHW have more than doubled over that period. Regarding textiles, the continual increase in clothing (fast fashion) consumption has been a growing phenomenon in recent years, and the results of the study appear to support this. The increase has been observed at the municipal level, among residents and consumers, as well as in the ICI sector.

The substantial increase observed in HHW is largely attributable to the municipal sector, but the ICI sector has also seen a notable increase in waste quantities. We therefore note that significant awareness effort is needed for citizens as well as the ICI sector to use the various infrastructures put in place in recent years—such as extended producer responsibility programs for oils, paints, electronics, mercury light bulbs and batteries, as well as household appliances and air conditioning equipment (since April 1, 2021)—so that more of these materials are recovered, reused and recycled. The study does not indicate precisely which of these materials have seen the biggest increases in waste volumes, but the toxicity of many of these materials at end of life could have negative impacts when they are disposed of in landfill or waste incineration.

Detailed composition of materials disposed of in 2019—by material and by sector

Materials sampled during this characterization study were sorted into 79 subcategories for samples from the municipal and ICI sectors, and 45 subcategories for the CRD sector. This breakdown permits detailed observations on the composition of disposed materials. The tables presented in appendices 1, 2 and 3 show data broken down by the municipal, ICI and CRD activity sectors.

Organic materials

At the municipal level, organic materials still account for a significant proportion of waste—i.e., 46%—while organic waste accounts for just 27% of ICI sector waste.

As previously indicated, these are substantial reductions compared with 2011. However, significant efforts still have to be made to reduce the amount of organic materials still being disposed of, as indicated in figures 1 and 2. Food waste is the most frequently disposed organic material in the municipal and ICI sectors. Reducing food loss and food waste should therefore be encouraged in these two sectors.

Figure 1—Organic materials disposed of in 2019 (municipal sector—in tonnes)

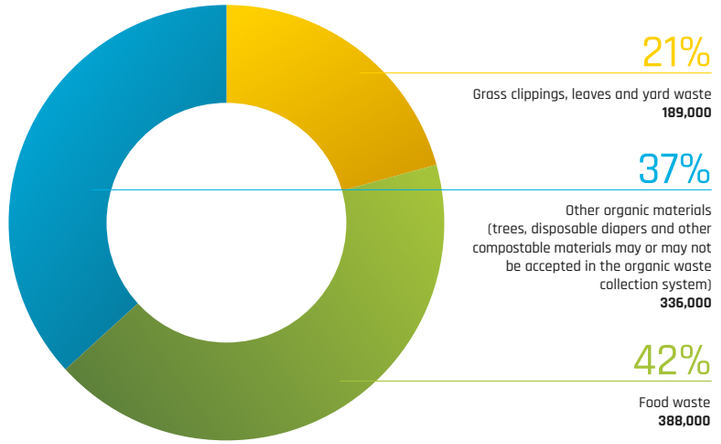
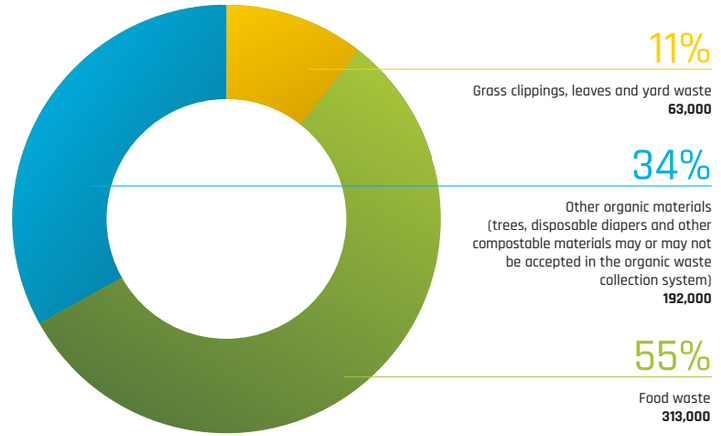


Figure 2—Organic materials disposed of in 2019 (ICI sector—in tonnes)



CRD debris

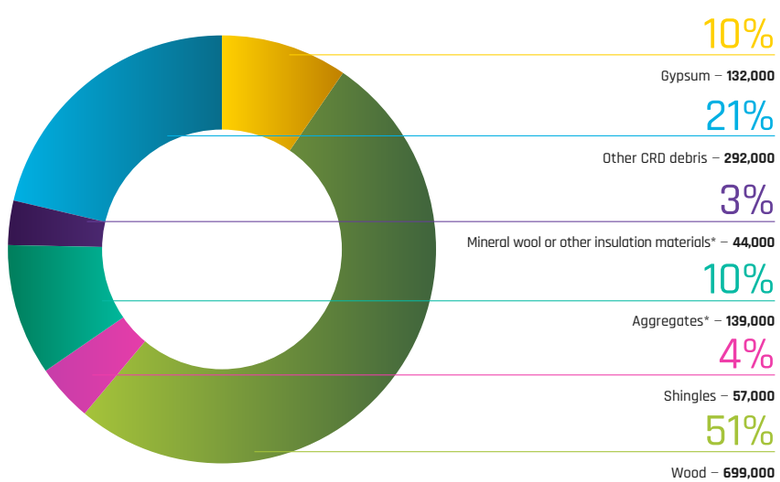
Half of all disposed CRD debris, all sectors combined, is composed of wood (699,000 tonnes) as previously indicated and illustrated in Figure 3. It should also be noted that almost two thirds of this disposed wood is composed of construction materials (structural timber, lumber, oriented strand board, plywood, etc.), containers, packaging, and wooden pallets, including wood of a certain quality that could have been reclaimed instead of being directed to the waste stream.

Disposed CRD debris other than wood includes gypsum (almost 132,000 tonnes), aggregates (almost 139,000 tonnes) and other materials such as shingles and various insulation materials.

The composition of disposed CRD debris differs greatly by activity sector, and by amount in relation to all disposed residual materials for the sector, as shown by the following figures.

Municipal CRD debris represents 10% (201,000 tonnes) of all disposed materials (see Figure 4 detailing this tonnage), and represents 23% (490,000 tonnes) of total disposed material in the ICI sector (see Figure 5 detailing this tonnage).

Figure 3—Composition of CRD debris disposed of (all sectors combined—in tonnes)



*For these materials, the quantities indicated are for the CRD sector only. For the municipal and ICI sectors, these materials are included in the *Other CRD debris category*.

Figure 4—CRD debris disposed of in 2019 (municipal sector—in tonnes)

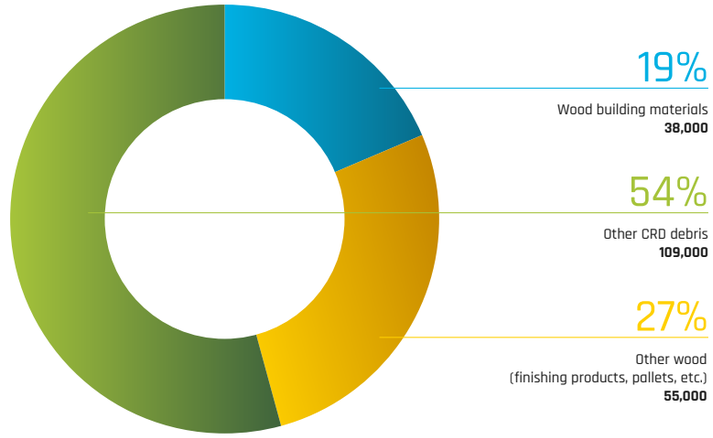


Figure 5—CRD debris disposed of in 2019 (ICI sector—in tonnes)

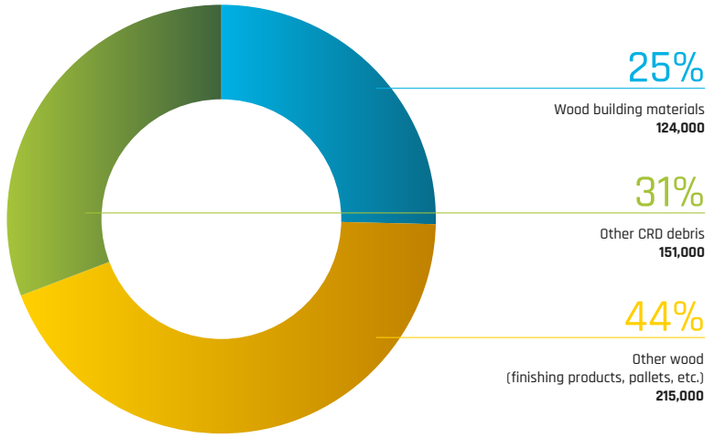
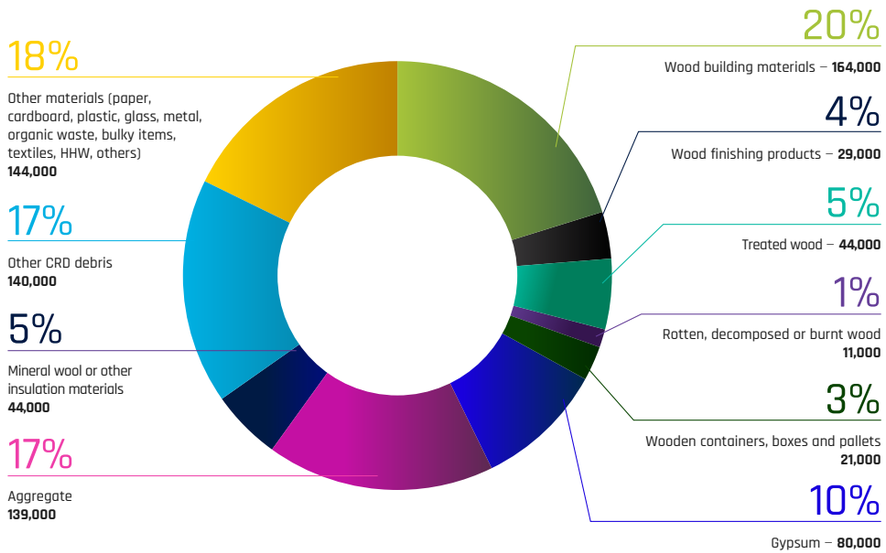


Figure 6—Materials disposed of (CRD sector—in tonnes)



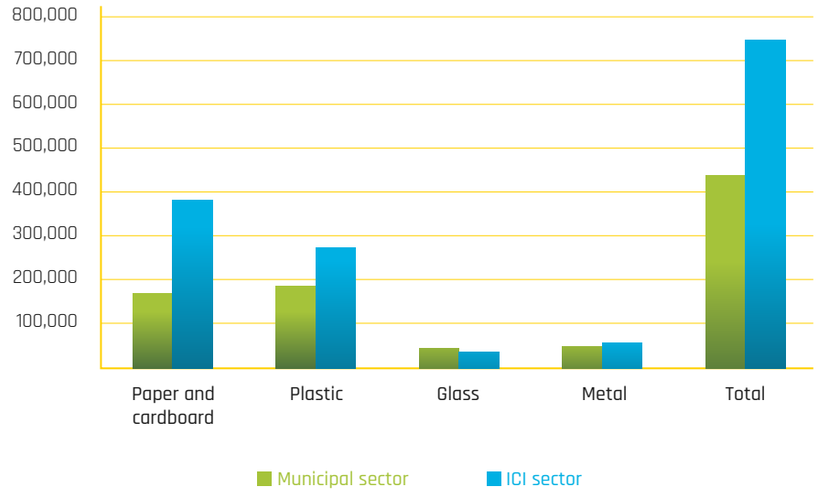
The composition of waste materials for the CRD sector is different from the municipal and ICI sectors. The results of the study, indicated in Figure 6, present more detailed results for this specific sector, given its size relative to all CRD debris disposed of (CRD debris accounts for over 82% of all waste from this sector).

Wood building materials thus represent 20% of total waste (164,000 tonnes), other types of wood (finishing products, treated wood, rotten wood, containers, pallets, etc.) account for 13% of total waste, and other CRD debris (including gypsum, aggregates, insulation materials, etc.) represent 49% of total waste in this sector. Other materials (paper, cardboard, plastics, etc.), represent close to 18% (144,000 tonnes) of all waste materials in the CRD sector.

Paper, cardboard, plastic, glass and metal

Paper, cardboard, plastic, glass and metal comprise the third main category of disposed residual materials, and more than 1.1 million tonnes of these materials were disposed of in 2019, even if the vast majority of these materials are recyclable and for which sorting, processing and recycling facilities exist, along with markets for their use. The disposal of these materials differs greatly depending on the activity sector (municipal or ICI) both in terms of quantities as well as composition. In the municipal sector, paper, cardboard, plastic, glass and metal represent 22% of waste materials, while this proportion is 35% in the ICI sector. Differences in tonnage are illustrated in Figure 7.

Figure 7—Paper, cardboard, plastic, glass and metal disposed of in 2019, municipal and ICI sectors (in tonnes)



While the total amounts of disposed glass and metal are similar for the municipal and ICI sectors, we note differences with paper, cardboard and plastic, due in large part to significant variations for certain materials only. The ICI sector disposed of 252,000 more tonnes of office paper, and other printed materials, corrugated and pressed cardboard, buckets, covers and barrels, as well as bags and packing film than the municipal sector.

Globally (for all sectors combined), fibres account for the majority with 564,000 tonnes disposed of (11% of the total for all materials), close to two thirds of which is composed of cardboard only (corrugated, flat, pressed or kraft paper packaging). Laminated and composite paper and cardboard, office paper, and other printed materials (envelopes, invoices, inserts, annual reports, account statements, greeting cards, etc.) also represent categories in which significant amounts are disposed of.

Large amounts of plastic are also disposed of—471,000 tonnes in 2019. Close to half of this disposed plastic is composed of various bags and films used for packaging, protection, everyday consumer products or products sold for everyday use (such as garbage bags). Considering the unit weight of these various products, the quantities in question are substantial. Significant quantities (more than 70,000 tonnes) of bottles, containers and packaging made from #1, #2, #4 and #5 plastic were disposed of in 2019.

More than 143,000 tonnes of metals (that are almost all recyclable) was disposed of in 2019, including aluminum containers or packaging, other ferrous and non-ferrous metals, and products such as sheet metal, scrap metal, plumbing pipes, utensils, aerosol containers, etc.

An estimated 78,000 tonnes of glass was disposed of in 2019, not including glass sent to disposal sites for reclamation or other uses. Bottles represent almost half of disposed glass (46%), containers 21%, and flat glass, ceramics and other types of glass make up one third of disposed glass.

Bulky items, textiles, HHW and others

As previously indicated, all of these material categories saw an increase in disposal rates—representing 16% of total waste, or 810,000 tonnes, in 2019. It should be noted that more than half of these materials originated from the municipal sector. The appendices to this document indicate the quantities for these categories, but the largest quantities of waste materials are furniture, clothing, domestic or commercial textiles as well as HHW and EPR products.

Appendix 1 – Detailed composition of municipal materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Newspapers	3,000	0.2%
Newsprint publications and circulars	7,000	0.3%
Magazines, catalogues and related documents	9,000	0.5%
Directories	1,000	0.0%
General use paper/office paper	11,000	0.5%
Other printed materials	20,000	1.0%
Other paper	1,000	0.0%
Corrugated and pressed cardboard	47,000	2.4%
Kraft paper shopping bags and packaging	6,000	0.3%
Laminated paper	12,000	0.6%
Composite containers	1,000	0.1%
Fibre laminate containers	4,000	0.2%
Flat packaging cardboard	31,000	1.6%
Other paper packaging	3,000	0.1%
Gable-top containers, Tetra Pak and other multi-layer aseptic containers	7,000	0.3%
Subtotal Paper and cardboard	**162,000**	**8.1%**
Non-returnable alcoholic beverage bottles	12,000	0.6%
Non-returnable non-alcoholic beverage bottles	3,000	0.1%
Food containers	11,000	0.5%
Refundable alcoholic and non-alcoholic bottles	4,000	0.2%
Flat glass, stoneware, ceramics and other glass	11,000	0.6%
Subtotal Glass	**41,000**	**2.1%**

Appendix 1 – Detailed composition of municipal materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Refundable non-alcoholic beverage cans	3,000	0.1%
Refundable alcoholic beverage cans	2,000	0.1%
Non-returnable aluminum cans, other containers, packaging and aluminum foil	9,000	0.4%
Other non-returnable metal containers and packaging, including aerosols and steel metal tubes (other than HHW)	12,000	0.6%
Other metals	19,000	1.0%
Subtotal Metal	**44,000**	**2.2%**
Refundable plastic bottles	2,000	0.1%
Non-refillable water bottles	4,000	0.2%
Non-returnable beverage bottles, other bottles and containers with tops (#1)	6,000	0.3%
Other food containers (#1)	8,000	0.4%
Other PET products (#1)	<1,000	0.0%
Bottles, containers and packaging (#2) (except buckets/pails)	7,000	0.3%
Other HDPE products (#2)	<1,000	0.0%
Bottles, containers and packaging (#3)	<1,000	0.0%
Other PVC products (#3)	2,000	0.1%
Rigid bottles, containers and packaging (#4 and #5) (except buckets/pails)	10,000	0.5%
Other rigid LDPE products and rigid PP products (#4 and #5)	1,000	0.0%
Buckets, pails, barrels and lids (#2, #4 and #5)	5,000	0.2%
Other rigid plastic packaging materials, uncoded and #7 plastic (non-PLA)	8,000	0.4%
Polylactic acid (PLA) containers, packaging, bags, film and other degradable plastics	2,000	0.1%
Expanded #6 packaging and containers (food and protection/insulation)	7,000	0.4%
Unexpanded #6 containers and packaging	4,000	0.2%

Appendix 1 – Detailed composition of municipal materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Plastic bags and film (#2 and #4)	29,000	1.5%
Non-degradable shopping bags - under 40 µ thickness	6,000	0.3%
Non-degradable shopping bags - over 40 µ thickness	4,000	0.2%
Other plastic films (non-packaging)	26,000	1.3%
Other laminated plastic films and bags	23,000	1.2%
Stand-up pouches	2,000	0.1%
Rigid packaging and durable items in uncoded and #7 (non-PLA) plastic and other plastics	23,000	1.2%
Single-use straws	<1,000	0.0%
Plastic plates and cutlery	4,000	0.2%
Subtotal Plastic	**183,000**	**9.2%**
Subtotal Paper, cardboard, plastic, glass and metal	**429,000**	**21.6%**
Grass clippings, leaves and yard waste	189,000	9.5%
Food waste	388,000	19.5%
Other compostable materials that may be accepted in the organic waste collection	89,000	4.5%
Trees	11,000	0.6%
Other compostable materials accepted in the organic waste collection that were previously not accepted	97,000	4.9%
Other compostable materials generally not accepted in the organic waste collection	22,000	1.1%
Disposable diapers	116,000	5.9%
Subtotal Organic materials	**913,000**	**46.0%**

Appendix 1 – Detailed composition of municipal materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Small appliances, countertop appliances, outside tools and power tools	36,000	1.8%
Furniture and other household items	90,000	4.6%
Subtotal Bulky items	**127,000**	**6.4%**
Wood building materials	38,000	1.9%
Wood finishing products	24,000	1.2%
Wooden containers, boxes and pallets	5,000	0.3%
Other wood products, including treated wood	25,000	1.3%
Gypsum	26,000	1.3%
Asphalt shingles	12,000	0.6%
Other CRD debris	71,000	3.6%
Subtotal CRD debris	**201,000**	**10.1%**
Textiles, leather and shoes	21,000	1.1%
Clothing	55,000	2.8%
Domestic or commercial textiles	73,000	3.7%
Boots and shoes	10,000	0.5%
Accessories	9,000	0.4%
Plush items	3,000	0.1%
Textile by-products and pre-consumer leather	4,000	0.2%
Other textiles	6,000	0.3%
Subtotal Textiles	**181,000**	**9.1%**

Appendix 1 – Detailed composition of municipal materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Miscellaneous items	45,000	2.3%
Fine particulates and other, unknown or ultimate waste	44,000	2.2%
Non-compostable waste in a container	8,000	0.4%
Coffee pods	10,000	0.5%
Subtotal Other	**107,000**	**5.4%**
Hazardous household waste (HHW) and EPR products	27,000	1.4%
Subtotal HHW and EPR products	**27,000**	**1.4%**
TOTAL	**1,986,000**	**100.0%**

Appendix 2 – Detailed composition of ICI sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Newspapers	5,000	0.2%
Newsprint publications and circulars	4,000	0.2%
Magazines, catalogues and related documents	13,000	0.6%
Directories	<1,000	0.0%
General use paper/office paper	23,000	1.1%
Other printed materials	33,000	1.5%
Other paper	2,000	0.1%
Corrugated and pressed cardboard	212,000	10.0%
Kraft paper shopping bags and packaging	10,000	0.5%
Laminated paper	20,000	1.0%
Composite containers	1,000	0.0%
Fibre laminate containers	11,000	0.5%
Flat packaging cardboard	35,000	1.7%
Other paper packaging	8,000	0.4%
Gable-top containers, Tetra Pak and other multi-layer aseptic containers	6,000	0.3%
Subtotal Paper and cardboard	**381,000**	**18.0%**
Non-returnable alcoholic beverage bottles	9,000	0.4%
Non-returnable non-alcoholic beverage bottles	3,000	0.1%
Food containers	6,000	0.3%
Refundable alcoholic and non-alcoholic bottles	4,000	0.2%
Flat glass, stoneware, ceramics and other glass	12,000	0.6%
Subtotal Glass	**34,000**	**1.6%**

Appendix 2 – Detailed composition of ICI sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Refundable non-alcoholic beverage cans	3,000	0.1%
Refundable alcoholic beverage cans	1,000	0.0%
Non-returnable aluminum cans, other containers, packaging and aluminum foil	6,000	0.3%
Other non-returnable metal containers and packaging, including aerosols and steel metal tubes (other than HHW)	9,000	0.4%
Other metals	34,000	1.6%
Subtotal Metal	**52,000**	**2.5%**
Refundable plastic bottles	1,000	0.1%
Non-refillable water bottles	5,000	0.2%
Non-returnable beverage bottles, other bottles and containers with tops (#1)	6,000	0.3%
Other food containers (#1)	6,000	0.3%
Other PET products (#1)	3,000	0.2%
Bottles, containers and packaging (#2) (except buckets/pails)	8,000	0.4%
Other HDPE products (#2)	2,000	0.1%
Bottles, containers and packaging (#3)	<1,000	0.0%
Other PVC products (#3)	2,000	0.1%
Rigid bottles, containers and packaging (#4 and #5) (except buckets/pails)	10,000	0.5%
Other rigid LDPE products and rigid PP products (#4 and #5)	4,000	0.2%
Buckets, pails, barrels and lids (#2, #4 and #5)	23,000	1.1%
Other rigid plastic packaging materials, uncoded and #7 plastic (non-PLA)	12,000	0.6%
Polylactic acid (PLA) containers, packaging, bags, film and other degradable plastics	1,000	0.1%
Expanded #6 packaging and containers (food and protection/insulation)	5,000	0.3%
Unexpanded #6 containers and packaging	7,000	0.4%

Appendix 2 – Detailed composition of ICI sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Plastic bags and film (#2 and #4)	73,000	3.5%
Non-degradable shopping bags - under 40 µ thickness	2,000	0.1%
Non-degradable shopping bags - over 40 µ thickness	1,000	0.0%
Other plastic films (non-packaging)	30,000	1.4%
Other laminated plastic films and bags	27,000	1.3%
Stand-up pouches	1,000	0.0%
Rigid packaging and durable items in uncoded and #7 (non-PLA) plastic and other plastics	30,000	1.4%
Single-use straws	<1,000	0.0%
Plastic plates and cutlery	3,000	0.2%
Subtotal Plastic	**267,000**	**12.6%**
Subtotal Paper, cardboard, plastic, glass and metal	**735,000**	**34.8%**
Grass clippings, leaves and yard waste	63,000	3.0%
Food waste	313,000	14.8%
Other compostable materials that may be accepted in the organic waste collection	97,000	4.6%
Trees	7,000	0.3%
Other compostable materials accepted in the organic waste collection that were previously not accepted	28,000	1.3%
Other compostable materials generally not accepted in the organic waste collection	10,000	0.5%
Disposable diapers	51,000	2.4%
Subtotal Organic materials	**569,000**	**26.9%**

Appendix 2 – Detailed composition of ICI sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Small appliances, countertop appliances, outside tools and power tools	19,000	0.9%
Furniture and other household items	50,000	2.4%
Subtotal Bulky items	**69,000**	**3.3%**
Wood building materials	124,000	5.9%
Wood finishing products	41,000	1.9%
Wooden containers, boxes and pallets	96,000	4.6%
Other wood products, including treated wood	78,000	3.7%
Gypsum	26,000	1.2%
Asphalt shingles	10,000	0.5%
Other CRD debris	115,000	5.4%
Subtotal CRD debris	**490,000**	**23.2%**
Textiles, leather and shoes	11,000	0.5%
Clothing	26,000	1.2%
Domestic or commercial textiles	30,000	1.4%
Boots and shoes	8,000	0.4%
Accessories	5,000	0.2%
Plush items	<1,000	0.0%
Textile by-products and pre-consumer leather	21,000	1.0%
Other textiles	3,000	0.2%
Subtotal Textiles	**104,000**	**4.9%**

Appendix 2 – Detailed composition of ICI sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Miscellaneous items	38,000	1.8%
Fine particulates and other, unknown or ultimate waste	73,000	3.5%
Non-compostable waste in a container	6,000	0.3%
Coffee pods	5,000	0.2%
Subtotal Other	**121,000**	**5.8%**
Hazardous household waste (HHW) and EPR products	24,000	1.2%
Subtotal HHW and EPR products	**24,000**	**1.2%**
TOTAL	**2,112,000**	**100.0%**

Appendix 3 – Detailed composition of CRD sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Paper	4,000	0.5%
Cardboard	18,000	2.2%
Subtotal Paper and cardboard	**21,000**	**2.6%**
Bottles and food containers	<1,000	0.0%
Flat glass and other glass	2,000	0.3%
Subtotal Glass	**2,000**	**0.3%**
Metal food containers and packaging (ferrous and non-ferrous)	<1,000	0.1%
Other non-ferrous metals	11,000	1.3%
Other ferrous metals	35,000	4.3%
Subtotal Metal	**46,000**	**5.7%**
Bottles, containers, and food and non-food packaging, all types of plastics (except #6); refundable and non-returnable	<1,000	0.0%
Other PET products (#1)	2,000	0.2%
Other HDPE products (#2)	1,000	0.1%
Other PVC products (#3)	9,000	1.1%
Other rigid LDPE products and rigid PP products (#4 and #5)	<1,000	0.0%
Buckets, pails, barrels and lids (#2, #4 and #5)	1,000	0.1%
Expanded #6 containers, packaging and materials (food and protection/insulation)	<1,000	0.0%
Unexpanded #6 containers, packaging and materials (food and protection/insulation)	<1,000	0.0%
Laminated plastic shopping bags, other bags and films	<1,000	0.0%
Plastic bags and film (#2 and #4)	3,000	0.3%
Other plastic containers, packaging, bags, films or items	7,000	0.9%
Subtotal Plastic	**22,000**	**2.7%**
Subtotal Paper, cardboard, plastic, glass and metal	**92,000**	**11.3%**

Appendix 3 – Detailed composition of CRD sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Grass clippings, leaves and yard waste	<1,000	0.1%
Food waste	<1,000	0.0%
Other organic materials	2,000	0.2%
Trees	1,000	0.1%
Subtotal Organic materials	**3,000**	**0.4%**
Major appliances, countertop appliances, power tools, furniture and other household items	19,000	2.3%
Subtotal Bulky items	**19,000**	**2.3%**
Wood building materials	164,000	20.2%
Wood finishing products	29,000	3.5%
Treated wood	44,000	5.4%
Rotten, decomposed or burnt wood	11,000	1.3%
Gypsum	80,000	9.8%
Concrete	92,000	11.3%
Asphalt	3,000	0.4%
Stone	20,000	2.5%
Brick	23,000	2.8%
Asphalt shingles	34,000	4.2%
Flat roofing and tar paper	13,000	1.6%
Ceramics and porcelain	14,000	1.7%
Carpets and rugs	1,000	0.1%
Mineral wool or other insulation materials	44,000	5.4%
Acoustic or suspended ceiling tiles	5,000	0.6%
Other CRD debris	73,000	8.9%
Wooden containers, boxes and pallets	21,000	2.6%
Subtotal CRD	**671,000**	**82.4%**

Appendix 3 – Detailed composition of CRD sector materials disposed of in 2019–2020

Category (name)	Weight (tonnes)	%
Textiles, leather and shoes	8,000	1.0%
Subtotal Textiles	**8,000**	**1.0%**
Miscellaneous items	2,000	0.3%
Fine particulates, liquids, others, or unknown	11,000	1.3%
Subtotal Other	**13,000**	**1.6%**
Hazardous household waste (HHW) and EPR products	9,000	1.1%
Subtotal HHW and EPR products	**9,000**	**1.1%**
TOTAL	**815,000**	**100.0%**

In accordance with the organization's mission, the 2019–2020 waste disposal characterization study is available in PDF form only.

To obtain this document in an accessible version, contact us via:
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