

DATACALL REPORT 2020



Executive Summary

The 2020 Datacall at a Glance



The Datacall is the source of data for determining the net Blue Box system cost and for allocating funding under the Blue Box Program Plan. The Resource Productivity and Recovery Authority (RPPRA) is responsible for the Blue Box Program's oversight and for determining the funding for the program.

Each year, municipalities, recycling associations and First Nation communities in Ontario report on their residential waste diversion programs to RPPRA through the Datacall, submitting information on tonnage and financial data associated with operating the Blue Box Program and the impact on diversion achieved through other waste management services. Each Ontario municipal program (municipality, recycling association or First Nation community) providing recycling services must complete the Datacall to be eligible for Blue Box funding.

The 2020 Datacall report summarizes information generated by the 250 programs participating in the Blue Box Program. Key highlights include:

- The Blue Box recovery rate increased in 2020 to 59.9% from 57.3% in 2019.
- The provincial residential diversion rate for 2020 decreased from the 2018 and 2019 rate by 0.2% to 49.5%.
- Blue Box marketed tonnes increased by 3.7% from 2019 to 756,984 tonnes in 2020.
- Organics tonnes increased by 7.5%.
- Other Recyclables tonnes increased by 5.3%.
- Waste Electrical and Electronic Equipment (WEEE) tonnes decreased by 9.5%.
- Municipal Hazardous or Special Waste (MHSW) remained stable with only a 0.1% decrease in tonnes.
- The net cost of the Blue Box Program increased by 6.6% between 2019 and 2020.

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01 Glossary of Terms

Definitions

Bottom ash disposed: Ash from the incineration process that is not reused or recycled. These tonnes are included in the Disposed Tonnes calculation.

Bottom ash recycled: Ash recovered from the incineration process that is used in the creation of other materials. These tonnes are included in the Residential Waste Diversion Rate calculation.

By-product material: Material from households that ends up in the garbage, recycling and reuse streams.

Collected Blue Box tonnes: Blue Box materials that are collected curbside and/or at a depot.

Communities ('Programs'): Includes municipalities, amalgamated municipalities, recycling associations and First Nation communities that submit a Datacall form.

Curbside collection: Households receiving curbside Blue Box service. Includes single-family homes serviced individually and multi-family homes serviced collectively. These homes may also have access to depot service for Blue Box materials in addition to curbside service.

Depot collection: Bringing residential Blue Box material to a specified location within a community.

Disposed Tonnes: Includes garbage and processing residuals from recycling and composting operations disposed at a landfill or Energy-from-Waste incineration facilities.

Diverted Tonnes: Includes recycling activities, municipal organic collection and processing activities, provincial deposit systems for beer, wine and spirits containers, residential on-property management and municipally operated reuse activities.

Energy-from-Waste (EFW): The process of generating energy in the form of electricity and/or heat from the incineration of waste.

Energy-from-Waste non-ash residue: Includes material that was rejected from the EFW incineration process that is not ash. These tonnes are included in the Disposed Tonnes calculation.

Fly ash (also 'EFW ash residue'): Particulate matter emissions from the incineration process. These tonnes are included in the Disposed Tonnes calculation.

Generated Tonnes: Includes recycling, reuse and garbage material produced by Ontario residents. Generated Tonnes is the combination of disposed tonnes and diverted tonnes.

Grasscycling: The process of mulching and leaving grass clippings to decompose on the lawn when mowing.

Hazardous waste disposal: Tonnes of hazardous household products that are sent to landfill.

Households served: The number of households in the jurisdiction that receive Blue Box service (either by curbside or depot). Households serviced by private collection are not included.

Landfilled residential material: Includes garbage tonnes, EFW ash, and MRF and organic processing residues. These tonnes are included in the Disposed Tonnes calculation.

Long-Form Datacall: Standard Datacall, available to all communities, includes sections related to waste management information beyond the Blue Box Program. Information submitted through this form is used to calculate the Residential Waste Diversion Rate.

Marketed Blue Box tonnes: Blue Box materials sorted and processed by a MRF that is then sold and used in place of virgin materials. This does not include Blue Box materials that are sent for secondary processing.

Material recovery facility (MRF): A plant where recyclable materials are sorted and processed to sell to market as raw materials used to make new products.

Multi-family households: A unit or apartment in a residential complex or building with six units or more.

Municipal Hazardous or Special Waste (MHSW): Hazardous household products, such as single-use batteries, paints, solvents and propane tanks.

01 Glossary of Terms

Other Recyclables: Includes textiles, bulky goods, scrap metal, drywall, wood concrete, construction and demolition and other materials recovered from residences.

Organics: Includes yard waste, leaves, holiday trees, oversized yard waste and kitchen organics, grasscycling and backyard composting.

On-property management: Includes backyard composting, grasscycling, open burning, burning in a fireplace and evapotranspiration through the use of aerated carts for Organics collection.

Recycling association: Corporation governed by elected representatives from each of its member municipalities and/or communities.

Residential residue ('residue'): Materials that were collected but not marketed (calculated as Collected Tonnes minus Marketed Tonnes).

Residential Energy-from-Waste mass reduction: Any material processed at EFW incineration sites that is not recycled.

Short-Form Datacall (SFD): A shorter and streamlined version of the Standard Datacall introduced in 2016 and available to all programs with a population under 30,000. Programs that reported under the SFD were only required to submit Blue Box data and are therefore not included in all sections of this report. All tables and graphs from previous years have been updated to only include Long-Form submissions standardized to 2016.

Stockpiled: Material that was processed and/or is ready for market but is stored temporarily and will not be marketed before the Datacall reporting deadline. Costs attributed to stockpiled material will be deducted from the Datacall costs for that year and reported in the following year, or whenever the material is marketed.

Waste Electronic and Electrical Equipment (WEEE): End-of-life electronic materials.



02 Introduction

What is the Datacall?

Each year, municipalities, recycling associations and First Nation communities operating Blue Box programs complete the Datacall through which they report to the Resource Productivity and Recovery Authority (RPR) the amounts of residential materials diverted under each of their waste diversion programs. Information submitted includes tonnage and financial information for Blue Box material and tonnage managed through all waste diversion activities, including Municipal Hazardous or Special Waste (MHSW), Waste Electrical and Electronic Equipment (WEEE), Organics, garbage, and other materials.

The Datacall is the source of data for determining the net Blue Box system cost and for allocating funding under the Blue Box Program Plan. Each Ontario program providing recycling services must complete the Datacall to be eligible for Blue Box funding. The Datacall is also used to determine the residential waste Diversion Rate of individual programs and of the province overall.

Programs submit information through either the Short or the Long-Form Datacall. Through the Long-

The Datacall is the source of data for determining the net Blue Box system cost and for allocating funding under the Blue Box Program Plan.

Form, communities report on all waste diversion activities. Communities with a population of over 30,000 or communities that would like to have their Diversion Rate calculated fill out the Long-Form. Other communities only submit data necessary for calculating the Blue Box funding through the Short-Form, which is a streamlined version that collects Blue Box tonnage and financial information.

The 2020 Datacall report summarizes information generated by the 250 programs participating in the Blue Box Program and highlights residential waste management trends.

02 Introduction

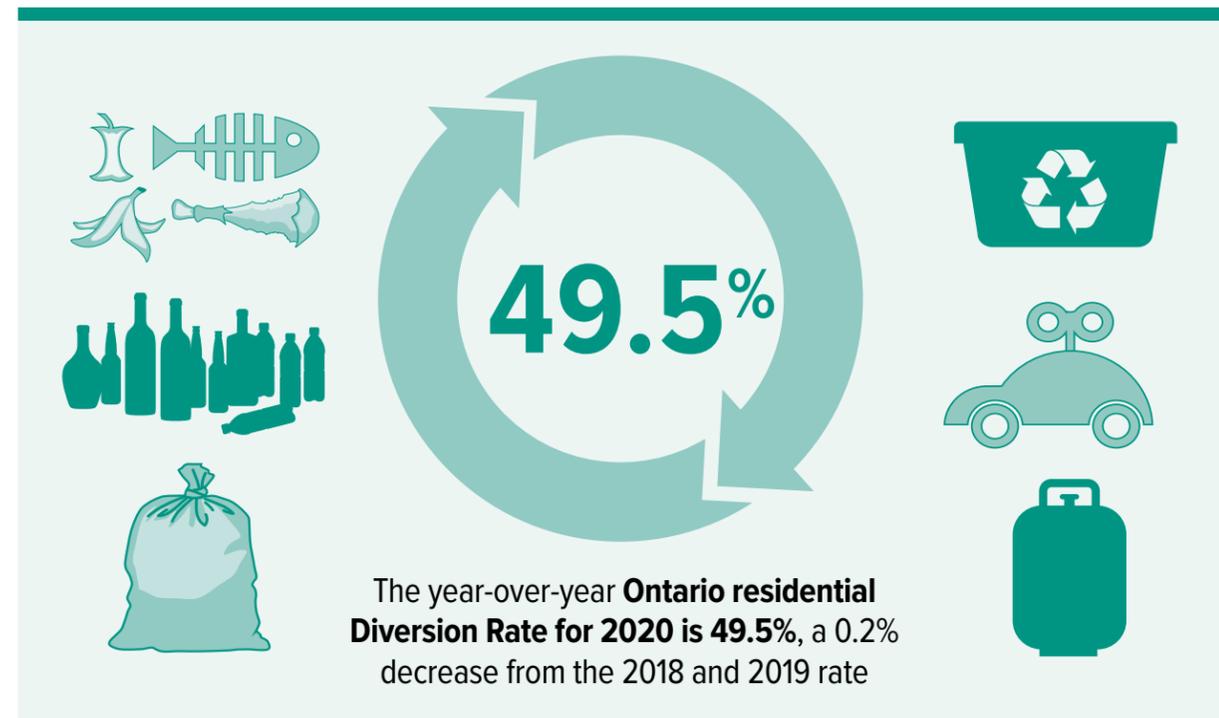
Data Verification Process



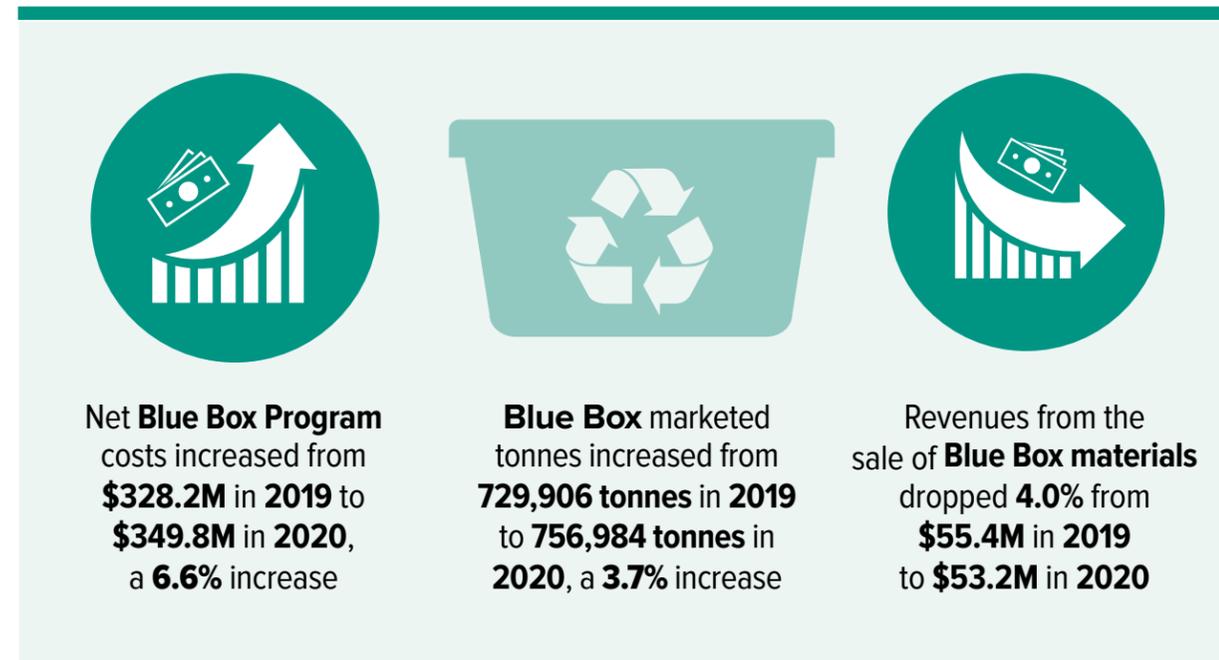
RPR) conducts a data verification process after the Datacall reporting period ends for the purpose of assessing the consistency and accuracy of the reporting. The verification process can include the confirmation of any data variances from the previous year and an assessment of costs and tonnages reported. In collaboration with the Municipal Industry Program Committee (MIPC), RPR) also selects approximately twenty programs for audit by a third party for the Blue Box sections of their Datacall submission.

03 The 2020 Datacall by the Numbers

Ontario Residential Waste ('Diversion Rate')

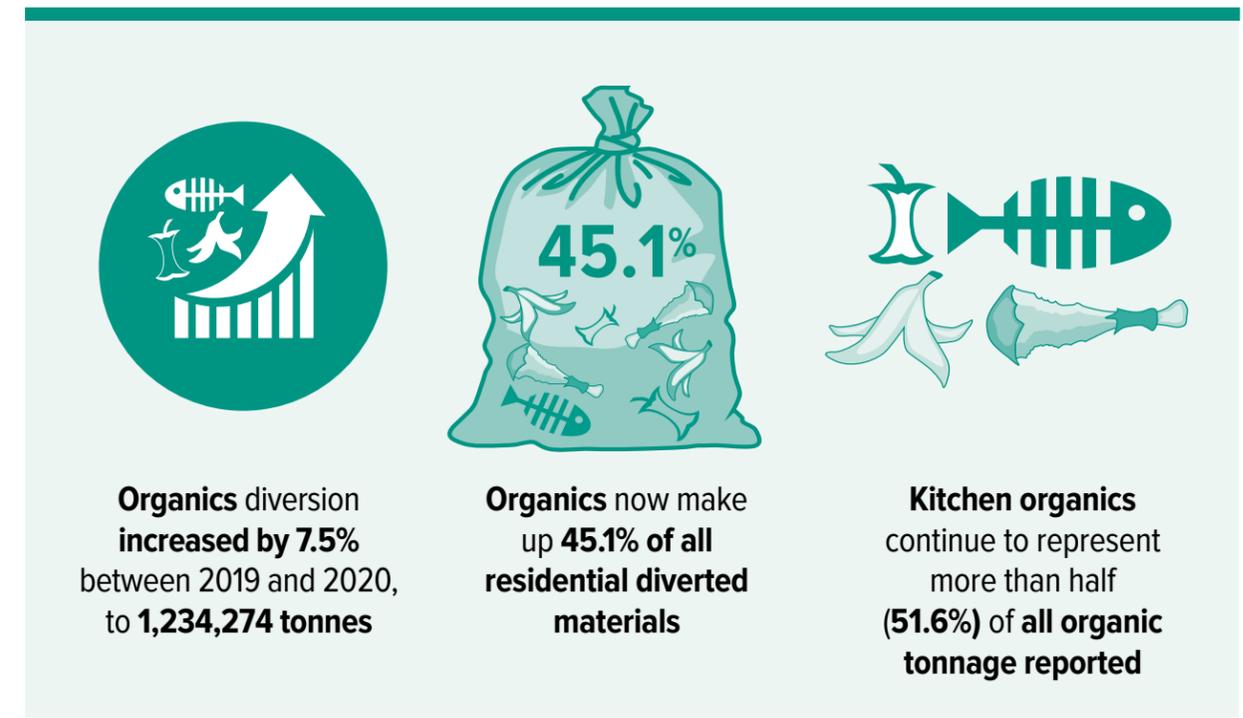


Blue Box

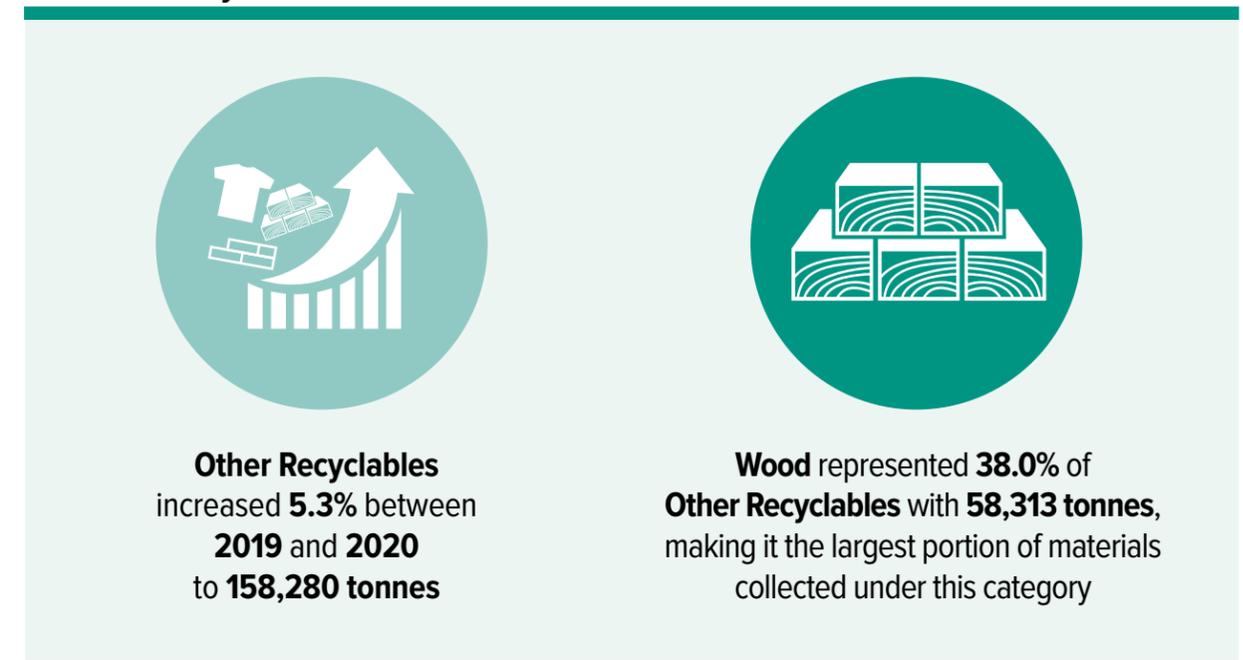


03 The 2020 Datacall by the Numbers

Organics



Other Recyclables





04 Residential Waste Diversion

Residential Recycling Activities

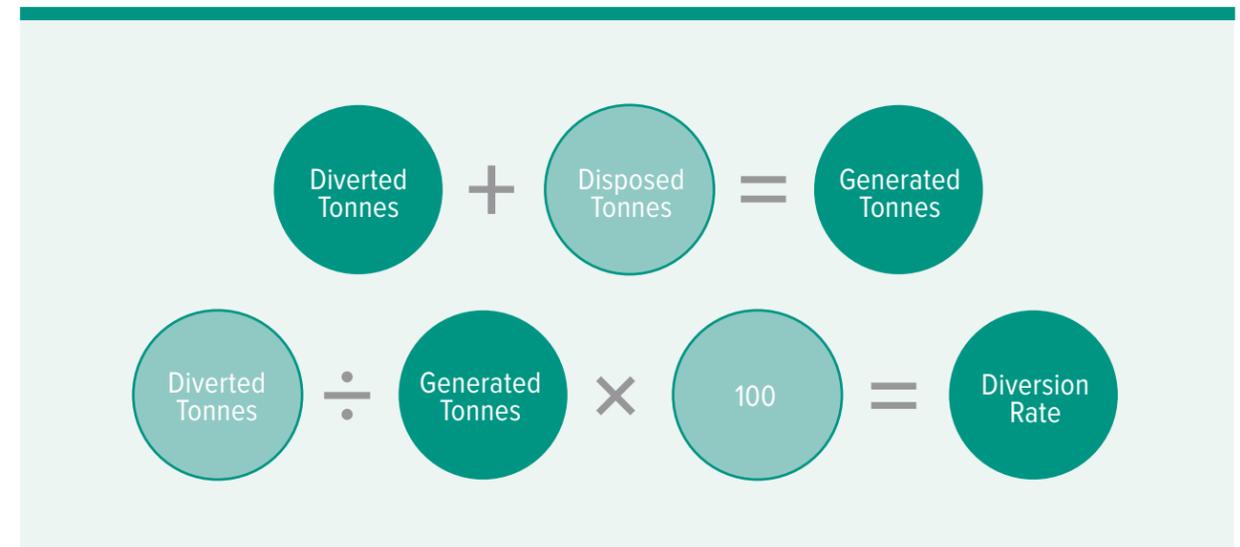
In 2020, 250 communities submitted data through the Datacall, covering a total population of 14,155,548 and a total household count of 5,733,378,¹ which represents 96.1% of the total Ontario population.²

Of the 250 participating programs, 99 completed the Long-Form Datacall and are included in the Diversion Rate calculations. These programs have a population of 13,576,374 and a household count of 5,421,469, which represents 96.2% and 94.6% of the respective totals in the Datacall.

The Datacall is used to determine the residential waste Diversion Rate of individual programs and of the province overall.

Diversion Rate Calculation

The Diversion Rate is calculated using the following formulas:



¹ [Statistics Canada](#). Canada's population estimates, average of 2020 quarters.

² Communities are not required to submit a Datacall form. It is possible that communities are operating diversion programs but choose to refrain from submitting a Datacall form.

04 Residential Waste Diversion

The following graphics outline the activities that contribute to Diverted and Disposed Tonnes, which feed into the Diversion Rate.

Activities Contributing to Diverted Tonnes



Residential Recycling Activities

- Blue Box Program for printed paper and packaging
- WEEE Program
- MHSW Program
- Other Recyclables (e.g. wood, construction and demolition material, scrap metal)
- Used Tires Program³

Organics Collection and Processing of

- Yard waste
- Leaves
- Christmas trees
- Oversized yard waste
- Household Organics (i.e. kitchen waste)

Provincial Deposit Systems for Beer, Wine and Spirits Containers

- Beer, wine and spirits containers returned from the residential sector⁴

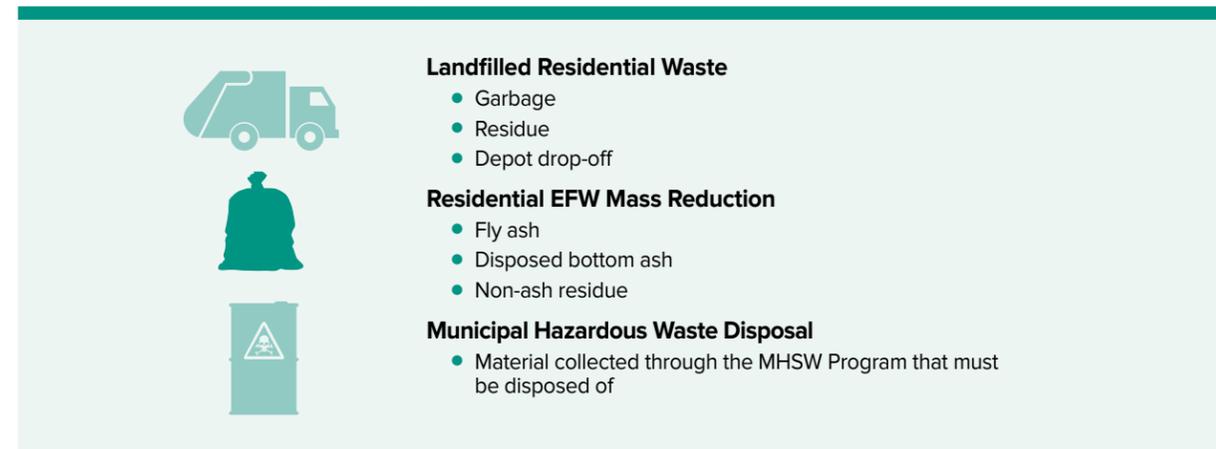
Residential On-Property Management

- Backyard composting and grasscycling
- Open burning

Reuse Activities

- May include textiles, toys, kitchen tools and items for the home

Activities Contributing to Disposed Tonnes



Landfilled Residential Waste

- Garbage
- Residue
- Depot drop-off

Residential EFW Mass Reduction

- Fly ash
- Disposed bottom ash
- Non-ash residue

Municipal Hazardous Waste Disposal

- Material collected through the MHSW Program that must be disposed of

³ Diversion of passenger and light truck tires is estimated by a credit of 7.1 kg/capita.

⁴ A credit of 5.51 kg/capita is included for the return of residential beer, wine, and spirits containers.

04 Residential Waste Diversion

Over the past 10 years, the Diversion Rate has increased by nearly 5 percentage points (Figure 1).

Figure 1: Ontario Residential Waste Diversion Rate, 2010-2020⁵

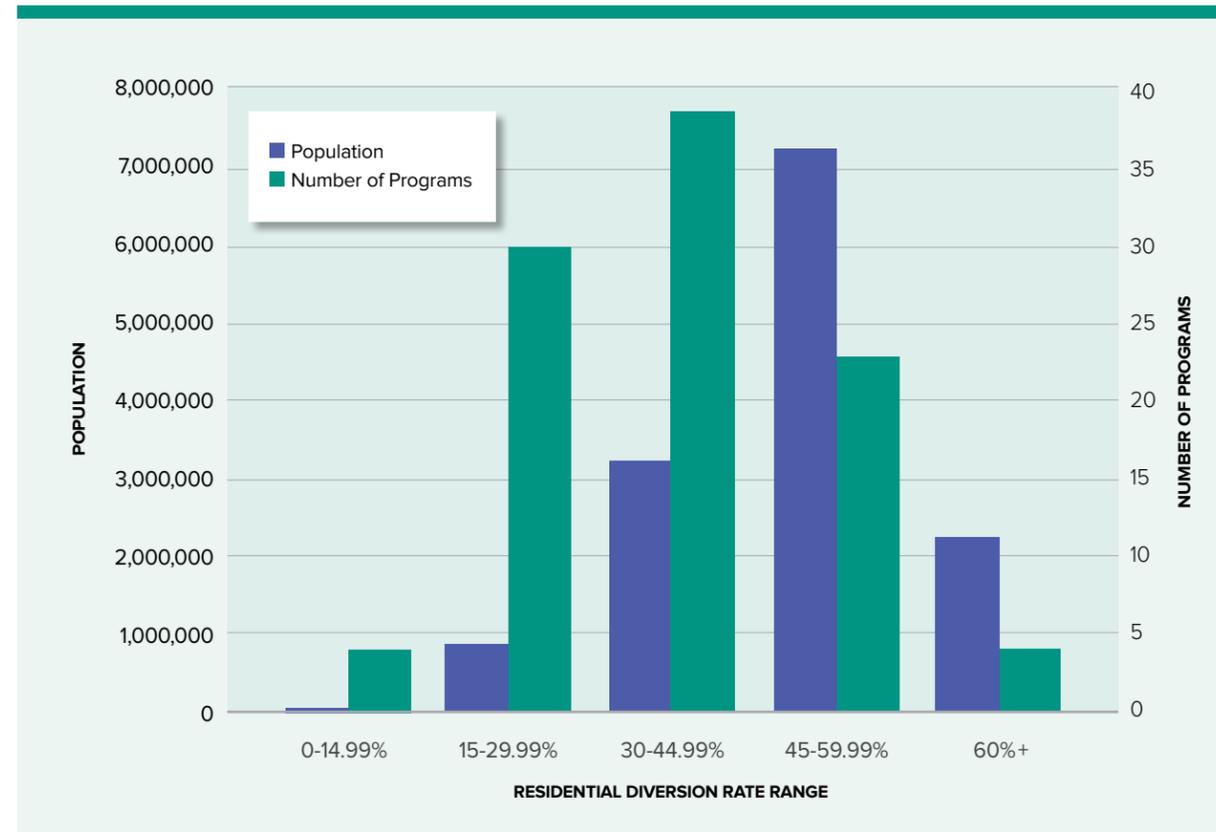


⁵ As part of the 2016 Datacall, RPRA introduced the Short-Form Datacall available to all programs with a population under 30,000. Programs that report under the Short-Form Datacall are only required to submit Blue Box data. The Diversion Rate is based only on programs reporting in the Long-Form Datacall. All tables and graphs from previous years have been updated to only include Long-Form submissions, standardized to 2016.

04 Residential Waste Diversion

There is a high variance in diversion performance among programs. In 2020, only 27 of the 99 programs that reported through the Long-Form achieved a Diversion Rate above 45.0%. These programs represent 69.7% of the total population and 74.0% of the diverted tonnage. This distribution is further illustrated below in Figure 2.

Figure 2: Population Represented in Each Diversion Rate Range, 2020



04 Residential Waste Diversion

The contribution of each type of diversion activity is shown below in Table 1. Continuing its upward trend for the second year in a row, and the second time historically, is Organics with a 7.8% increase, making it the largest contributor to diversion in Ontario in 2020. Residential recyclables, which includes both

Blue Box and Non-Blue Box materials, increased by 2.7% compared to 2019.

Please note that municipalities and First Nation communities do not operate the deposit return systems and data represented in Table 1 is based on an estimate.⁶

Table 1: Diverted Tonnes by Type of Diversion Activity, 2015-2020

Material	2015	2016	2017	2018	2019	2020	2019-2020 % Change
Residential Recyclables	1,043,537	1,076,023	1,103,983	1,047,796	1,027,167	1,055,213	2.7%
On-Property Management	202,876	194,060	198,591	208,489	213,898	216,852	1.4%
Organics	932,632	907,239	946,291	1,007,289	1,048,546	1,130,823	7.8%
Deposit Return	71,341	71,762	72,718	73,653	74,336	74,806	0.6%
MHSW	15,622	15,518	15,945	15,017	16,147	15,849	-1.8%
Residential Reuse	10,657	12,706	11,847	12,358	11,983	12,521	4.5%
Total Diverted	2,276,664	2,277,309	2,349,374	2,364,603	2,392,077	2,506,063	4.8%

⁶ An estimate of 5.51 kg/capita is used for the weight of returned residential beer, wine and spirits containers. This may be an underestimation of the volumes returned. For more information, please see [The Beer Store Responsible Stewardship Report 2019](#).



05 Blue Box

Ontario's Blue Box Program

Through Ontario's Blue Box Program, designated printed paper and packaging is collected in communities across the province. Under Ontario Reg 101/94,⁷ communities with a population over 5,000 must provide Blue Box services to its residents and report into the Datacall to be eligible for Blue Box funding. In 2020, 250 municipalities and First Nation communities completed the Datacall.

The financing of the Blue Box Program is split approximately 50/50 between stewards (i.e. the brand owners, first importers or franchisors of printed paper and packaging) and Ontario communities (i.e. municipalities, First Nation communities and recycling associations). Stewardship Ontario is the industry funding organization that administers the Blue Box Program on behalf of stewards.

On August 15, 2019, the Minister of the Environment, Conservation and Parks directed Stewardship Ontario and RPR to transition Ontario's Blue Box Program to the new producer responsibility framework under the *Resource Recovery and Circular Economy Act, 2016*

Beginning January 1, 2023 through to December 31, 2025, the Blue Box Program will transition to the new producer responsibility framework.

(RRCEA). Under the RRCEA, producers will become individually responsible and financially accountable for the management, operations, and full costs of collecting and recycling printed paper and packaging. The Government of Ontario finalized the [Blue Box Regulation](#) under the RRCEA on June 3, 2021 and the Blue Box Program will wind up and transition to the new regulatory framework for resource recovery starting on July 1, 2023 through to December 31, 2025.

⁷ O. Reg. 101/94 Recycling and Composting of Municipal Waste states "A local municipality that has a population of at least 5,000 shall establish, operate and maintain a blue box waste management system if the municipality is served by a waste management system owned by or operated by or for the municipality that collects municipal waste or accepts such waste from the public at a waste disposal site."

05 Blue Box

ACCESSIBILITY

The number of households with access to curbside and/or depot only collection is shown in Table 2 along with a summary of the changes below.

- From 2019 to 2020, an additional 40,963 households began receiving Blue Box service, an increase of 0.8%. From 2015 to 2020, the total number of households receiving Blue Box service has increased by 4.0%.
- In 2020, 140 of the 250 reporting programs, or 56.0%, had utility-based collection systems (e.g. user-pay waste collection, pay as you throw, partial user-pay, full user-pay and/or bag limit program) and saw a 12.1% decrease from 2019.

- In 2020, 93.7% of Ontario households reporting to RPRA received Blue Box services provided by their community, compared to 94.1% in 2019. It is likely that the majority of the remaining 6.3% of households is receiving services from private contractors. This occurs primarily with populations living in multi-residential buildings, like condos or apartments, that can use municipal services but opt for commercial alternatives. Private servicing data is not reported through the Datacall, and households receiving private service are not included in the household accessibility calculation or any subsequent reports of tonnages and cost.

Table 2: Number of Households Receiving Community Blue Box Service, 2015-2020

Type of Service	2015	2016	2017	2018	2019	2020	2015-2020 % Change
Curbside ⁸	4,939,602	4,959,657	5,025,226	5,071,600	5,134,303	5,175,266	4.8%
Depot Only	225,552	215,273	212,452	205,580	198,858	198,290	-12.1%
Total	5,165,154	5,174,930	5,237,678	5,277,180	5,333,161	5,373,556	4.0%

⁸ May also have access to depot service for Blue Box materials in addition to curbside service.

05 Blue Box

MATERIALS

All Blue Box programs⁹ must collect, at minimum, the following five basic materials:

1. Aluminum food or beverage cans (including cans made primarily of aluminum)
2. Glass bottles and jars for food or beverages
3. Newsprint
4. Polyethylene terephthalate (PET) bottles for food or beverages

5. Steel food or beverage cans (including cans made primarily of steel)

Municipalities may expand the scope of materials they collect as seen in Table 3, which illustrates the prevalence of additional material categories. Most communities have opted to include Paper-based Packaging, while polystyrene and plastic film are adopted by a limited number of large programs.

Table 3: Number of Households with Blue Box Service Beyond the Five Basic Materials, 2020

Blue Box Material	2020 Households Served	Number of Programs	2020 Households Served as % of Total Households Reported
Paper-based Packaging			
Corrugated Containers	5,364,073	243	99.8%
Boxboard	5,363,399	245	99.8%
Polycoat			
Gable Top Containers	5,197,715	217	96.7%
Aseptic Cartons	5,094,993	188	94.8%
Metals			
Aluminum Foil Packaging	4,623,717	163	86.0%
Empty Aerosol Cans	4,976,605	173	92.6%
Empty Paint Cans	5,351,660	239	99.6%
Plastics			
HDPE Containers	5,245,429	20	97.6%
Other Containers (#3,4,5,7)	3,739,674	167	69.6%
HDPE/LDPE Film (#2,4)	3,430,624	106	63.8%
Polystyrene Foam	4,403,638	126	82.0%
Polystyrene Crystal	5,243,556	232	97.6%

⁹ O. Reg. 101/94 Recycling and Composting of Municipal Waste states "A local municipality that has a population of at least 5,000 shall establish, operate and maintain a blue box waste management system if the municipality is served by a waste management system owned by or operated by or for the municipality that collects municipal waste or accepts such waste from the public at a waste disposal site."

05 Blue Box

MARKETED TONNAGE

Fluctuations in Blue Box marketed tonnes respond to three key factors:

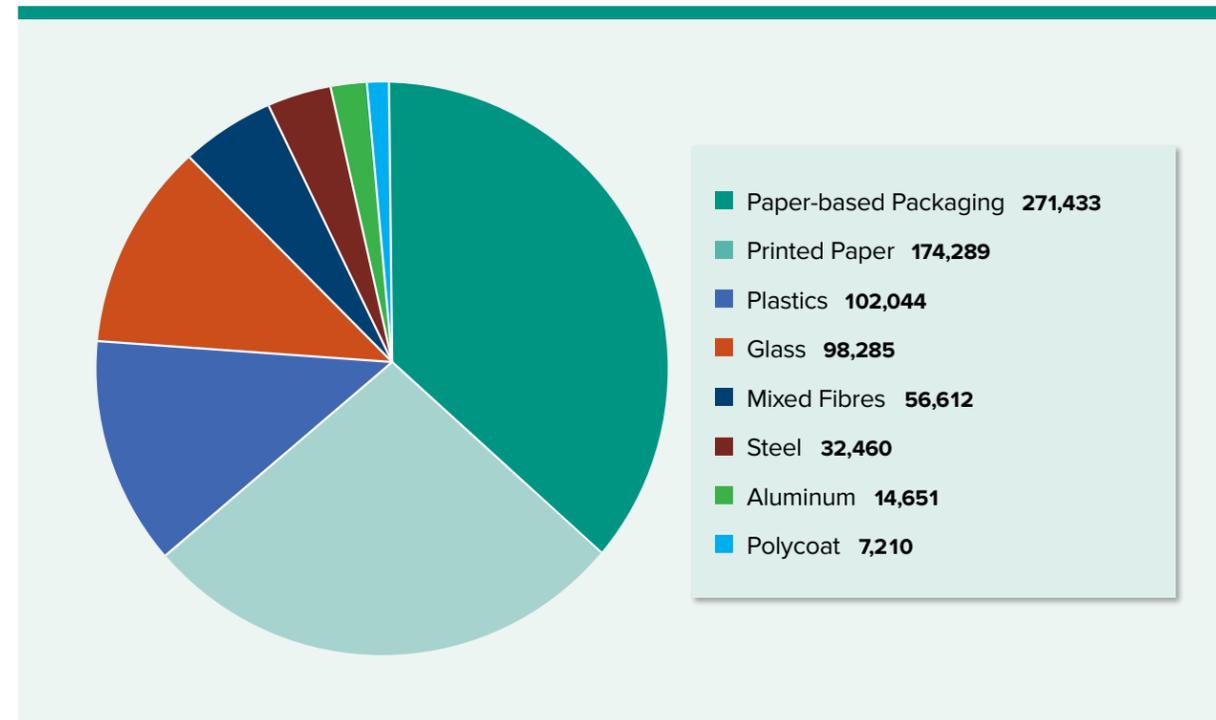
1. The amount of printed paper and packaging supplied onto the Ontario market
2. The amount of printed paper and packaging collected through the Blue Box system
3. The demand for the related recycled materials on the regional or international commodities markets

Factors 1 and 3 are the major drivers for year-over-year changes in marketed tonnes.

2020 Highlights and Recent Changes

In 2020, 756,984 tonnes of Blue Box materials were marketed, an increase of 3.7% compared to 2019. Of the marketed materials, Paper-based Packaging makes up 35.9% of the tonnes (Figure 3). Printed paper, although making up 23.0% of the marketed tonnes, accounts for a persistently reducing portion of the overall Blue Box marketed tonnes. More context is provided on those trends in the following section.

Figure 3: Marketed Blue Box Materials (in tonnes), 2020



05 Blue Box

10-Year Trend

Marketed Blue Box tonnage increased for the first time in 6 years, with a 3.7% upturn in 2020 (Figure 4). This increase is primarily attributed to the increase in the marketed tonnage for packaging materials, rising by 13.5% from 2019. Figure 4 shows further details of this increase in the packaging materials with all subcategories, outside of polycoat, seeing a year-over-year increase.

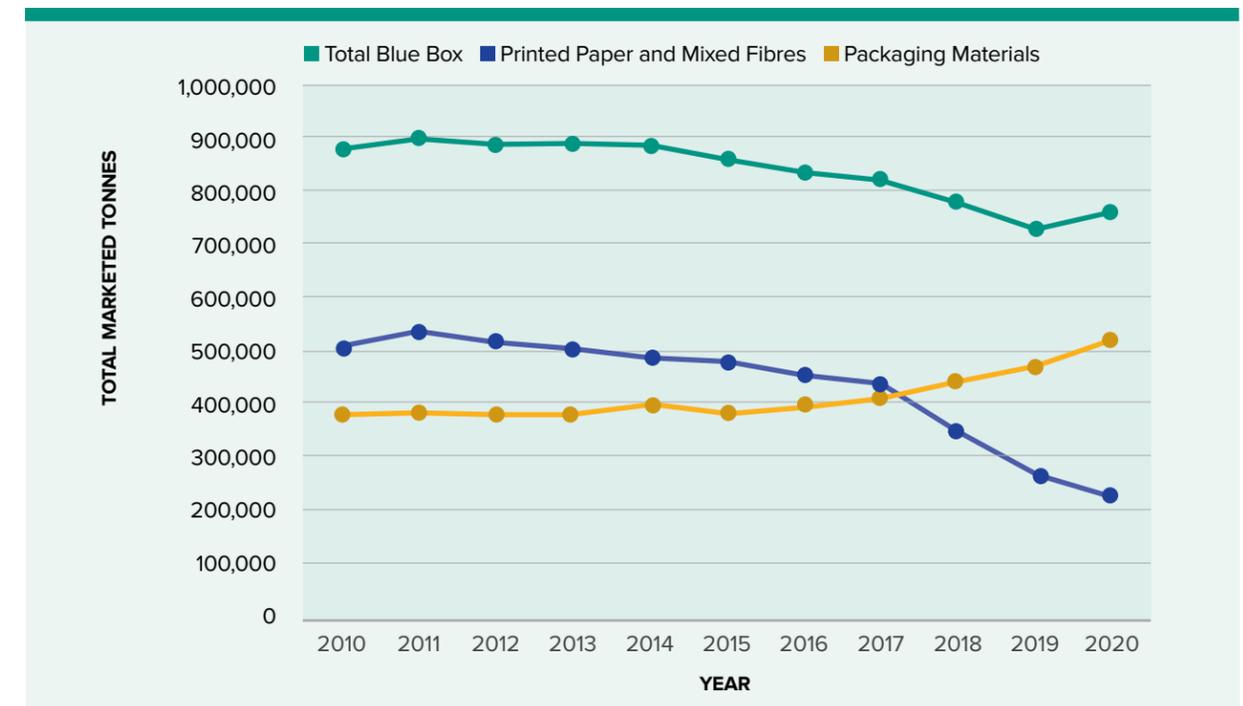
Paper-based Packaging tonnage has steadily increased 72.9% (Table 4) for the past 6 years (Figure 5). The COVID-19 pandemic may have attributed to the 13.1% increase of Paper-based Packaging from 2019 to 2020 with the closure of in-person shopping and Ontarians' growing dependence on purchasing products online, which have significantly more Paper-based Packaging for delivery.

From 2019 to 2020, tonnage for glass and aluminum increased by 21.8% and 22.8% respectively. Liquor stores (i.e. Beer Store and LCBO) suspended bottle deposit programs during the first wave of the COVID-19 pandemic citing public health precautions, meaning residents may have included glass and aluminum materials (e.g. beer and wine bottles, cans, etc.) in their respective blue boxes/bins.

Printed paper continues to face challenges in global commodity markets, mostly due to import restrictions on contaminated materials in Asian countries, and higher international importing standards resulting in materials being marketed as a lower grade, and in some cases, materials being disposed of as residue. Over the last decade, the generated tonnage for printed paper has declined 36.0% and the recovered tonnage has declined even further to 53.2%. Moreover, there is less printed paper being generated altogether. Table 4 and Figure 6 illustrate an increase in the lower grade mixed fibres commodity grades alongside the decline in printed paper.

The ten-year trend continues to show a decline in overall tonnage, with a 14.7% decrease in Blue Box marketed tonnage from 2010 to 2020 (Figure 4). The decrease in marketed Blue Box tonnes is due to the continuing decline of supply of printed paper to the Ontario market and the decreasing marketability of recycled printed paper. Printed paper saw a 20.4% decrease in tonnage from 2019 to 2020, and a 64.3% decrease in tonnage over the last decade. Newsprint accounted for over 55.0% of the total Blue Box marketed tonnes in 2010, and now only makes up 23.0% of the tonnage (Figure 7).

Figure 4: Marketed Blue Box Tonnes, 2010-2020



05 Blue Box

Table 4: Marketed Blue Box Tonnes, 2015-2020

Blue Box Material ¹⁰	2015	2016	2017	2018	2019	2020	2019-2020 Tonnage % Change	5-year Tonnage % Change	% of Total 2020 Blue Box Tonnes
Printed Papers ¹¹	456,560 T	436,978 T	416,489 T	300,780 T	218,947 T	174,289 T	-20.4%	-61.8%	23.0%
Mixed Fibres ¹²	14,928	12,616	7,005	43,431	47,448	56,612	19.3	279.2	7.5%
Printed Paper and Mixed Fibres	471,488 T	449,594 T	423,494 T	344,212 T	266,395 T	230,901 T	-13.3%	-51.0%	30.5%
Paper-based Packaging ¹³	156,951	167,951	180,910	217,982	240,075	271,433	13.1	72.9	35.9
Polycoat ¹⁴	7,099	7,180	6,452	8,162	7,572	7,210	-4.8	1.6	1.0
Aluminum ¹⁵	10,465	10,593	10,944	11,159	11,935	14,651	22.8	40.0	1.9
Steel ¹⁶	29,525	29,138	29,096	27,670	27,760	32,460	16.9	9.9	4.3
Glass ¹⁷	86,559	80,703	81,857	78,076	80,713	98,285	21.8	13.5	13.0
Plastic ¹⁸	90,351	91,069	90,226	93,295	95,457	102,044	6.9	12.9	13.5
Packaging Materials	380,949 T	386,632 T	399,486 T	436,344 T	463,512 T	526,083 T	13.5%	38.1%	69.5%
Total Blue Box Tonnes	852,438 T	836,227 T	822,979 T	780,555 T	729,906 T	756,984 T	3.7%	-11.2%	100.0%

¹⁰ Stewardship Ontario's material allocation method is subject to change.

¹¹ Includes newspaper, household fine paper, telephone books, magazines and catalogues.

¹² Includes mixed fibres not included in the Printed Paper and Paper-based Packaging categories.

¹³ Includes old corrugated cardboard, old boxboard and a portion of residential mixed papers and mixed fibres packaging.

¹⁴ Includes gable top cartons and aseptic containers.

¹⁵ Includes aluminum food & beverage containers and other aluminum packaging.

¹⁶ Includes steel food & beverage containers, aerosols, and empty paint cans.

¹⁷ Includes flint glass, coloured glass, and allocations of mixed glass.

¹⁸ Includes PET, HDPE, plastic film, tubs and lids, polystyrene, and other mixed plastic packaging.

05 Blue Box

Figure 5: Marketed Tonnage Trends for Packaging Materials, 2010-2020

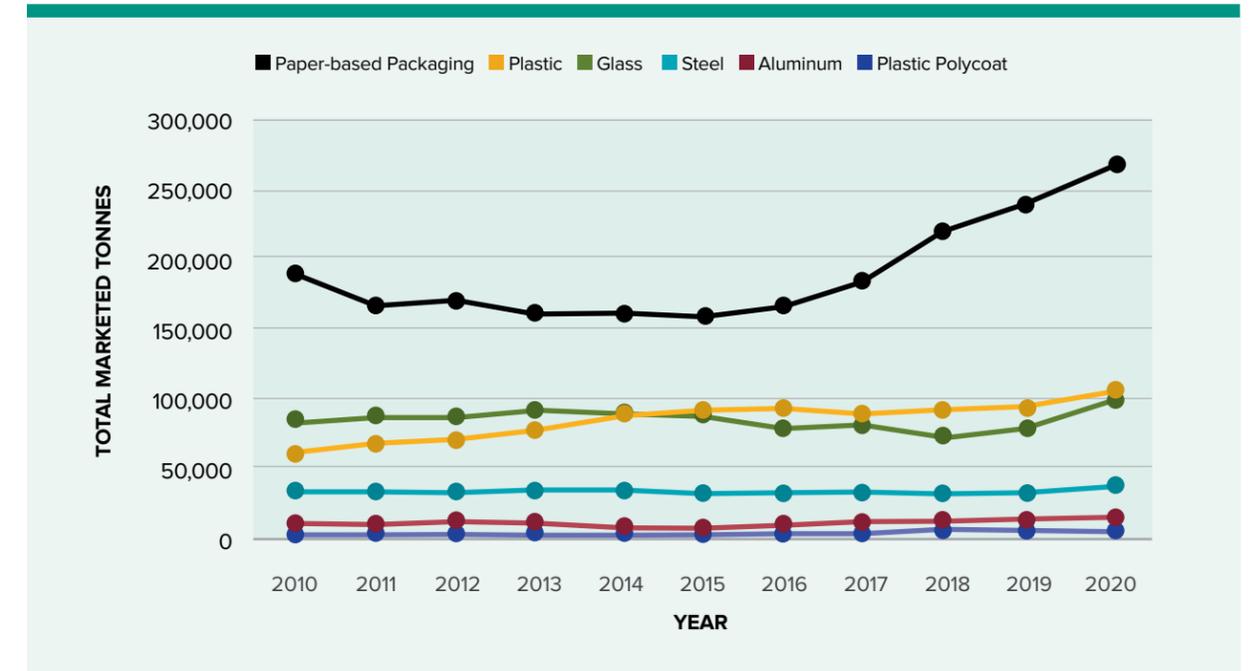
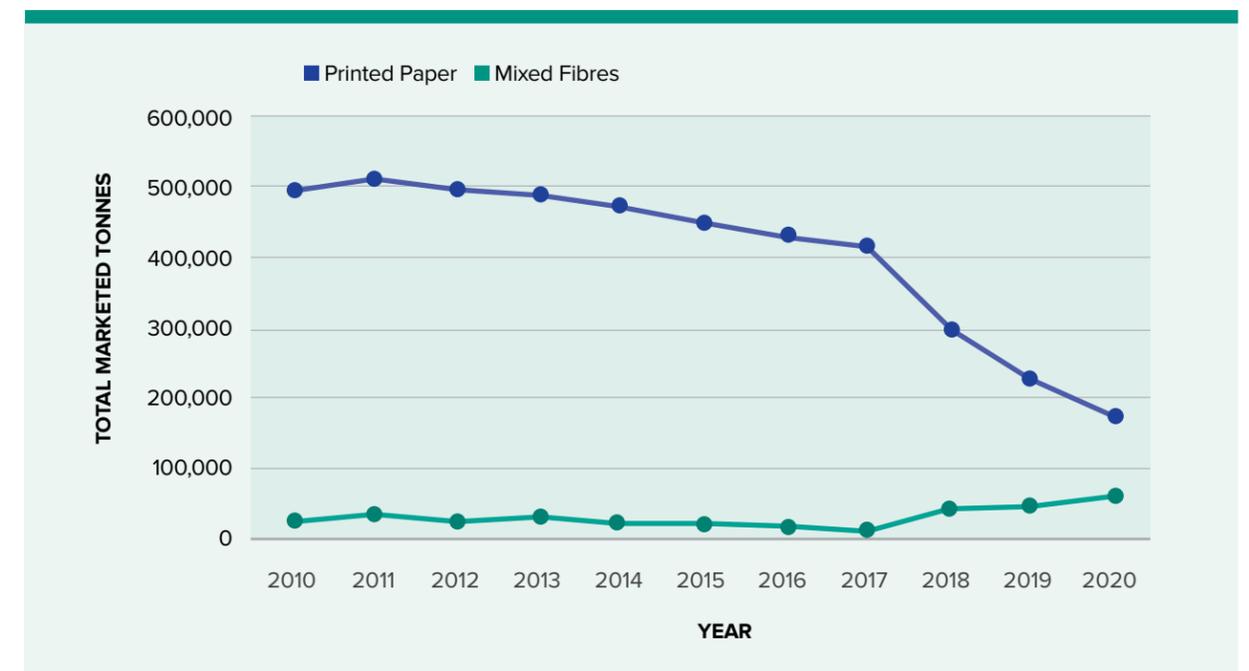
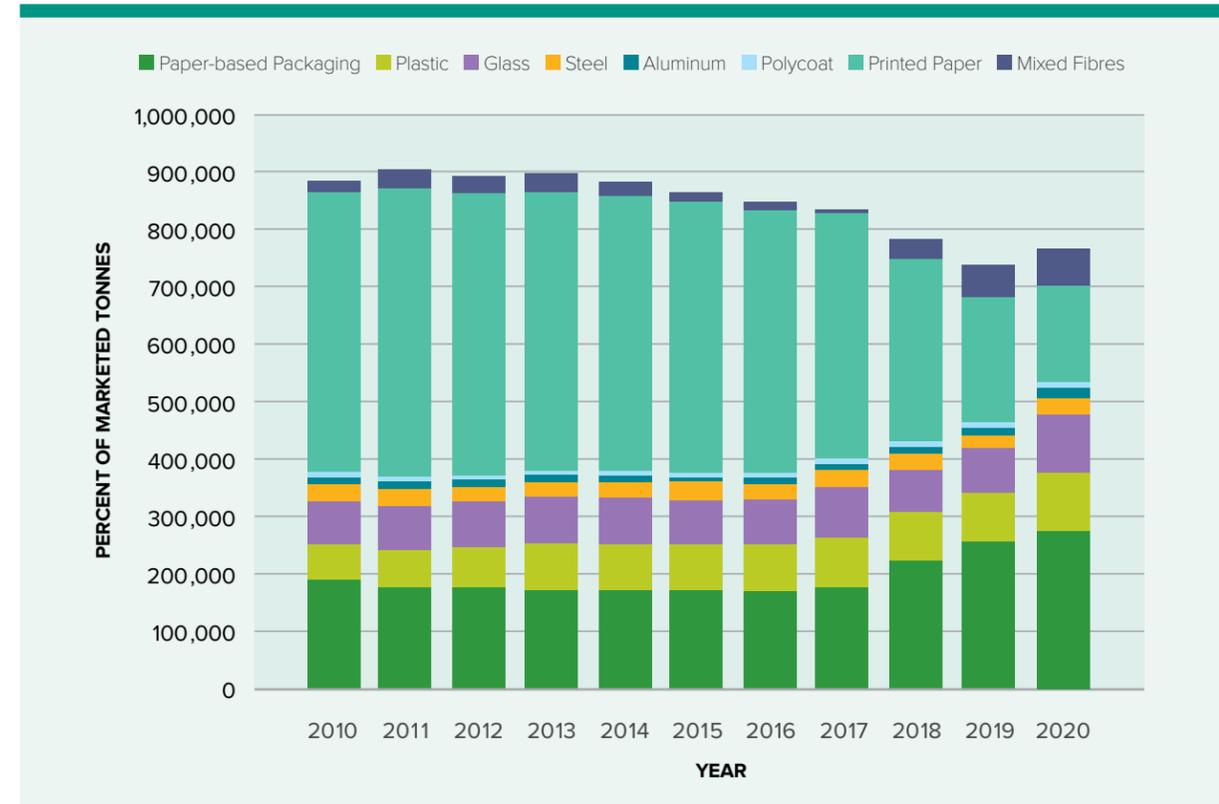


Figure 6: Marketed Tonnage Trends for Printed Paper and Mixed Fibres, 2010-2020



05 Blue Box

Figure 7: Marketed Tonnes by Material, 2010-2020



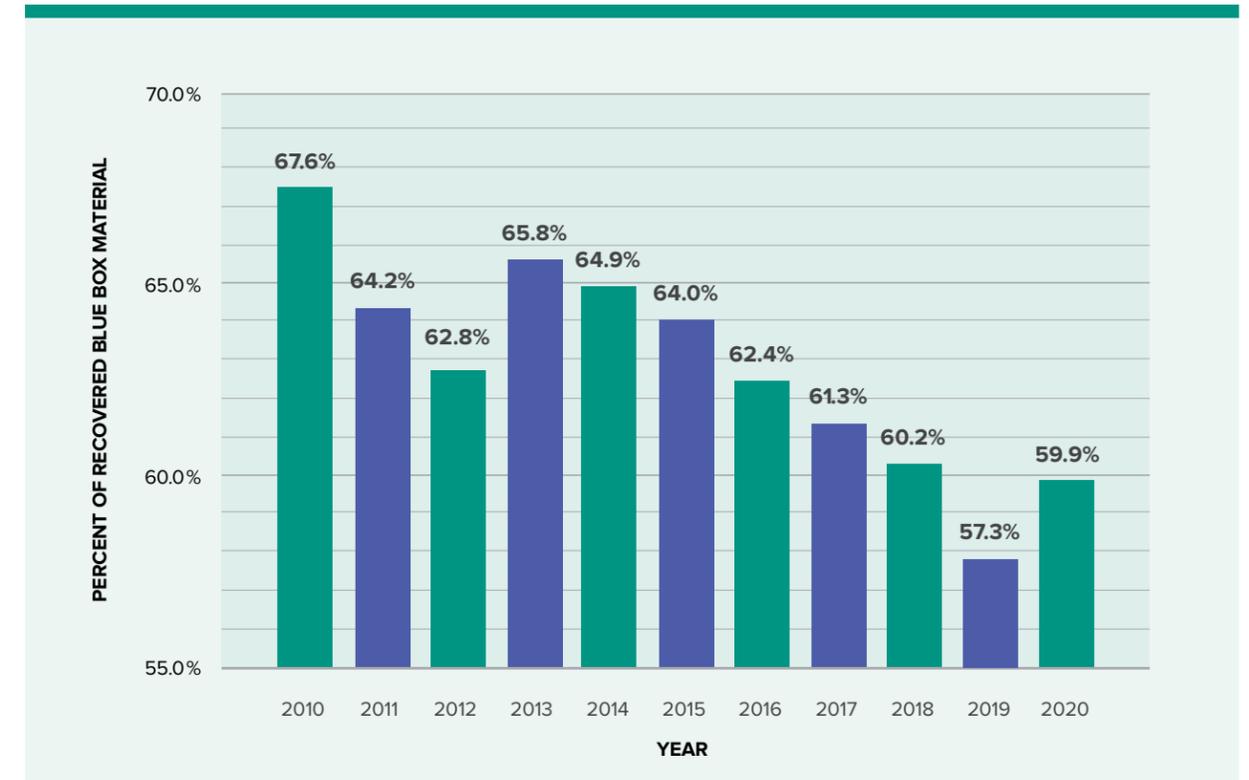
05 Blue Box

Blue Box Diversion

As noted in Table 4 above, there was a 3.7% increase in Blue Box marketed tonnes. Despite a decline in the marketed tonnage for printed paper

and mixed fibres, the increase observed in marketed tonnage for packaging materials in 2020 accounts for a higher recovery rate.

Figure 8: Percent of Recovered Blue Box Materials, 2010-2020



05 Blue Box

COST AND REVENUE

The Blue Box costs reported in the Datacall account for operating and capital costs spent by each program, including:

- Collection of curbside Blue Box materials
- Processing of Blue Box materials
- Management of material transfer stations and drop-off depots
- Promotion and education activities
- Administrative costs¹⁹ and interest²⁰ on the amortization of capital equipment

2020 Highlights

Net Blue Box Program costs totaled \$349.8M in 2020, a 6.6% increase from 2019 (\$328.2M) and gross costs for the program also increased to \$403M in 2020 from \$383.5M in 2019 (5.1%).

Revenue for the Blue Box Program decreased by 4.0% from \$55.4M in 2019 to \$53.2M in 2020 and the primary driver for the decrease is due to the net cost for the program (Table 5). Over the past 5 years, revenue reported for the materials collected has decreased 38.0%.

¹⁹ Administrative costs are calculated at 3% for services that are contracted out and 5% for services provided by the municipal program.

²⁰ Interest is calculated as the prime interest rate of the year of capital purchase.

05 Blue Box

Commodity Pricing Impact

Commodity prices reported by the Continuous Improvement Fund (CIF), detailed below in Table 5, show the decline in market pricing and its impact on specific materials.

Printed Paper revenues saw an increase of 31.8% from 2019. This marks the end of a four-year downward trend, with prices still -19.4% lower than 2015 totals, and 47.7% lower than the 2017 high point. Mixed Paper continues to have a negative revenue, indicating that processors must pay

end markets to take the material. Film Plastic also reported negative revenue for the first time, representing a considerable decrease from 2019 which still had a positive revenue for the material.

Majority of the commodities saw a decrease in prices from 2019 to 2020. This may be due to international market trends mentioned earlier such as restrictions on imports due to higher standards of acceptability due to contamination of materials. As such, materials are being marketed as lower grades for decreased revenue.

Table 5: Dollar per Tonne for each Material Commodity, 2019-2020²¹

Commodity	2015	2016	2017	2018	2019	2020	2019-2020 Price % Change	5-year Price % Change
Newspaper (ONP#8/SRP #56) ²²	72	103	111	62	44	58	31.8%	-19.4%
Mixed Paper (#54/ONP#6) ²³	43	73	73	2	-18	-4	77.8%	-109.3%
Corrugated (OCC)	127	152	221	128	84	117	39.3%	-7.9%
Hardpack (OBB/OCC)	66	91	121	57	19	30	57.9%	-54.5%
Boxboard (OBB)	50	50	n/a	n/a	n/a	n/a	n/a	n/a
Polycoat Containers	114	114	64	63	40	20	-50.0%	-82.5%
PET (mixed)	295	295	383	431	377	212	-43.8%	-28.1%
HDPE (mixed)	617	617	497	483	444	310	-30.2%	-49.8%
Mixed Plastics ²⁴	58	58	32	47	74	82	10.8%	60.9%
Film Plastic	47	47	24	15	3	-21	-800.0%	-144.7%
Aluminum Cans	1548	1548	1772	1733	1354	1311	-3.2%	-15.3%
Steel Cans	179	200	262	322	253	215	-15.0%	-20.1%
Glass (mixed)	-22	-30	-42	-41	-38	-37	-2.6%	68.2%

²¹ CCIF. (2021). Price sheet- August 2021. Retrieved from <https://thecif.ca/wp-content/uploads/2021/09/August-2021-Price-Sheet.pdf>

²² Paper Stock Industries (PSI) have eliminated the ONP#8 grade specification. For continuity, the new PSI grade specification, Sorted Residential Paper (SRP #56), has been included as it most closely represents the ONP#8 commodity ON municipalities are producing.

²³ Paper Stock Industries (PSI) have eliminated the ONP#6 grade specification and added a new PSI grade specification, Mixed Paper #54.

²⁴ The composition for mixed plastics varies from each municipality based on the range of materials accepted and the specifications from their end markets.

05 Blue Box

Gross Cost Overview

The primary expense in gross costs for the Blue Box Program is direct Blue Box Operation Services Costs²⁵ representing 93.6% of the total costs. The cost of this Blue Box Operation Services increased by 5.4% relative to 2019 (Table 5).

Within Blue Box Operational Services Costs, collection and processing costs incurred by programs for 2020 increased by 4.0% and 7.9% respectively. New contracts signed in 2020 have seen a considerable cost increase from previous contracts, with the most significant impact under collection.

Programs that signed a new collection contract in 2020 had, on average, an 8.5% cost increase compared to programs still operating under previous collection contracts, which have only seen a cost increase of 0.7%. Possible reasons for this include similar collection practices during COVID-19, a more defined contract structure without the variable of

material market rates, and the difficulty in obtaining a short-term contract until the end of transition.

In contrast, processing contracts have experienced cost increase evenly, regardless of old or new contracts. This may be due to the increasingly stricter international standards for contamination levels in materials accepted by global end markets.

There have also been additional safety and social distancing measures put in place due to COVID-19, which have an associated cost increase for both collection and processing services. Curbside collection, transfer facility practices and MRF processes were all affected by these measures, specifically in 2020.

A detailed breakdown of the collection, processing, and depot costs, by program, can be found in our [2020 Blue Box Cost and Revenue report](#).

Table 6: Gross Costs by Category, 2019-2020

Blue Box Program Category	Gross cost in 2019 (\$)	Gross cost in 2020 (\$)	% Change between 2019 and 2020
Blue Box Operation Services Costs	\$ 357,649,044	\$ 377,060,611	5.4%
Administrative Cost and Interest	\$ 18,167,683	\$ 18,857,427	3.8%
Promotion and Education	\$ 7,334,018	\$ 7,086,074	-8.4%
Total	\$ 383,550,745	\$ 403,004,112	5.1%

²⁵ Some programs choose to hire a single service provider to collect their Blue Box materials, with the service provider taking ownership of the material at that point. This is commonly reported as a single cost under collection, as the program has no insight into the post-collection cost allocation done by the service provider. Other programs, in a similar manner, may report all costs under processing and depot/transfer. To better represent the reporting structure described above, the category "Blue Box Operation Services Costs" encompasses all costs reported as collection, processing, or depot/transfer in the Datacall.

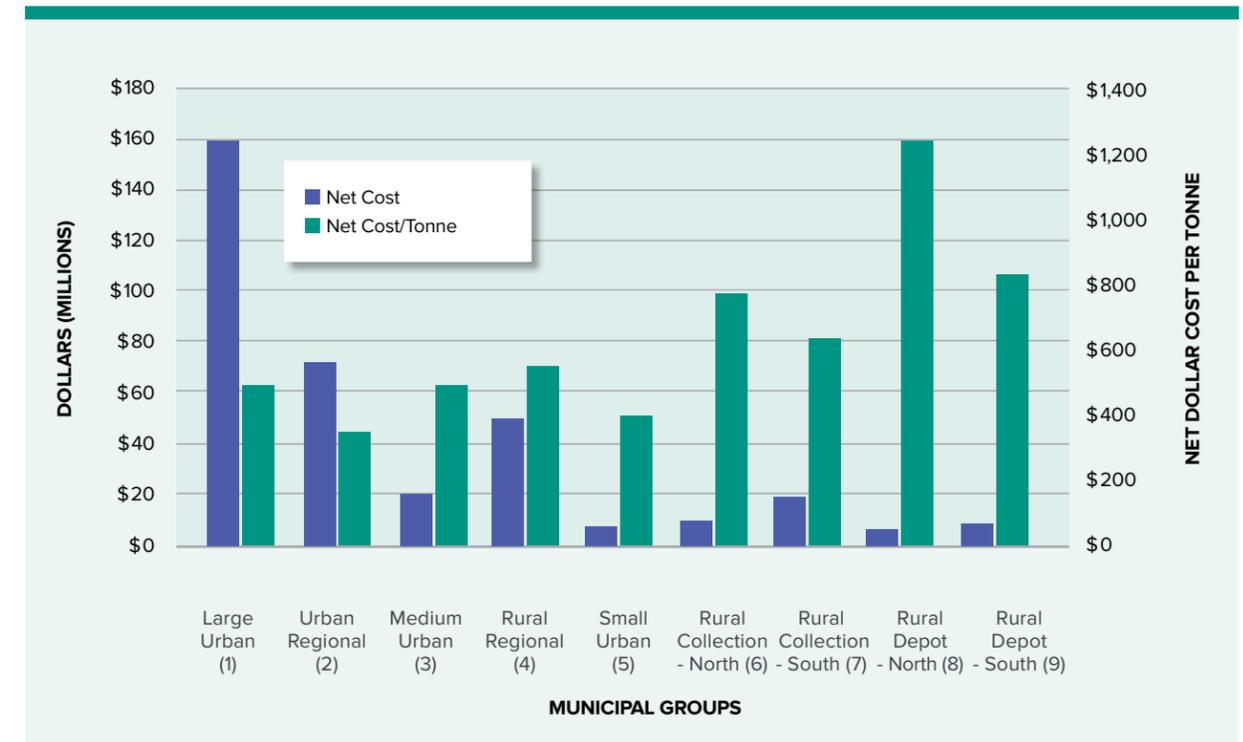
05 Blue Box

Net Cost Overview

Figure 9 shows the net cost and net cost per tonne by municipal grouping.²⁶ Programs are sorted into nine groups based on a range of characteristics, such as population density, curbside collection

availability and geographic location. Differences in program characteristics can have significant effects on the net costs of operation.

Figure 9: Net Cost and Net Cost per Tonne by Municipal Group, 2020



²⁶ RRPRA. (2021) Description of Municipal Groupings for Datacall. Retrieved from <https://rprra.ca/wp-content/uploads/Descriptions-of-Municipal-Groupings-for-Datacall.pdf>

05 Blue Box

10-Year Trend

Net Blue Box costs, shown in Figure 10, have increased 35.2% from \$203.0M in 2010 to \$349.8M in 2020.

While net costs continue to climb, revenue received by programs keeps declining. In 2020, programs received \$53.2M in revenues for the sale of materials, the sale of Blue Boxes and any fees or penalties charged to contractors that were reported by programs. Revenue

decreased by 4.0% from 2019 to 2020 and overall Blue Box revenue has decreased by 44.0% since 2010.

In tandem with net costs, gross costs have continuously increased since 2010 with an annual increase between a rate of 0.8% and 5.8%. Blue Box Program gross costs rose from \$298.0M in 2010 to \$403.0M in 2020, representing a 5.1% increase.

Figure 10: Gross and Net Blue Box Costs, 2010-2020



05 Blue Box

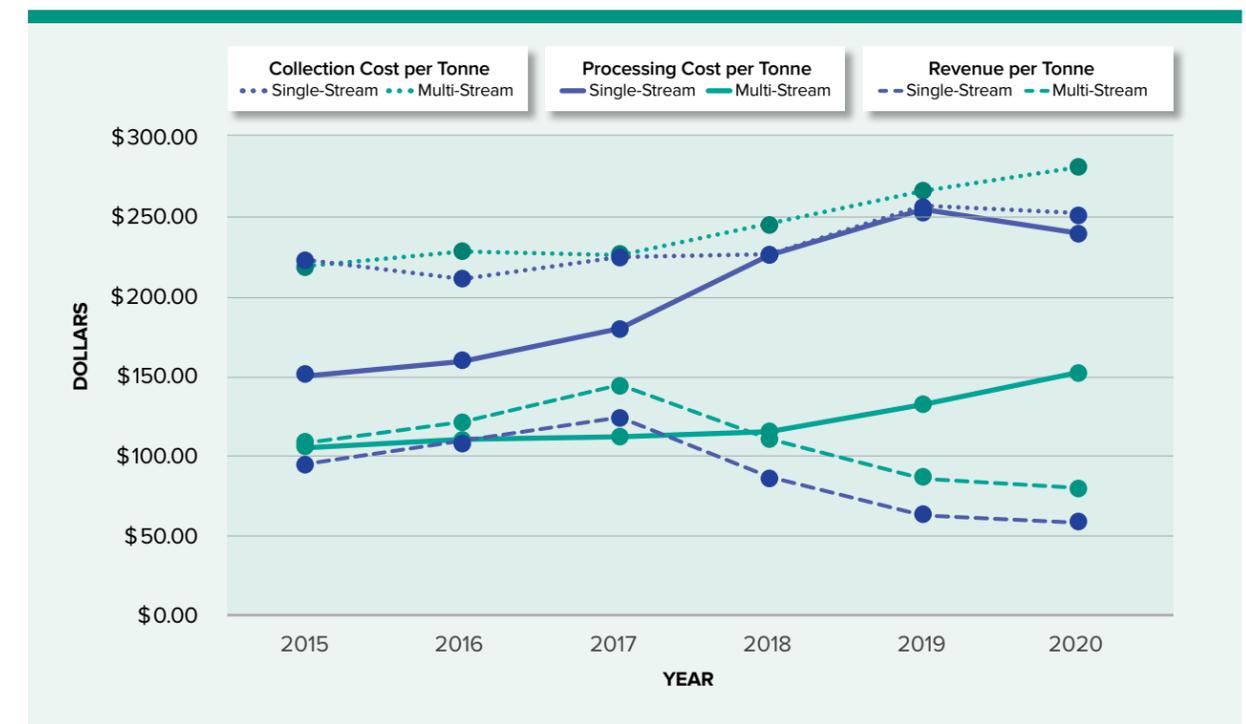
Single and Multi-Stream Programs

Municipalities can choose to collect Blue Box materials in either single-stream or multi-stream programs. Single stream programs are those that collect all Blue Box recyclables in one commingled receptacle at either curbside or depot. Multi-stream programs collect Blue Box recyclables in separate receptacles for designated material types, which is typically seen with a split between paper materials and containers.

Although single-stream offers lower collection cost per tonne to programs, the processing cost per tonne

for single-stream programs is considerably higher than multi-stream programs (Figure 11). Multi-stream programs generate a higher revenue than single-stream programs (Figure 11) because more separation in material leads to lesser contamination of the recyclables, which make them more marketable. Similarly, single-stream collected materials require more processing for contamination and separation of recyclables, which add to the processing costs for this stream type.

Figure 11: Collection Cost, Processing Cost and Revenue per tonne by Stream Type, 2015-2020





06 Organics

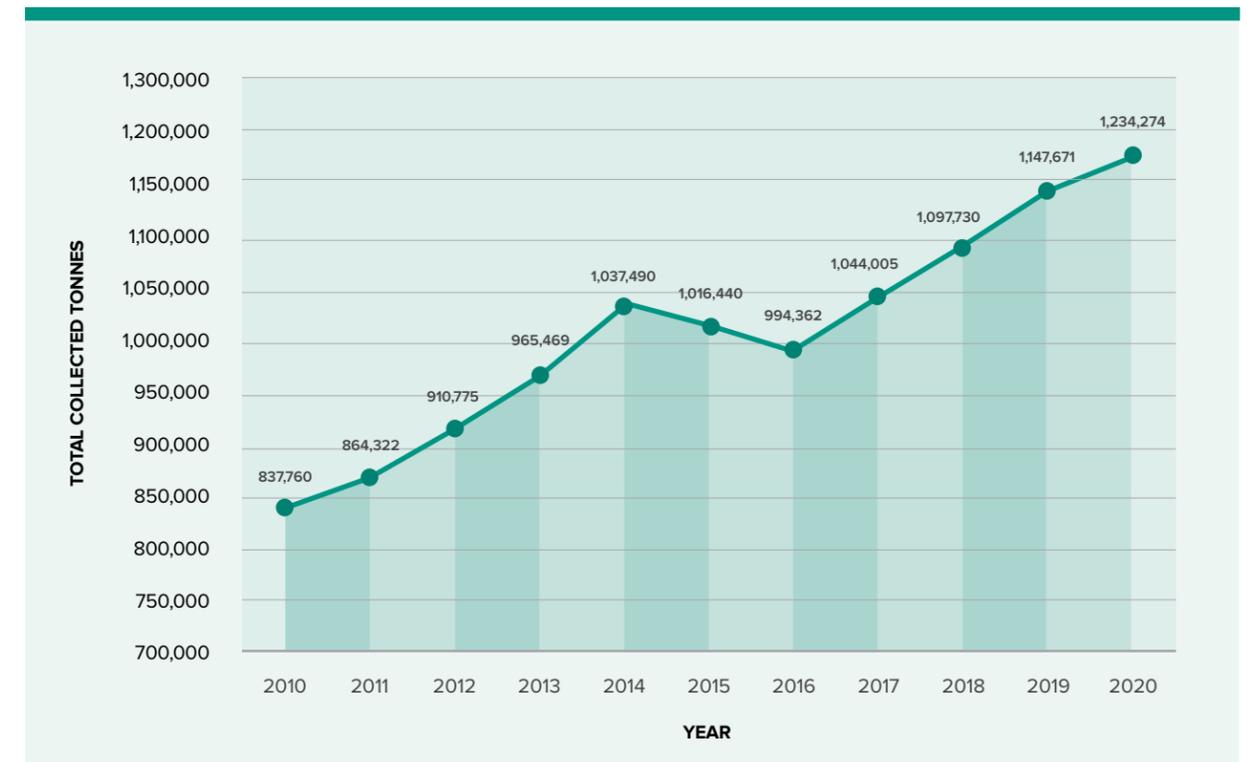
Diverting Organics from Landfills

As shown in Figure 12, the amount of residential Organics has increased for the fifth consecutive year with a total of 1,234,274 tonnes collected in 2020. Total Organics tonnes have increased by 7.5% from 2019 to 2020.

Ninety-nine programs reported the amount of Organics collected in 2020, which represent a population of 13,315,168 and a total household count of 4,944,359. The quantity of Organics collected has increased by 47.3% since 2010, despite a temporary dip from 2014 through 2016.

Total Organics tonnes have increased by 7.5% from 2019 to 2020.

Figure 12: Organic Waste Collected, 2010-2020



06 Organics

Organic material diverted from landfill includes:

- Yard waste (a mixture of leaves, grass clippings, sticks and twigs)
- Leaves
- Christmas trees
- Bulky and oversized yard waste (e.g. large tree branches)
- Household or kitchen organics (e.g. food scraps and food-soiled paper)

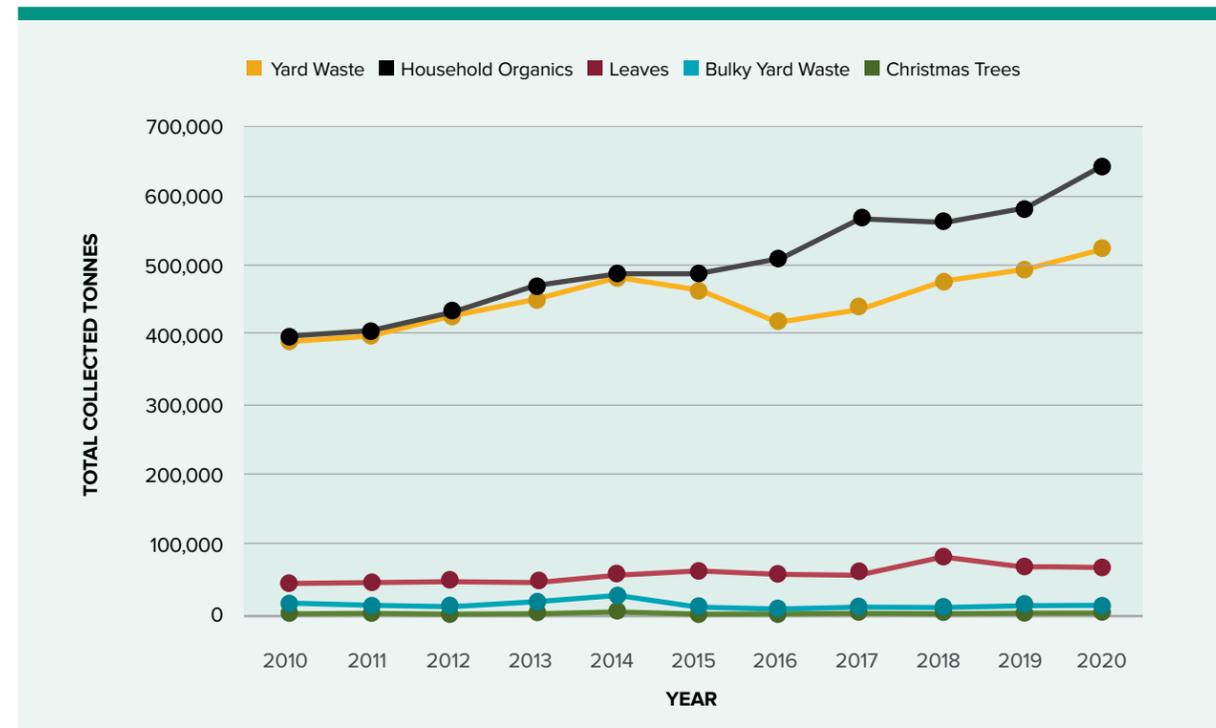
Organics diverted from landfills are processed at compost facilities (processing includes oxygen),

anaerobic digestion plants (processing without oxygen) or through the wood and brush chipping operations.

As shown in Figure 13, yard waste and household Organics collection continues to trend upwards and has increased by 7.5% from 2019 to 2020, making up the largest portion of total Organics diverted with 51.6% and 42.2% respectively (Table 7). These two categories account for about 93.8% of all residential Organics.

Bulky yard waste and leaves saw slight decreases in tonnage but remain stable overall. Christmas trees saw a 23.0% increase in tonnage, accounting for about 0.3% of the total Organics' tonnage reported.

Figure 13: Organics Collected Tonnes by Category, 2010-2020



06 Organics

Table 7: Organics Collected Tonnes by Category, 2019-2020

Organic Material	2019	2020	Year Over Year % Change	% of 2020 Tonnes Relative to Total Organics
Yard Waste	494,283	521,314	5.5%	42.2%
Leaves	60,360	59,957	-0.7%	4.9%
Christmas Trees	2,573	3,165	23.0%	0.3%
Bulky Yard Waste	13,108	12,439	-5.1%	1.0%
Household Organics	577,348	637,399	10.4%	51.6%
Total Organics	1,147,671	1,234,274	7.5%	-

07 Other Recyclables

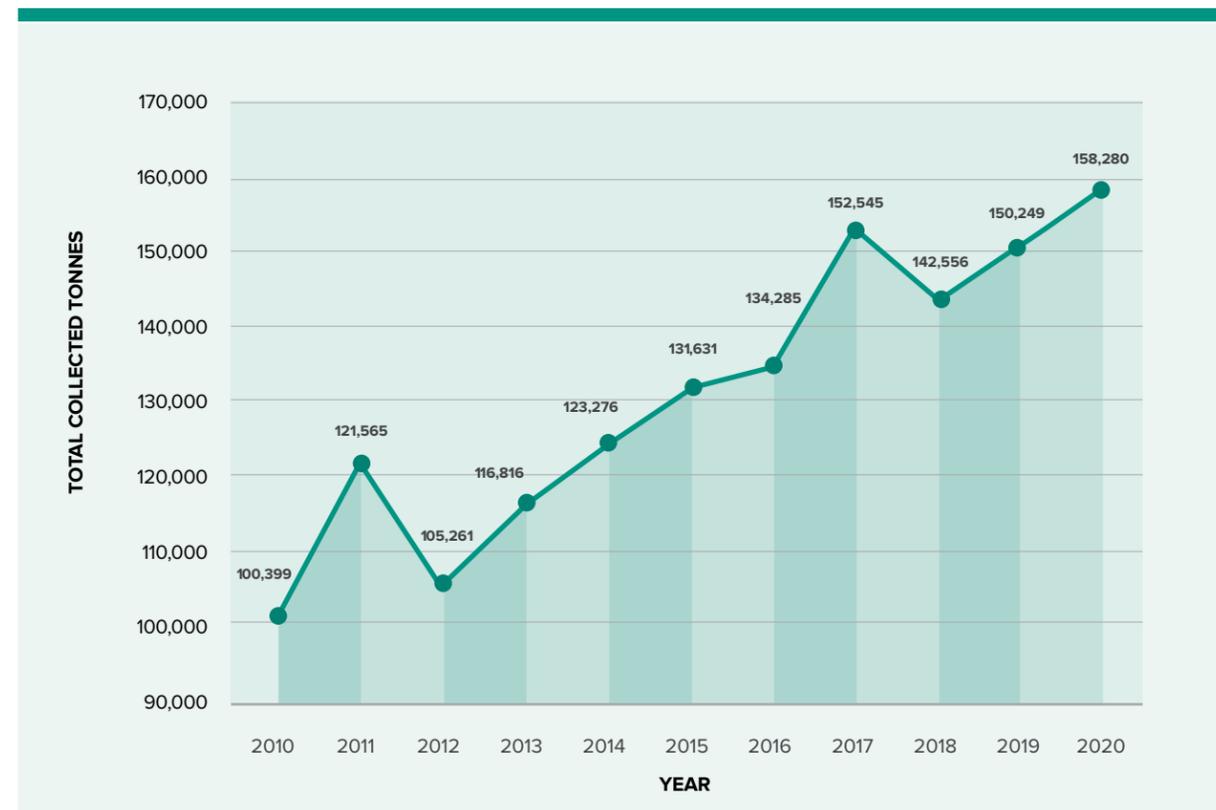
Collecting Other Recyclables in Ontario

In 2020, a total of 158,280 tonnes of Other Recyclables were collected, representing a 5.3% increase from 2019. Over the past ten years, the quantity of Other Recyclables diverted has increased by 57.7%, as shown in Figure 14.

Other Recyclables diverted from landfill include:²⁷

- Textiles
- Bulky goods
- Scrap metal
- Drywall
- Wood
- Brick and concrete
- Other construction and demolition (C&D) material

Figure 14: Total Other Recyclables Collected, 2010-2020



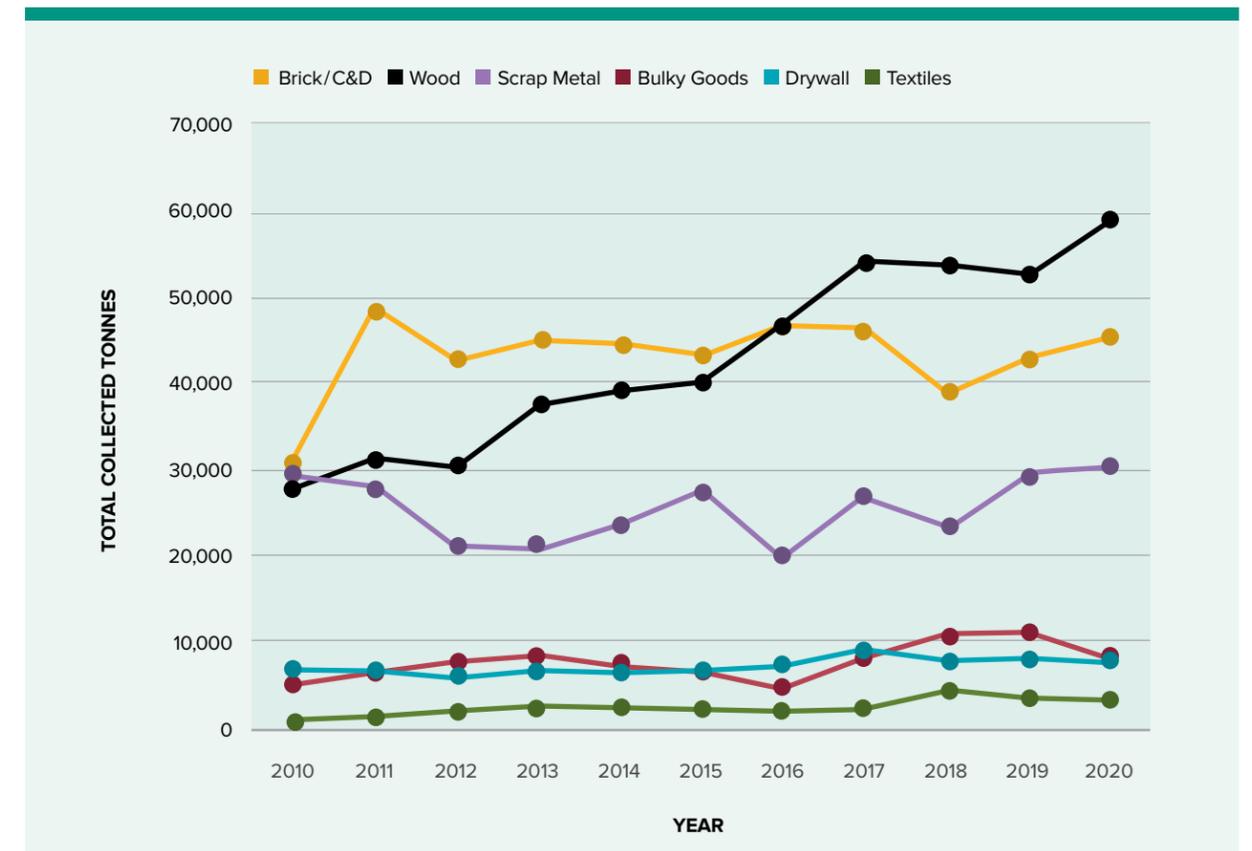
²⁷ Other Recyclables does not include tonnages for used tires or reusable materials.

07 Other Recyclables

Brick/C&D materials, wood and scrap metal remain the largest Non-Blue Box Recyclable (87.1%) collected and as illustrated in Figure 15, all three of these materials increased steadily from 2019 to 2020.

Tonnage diverted for bulky goods decreased by 16.9% from 2019 to 2020 while drywall and textiles saw slight decreases in tonnage from 2019 to 2020 of 7.7% and 7.8% respectively.

Figure 15: Other Recyclables Collected by Material, 2010-2020





08 Waste Electrical and Electronic Equipment

Recycling Waste Electronics

In 2009, the WEEE Program Plan, operated by Ontario Electronic Stewardship (OES), was created to collect and divert computers, monitors, computer peripherals, printers, fax machines and televisions from landfills. In 2010, the program was expanded to include floor standing printers and copiers, telephones, and other personal communication devices as well as cameras and other audio/visual equipment. The 2010 expansion may explain the increase in tonnes collected between 2010 and 2011 (Figure 16).

The WEEE category in the Datacall is not limited to the materials specified in the WEEE Program Plan. The WEEE material category in the Datacall includes:

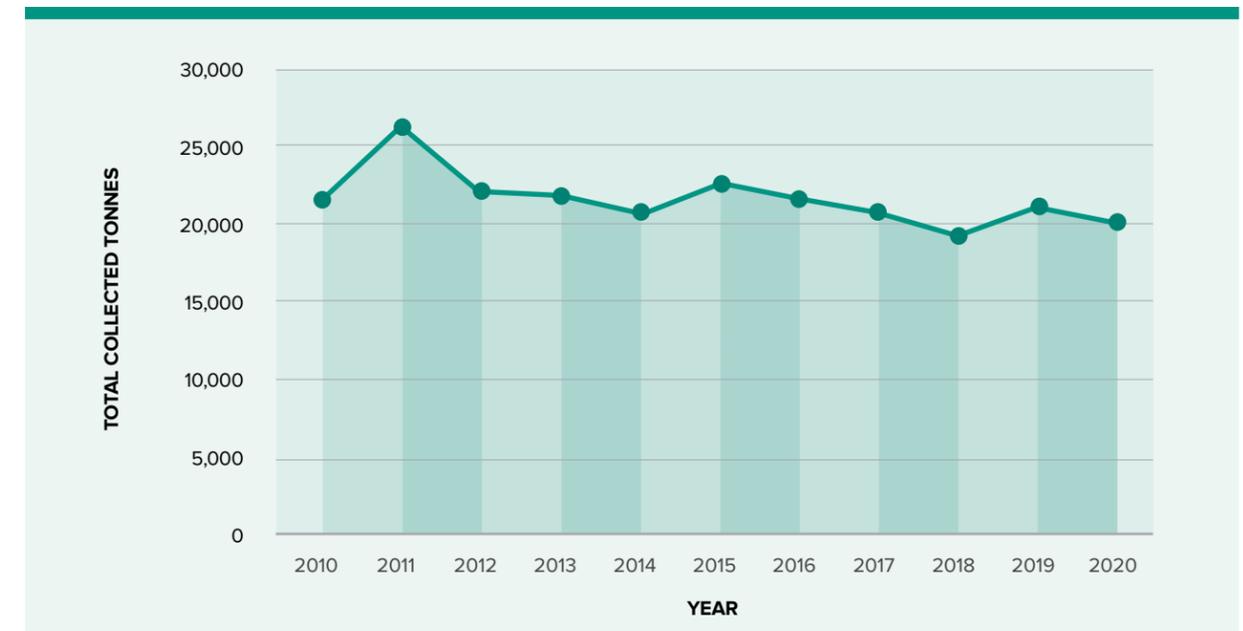
- **White Goods:** Large electrical goods used domestically (e.g. refrigerators and washing machines, typically white in colour)
- **Small appliances (or small domestic appliance):** Portable or semi-portable machines, generally used on table-tops, counter-tops, or other platforms, to accomplish a household task (e.g. toasters,

blenders, space heaters, electric razors, hair styling equipment, food grinders, hair clippers, food processors, microwave ovens, humidifiers, and coffee makers)

Programs that submitted the Long-Form Datacall in 2020 reported 20,025 tonnes of WEEE, representing a 4.6% decrease from 2019 collected tonnage of 21,002 tonnes. This is a 9.7% decrease in WEEE diverted tonnage from 2010 (Figure 16). Of the total WEEE tonnage collected in 2020, 7,654 tonnes were collected curbside, while 12,371 tonnes were collected through depot, suggesting that not many municipalities collect WEEE through curbside pickup.

It is important to note that municipalities and First Nation communities are not the primary sources of WEEE collection in Ontario and submitting this data through the Datacall is not mandatory. For more details on electronics recycling in Ontario, review [OES' 2020 Annual Report](#).

Figure 16: Total WEEE Collected, 2010-2020





09 Municipal Hazardous or Special Waste

Municipal Hazardous or Special Waste Collection

In 2006, the MHSW Program was created for Ontario residents to safely dispose of household products that require special handling, such as single-use batteries, propane tanks and oil filters. Stewardship Ontario is the industry funding organization that operates the MHSW Program and on June 30, 2020, Stewardship Ontario ended its program for managing single-use batteries. Industry stewardship organizations (Automotive Materials Stewardship, Product Care Association and Soda Stream) are responsible for recovering additional hazardous waste products, including automotive materials; paints and coatings; pesticides, solvents and fertilizers; and proprietary carbon dioxide cylinders.

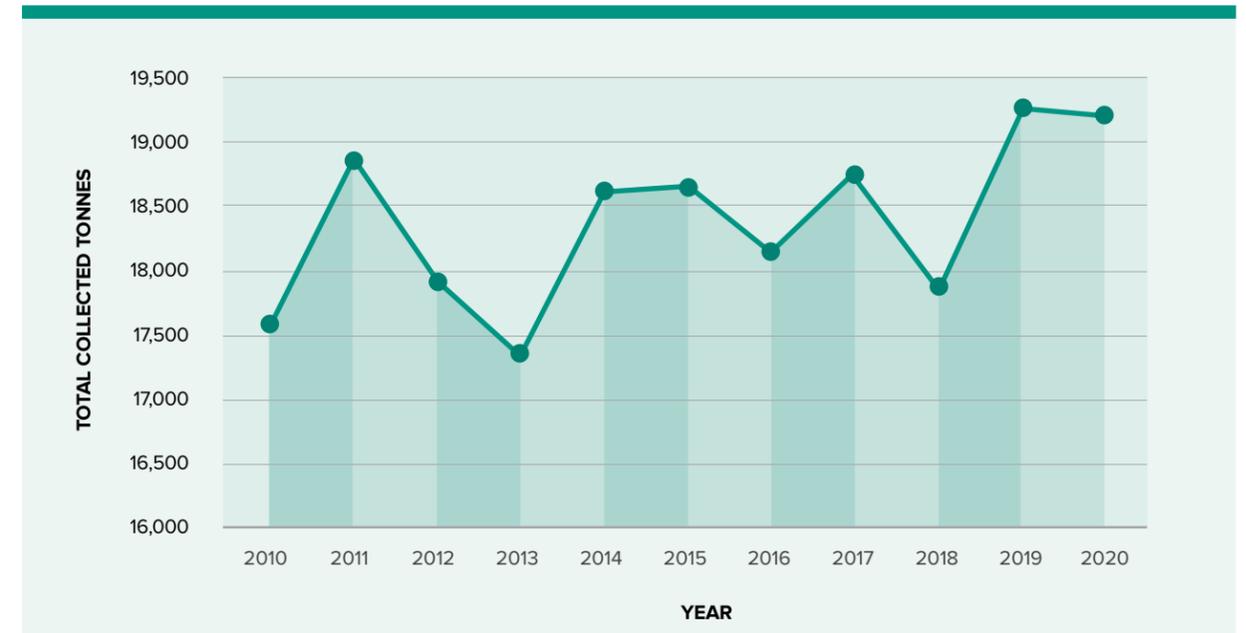
In 2020, programs completing the Long-Form Datacall collected 19,202 tonnes of MHSW material. This material was collected at either a community event day or at a community depot. As shown in Figure 17, MHSW tonnages reported in the Datacall significantly vary year-to-year but has trended

In 2020, programs completing the Long-Form Datacall collected 19,202 tonnes of MHSW material.

upwards overall. Since 2010, the amount of material collected has increased by 9.4% and between 2019 and 2020, the material collected by communities has decreased by 0.1%.

Similar to WEEE, there is no requirement to report on collected MHSW materials through the Datacall, and municipalities and First Nation communities are not the primary collectors of this material. For a more detailed picture of MHSW materials diverted in Ontario, see the annual reports from Stewardship Ontario, Automotive Materials Stewardship, Product Care Association and Soda Stream, all of which are found in the appendices of [RPRA's 2020 Annual Report](#).

Figure 17: Total MHSW Collected, 2010-2020





10 Conclusion

Summary

The results of the 2020 Datacall have followed similar trends to those set in 2019. The COVID-19 pandemic and provincial stay-at-home orders may have contributed to the increase in Blue Box materials, both collected and marketed, with the largest tonnage captured in Paper-based Packaging. Revenues continue to decline on a per-tonne basis with markets shifting due to increased standards at end markets. These new standards for material acceptability continue to affect the recovery rate for Blue Box materials in Ontario, which increased slightly to 59.9% in 2020. The overall Diversion Rate, however, remained similar to the 2019 rate at 49.5%, due to steady increases in Other Recyclables and Organics and only minor decreases in WEEE and MHSW.



RPRA

Resource Productivity
& Recovery Authority

4711 Yonge Street, Suite 408
Toronto, Ontario M2N 6K8
Tel: 416-226-5113

Email: info@rpra.ca
www.rpra.ca

For further information,
please contact datacall@rpra.ca