
RPRA
Resource Productivity
& Recovery Authority
DATACALL
REPORT
2019

The 2019 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. Each year, municipalities, recycling associations and First Nation communities in Ontario report their residential waste diversion programs to the Resource Productivity and Recovery Authority (RPRA) 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.

RPRA is responsible for the Blue Box Program's oversight and for determining the funding for the program. Each Ontario municipal program (municipality, recycling association or First Nation) providing recycling services must complete the Datacall to be eligible for Blue Box funding.

The 2019 Datacall Report summarizes information generated by the 253 programs participating in the Blue Box Program. Key highlights include:

- The provincial residential waste diversion rate has remained constant with the 2018 rate at 49.7%.
- For the first time since the target was set in 2008, the recovery rate for Blue Box material has dropped below the 60% target to 57.3%.
- 729,906 tonnes of Blue Box material was marketed, down 6.5% compared to 2018.
- Despite the decrease in Blue Box tonnages, the overall diversion rate has remained constant due to increases in all other categories: organics, other recyclables, Waste Electrical and Electronic Equipment (WEEE) and Municipal Hazardous or Special Waste (MHSW).
- The net cost of the Blue Box Program increased by 12.6% between 2018 and 2019. This is primarily driven by revenue decreases related to the sale of Blue Box materials.
- Revenue for Blue Box materials has dropped by 26.2% compared to 2018.

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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 (RPRA) 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 the collection of Municipal Hazardous or Special Waste (MHSW), Waste Electrical and Electronic Equipment (WEEE), organics, other materials and garbage.

The Datacall is the source of data for determining the net Blue Box system cost and 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 the province.

Programs submit information through either the Short- or the Long-form (or Standard) Datacall. Through the Long-form, communities report on all waste diversion activities. Communities with a population greater than 30,000 and those that would like to have their diversion rate calculated complete 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 was introduced in 2016 and only collects Blue Box tonnage and financial information.

The 2019 Datacall Report summarizes information

01 Introduction

generated by the 253 programs participating in the Blue Box Program in 2019 and highlights residential waste management trends.

RPRA conducts a data verification process following the Datacall reporting period. 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), RPRA also selects approximately twenty programs for audit by a third party for the Blue Box sections of their Datacall submission. RPRA does not guarantee the accuracy or completeness of data submitted even after RPRA conducts its data verification process and audits.

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

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 Diverted Tonnes 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, which 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 leaving grass clippings to decompose on the lawn after 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 Or the Standard Datacall, is available to all communities and 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 are then sold and used in place of virgin materials. This includes 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 or more units.

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

02 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 using 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).

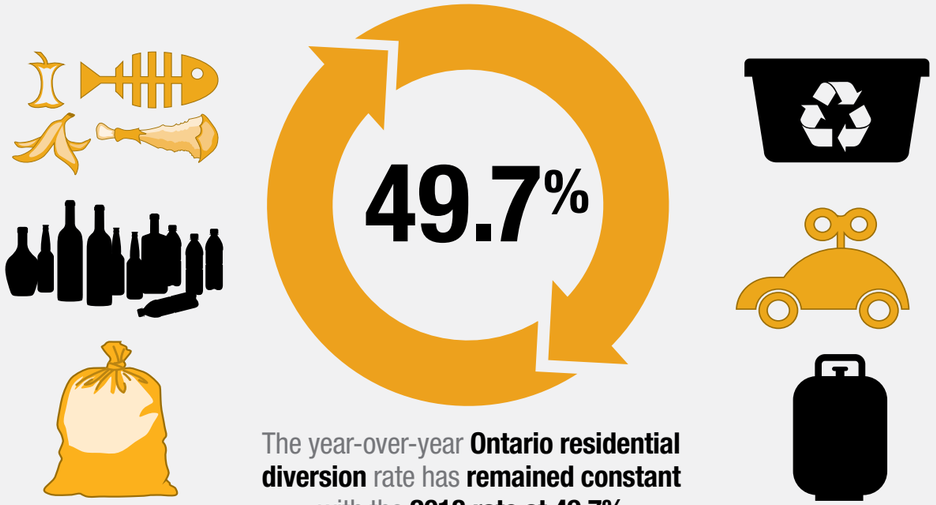
Residential energy-from-waste mass reduction Any material processed at EFW incineration sites that is not recycled.

Short-form Datacall 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 Short-form Datacall 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 Electrical and Electronic Equipment (WEEE) End-of-life electronic materials.

Ontario Residential Waste Diversion Rate



The year-over-year **Ontario residential diversion** rate has **remained constant** with the **2018 rate at 49.7%**

Blue Box

Net **Blue Box Program** costs increased from **$291.5M** in **2018** to **$328.2M** in **2019**,[1] a 12.6% increase

Blue Box marketed tonnes decreased from **780,555 tonnes** in **2018** to **729,906 tonnes** in **2019**

Revenues from the sale of **Blue Box materials** dropped **26.2%** from **$75.1M** in **2018** to **$55.4M** in **2019**

[1] The Net Blue Box Program Cost outlined in this report should not be confused with the Total Net Cost reported as part of the Steward Obligation methodology, which includes prior year adjustments, rolling average of revenue and cost containment factors.

03 The 2019 Datacall by the Numbers

Organics

Organics diversion **increased by 4.5%** between 2018 and 2019 to **1.1M tonnes**

Organics now make up **42.4%** of all **residential diverted** materials

Kitchen organics represent half (**50.3%**) of **all organic tonnage** collected

Other Recyclables

Other recyclables increased **5.4%** between **2018** and **2019** to **150,219 tonnes**

Between 2018 and 2019 there was a **15% increase in scrap metal collected** and a **9.3% increase** in **brick and concrete** and other **construction and demolition (C&D)** material collected

Residential Recycling Activities

In 2019, 253 communities submitted data through the Datacall, covering a total population of 14,034,786 and a total household count of 5,665,056, which represents 96.7% of the total population of Ontario.[2,3]

Of the 253 participating programs, 106 completed the Long-form Datacall and are included in the Diversion Rate calculations. These programs have a population of 13,491,006 and a household count of 5,371,852, which represents 96.1% and 94.8% of the respective totals in the Datacall.

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 the province.

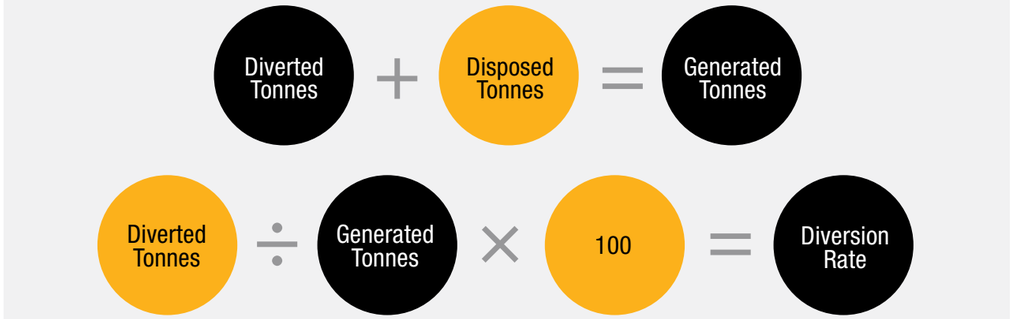
[2] Statistics Canada. Canada's population estimates, average of 2019 quarters.

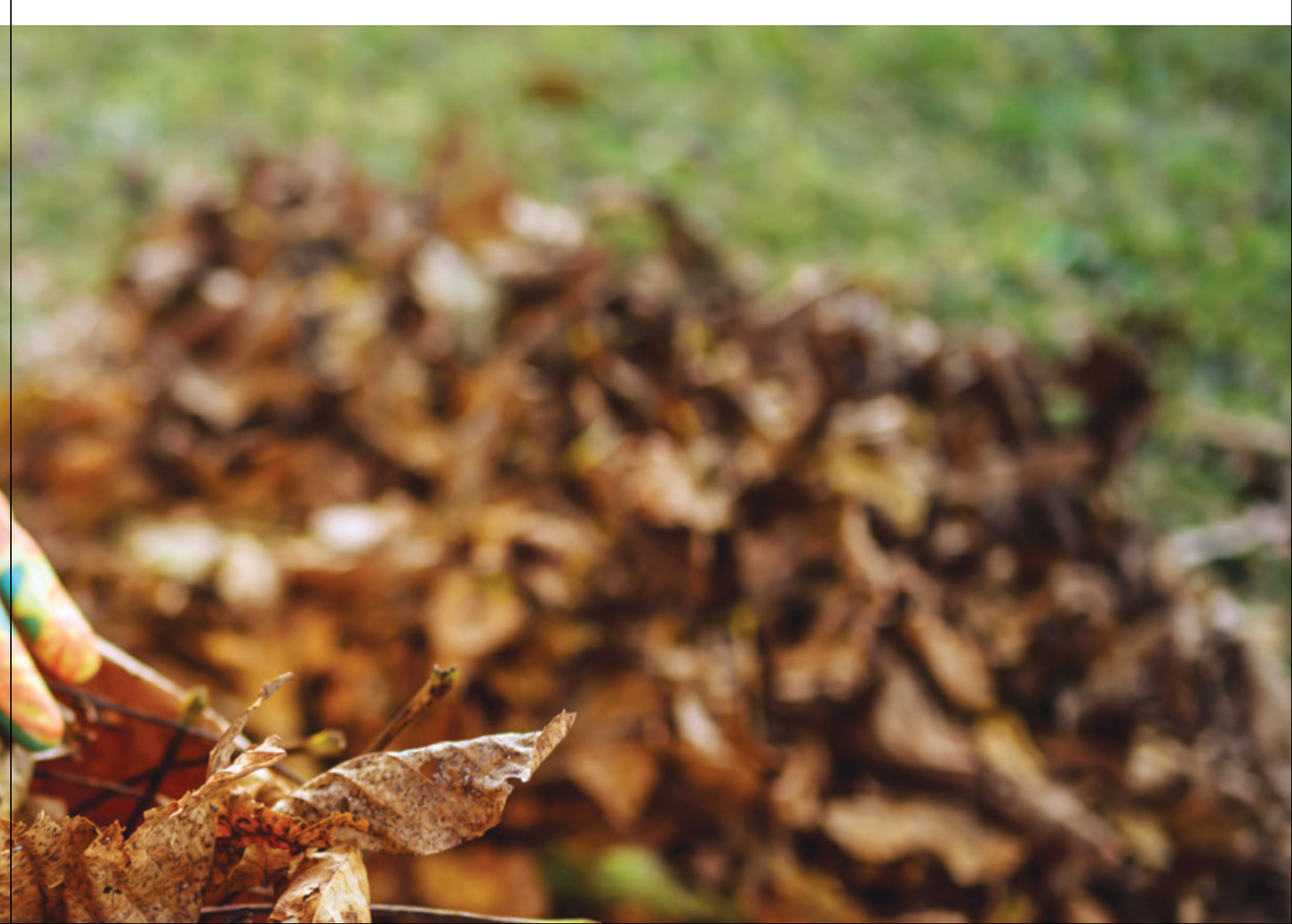
[3] Only communities wanting Blue Box funding are required to submit a Datacall form. It is possible that communities are operating diversion programs but choose to refrain from submitting a Datacall form.

04 Residential Waste Diversion

Diversion Rate Calculation

The Diversion Rate is calculated using the following formulas:





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
- Waste Electrical and Electronic Equipment (WEEE) Program
- Other recyclables (e.g. wood, construction and demolition material, scrap metal)
- Used Tires Program[4]
- EFW recycling

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 sector

Residential On-Property Management
- Backyard composting and grasscycling
- Open burning

Municipal Hazardous or Special Waste (MHSW) Program
- Includes single-use batteries, paints, solvents, propane tanks

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

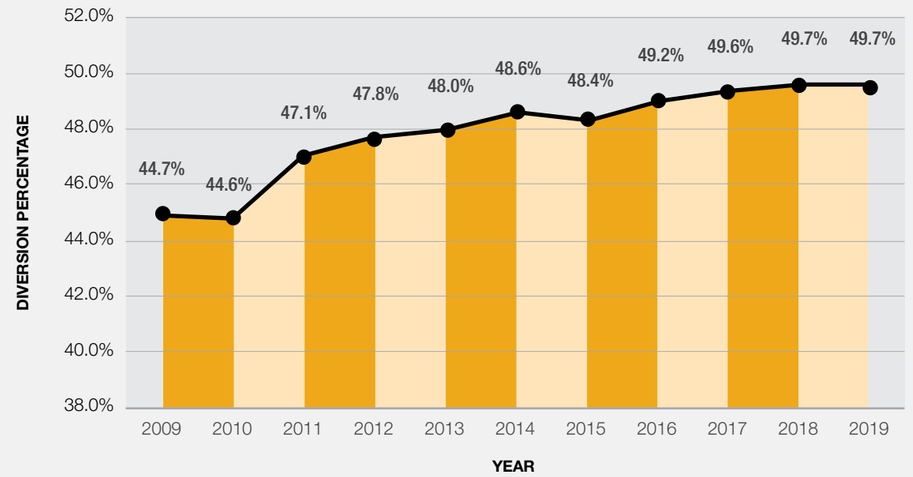
Residential EFW Mass Reduction
- Fly ash
- Disposed bottom ash
- Non-ash residue

Municipal Hazardous Waste Disposal
- Material collected through the MHSW Program that must be disposed of

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

Between 2018 and 2019, the overall Diversion Rate remained constant at 49.7% (Figure 1). Over 10 years, the Diversion Rate increased by 5.0%.

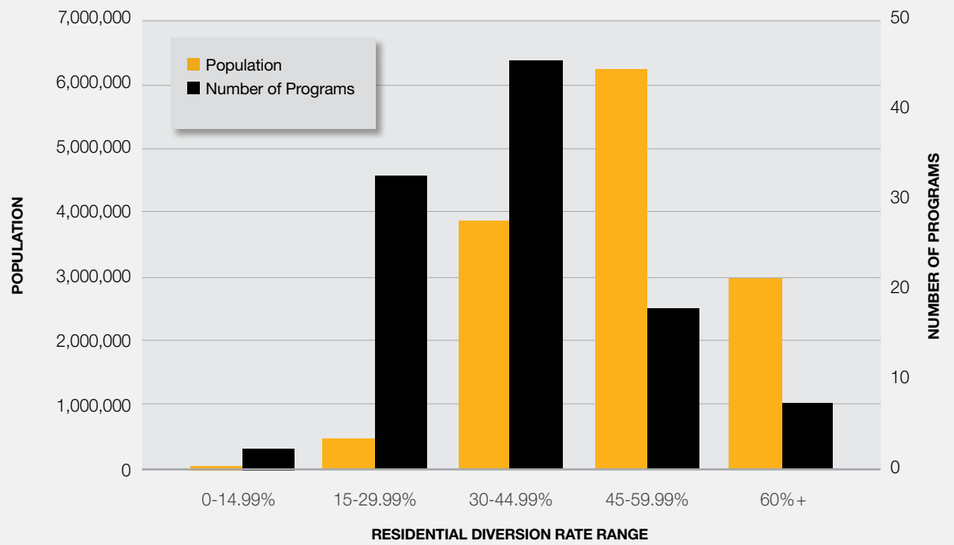
Figure 1: Ontario Residential Waste Diversion Rate, 2009-2019[5]



[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 only based 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.

There is a high variance in diversion performance among programs. In 2019, only 25 of the 106 programs that reported through the Long-form achieved a diversion rate above 45.0%. These programs represent 68.5% of the total population and 73.4% of the diverted tonnage. This distribution is further illustrated below in Figure 2.

Figure 2: Population Represented in Each Diversion Rate Range, 2019



The contribution of each type of diversion activity, shown below in Table 1, had multiple shifts in materials despite remaining stable overall. Residential recyclables, which includes both Blue Box materials and other recyclables, decreased by 2.0% compared to 2018. This was offset mainly by gains in organics (4.1%). 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, 2014-2019

Material	2014	2015	2016	2017	2018	2019	2018-2019 % Change
Residential Recyclables	1,065,056	1,043,537	1,076,023	1,103,983	1,047,796	1,027,167	-2.0%
On-Property Management	203,873	202,876	194,060	198,591	208,489	213,898	2.6%
Organics	966,913	932,632	907,239	946,291	1,007,289	1,048.546	4.1%
Deposit Return	70,694	71,341	71,762	72,718	73,653	74,336	0.9%
MHSW	15,012	15,622	15,518	15,945	15,017	16,147	7.5%
Residential Reuse	10,016	10,657	12,706	11,847	12,358	11,983	-3.0%
Total Diverted	**2,331,564**	**2,276,664**	**2,277,309**	**2,349,374**	**2,364,603**	**2,392,077**	**1.2%**

[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.

Ontario's Blue Box Program

Through Ontario's Blue Box Program, 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 2019, 253 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 RPRA to transition Ontario's Blue Box Program to the new extended or individual producer responsibility framework under the *Resource Recovery and Circular Economy Act, 2016* (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 Blue Box Program will wind up and transition to the new regulatory framework for resource recovery starting on January 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

The Resource Productivity and Recovery Authority is responsible for the Blue Box Program's oversight and for determining the funding for the program.

ACCESSIBILITY

The number of households with access to curbside and/or depot only programs is shown below in Table 2.

- From 2018 to 2019, an additional 62,703 households began receiving Blue Box service, an increase of 0.8%. From 2014 to 2019, the total number of households receiving Blue Box service increased by 5.3%.
- In 2019, 173 of the 253 reporting programs, or 68%, had utility-based systems for garbage collection (e.g. user-pay waste collection, pay as you throw, partial user-pay, full user-pay and/or bag limit program), which was a 2% increase compared to 2018.
- In 2019, 94.1% of Ontario households reporting to RPRA received Blue Box services provided by their community, compared to 94.0% in 2018. It is likely that the majority of the remaining 5.9% 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, 2014-2019

Type of Service	2014	2015	2016	2017	2018	2019	2014-2019 % Change
Curbside[8]	4,874,210	4,939,602	4,959,657	5,025,226	5,071,600	5,134,303	5.34%
Depot Only	208,948	225,552	215,273	212,452	205,580	198,858	-4.83%
Total	**5,083,158**	**5,165,154**	**5,174,930**	**5,237,678**	**5,277,180**	**5,333,161**	**4.92%**

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

MATERIALS

All Blue Box programs 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. Table 3 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, 2019

Blue Box Material	2019 Households Served	Number of Programs	2019 Households Served as % of Total Households Reported
Paper-based Packaging			
Corrugated Containers	5,329,827	250	99.9%
Boxboard	5,321,785	247	99.8%
Polycoat			
Gable Top Containers	5,124,582	217	96.1%
Aseptic Cartons	5,069,011	189	95.0%
Metals			
Aluminum Foil Packaging	5,209,870	231	97.7%
Empty Aerosol Cans	4,688,341	166	87.9%
Empty Paint Cans	4,999,402	174	93.7%
Plastics			
HDPE Containers	5,320,084	242	99.8%
Other Containers (#3,4,5,7)	5,244,606	222	98.3%
HDPE/LDPE Film (#2,4)	3,783,359	182	70.9%
Polystyrene Foam	3,318,186	106	62.2%
Polystyrene Crystal	4,368,769	134	81.9%

MARKETED TONNAGE

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

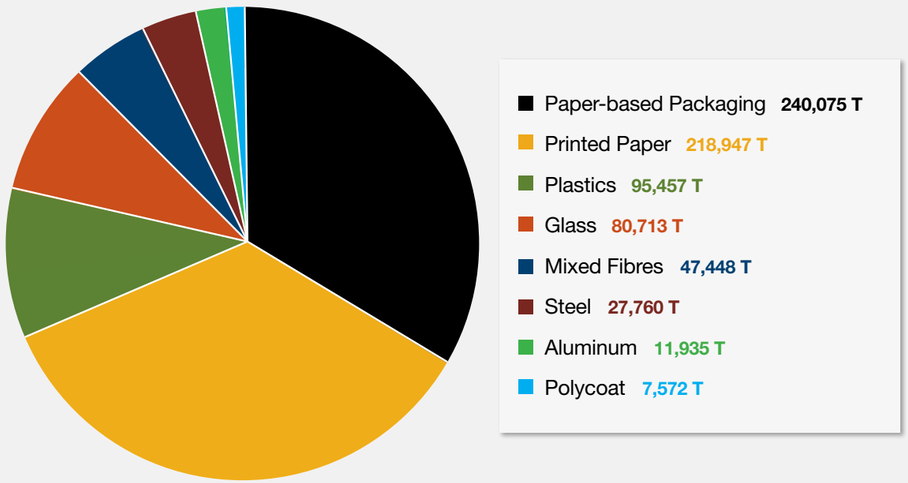
1. The amount of printed paper and packaging supplied into the Ontario market
2. The amount of printed paper and packaging collected through the Blue Box system
3. The demand for the related recycled materials on the regional or international commodities markets

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

2019 Highlights and Recent Changes

In 2019, 729,906 tonnes of Blue Box material were marketed, down 6.5% compared to 2018. The printed paper and mixed fibres materials associated with newsprint continue their decline in the make-up of Blue Box marketed tonnes. 2019 saw 22.6% less material associated with newsprint marketed compared to 2018 (Table 4). Figure 3 shows that in 2019 printed paper and mixed fibres represent 36.5% of the total Blue Box materials marketed, compared to 44.1% in 2018 and 51.5% in 2017. Packaging related materials saw an overall increase of 6.2% in tonnage marketed, mainly driven by an increase in paper-based packaging. More context is provided on those trends in the following section.

Figure 3: Marketed Blue Box Materials (in tonnes), 2019



10-year Trend

Marketed Blue Box tonnage continued its downward trend for a sixth straight year, with a 16.1% decrease over the past ten years (2009-2019) (Figure 4). This decrease is dominated by the decline in marketed printed paper, which can be attributed to two trends: the decrease in newsprint supplied to the Ontario market and the decrease in marketability of recycled printed paper.

The first trend is negatively impacting the total tonnes of Blue Box materials marketed because newsprint is a highly recyclable material that used to make up the largest portion of marketed Blue Box tonnes. The second trend relates to the continued challenges in global commodity markets, such as import restrictions on contaminated materials in Asian countries and higher international importing standards, which have resulted in materials being marketed as a lower grade and in some cases, materials being disposed of as residue. Table 4 and Figure 5 illustrate an increase in the lower grade mixed fibres commodity grades alongside the decline in printed paper.

The amount of packaging materials marketed has increased in recent years and in 2019 it reached the highest level of the past decade (Figure 4). This is further detailed in Table 4 and Figure 6, which show that this increase is mainly due to the rise in marketed paper-based packaging. This may be caused by an uptake in online shopping and associated shipping materials, increasing the volume of such materials on the market. Another underlying trend is the continued gradual market shift from relatively heavy materials like glass or steel to lightweight plastic alternatives.

The decline in newsprint and challenges in the fibres commodities markets have a profound impact on the composition of the marketed materials (Figure 7). Between 2009 and 2017, printed paper represented more than 50% of the marketed tonnage. In 2019, printed paper represented merely 30% of total tonnage diverted through the Blue Box Program.

Figure 4: Marketed Blue Box Tonnes, 2009-2019

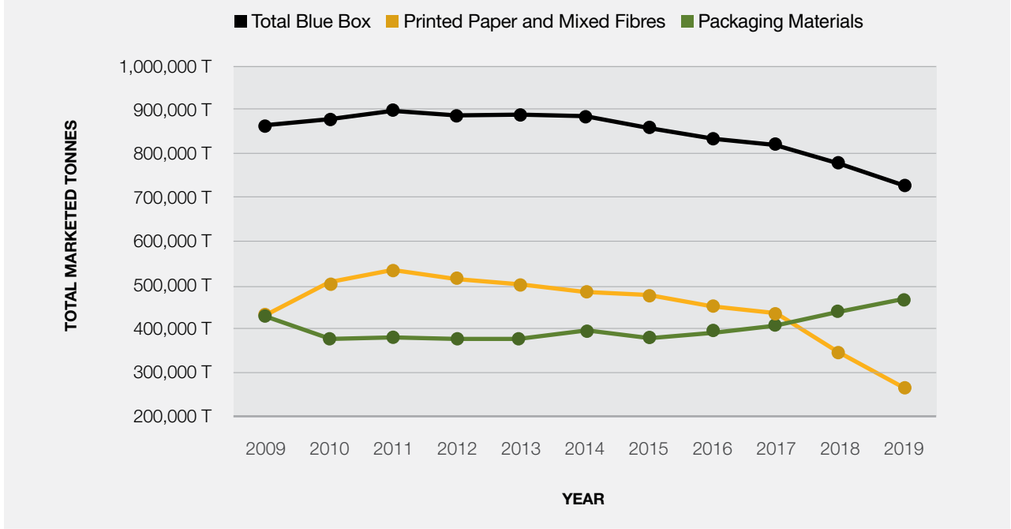


Table 4: Marketed Blue Box Tonnes, 2014-2019

Blue Box Material[9]	2014	2015	2016	2017	2018	2019	2018-2019 Tonnage % Change	5-year Tonnage % Change	% of Total 2019 Blue Box Tonnes
Printed Papers[10]	474,658	456,560	436,978	416,489	300,780	218,947	-27.2%	-53.9%	30.0%
Mixed Fibres[11]	19,657	14,928	12,616	7,005	43,431	47,448	9.2%	141.4	6.5%
Printed Paper and and Mixed Fibres	**494,315**	**471,488**	**449,594**	**423,494**	**344,212**	**266,395**	**-22.6%**	**-46.1%**	**36.5%**
Paper-based Packaging[12]	161,973	156,951	167,951	180,910	217,982	240,075	10.1%	48.2%	32.9%
Polycoat[13]	6,810	7,099	7,180	6,452	8,162	7,572	-7.2%	11.2%	1.0%
Aluminum[14]	10,862	10,465	10,593	10,944	11,159	11,935	6.9%	9.9%	1.6%
Steel[15]	31,361	29,525	29,138	29,096	27,670	27,760	0.3%	-11.5%	3.8%
Glass[16]	90,083	86,559	80,703	81,857	78,076	80,713	3.4%	-10.4%	11.1%
Plastic[17]	89,101	90,351	91,069	90,226	93,295	95,457	2.3%	7.1%	13.1%
Packaging Materials	**390,190**	**380,949**	**386,632**	**399,486**	**436,344**	**463,512**	**6.2%**	**18.8%**	**63.5%**
Total Blue Box Tonnes	**884,505**	**852,438**	**836,227**	**822,979**	**780,555**	**729,906**	**-6.5%**	**-17.5%**	**100.0%**

[9] Stewardship Ontario's material allocation method is subject to change.
[10] Includes newspaper, household fine paper, telephone books, magazines and catalogues.
[11] Includes lower grade bale of a mix of the Printed Paper and Paper-based Packaging categories.
[12] Includes old corrugated cardboard, old boxboard and a portion of residential mixed papers and mixed fibres packaging.
[13] Includes gable top containers and aseptic cartons.
[14] Includes aluminum food & beverage containers and other aluminum packaging.
[15] Includes steel food & beverage containers, aerosols and empty paint cans.
[16] Includes flint glass, coloured glass and allocations of mixed glass.
[17] Includes PET, HDPE, plastic film, tubs and lids, polystyrene and other mixed plastic packaging.

Figure 5: Marketed Tonnage Trends for Printed Paper and Mixed Fibres, 2009-2019

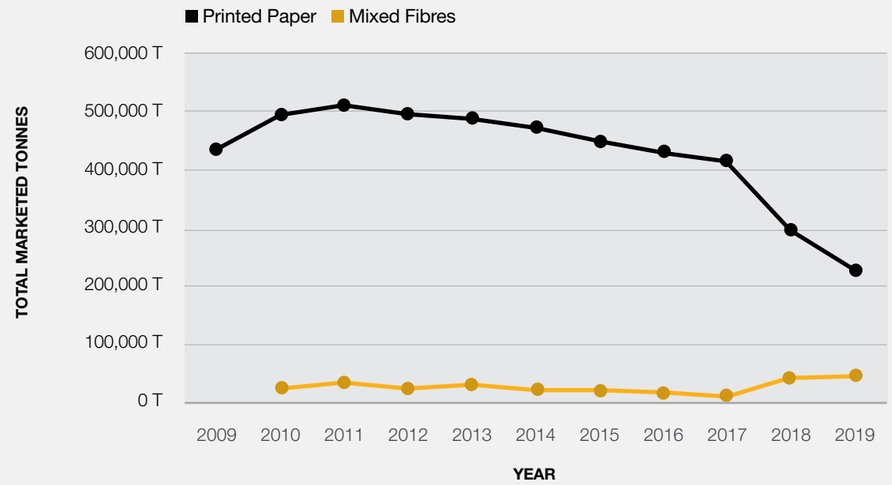


Figure 6: Marketed Tonnage Trends for Packaging Materials, 2009-2019

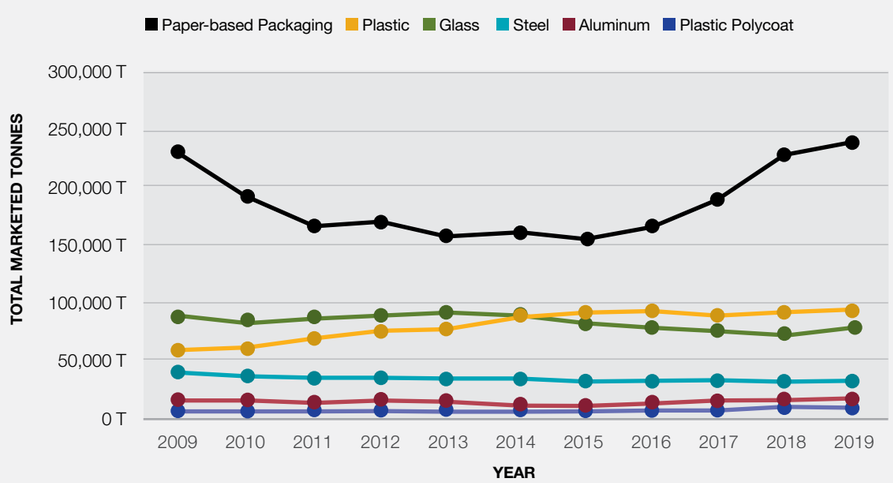
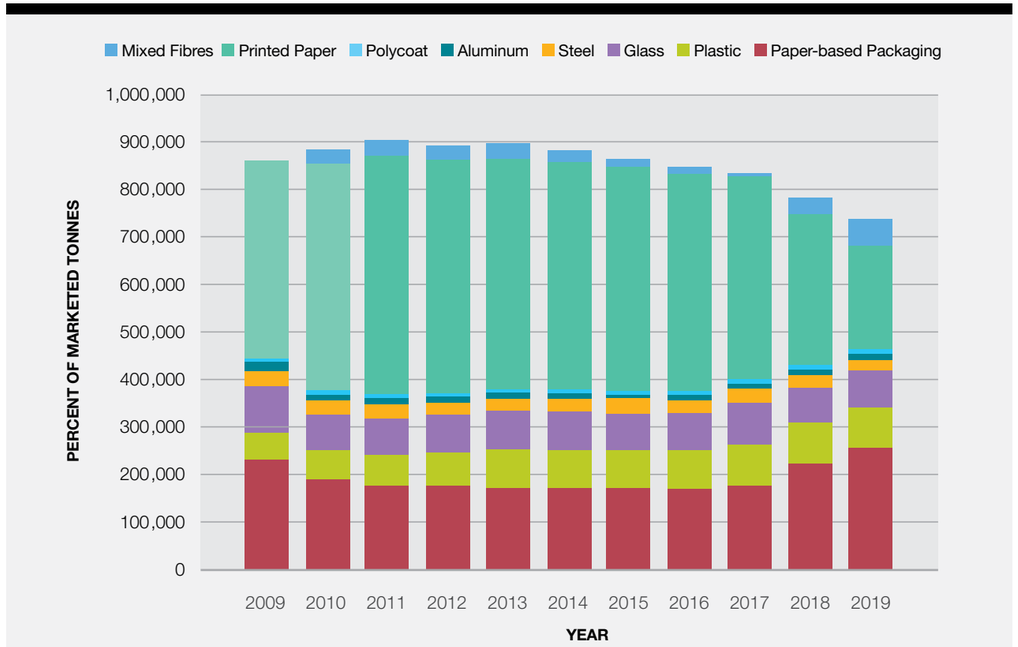


Figure 7: Marketed Tonnes by Material, 2009-2019



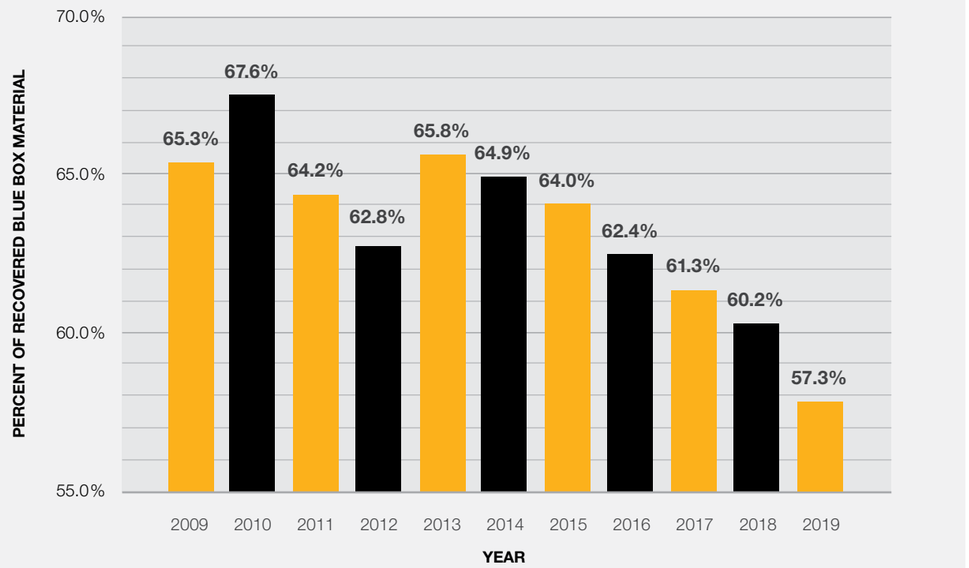
Blue Box Diversion

In 2008, the then Ministry of the Environment set the Blue Box Program's recycling rate target at 60%. This percentage is calculated by dividing the marketed material reported into the Datacall by the generated tonnes reported to Stewardship Ontario.[18]

In 2019, the recovery rate dropped below the provincial target to 57.3% for the first time since the target was set (Figure 8).

This decline reflects the overall downward trend in marketed materials discussed in the previous section. The most important driver in the Program's decreasing recovery rate is the decline in marketed newsprint. Since newsprint has a high recovery rate when compared to other materials (e.g. plastic packaging materials), when it makes up a smaller portion of the total material mix collected through the Blue Box system, the overall Blue Box recovery rate declines.

Figure 8: Percent of Recovered Blue Box Material, 2009-2019



[18] Stewardship Ontario. (2019). Fee calculation model. Retrieved from https://stewardshipontario.ca/stewards-bluebox/fees-and-payments/

COST AND REVENUE

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

- Collection of curbside Blue Box material
- Processing of Blue Box material
- Management of material transfer stations and drop-off depots
- Promotion and education activities
- Administrative costs[19] and interest[20] on the amortization of capital equipment

2019 Highlights

Net Blue Box Program costs totaled $328.2M in 2019, a 12.6% increase compared to 2018 ($291.5M).[21]

The primary driver for the increase in net cost in 2019 was the decrease in revenue received for the material collected, as was the case in 2018. Revenue received for the sale of Blue Box materials has decreased by 26.2% compared to 2018 and 50.5% compared to 2017. In dollars, revenue received went from $111.8M in 2017 to $75.0M in 2018 to $55.4M in 2019.

Lastly, the Program's gross cost increased by 4.6% in 2019 compared to the previous year.

[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.

[21] The Net Blue Box Program Cost outlined in this report should not be confused with the Total Net Cost reported as part of the Steward Obligation methodology, which includes prior year adjustments, rolling average of revenue and cost containment factors.

Commodity Pricing Impact

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

Printed paper revenues dropped to an average of $44/tonne, a 29% decrease compared to 2018 and a 44.1% drop compared to 2017. In 2019, revenue from mixed paper was negative, indicating that processors were having to pay end markets to take the material. 2019 is the first year this has happened to any material other than glass. Aluminum and steel also had revenue decreases compared to 2018, dropping 21.9% and 21.4% respectively.

Table 5: Dollar per Tonne by Material Commodity, 2014-2019[22]

Commodity	2014	2015	2016	2017	2018	2019	2018-2019 Price % Change	5-year Price % Change
Newspaper (ONP#8/SRP #56)[23]	69	72	103	111	62	44	-29.0%	-36.2%
Mixed Paper (#54/ONP#6)[24]	n/a	43	73	73	2	-18	n/a	n/a
Corrugated (OCC)	131	127	152	221	128	84	-34.4%	-35.9%
Hardpack (OBB/OCC)	51	66	91	121	57	19	-66.7%	-62.7%
Boxboard (OBB)	48	50	50	n/a	n/a	n/a	n/a	n/a
Polycoat Containers	79	114	114	64	63	40	-36.5%	-49.4%
PET (mixed)	377	295	295	383	431	377	-12.5%	0.0%
HDPE (mixed)	659	617	617	497	483	444	-8.1%	-32.6%
Mixed Plastics[25]	46	58	58	32	47	74	57.4%	60.9%
Film Plastic	29	47	47	24	15	3	-80.0%	-89.7%
Aluminum Cans	1783	1548	1548	1772	1733	1354	-21.9%	-24.1%
Steel Cans	299	179	200	262	322	253	-21.4%	-15.4%
Glass (mixed)	-22	-22	-30	-42	-41	-38	-7.3%	72.7%

[22] CIF. (2019). Price sheet- December 2019. Retrieved from https://thecif.ca/wp-content/uploads/2020/01/December-2019-Price-Sheet.pdf

[23] 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.

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

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

Gross Cost Overview

The primary expense in gross costs for the Blue Box Program is direct Blue Box Operation Services Costs,[26] representing 93.2% of the total. The cost of this category increased by 4.6% relative to 2018 (Table 6) and represents 92.5% of the total increase in 2019.

A detailed breakdown of the collection, processing and depot costs by program can be found in our 2019 Blue Box Cost and Revenue report.

Table 6: Gross Costs by Category, 2018-2019

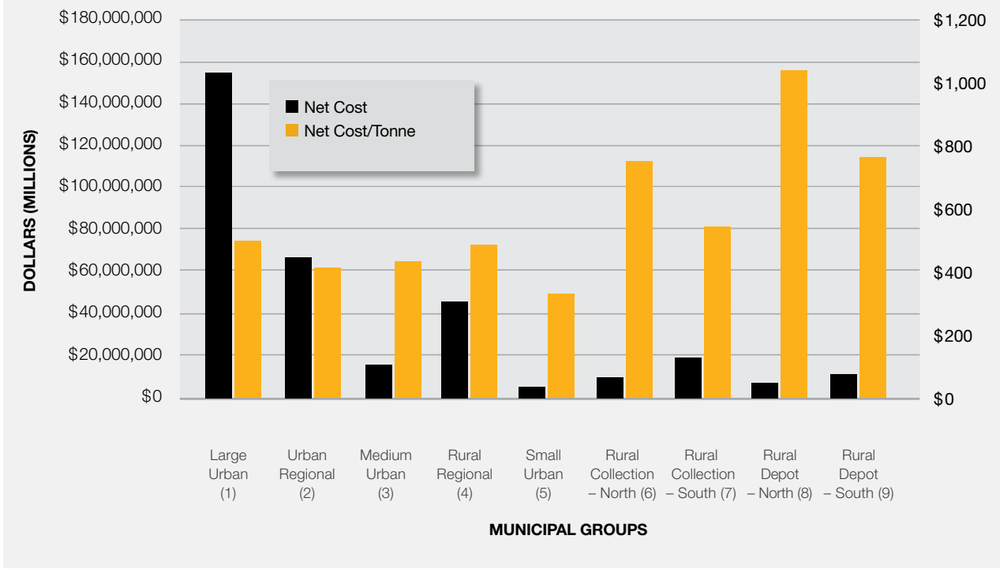
Blue Box Program Category	Gross cost in 2018	Gross cost in 2019	% Change between 2018 and 2019
Blue Box Operation Services Costs	$ 342,008,032	$ 357,649,044	4.6%
Promotion and Education	$ 17,088,477	$ 18,167,683	6.3%
Administrative Cost and Interest (on capital)	$ 7,552,449	$ 7,334,018	2.4%
Total	**$ 366,648,958**	**$ 383,550,745**	**4.6%**

[26] Some programs choose to hire a single service provider to collect their Blue Box material, 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.

Net Cost Overview

Figure 9 shows the net cost and net cost per tonne by municipal grouping.[27] 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, 2019



[27] RPRA. (2021) Description of Municipal Groupings for Datacall. Retrieved from https://rpra.ca/wp-content/uploads/Descriptions-of-Municipal-Groups-for-Datacall.pdf

05 Blue Box

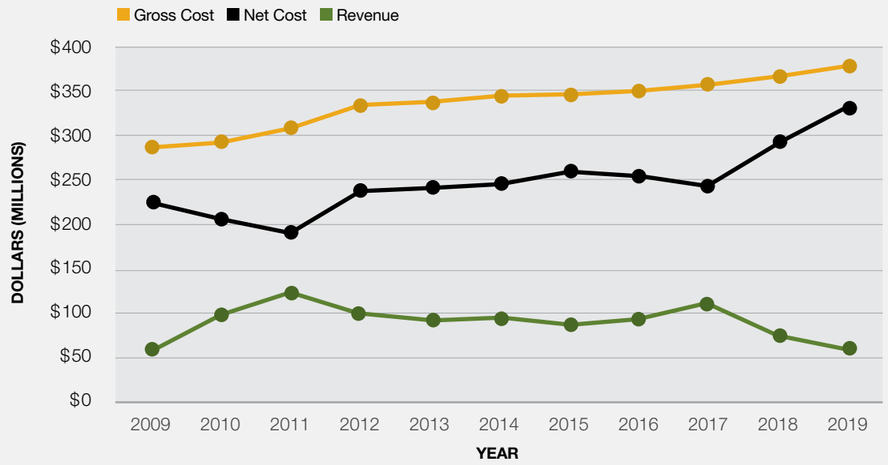
10-year Trend

Net Blue Box costs, shown in Figure 10, have increased 46.6%, rising from $223.7M in 2009 to $328.2 in 2019.

In 2009, revenue received by communities for the sale of materials, the sale of Blue Boxes and any fees or penalties charged to contractors totalled $60.8M, 8.9% higher than the total $55.4M received in 2019. 2009 was an especially notable year in the Blue Box Program due to the negative impact of the 2008 financial recession on Blue Box revenue.

Gross costs, by comparison, have seen a steady annual increase since 2009. While overall Blue Box Program gross costs increased from $284.6M in 2009 to $383.6M in 2019, no single year has seen an increase of more than 5.0% compared to the previous year, with an average annual growth rate of 3.1%.

Figure 10: Gross and Net Blue Box Costs, 2009-2019



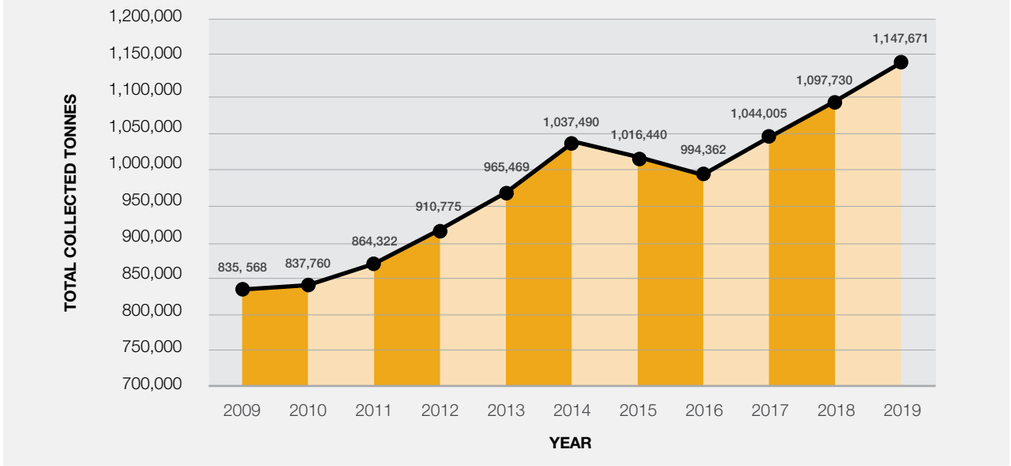
Diverting Organics from Landfills

As shown in Figure 11, the amount of organics collected has increased for the fourth consecutive year with a total of 1,147,671 tonnes collected in 2019. In 2019, the amount of collected tonnes increased by 4.5% when compared to 2018 and increased by 37.4% when compared to 2009.

Organics diverted from landfills are processed at compost facilities, anaerobic digestion plants or through the wood and brush chipping operations.

06 Organics

Figure 11: Organic Waste Collected, 2009-2019



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.

The seventy-five programs that collected kitchen organics in 2019 averaged a greater diversion rate (40.8%) than those that did not offer the program (36.4%).

As shown in Figure 12, household organics continues to trend upwards and has seen a 67.8% increase in total tonnage since 2009. Similarly, total yard waste has recovered from a dip between 2014 and 2016 and reached a new peak of 494,000 tonnes. Together, household organics and yard waste made up 93.3% of the total organics category and account for 110.7% of the yearly growth. The remaining categories combined - leaves, Christmas trees and bulky yard waste – have decreased 6.0% when compared to 2018 (Table 7).

Figure 12: Organics Tonnes by Category, 2009-2019

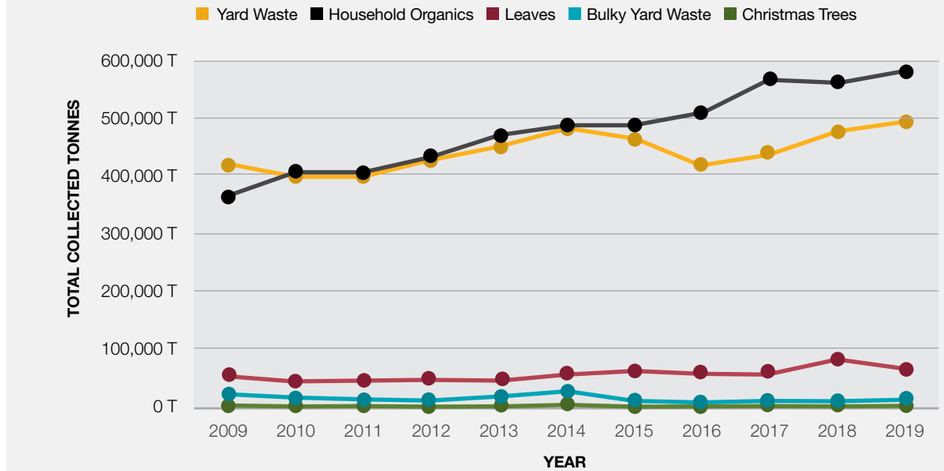


Table 7: Organic Material Collected by Category (in tonnes), 2018-2019

Organic Material	2018	2019	Year Over Year % Change	% of Total Organics
Yard Waste	461,512	494,283	7.1%	43.1%
Leaves	66,880	60,360	-9.7%	5.3%
Christmas Trees	2,437	2,573	5.6%	0.2%
Bulky Yard Waste	11,597	13,108	13.0%	1.1%
Household Organics	555,305	577,348	4.0%	50.3%
Total Organics	**1,097,730**	**1,147,671**	**4.5%**	**–**

Collecting Other Recyclables in Ontario

In 2019, a total of 150,249 tonnes of other recyclables were collected. This represents a 5.4% increase from the previous year's reported data. Over the past ten years, the amount of other recyclables diverted has increased by 51.4%, as shown in Figure 13. Other recyclables diverted from landfill include:[28]

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

Brick/C&D materials, wood and scrap metal remain the largest contributors representing 84.1% of the total amount of other recyclables collected in Ontario, as illustrated in Figure 14. While wood, bulky goods, drywall and textiles have remained relatively stable between 2018 and 2019, brick/C&D material and scrap metal tonnage have increased.

[28] Other recyclables does not include tonnages for used tires or reusable materials.

07 Other Recyclables

Information submitted through the Datacall includes tonnage and financial information for Blue Box material and tonnage managed through all waste diversion activities, including the collection of MHSW, WEEE, organics, other materials and garbage.

Figure 13: Total Other Recyclables Collected, 2009-2019

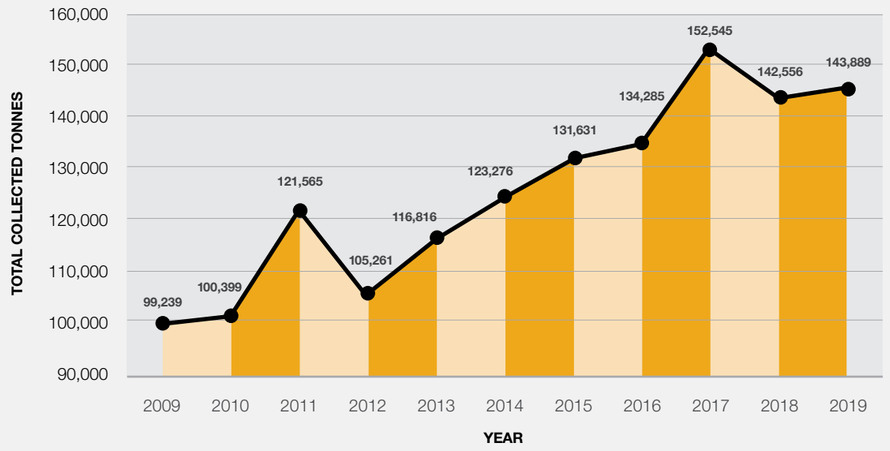
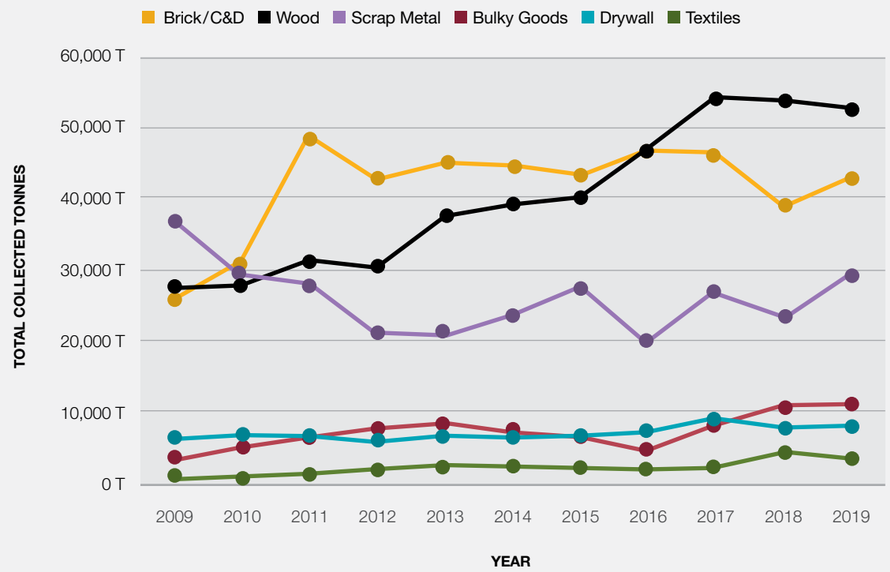


Figure 14: Total Other Recyclables Collected by Material, 2009-2019



Recycling Waste Electronics

In 2009, the WEEE Program Plan was created to collect and divert computers, monitors, computer peripherals, printers, fax machines and televisions from landfills. In 2010, the program expanded to include floor-standing printers and copiers, telephones and other personal communication devices, as well as cameras and other audio-visual equipment. Ontario Electronic Stewardship is the industry funding organization that operates the WEEE Program.

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:

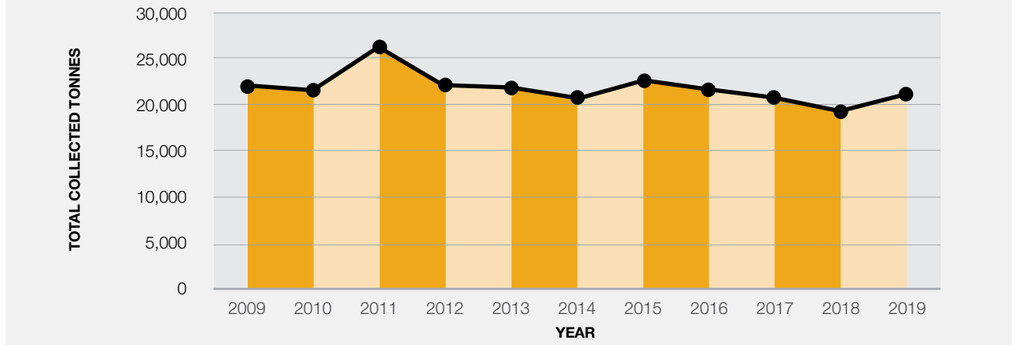
- **White Goods** Large electrical goods used domestically (e.g. refrigerators and washing machines, typically white)
- **Small appliances (or small domestic appliance)** Portable or semi-portable machines, generally used on table-tops, counter-tops or other platforms, to accomplish a household task (e.g. toasters, blenders, space heaters, microwave ovens, humidifiers and coffee makers)

In 2019, programs that submitted the Long-form Datacall collected 21,002 tonnes of WEEE, an 11.8% increase since 2018, but a 6.5% decrease compared to 2009 (Figure 15). The total tonnage collected curbside was 8,528 tonnes while depots reported 12,473 tonnes, suggesting that many residents have limited access to curbside pick-up. This leads to residents having more choice in where to take their waste electronics and causes an incomplete data picture.

08 Waste Electrical and Electronic Equipment

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 recycling waste electronics in Ontario, review Ontario Electronic Stewardship's 2019 Annual Report.

Figure 15: Total WEEE Collected, 2009-2019



Municipal Hazardous or Special Waste Collection

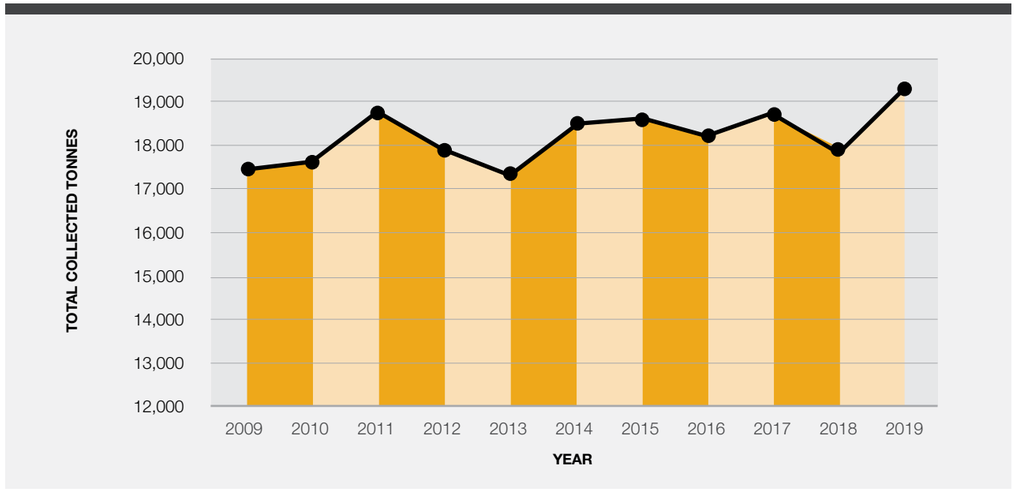
In 2006, the MHSW Program was created for Ontario residents to safely dispose of household products that require special handling, such as single-use batteries, propane tanks and oil filters. Stewardship Ontario is the industry funding organization that operates the MHSW Program. Industry stewardship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

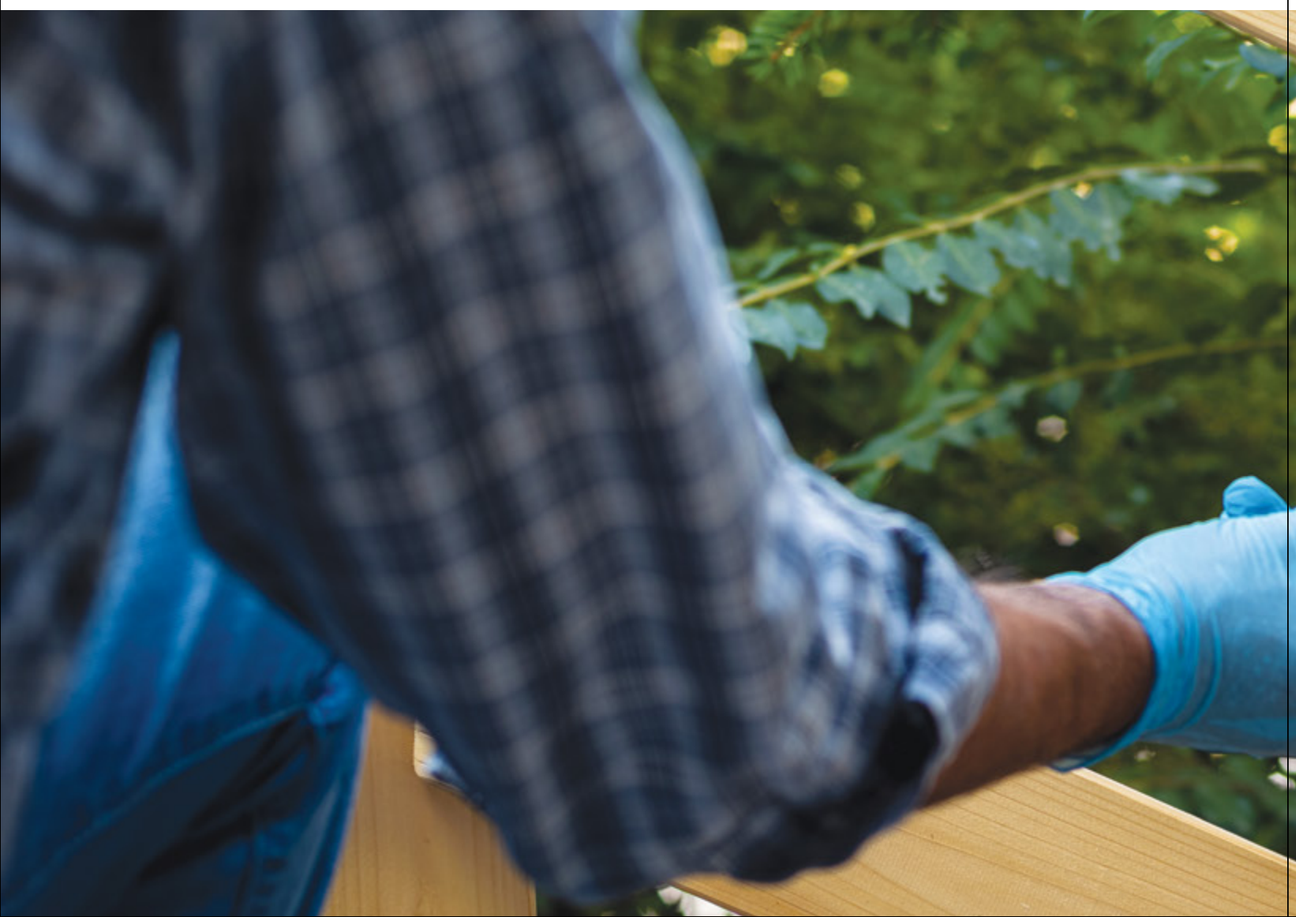
In 2019, programs completing the Long-form Datacall collected 19,222 tonnes of MHSW material. This material was collected at either a community event day or a community depot. As illustrated in Figure 16, the MHSW tonnages reported in the Datacall significantly vary year-to-year but has trended upwards overall. Since 2009, the amount of material collected has increased by 10.7%, and there was a 7.7% increase between 2018 and 2019.

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 SodaStream, all of which are found in the appendices of RPRA's 2019 Annual Report.

09 Municipal Hazardous or Special Waste

Figure 16: Total MHSW Collected, 2009-2019





Summary

The results of the 2019 Datacall have followed the trends that were set in 2018. Revenues continue to decline on a per-tonne basis with markets shifting due to increased standards at end markets. These new standards have also continued to affect the recovery rate for Blue Box materials in Ontario. In 2019, the recovery rate fell to 57.3%, which was the first time the rate dropped below the provincial target of 60%. The overall diversion rate, however, remained constant with the 2018 rate at 49.7% due to increases in other recyclables, organics, WEEE and MHSW.

10 Conclusion

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