



**RPRA**  
Resource Productivity  
& Recovery Authority

DATA CALL | 2017  
REPORT





### Table of Contents

01

BACKGROUND .....03

02

VERIFICATION OF  
DATA REPORTED ..... 05

03

THE 2017 DATACALL  
BY THE NUMBERS .....06

04

RESIDENTIAL WASTE  
DIVERSION ..... 07

05

BLUE BOX ..... 09

06

ORGANICS .....17

07

OTHER  
RECYCLABLES ..... 19





# 01

## BACKGROUND

Each year, municipal programs (municipalities, recycling associations and First Nations) complete the Municipal Datacall, where they report on the amounts of residential materials diverted under each of their waste diversion programs to the Resource Productivity and Recovery Authority (RPRA). This includes submitting tonnage and financial information for residential Blue Box material collected from local residents and, on a voluntary basis, tonnage data for all other non-Blue Box materials the municipal program operates, including hazardous or special waste, waste electrical and electronic

equipment, organics, garbage and other materials.

For this report, the residential diversion rate is calculated using the following formula:

1. **Generated Tonnes = Disposed Tonnes + Diverted Tonnes**

2. **Diversion Rate** =  $\frac{\text{Diverted Tonnes}}{\text{Generated Tonnes}} \times 100\%$

Generated Tonnes is the combination of Disposed Tonnes and Diverted Tonnes. Disposed Tonnes referenced in this report includes garbage and processing residuals from recycling and composting operations disposed at landfill or Energy-from-Waste

## 01 | Background

facilities. Diverted Tonnes includes the following activities:

- municipally-operated recycling activities:
  - Blue Box printed paper and packaging
  - waste electrical and electronic equipment (WEEE)
  - municipal hazardous or special waste (MHSW)
  - other recyclables (e.g., scrap metal)
  - used tires<sup>1</sup>
- municipal organic collection and processing activities
- a per capita allowance for provincial deposit systems based on beer, wine and spirits containers returned from the residential sector<sup>2</sup>

- an allowance for residential on-property management (e.g., backyard composting and grass cycling)
- municipally-operated reuse activities

In 2017, 245 municipal programs submitted data to the Datacall, which covers a total population of 13,729,001 and a total household count of 5,547,000. Of the 245 participating programs, 109 completed the Full Form Datacall and are included in the Ontario residential diversion rate calculations, while the remaining completed the Short Form Datacall.<sup>3</sup>

---

<sup>1</sup> Diversion of passenger and light truck tires is estimated by a credit of 7.1 kg/capita.

<sup>2</sup> A credit of 5.51 kg/capita is included for the return of residential beer, wine and spirits containers.

<sup>3</sup> As part of the 2016 Datacall, RPRA introduced the Short Form Datacall (SFD) available to all municipal programs with a population under 30,000. Municipalities that reported under the SFD were only required to submit Blue Box data, and therefore will not be included in all sections of this report. All tables and graphs from previous years have been updated to only include Full Form submissions standardized to 2016.





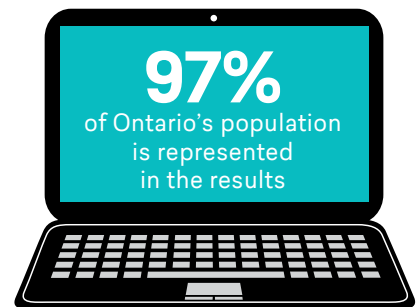
# 02

## VERIFICATION OF DATA REPORTED

RPRRA conducts a data verification process after the Datacall reporting period ends. The verification process can include the confirmation of any data variances from the previous year and an assessment of costs and tonnages reported. RPRRA also, in collaboration with the Municipal Industry Program Committee (MIPC), selects approximately 20 municipal programs that are audited by a third party for the Blue Box sections of their Datacall submission. RPRRA does not guarantee the accuracy or completeness of the data. The municipal program remains responsible for the correctness of data submitted even after RPRRA conducts its data verification process and audits.

# 03

## THE 2017 DATACALL BY THE NUMBERS



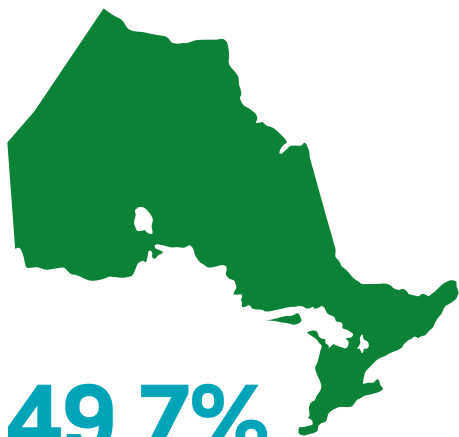
**62,748**

Additional households received Blue Box service in 2017

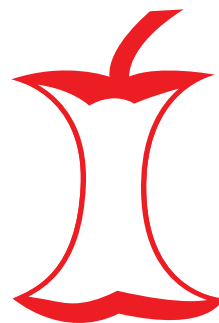


**165**

Municipal programs have implemented utility-based systems for garbage collection\*



is Ontario's overall residential waste diversion rate



**80.3%**

of waste diversion is attributed to organics and Blue Box material



**61.3%**

of Blue Box material supplied to the marketplace was recycled

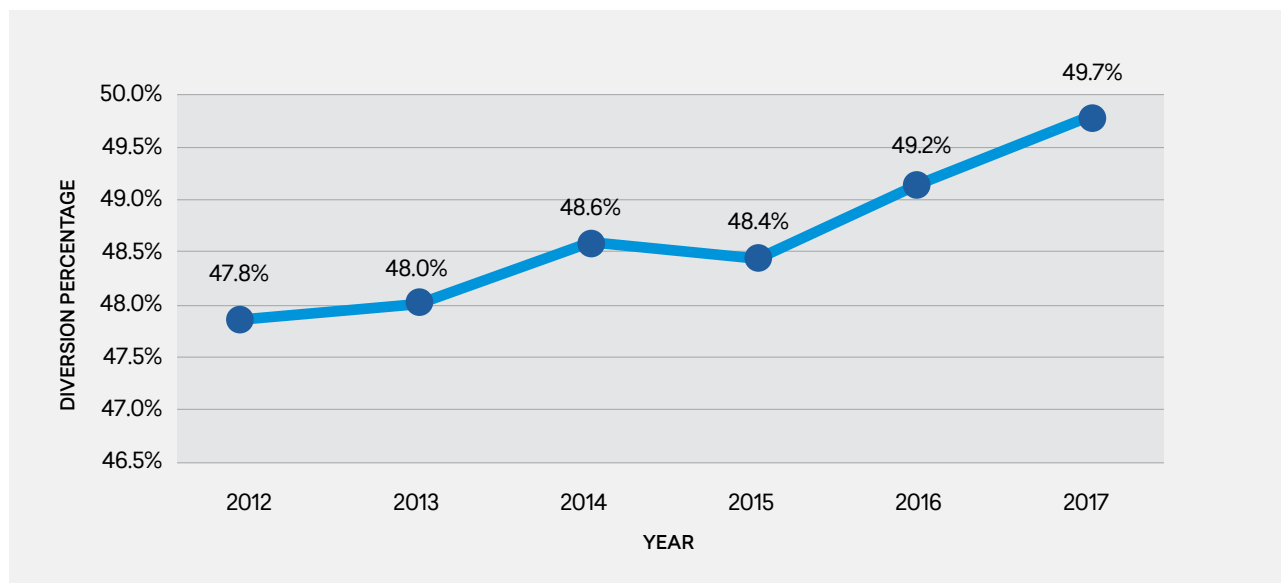


# 04

## RESIDENTIAL WASTE DIVERSION

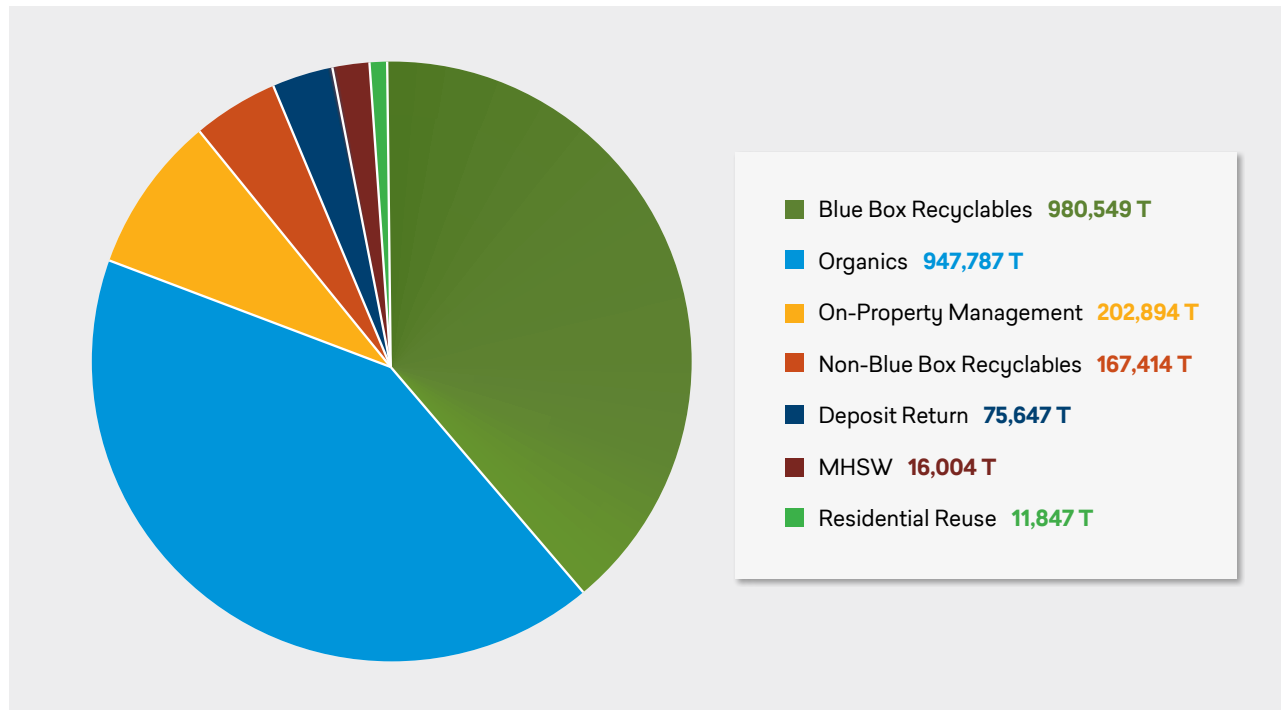
The overall residential waste diversion rate rose from 49.2% in 2016 to 49.7% in 2017. Between 2012-2017 the diversion rate has increased by approximately 2%.

**Figure 1: Ontario Residential Waste Diversion Rate, 2012-2017**



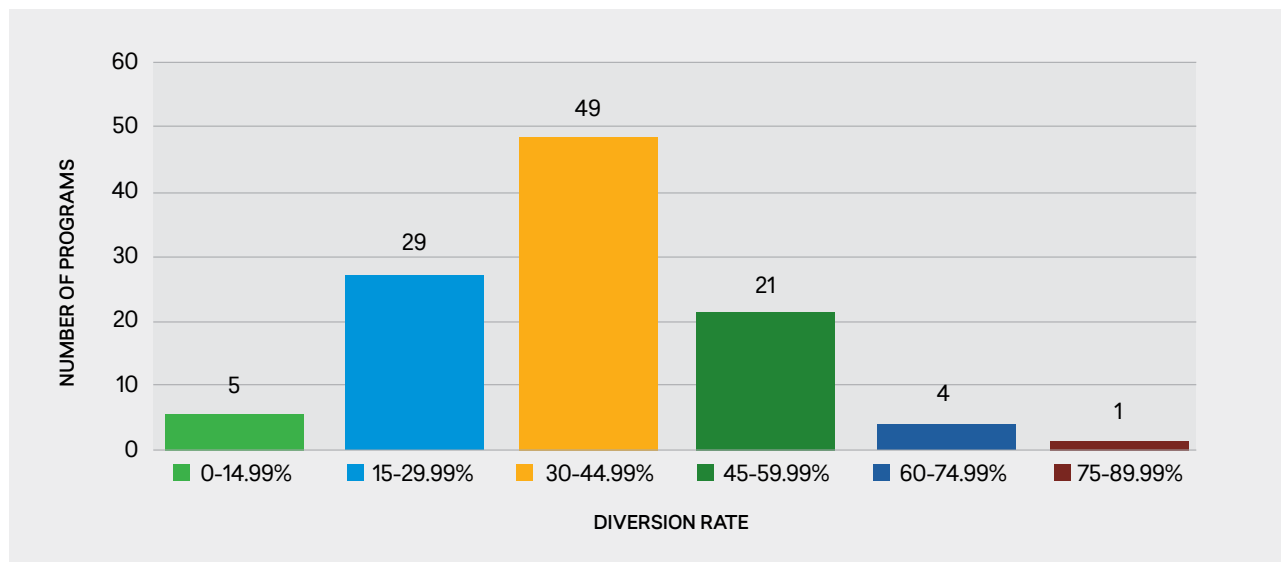


**Figure 2: Residential Diversion by Source (in tonnes), 2017**



The proportionate breakdown of materials diverted in 2017 by weight is shown in Figure 2 (includes data reported from the Short Form and Full Form Datacall submissions). Blue Box recyclables and organics represent approximately 80% of the overall residential waste diverted.

**Figure 3: Distribution of Residential Diversion Rates, 2017**



In 2017, 20 municipal programs exceeded the Ontario residential diversion rate of 49.7%. Figure 3 shows the distribution of municipal program diversion rates.





# 05

## BLUE BOX

The Blue Box program services residents of Ontario through curbside or depot collection, capturing metals, glass, paper and plastic.

### Accessibility

The number of households with access to curbside and/or depot collection programs is shown in Table 1. This includes both single and multi-family<sup>4</sup> households.

- From 2016 to 2017, the total number of households receiving municipal Blue Box service by either curbside or depot increased by 62,748, an increase of 1.3%. From 2012 to 2017, the number of households with Blue Box service increased by 3.8%.
- In 2017, 94.4% of households in municipal programs reporting to the Datacall had access to municipally-provided Blue Box services, decreasing slightly from 94.6% in 2016.

**Table 1: Number of Households Receiving Municipal Blue Box Service, 2012-2017**

Type of Service	2012	2013	2014	2015	2016	2017	2012-2017 % Change
Curbside <sup>5</sup>	4,816,618	4,846,457	4,874,210	4,939,602	4,959,657	5,025,226	1.3%
Depot Only	229,464	225,737	208,948	225,552	215,273	212,452	-1.3%
<b>Total</b>	<b>5,046,082</b>	<b>5,072,194</b>	<b>5,083,158</b>	<b>5,165,154</b>	<b>5,174,930</b>	<b>5,237,678</b>	<b>1.2%</b>

<sup>4</sup> A multi-family household contains at least six units.

<sup>5</sup> May also have access to depot service for Blue Box materials in addition to curbside service.

- o Some households, primarily multi-family, are excluded from the municipally-serviced household count because they receive private waste management services. For example, if the large urban category (group 1) municipal programs' household data is excluded, the provincial average of municipally serviced Blue Box services rises to 98.5%
- From 2016 to 2017, the tonnage of Blue Box material recycled per household decreased from 161.6 to 157.1 kilograms per household.
- In 2017, 165 of the 245 reporting programs 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), compared to 159 in 2016.

### Materials

In accordance with Ontario regulation, all municipalities with Blue Box programs<sup>6</sup> collect, at a 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 bottles for food or beverages (including bottles made primarily of polyethylene terephthalate)
5. steel food or beverage cans (including cans made primarily of steel)

Municipal programs may expand the scope of materials collected through the Blue Box program. Additional materials collected are indicated in Table 2.

**Table 2: Number of Households with Blue Box Service beyond the Five Basic Materials**

Blue Box Material	2016 HHlds Served	2017 HHlds Served	% Change of Households	2017 Households Served as % of Total Households Reported
<b>Paper-based Packaging</b>				
Corrugated Containers	5,174,930	5,237,678	1.21%	100.0%
Boxboard	5,163,773	5,225,624	1.20%	99.8%
<b>Polycoat</b>				
Gable Top Containers	5,088,051	5,148,000	1.18%	98.3%
Aseptic Cartons	4,992,345	5,050,788	1.17%	96.4%
<b>Metals</b>				
Aluminum Foil Packaging	5,130,176	5,187,314	1.11%	99.0%
Empty Aerosol Cans	4,588,587	4,664,785	1.66%	89.1%
Empty Paint Cans	4,824,692	4,929,653	2.18%	94.1%
<b>Plastics</b>				
HDPE Containers	5,155,812	5,211,618	1.08%	99.5%
Other Containers (#3,4,5,7)	5,099,265	5,165,077	1.29%	98.6%
HDPE/LDPE Film (#2,4)	3,913,183	4,021,936	2.78%	76.8%
Polystyrene Foam	3,309,886	3,411,564	3.07%	65.1%
Polystyrene Crystal	4,293,174	4,272,203	-0.49%	81.6%

<sup>6</sup> 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."

**Tonnage**

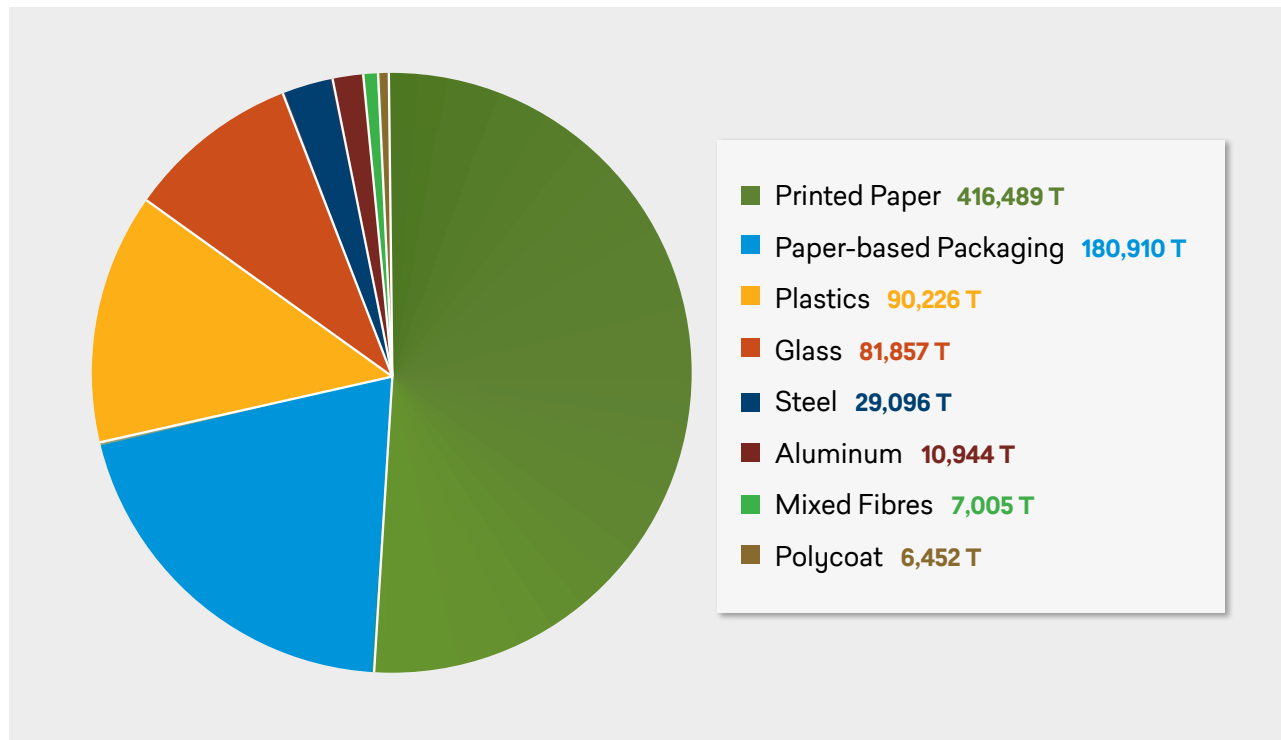
Marketed Blue Box tonnage continued to decrease for a fifth year. Contributing to this trend is a decline in newsprint and an increase in the use of plastic packaging over heavier packaging (such as glass or metal).

Between 2012-2017, Blue Box marketed tonnage decreased by 7.8%. Printed paper has been the largest contributor to this decrease, dropping by 77,477 tonnes since 2012, an amount greater than the total drop of Blue Box material (69,946 tonnes). Plastics (26.0%), polycoat (14.14%), and paper-based packaging (6.8%) are the only materials that have increased in this time frame.

Between 2016-2017 the total tonnage of Blue Box materials marketed decreased by 1.6%. Printed papers decreased by 4.7%, which is likely a reaction to an increasing shift to a paperless society.<sup>7</sup> Plastics decreased for the first time since Datacall began in 2001, dropping by 0.9% when compared to 2016. Conversely, glass increased in 2017 for the first time since 2013, a 1.4% increase of marketed material. Paper-based packaging had the largest increase, growing by 7.7% compared to 2016.

In 2017, paper-based packaging, printed paper and mixed papers continued to make up the majority of the Blue Box materials, at 74.2% of total Blue Box materials marketed.

**Figure 4: Marketed Blue Box Materials (in tonnes), 2017**



<sup>7</sup> Kuhlberg, M. (2015). Pulp and paper industry. *The Canadian Encyclopedia*. Retrieved from <https://www.thecanadianencyclopedia.ca/en/article/pulp-and-paper-industry>



**Table 3: Marketed Blue Box Tonnes, 2012-2017**

Material <sup>8</sup>	2012	2013	2014	2015	2016	2017	2016-2017 Tonnage % Change	5-year % Tonnages Change	% of Total 2017 Blue Box Tonnes
Printed Papers <sup>9</sup>	493,966 T	484,794 T	474,658 T	456,560 T	436,978 T	416,489 T	-4.7%	-15.7%	50.6%
Mixed Fibres <sup>10</sup>	22,998 T	27,595 T	19,657 T	14,928 T	12,616 T	7,005 T	-44.5%	-69.5%	0.9%
Paper-based Packaging <sup>11</sup>	169,413 T	162,746 T	161,973 T	156,951 T	167,951 T	180,910 T	7.7%	6.8%	22.0%
Polycoat <sup>12</sup>	5,657 T	6,176 T	6,810 T	7,099 T	7,180 T	6,452 T	-10.1%	14.1%	0.8%
<b>Total Paper</b>	<b>692,034 T</b>	<b>681,310 T</b>	<b>663,098 T</b>	<b>635,538 T</b>	<b>624,724 T</b>	<b>610,856 T</b>	<b>-2.2%</b>	<b>-11.7%</b>	<b>74.2%</b>
Aluminum <sup>13</sup>	11,208 T	10,606 T	10,862 T	10,465 T	10,593 T	10,944 T	3.3%	-2.4%	1.3%
Steel <sup>14</sup>	30,825 T	31,197 T	31,361 T	29,525 T	29,138 T	29,096 T	-0.1%	-5.6%	3.5%
Glass <sup>15</sup>	87,224 T	93,430 T	90,083 T	86,559 T	80,703 T	81,857 T	1.4%	-6.2%	10.0%
Plastic <sup>16</sup>	71,634 T	83,591 T	89,101 T	90,351 T	91,069 T	90,226 T	-0.9%	26.0%	11.0%
<b>Total Blue Box</b>	<b>892,925</b>	<b>900,135</b>	<b>884,505</b>	<b>852,438</b>	<b>836,227</b>	<b>822,979</b>	<b>-1.6%</b>	<b>-7.8%</b>	<b>100.0%</b>

The total weight of each Blue Box material marketed for recycling each year between 2012-2017 is provided in Table 3.

<sup>8</sup> Stewardship Ontario's material allocation method is subject to change.

<sup>9</sup> Includes newspaper, household fine paper, telephone books, magazines and catalogues.

<sup>10</sup> Includes mixed fibres not included in the Printed Paper and Paper-based Packaging categories.

<sup>11</sup> Includes old corrugated cardboard, old boxboard and a portion of residential mixed papers and mixed fibres packaging.

<sup>12</sup> Includes gable top containers and aseptic cartons.

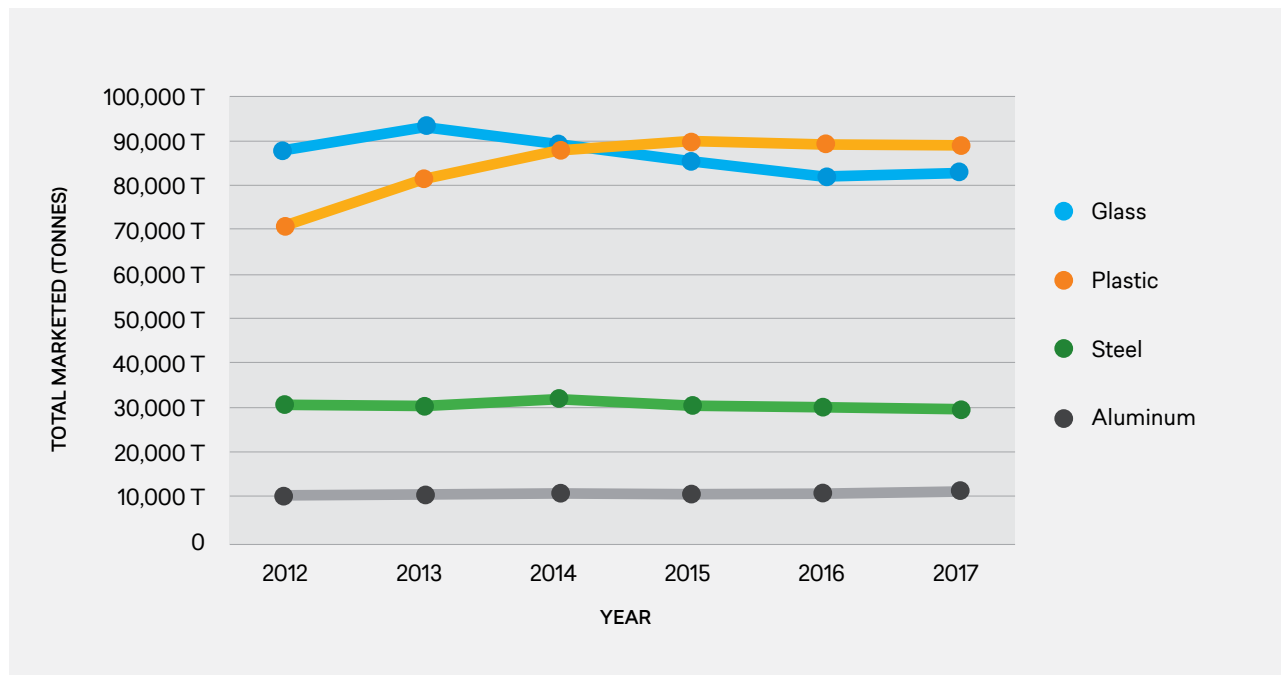
<sup>13</sup> Includes aluminum food & beverage containers and other aluminum packaging.

<sup>14</sup> Includes steel food & beverage containers, aerosols and empty paint cans.

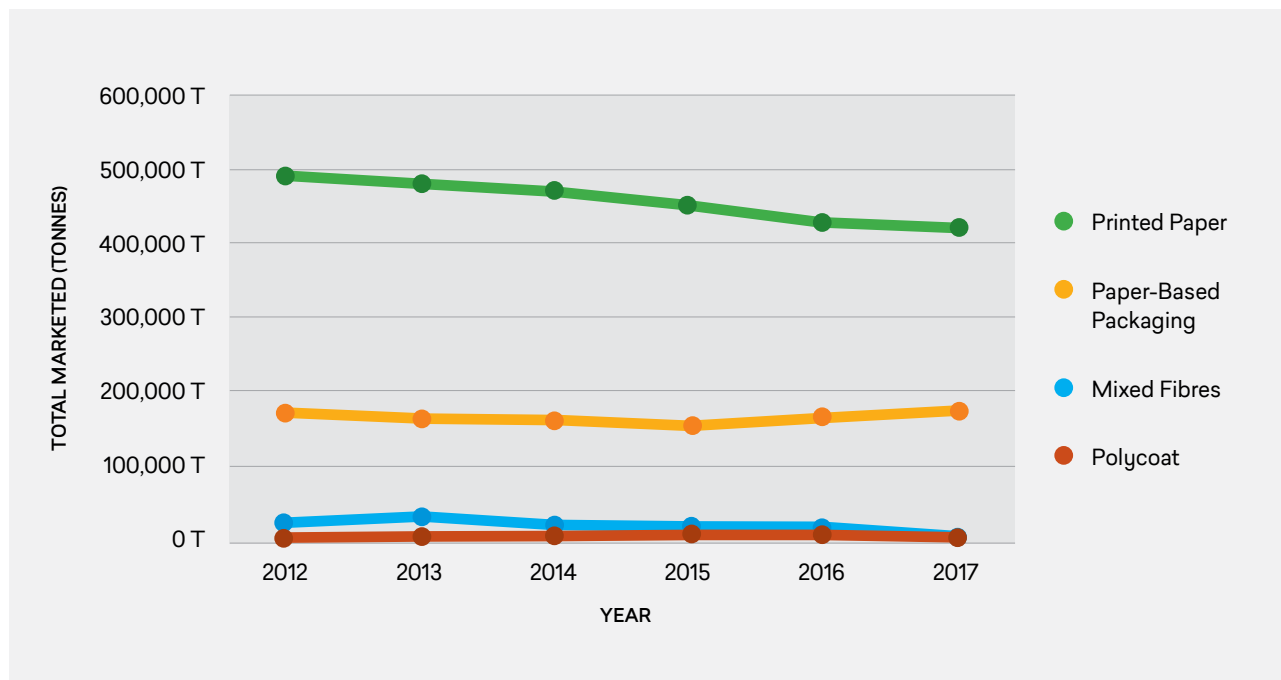
<sup>15</sup> Includes flint glass, coloured glass and allocations of mixed glass.

<sup>16</sup> Includes PET, HDPE, plastic film, tubs and lids, polystyrene and other mixed plastic packaging.

**Figure 5: Marketed Tonnage Trends for Non-paper-based Packaging, 2012-2017**



**Figure 6: Marketed Tonnage Trends for Paper-based Packaging, 2012-2017**



Figures 5 and 6 illustrate the trends in marketed tonnes for paper and containers from 2012 to 2017.

**Cost and Revenue**

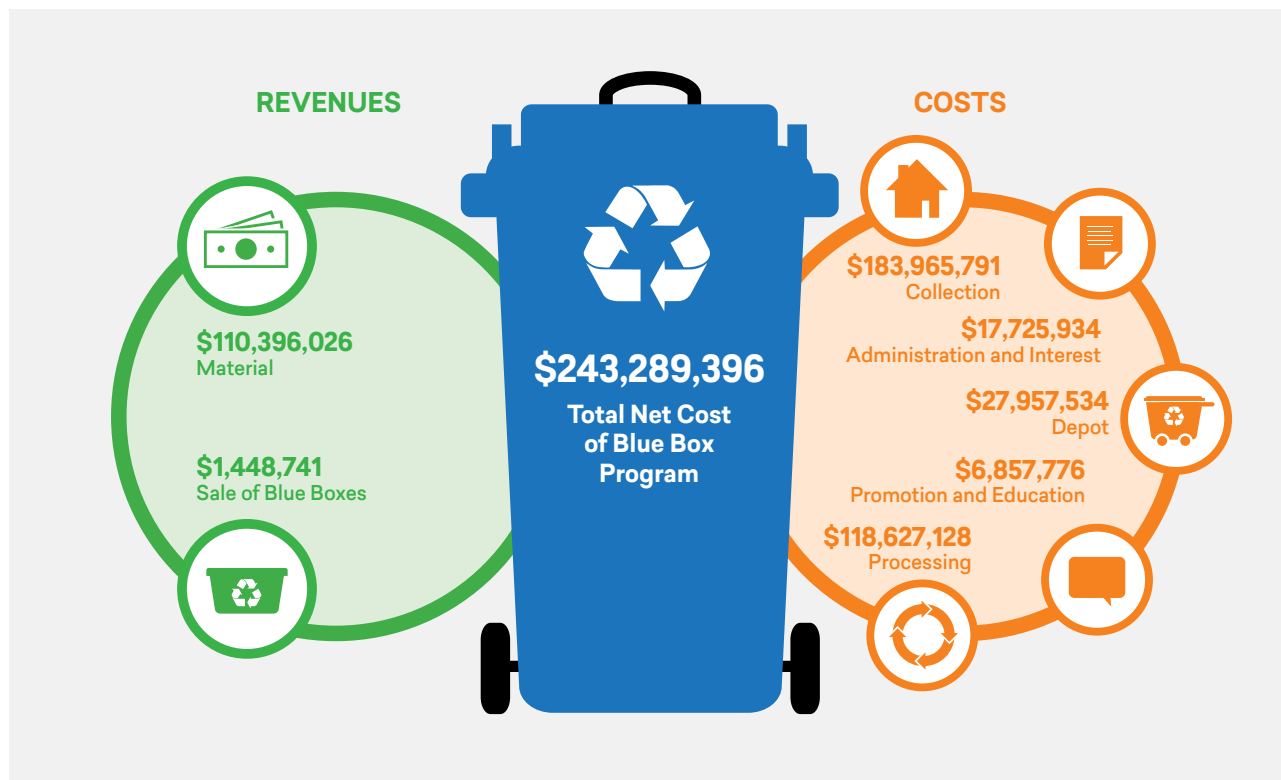
Blue Box costs reported in the Datacall account for operating and capital costs spent by each municipal program, including:

- Collection of curbside Blue Box material
- Processing of Blue Box material
- Management of drop-off depots
- Promotion and education activities
- Administrative costs<sup>17</sup> and interest<sup>18</sup> on the amortization of capital equipment

The average gross cost per tonne spent by Ontario municipalities on the 2017 Blue Box Program<sup>19</sup> was:

- Collection – \$153
- Processing – \$98
- Depots – \$23
- Promotion and education – \$6
- Administrative costs and interest (on capital) – \$15

**Figure 7: Total Blue Box Revenue and Costs by Category, 2017**

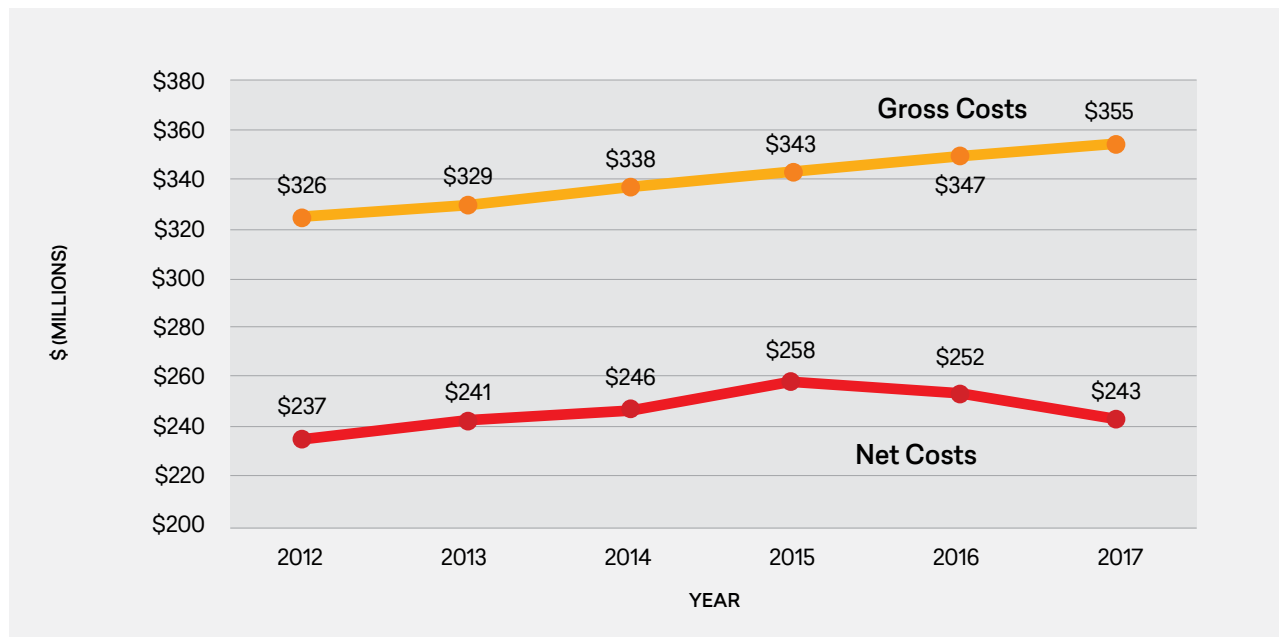


<sup>17</sup> Administrative costs are calculated at 3% for services that are contracted out and 5% for services provided by the municipal program.

<sup>18</sup> Interest is calculated as the prime interest rate of the year of capital purchase.

<sup>19</sup> Some programs have combined collection and processing costs within one contract and therefore report a combined cost under either collection or processing.



**Figure 8: Gross and Net Blue Box Costs, 2012-2017**

Gross Blue Box operational costs reported by municipal programs, shown in Figure 8, increased from \$343.5 million in 2016 to \$355.1 million in 2017. Over the five-year period from 2012 to 2017, there was an overall increase in gross Blue Box costs of 8.8%.

Revenue received for the sale of Blue Box materials is subject to fluctuations in market pricing of commodities. Municipal revenue from materials was \$111.8M in 2017, up from \$95.1M in 2016, a 17.6% increase.

Commodity prices for paper markets remained strong from 2016 to 2017, with corrugated cardboard and hardpack increasing by 45.4% and 33.0% respectively, though printed paper slightly decreased

by 1.9%. Aluminum, steel, glass and PET plastic saw commodity price increases of 12.4%, 31.0%, 13.5% and 44.5% respectively from 2016 to 2017. Mixed plastic and plastic film commodity prices decreased by 47.5% and 40.0% respectively.<sup>20</sup>

Net Blue Box Program costs decreased from \$251.9M in 2016 to \$243.3M in 2017, a 3.4% drop. From 2012 to 2017, overall net Blue Box costs have increased by 2.6%.

<sup>20</sup> <http://reclaystewardedge.com/wp-content/uploads/2013/05/July-2017-Price-Sheet.pdf>

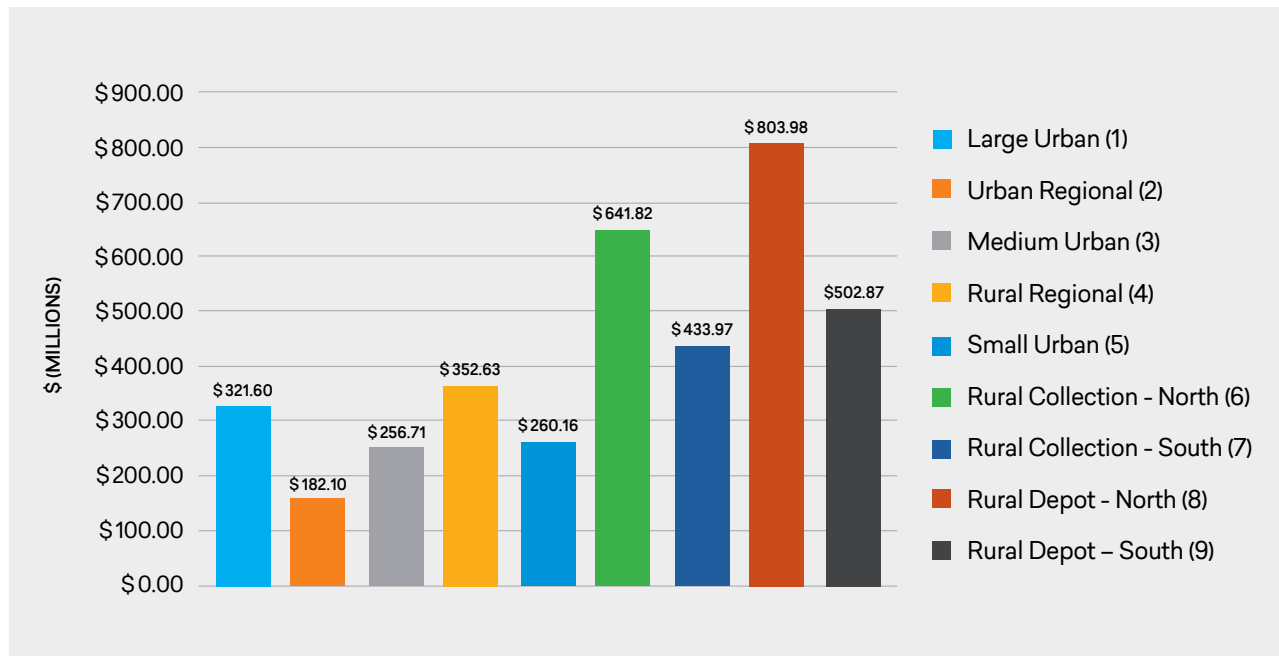
**Figure 9: Net Cost per /tonne by Municipal Group, 2017**

Figure 9 shows the net cost per tonne by municipal grouping.

Each municipal program is sorted into one of nine groups using a range of characteristics (such as population density, curbside collection availability, geographic location). Differences in program characteristics can have significant effects on the net costs of operation, ranging from \$182 per tonne (Urban Regional grouping) to \$803 per tonne

(Rural Collection – North grouping). Recycling programs in the North typically have higher recycling net costs per tonne, as longer distances must be travelled to collect, process and market the material, and fewer tonnes over which to spread the costs. Denser urban programs collect a higher volume of material in shorter distances.



# 06

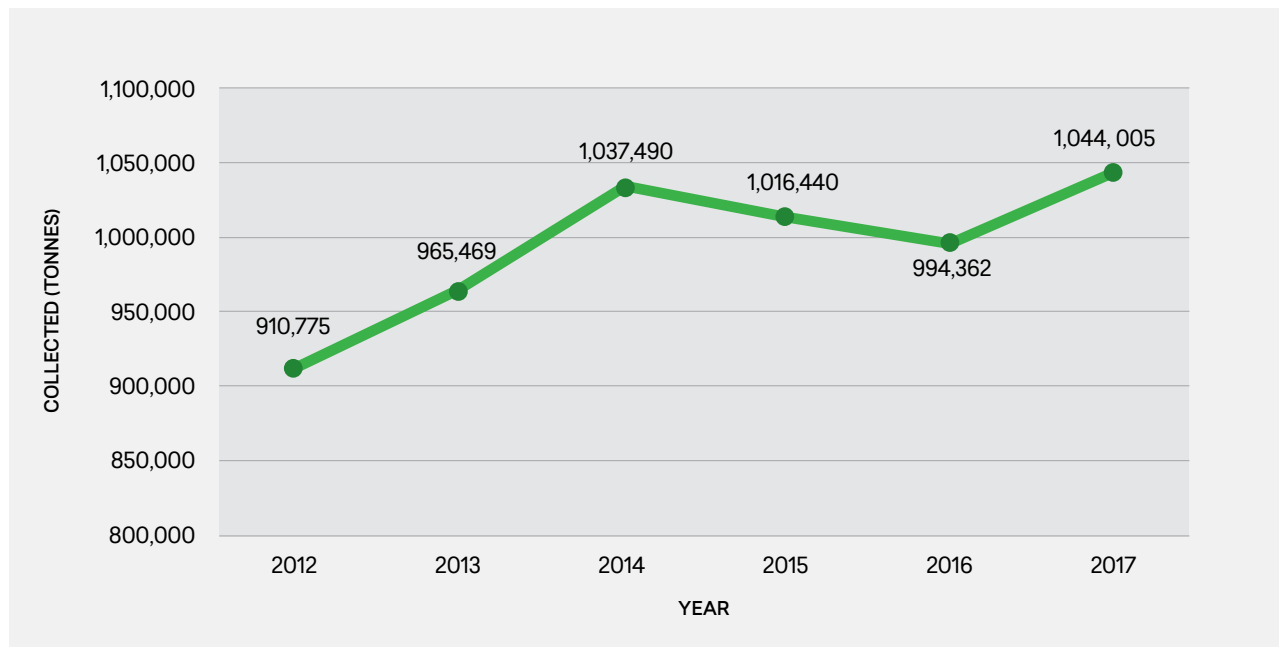
## ORGANICS

In 2017, over one million tonnes of residential organic materials were collected in Ontario, as reported by 79 municipal programs. This represents a total population of 12,995,894 and a total household count of 5,149,718. No current requirement exists for Ontario municipalities to report amounts of organics collected, other than leaf and yard waste for municipalities with populations over 50,000. However, since 2012, the amount of organic material collected has increased by 14.6%.

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)



**Figure 10: Organic Waste Collected (in tonnes), 2012-2017****Table 4: Organic Material Collected by Category (in tonnes), 2016-2017**

Organic Material	2016	2017	Year Over Year % Change
Yard Waste	414,860	426,450	2.8%
Leaves	52,476	47,667	-9.2%
Christmas Trees	3,038	3,559	17.1%
Bulky Yard Waste	9,850	11,400	15.7%
Household Organics	514,138	554,929	7.9%
<b>Total Organics</b>	<b>994,362</b>	<b>1,044,005</b>	<b>5.0%</b>

Organics diverted from landfill may be processed at compost facilities, anaerobic digestion plants, or through wood- and brush-chipping operations.



# 07

## OTHER RECYCLABLES

In 2017, a total of 151,782 tonnes of other recyclables was collected. This represents a 13.0% increase over 2016 and an overall 44.2% increase since 2012, as shown in Figure 12.

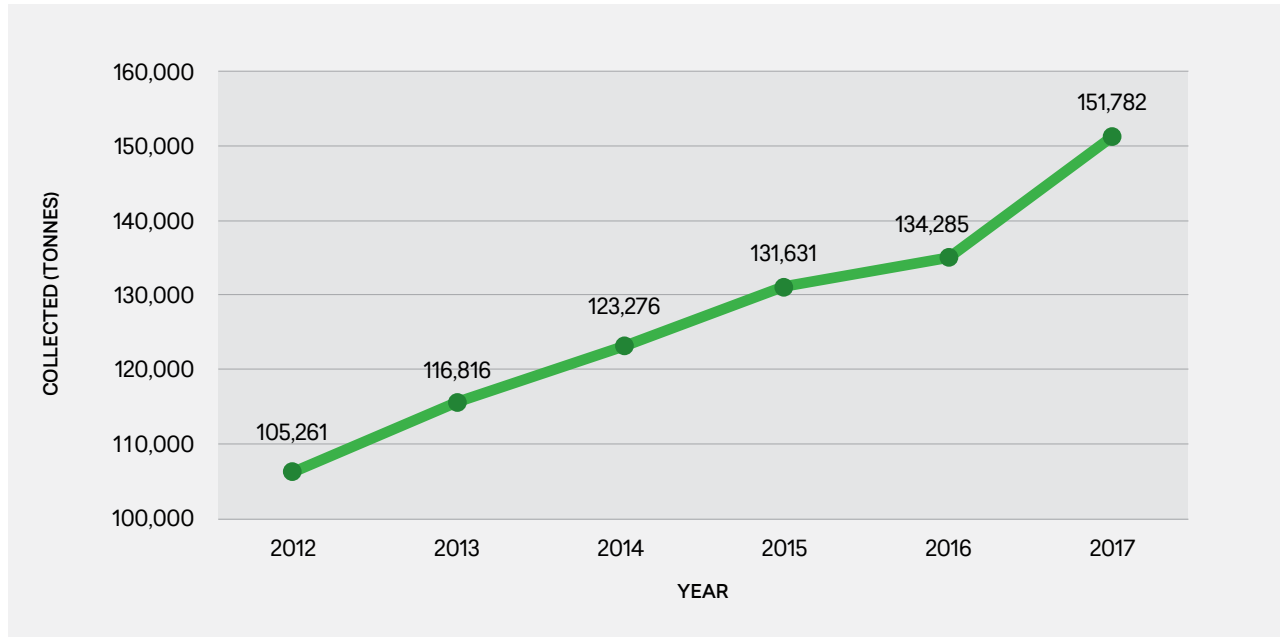
Other recyclables diverted from landfill, include:<sup>21</sup>

- textiles
- bulky goods
- scrap metal
- drywall
- wood
- brick and concrete
- other construction and demolition (C&D) material

---

<sup>21</sup> Other Recyclables does not include tonnages for used tires or reusable materials.

**Figure 11: Total Other Recyclables Collected (in tonnes), 2012-2017**



**Figure 12: Other Recyclables Collected by Material (in tonnes), 2012-2017**

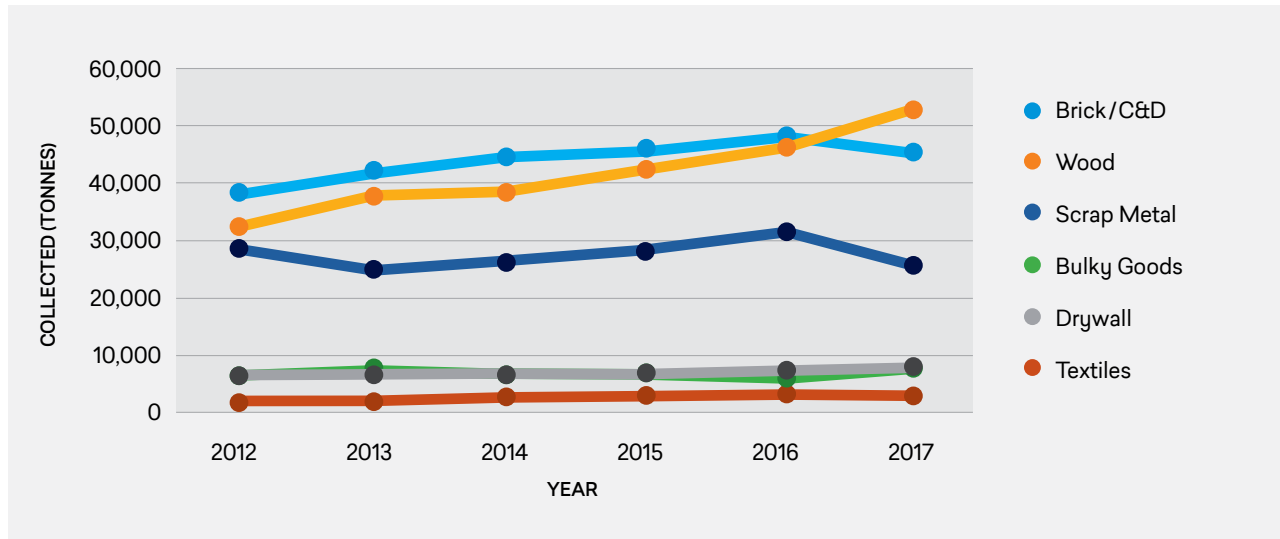
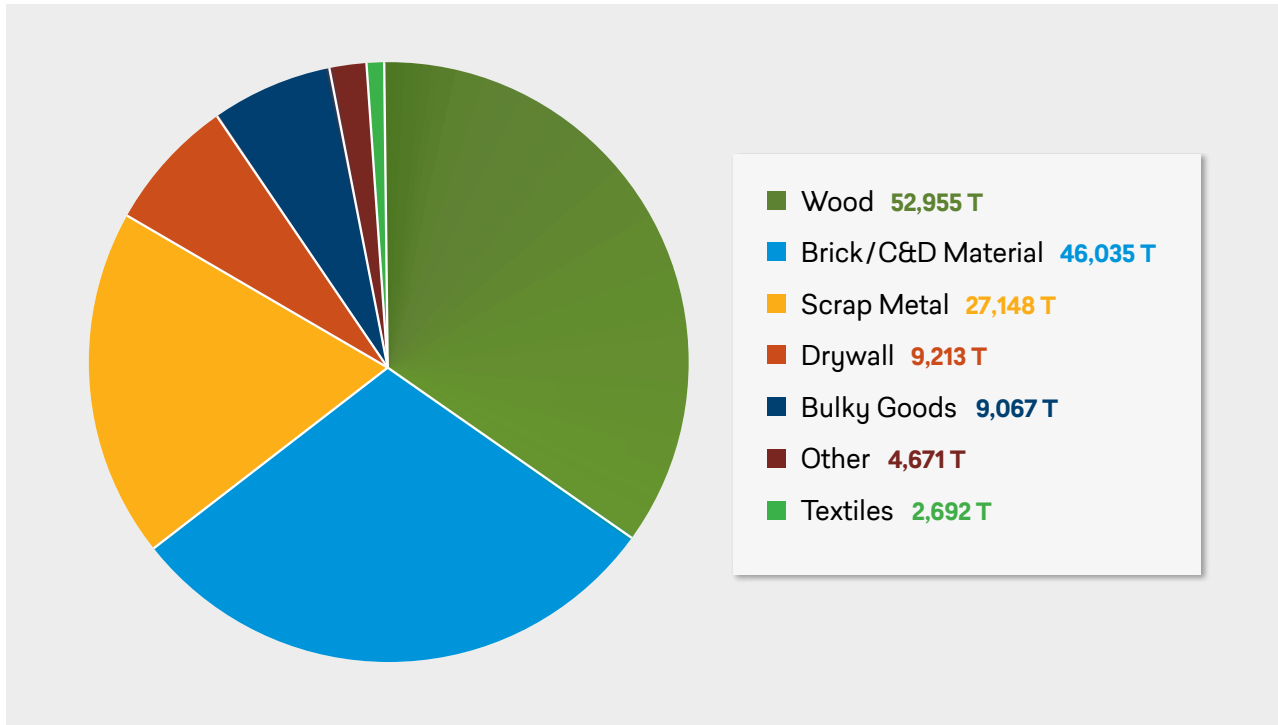




Figure 13: Other Recyclables Collected by Material (in tonnes), 2017



Brick/C&D materials, wood, and scrap metal remain the largest contributors representing over 80% of the total amount of Other Recyclables collected in Ontario, as illustrated in Figures 12 and 13.



4711 Yonge Street, Suite 408  
Toronto, Ontario M2N 6K8  
Tel: 416-226-5113  
Email: [info@rpra.ca](mailto:info@rpra.ca)  
[www.rpra.ca](http://www.rpra.ca)

For further information, please contact [datacall@rpra.ca](mailto:datacall@rpra.ca)