



# Metro Vancouver Recycling and Solid Waste Management 2018 Report

Metro Vancouver is responsible for the planning and management of recycling and solid waste services for the region. This document provides a summary of recycling and solid waste management activities that took place in the calendar year 2018. These activities are guided by the Metro Vancouver *Integrated Solid Waste and Resource Management Plan (ISWRMP)*.

## 2018 PROGRAM HIGHLIGHTS

For more details on Metro Vancouver Solid Waste programs and campaigns, visit [www.metrovancouver.org](http://www.metrovancouver.org) and type “solid waste” in the search bar.

### POLICY & PLANNING

Metro Vancouver’s *Integrated Solid Waste and Resource Management Plan (ISWRMP)* was approved by the province in July 2011. The ISWRMP:

- Outlined initiatives to achieve diversion rates of 70% by 2015 and 80% by 2020.
- Set the framework for solid waste management in Metro Vancouver.

Introduced a disposal ban on expanded polystyrene in July 2018 after a 6-month education period.

Implemented the Generator Levy to ensure that all generators in the region contribute to the fixed costs of the region’s transfer station network and solid waste planning.

Finalized a municipal cost sharing agreement to facilitate the development of recycling depots in the region.

### EVENTS & CONFERENCES

The focus of the 2018 Zero Waste Conference, held on November 8 and 9, was to share Canadian and global research, innovations and practices that will inform a future without waste. The more than 500 attendees left with a greater understanding of promising waste prevention ideas and solutions as well as how the circular economy is instrumental in creating a more sustainable future.

Metro Vancouver staff attended and presented at a number of conferences including those hosted by:

- The Recycling Council of BC
- Biocycle
- The Solid Waste Association of North America
- The US Composting Council

The National Zero Waste Council released “A Food Loss and Waste Strategy for Canada” identifying important actions for reducing food waste all along the supply chain, and launched the Love Food Hate Waste Canada campaign with 9 partners across Canada. The Circular Economy Leadership Coalition also launched in 2018 with Metro Vancouver as a founding member.

## PROGRAMS & RESEARCH

Efforts to reduce abandoned waste included regional campaigns, municipal large items pick-up programs and community collection events.

In calendar 2018 activities for waste reduction and recycling programs and research included:

- Support for waste exchanges through National Industrial Symbiosis Program.
- Analysis of composition of municipal solid waste at all transfer stations as well as focused studies examining curbside organics, streetscape waste and single-use items

Initiated research and consultation on a regional single-use items reduction strategy.

Began transfer station scale replacement program. This involved replacing aging scale systems at a number of transfer stations. Also, this included the implementation of automated commercial sector scales at Surrey and Coquitlam Transfer Stations as well as the Waste-to-Energy Facility.

Published research on programs and policies to reduce the 20,000 tonnes per year of clothing waste in the region and engaged with industry stakeholders to develop a preliminary textiles reduction campaign.

In Nov 2018 the Residential Used Gypsum Disposal Program expanded to North Shore, Coquitlam, and Surrey Transfer Stations.

## CAMPAIGNS & COMMUNICATION

Fourth year of Food scraps recycling education and awareness campaign: “Food Isn’t Garbage”.

Third year of ‘More than Meets the Eye’ promotion during Waste Reduction Week, providing options for E-waste.

Eighth year of Create Memories Not Garbage campaign which included a “Merry Memory Maker” app allowing residents to search for zero waste gift ideas based on price.

Second year of ‘Waste in its Place’, providing options for legal dumping, with a focus on creative development based on Member Municipalities’ feedback.

Third and final year of Love Food Hate Waste campaign - bringing awareness to the issue of household food waste prevention. The campaign was rolled out nationally in partnership with the National Zero Waste Council.

## EXTENDED PRODUCER RESPONSIBILITY PROGRAMS

Extended Producer Responsibility (EPR) programs, also sometimes called product stewardship programs, are industry-managed programs designed to make producers and consumers responsible for the management of goods throughout their life cycles.

- EPR holds producers and consumers accountable for the costs and management of regulated products at its end-of-life.
- Most items managed through EPR programs are banned from Metro Vancouver disposal facilities and are diverted before they enter the region's solid waste management system.

In response to the Ocean Plastics Charter, Canadian Council of Ministers of the Environment (CCME) produced a report "Zero Plastics Waste Strategy", to help identify key actions and activities to address plastics management.

- Future plans include the development of the Zero Plastic Waste Action Plan, which is anticipated to identify early priorities and timelines.
- Ongoing participation in the CCME Waste Management Task Group is through Ministry of Environment staff who are the official participants in these processes.

No new EPR programs were announced in 2018, while the Ministry of Environment and Climate Change Strategy focused on continuous improvement.

- The timeline for provincial actions related to EPR for construction and demolition materials, or other potential measures adopted in the BC Building Code, is unknown.

In 2018, the Ministry of Environment and Climate Change Strategy issued a guidance document related to producers paying the cost of collection.

- Prior to approving an EPR plan, the Director should be satisfied that the plan adequately provides for the producer collecting and paying the cost of collecting and managing products within the product category covered.
- Stakeholder engagement and plan commitments should be addressed.

## 2018 RECYCLING AND SOLID WASTE SUMMARY

Metro Vancouver collects data on municipal solid waste recycling and disposal in four categories: single family residential, multi-family residential, commercial/institutional, and construction and demolition.

In 2018, 2,317,050 tonnes of material were recycled and diverted from disposal in Metro Vancouver. This amounts to 64% of the waste material generated in the region. A remaining 1,282,752 tonnes of solid waste were disposed of.

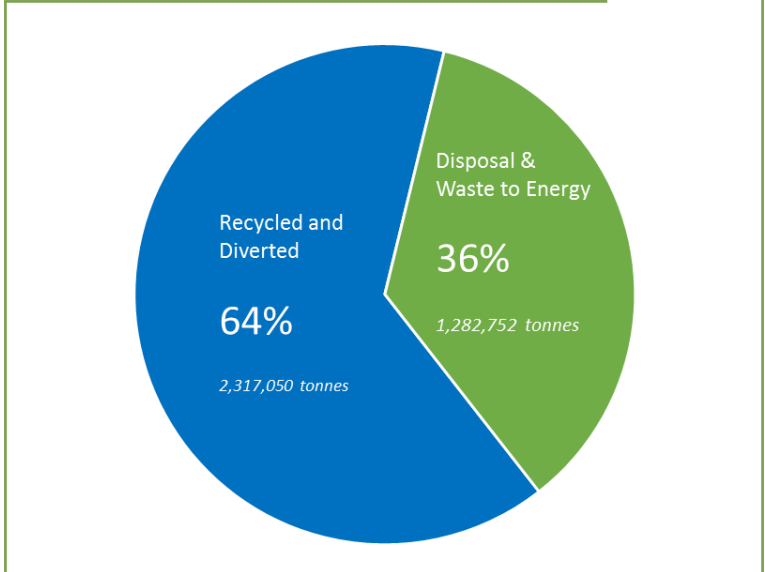
### Reuse

The estimation of the waste diversion rate is a measurement of materials from this region which were recycled (i.e. processed to alter their structure, and allow them to be remanufactured into new products). Since calendar year 2017 however, in addition to recycling, Metro Vancouver has been able to quantify the amount of materials that were reused in the region (i.e. materials which were reused mostly in their original form without processing that significantly changed their structure). However, this reused material has not been included in the waste diversion calculation because (a) this estimate of reuse has a substantial degree of uncertainty though its accuracy will improve in future, and (b) historical estimates of waste diversion did not include reuse as it had never been estimated before, and including it now would preclude comparisons with prior years.

Examples of reused materials include: clothing which has been donated and/or resold, certain minimally-processed EPR materials, donated foods, reused furniture and office equipment, salvaged building materials, and other items bought and sold which prevented the need to purchase new items. Estimates were developed using EPR annual reports, annual financial summaries from non-profit organizations, published information from reuse program web pages, and communication with key organizations.

It is estimated that about 88,100 tonnes of materials were reused in the Metro Vancouver region in 2018. The methodology used to make this estimate will be refined in future years.

FIGURE 1: METRO VANCOUVER RECYCLING & SOLID WASTE TOTALS 2018



**Table 1: Estimate of Reuse in Metro Vancouver in 2018**

MATERIAL CATEGORY	ANNUAL REUSE (tonnes) ROUNDED VALUE (to nearest 100 tonnes)
Textiles and Accessories - Sold	22,000
Textiles and Accessories - Industrial Wipes	6,700
EPR Programs	22,400
Food	2,900
Hotels and Hospitality Sector	900
Office Furniture	1,200
IT Equipment	1,300
Construction/ Demolition Materials	4,900
On-Line for Selected Materials	25,800
<b>TOTAL</b>	<b>88,100</b>

The following table presents recycling and solid waste disposal quantities for each sector. In 2018, Metro Vancouver has estimated the distribution of EPR recycling tonnages to the single family, multi-family, and commercial and institutional sectors (see note 3 in **Table 2**). Appendix 1 includes a similar table with a comparison to the previous year.

**Table 2: 2018 Metro Vancouver Recycling and Solid Waste Quantities**

WASTE SECTOR	DISPOSED (tonnes)	RECYCLED (tonnes)	RECYCLING RATE <sup>(3)</sup> (%)	DISPOSED (tonnes/capita)	DISPOSED (tonnes/household)
<b>Residential</b>	<b>494,048</b>	<b>585,565</b>	<b>54%</b>	<b>0.19</b>	<b>0.49</b>
Single Family <sup>(1)</sup> Population <sup>(4)</sup> = 1,557,308	256,824	447,639	64%	0.16	0.54
Multi-Family <sup>(2)</sup> Population <sup>(4)</sup> = 1,091,184	237,224	137,926	37%	0.22	0.45
<b>Commercial/ Institutional <sup>(2)</sup></b> <b>Employees <sup>(4)</sup> = 1,355,000</b>	<b>397,021</b>	<b>337,283</b>	<b>46%</b>	<b>0.15</b>	<b>0.40</b>
<b>Construction/ Demolition <sup>(5)</sup></b>	<b>391,683</b>	<b>1,394,202</b>	<b>78%</b>	<b>0.15</b>	<b>0.39</b>
<b>TOTAL</b>	<b>1,282,752</b>	<b>2,317,050</b>	<b>64%</b>	<b>0.48</b>	<b>1.28</b>

- (1) Reported tonnes of disposed and recycled waste are obtained from municipal reports, private recycling and processing facility records, landfill records, or product stewardship association records. This includes residential drop-off tonnages.
- (2) Estimated tonnes of disposed waste are based on per capita multi-family disposal rates and the total transfer station weigh scale reports for commercial waste, which includes multi-family and commercial/institutional tonnages. A calculated portion of that total is then attributed to each sector. Multi-family recycling is reported by municipalities and combined with estimated residential drop-off tonnages.
- (3) The total recycling rate includes the EPR tonnages. The recycling rates for individual sectors also include EPR tonnages, based on estimates of the relative contributions to EPR tonnages from single family homes (54%), multi-family homes (36%), and businesses (10%) with the exception of Recycle BC tonnages that are allocated 60% to the single family sector and 40% to the multi-family sector.
- (4) Population, employment and housing figures are based on 2018 projections provided by Metro Vancouver’s Regional Planning Department and are based on 2016 census data.
- (5) Reported tonnes of recyclable materials and disposed waste are obtained from private licensed brokers, composters and transfer stations, and from unlicensed recycling facilities. As Metro Vancouver becomes aware of new facilities and other facilities close, the total number of facilities and the resultant tonnages may change.

# METRO VANCOUVER’S RECYCLING AND SOLID WASTE MANAGEMENT SYSTEM

Metro Vancouver’s integrated recycling and solid waste management system provides service to the residents and businesses of 21 municipalities, one Electoral Area and one Treaty First Nation.

## Recycling

Municipalities historically provided recycling services for the single family residential sector, and some parts of the multi-family residential, and commercial and institutional sectors. In 2014, a private sector industry stewardship organization, Multi-Materials BC (now Recycle BC), assumed responsibility for recycling Packaging and Printed Papers from single family and multi-family homes. Most commercial and institutional, and construction and demolition recyclables are managed by the private sector.

The following table presents the quantities and types of recyclables collected in 2018.

**Table 3: Quantities of Materials Recycled in Metro Vancouver in 2018**

MATERIAL TYPE	TOTAL <sup>(1)</sup> (tonnes)
Asphalt	207,000
Batteries	11,309
Concrete	833,229
Electronic & Electrical Equipment	12,605
Fibre	283,884
Glass	57,540
Gypsum	55,863
HHW	22,214
Metal	75,650
Other	18,189
Plastic	56,254
Textiles	319
Tires	23,148
Wood	230,155
Yard & Food	429,690
<b>TOTAL</b>	<b>2,317,050</b>

(1) In 2018, Recycle BC started reporting the individual tonnages of various materials that were recovered through their stewardship program report in addition to the total material recovered. This updated breakdown was used in place of Metro Vancouver’s previous methodology for assuming the allocation between material types and resulted in a more accurate reflection of fibre, glass, metal and plastic tonnages compared to previous years.

## Materials Recycled through EPR Programs

Extended Producer Responsibility (EPR) programs, also sometimes called product stewardship programs, are industry-managed programs designed to make producers and consumers responsible for the management of goods throughout their life cycles. EPR holds producers and consumers accountable for the costs and management of regulated products at its end-of-life. Most items managed through EPR programs are banned from Metro Vancouver disposal facilities and are diverted before they enter the region’s solid waste management system.

In 2018, twenty stewardship agencies reported recycling tonnages for Metro Vancouver for a total of 219,514 tonnes. This total is added to Metro Vancouver’s recycling tonnage. See **Table 4** for a breakdown of materials collected by each stewardship agency.

**Table 4: Quantities of Materials Recycled through EPR Programs**

EPR PROGRAM	TOTAL (tonnes)	MATERIAL TYPES
BC Used Oil Management Association (BCUOMA)	21,889	Oil, Antifreeze, Filters, Containers
Call2Recycle	292	Consumer Batteries <5 kg
Recycle My Cell	3	Cell Phones
Canadian Battery Association (CBA)	11,017	Lead Batteries
Canadian Beverage Association	336	Beverage Refrigeration Units
Major Appliance Recycling Roundtable (MARR)	19,646	Major Appliances
Recycle BC	93,368	Packaging and Paper Products
BC Brewers Recycled Container Collection Council (BRCCC)	12,695	Alcohol Containers and Packaging
Encorp Pacific (Canada)	46,276	Beverage Containers
Canadian Electrical Stewardship Association (CESA)	2,400	Portable Electrical Appliances
Electronic Products Recycling Association (EPRA)	8,323	Electronics
Health Products Stewardship Association (HPSA)	41	Medication
AlarmRecycle - Product Care	10	Smoke and Carbon Monoxide Alarms
BC Paint & HHW - Product Care	2,864	Paint, Household Hazardous Waste
BC Lights Program - Product Care	352	Lighting and Light Fixtures
Thermostat Recovery Program	0.1	Thermostats
Shaw Communications Inc.	595	Electronics
TELUS Communications Inc.	617	Electronics
Tire Stewardship BC	17,138	Tires
News Media Canada	10,181	Newsprint
<b>TOTAL</b>	<b>219,514</b>	



## Disposed Waste

Residential and commercial/institutional waste disposal is handled through the regional solid waste management system. In 2018, the Regional Facilities consisted of:

- six transfer stations
- Vancouver Landfill
- Waste-to-Energy Facility in Burnaby
- Contracted contingency disposal at remote landfills (as of mid-2017)

The use of the Cache Creek Landfill by Metro Vancouver ceased in 2016. In mid-2017, Metro Vancouver began using alternative remote disposal facilities for waste in excess of what can be handled by in-region disposal facilities. All municipal solid waste delivered to the regional disposal facilities (landfills and waste-to-energy) as well as waste disposed out-of-region from Regional Facilities is accounted in Metro Vancouver's disposal calculations. Construction and demolition waste is primarily handled separately from the regional solid waste management system and is disposed at either private landfills or the Vancouver Landfill. In 2018, the residential, commercial/institutional, and construction and demolition sectors in Metro Vancouver disposed of a total 1,282,752 tonnes of waste to the regional system and private disposal facilities. The current per capita disposal rate in the region is 0.48 tonnes per person.

In 2018, Metro Vancouver residents, businesses and institutions achieved an overall recycling or diversion rate of 64%. **Figures 2 and 3**, below, show changes in the regional diversion rate from all waste sectors, and the total per capita generation, disposal and recycling rates for the region since 1994, respectively. **Table 4** shows Metro Vancouver's regional waste and recycling figures. **Table 5** highlights the single family residential recycling and solid waste figures.

FIGURE 2: REGIONAL DIVERSION RATE FOR WASTE FROM ALL SECTORS

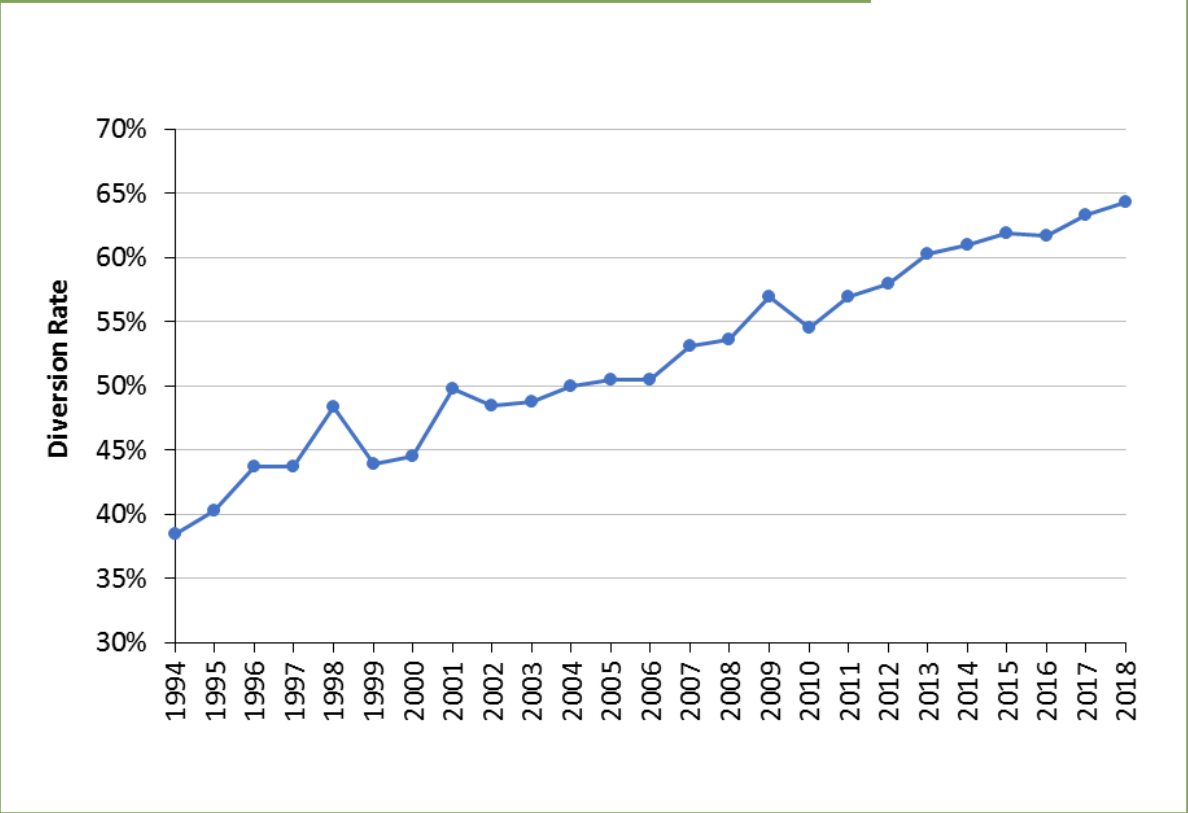
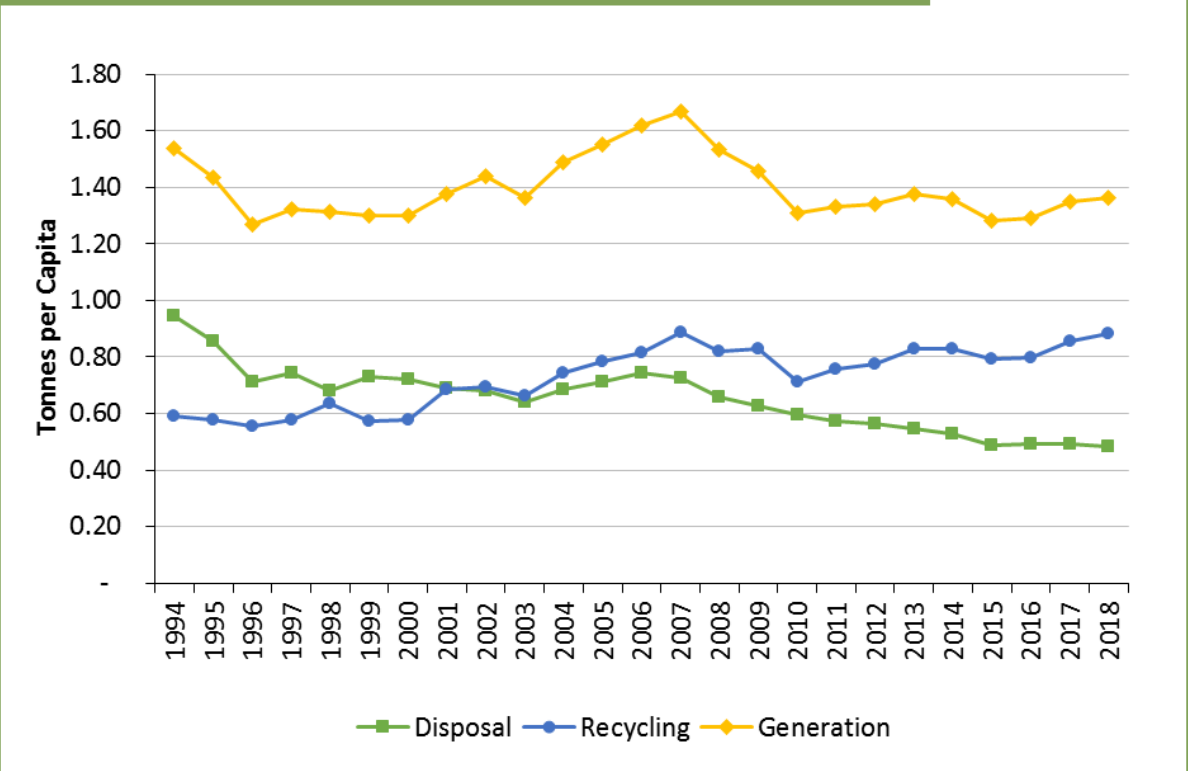


FIGURE 3: TOTAL WASTE GENERATION, DISPOSAL AND RECYCLING RATES PER CAPITA



**Table 4: Metro Vancouver Regional Solid Waste and Recycling Figures**

YEAR	REGIONAL POPULATION	REGIONAL HOUSEHOLDS	TOTAL GENERATED (tonnes)	TOTAL RECYCLED (tonnes)	TOTAL DISPOSED (tonnes)	RECYCLING RATE (%)	GENERATION RATE (tonnes/capita)	DISPOSAL RATE (tonnes/capita)	DISPOSAL RATE (tonnes/household)
1994	1,732,567		2,663,581	1,025,921	1,680,750	39%	1.54	0.97	
1995	1,784,656		2,561,858	1,032,095	1,529,763	40%	1.44	0.86	
1996	1,906,492		2,419,323	1,058,441	1,360,882	44%	1.27	0.71	
1997	1,954,523		2,589,044	1,131,958	1,457,086	44%	1.32	0.75	
1998	1,984,743		2,609,913	1,261,680	1,348,233	48%	1.31	0.68	
1999	2,013,201		2,618,538	1,151,130	1,467,408	44%	1.30	0.73	
2000	2,041,399		2,657,076	1,183,611	1,473,465	45%	1.30	0.72	
2001	2,073,662		2,851,208	1,418,489	1,432,719	50%	1.37	0.69	
2002	2,102,244		2,903,894	1,470,445	1,433,449	51%	1.38	0.68	
2003	2,128,965		2,775,455	1,414,390	1,361,065	51%	1.30	0.64	
2004	2,153,998		3,072,702	1,595,999	1,476,703	52%	1.43	0.69	
2005	2,188,573		3,245,796	1,701,414	1,544,382	52%	1.48	0.71	
2006	2,218,026	817,040	3,434,617	1,794,613	1,640,004	52%	1.55	0.74	2.01
2007	2,251,887	831,909	3,598,142	1,980,751	1,617,391	55%	1.60	0.72	1.94
2008	2,273,095	836,304	3,366,123	1,866,892	1,499,231	55%	1.48	0.66	1.79
2009	2,314,163	865,017	3,374,840	1,922,840	1,452,001	57%	1.46	0.63	1.68
2010	2,351,496	879,874	3,075,392	1,676,117	1,399,275	55%	1.31	0.60	1.59
2011	2,395,520	898,273	3,188,348	1,817,446	1,370,902	57%	1.33	0.57	1.53
2012	2,408,559	909,994	3,228,305	1,871,339	1,356,966	58%	1.34	0.56	1.49
2013	2,430,305	920,375	3,348,498	2,020,114	1,328,384	60%	1.38	0.55	1.44
2014	2,465,031	939,212	3,343,471	2,040,280	1,303,191	61%	1.36	0.53	1.39
2015	2,497,052	943,072	3,202,979	1,982,137	1,220,842	62%	1.28	0.49	1.29
2016	2,546,595	943,072	3,295,830	2,039,569	1,256,261	62%	1.29	0.49	1.33
2017 <sup>(1)</sup>	2,610,929	984,640	3,525,224	2,234,055	1,291,169	63%	1.35	0.49	1.31
<b>2018</b>	<b>2,648,493</b>	<b>998,930</b>	<b>3,599,801</b>	<b>2,317,050</b>	<b>1,282,752</b>	<b>64%</b>	<b>1.36</b>	<b>0.48</b>	<b>1.28</b>

(1) 2017 demographics data has been updated from the previously published 2017 annual report to reflect new information that has become available.

**Table 5: Single Family Residential Solid Waste and Recycling Figures**

YEAR	SINGLE FAMILY RESIDENTIAL POPULATION	SINGLE FAMILY RESIDENTIAL HOUSEHOLDS	SECTOR GENERATED (tonnes)	SECTOR RECYCLED (tonnes) <sup>1</sup>	SECTOR DISPOSED (tonnes)	SECTOR RECYCLING RATE (%)	SECTOR GENERATION RATE (tonnes/capita)	SECTOR DISPOSAL RATE (tonnes/capita)	SECTOR DISPOSAL RATE (tonnes/household)
2006	1,389,809	428,045	778,629	336,577	442,052	43%	0.56	0.32	1.03
2007	1,399,185	434,163	783,878	352,455	431,423	45%	0.56	0.31	0.99
2008	1,409,040	428,045	741,783	324,093	417,690	44%	0.53	0.30	0.98
2009	1,419,442	443,894	749,536	330,294	419,242	44%	0.53	0.30	0.94
2010	1,429,495	447,932	721,746	344,450	377,296	48%	0.50	0.26	0.84
2011	1,440,334	454,662	732,112	363,594	368,518	50%	0.51	0.26	0.81
2012	1,476,411	456,259	784,196	439,077	345,118	56%	0.53	0.23	0.76
2013	1,484,766	462,170	761,169	456,822	304,347	60%	0.51	0.20	0.66
2014	1,494,336	464,955	774,877	482,090	292,787	62%	0.52	0.20	0.63
2015	1,511,428	471,157	809,500	533,861	275,639	66%	0.54	0.18	0.59
2016	1,533,062	476,559	764,037	491,190	272,848	64%	0.50	0.18	0.57
2017 <sup>(2)</sup>	1,535,480	472,530	748,410	477,832	270,578	64%	0.49	0.18	0.57
<b>2018</b>	<b>1,557,308</b>	<b>476,600</b>	<b>704,462</b>	<b>447,639</b>	<b>256,824</b>	<b>64%</b>	<b>0.45</b>	<b>0.16</b>	<b>0.54</b>

(1) Includes distributed EPR Recyclables from 2012 onward.

(2) 2017 demographics data has been updated from the previously published 2017 annual report to reflect new information that has become available.

## Acknowledgements

Metro Vancouver acknowledges the contributions of its member municipalities, EPR Product Stewardship Associations, and the many private recycling and processing facilities for the data used to complete this report.

## APPENDIX 1 – METRO VANCOUVER RECYCLING AND SOLID WASTE QUANTITIES 2017 AND 2018

WASTE SECTOR		DISPOSED (tonnes)		RECYCLED (tonnes)		DIVERSION RATE (%) <sup>(3)</sup>		
		2017 <sup>(5)</sup>	2018	2017 <sup>(5)</sup>	2018	2017 <sup>(5)</sup>	2018	% change
Residential	tonnes	501,476	494,048	581,081	585,565	54%	54%	0%
	tonnes/capita	0.19	0.19	0.22	0.22			
Single Family <sup>(1)</sup>	tonnes	270,578	256,824	477,832	447,639	64%	64%	0%
Multi-Family <sup>(2)</sup>	tonnes	230,898	237,224	103,249	137,926	31%	37%	6%
Commercial/ Institutional <sup>(2)</sup>	tonnes	389,729	397,021	385,553	337,283	50%	46%	-4%
	tonnes/capita	0.15	0.15	0.15	0.13			
Construction/ Demolition <sup>(4)</sup>	tonnes	399,965	391,683	1,267,420	1,394,202	76%	78%	2%
Total	tonnes	1,291,169	1,282,752	2,234,055	2,317,050	63%	64%	1%
	tonnes/capita	0.49	0.48	0.86	0.87			
	tonnes/ household	1.31	1.28	2.27	2.32			

Year	Single Family		Multi Family		Total	
	Population	Households	Population	Households	Population	Households
2017 <sup>(5)</sup>	1,535,480	472,530	1,075,448	512,110	2,610,929	984,640
2018	1,557,308	476,600	1,091,184	522,330	2,648,493	998,930

- (1) Reported tonnes of disposed and recycled waste are obtained from municipal reports, private recycling and processing facility records, landfill records, or product stewardship association records. This includes residential drop-off tonnages.
- (2) Estimated tonnes of disposed waste are based on per capita multi-family disposal rates and the total transfer station weigh scale reports for commercial waste, which includes multi-family and commercial/institutional tonnages. A calculated portion of that total is then attributed to each sector. Multi-family recycling is reported by municipalities and combined with estimated residential drop-off tonnages.

- (3) The total diversion rate includes the EPR tonnages. The diversion rates for individual sectors also include EPR tonnages, based on estimates of the relative contributions to EPR tonnages from single family homes (54%), multi-family homes (36%), and businesses (10%) with the exception of Recycle BC tonnages that are allocated 60% to the single family sector and 40% to the multi-family sector.*
- (4) Reported tonnes of recyclable materials and disposed waste are obtained from private licensed brokers, composters and transfer stations, and from unlicensed recycling facilities.*
- (5) 2017 demographics data has been updated from the 2017 annual report to reflect new information that has become available.*