Major Appliance Recycling Roundtable

2017 Annual Report to the Director

Submitted to:

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Submitted by:

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MARR
Major Appliance Recycling Roundtable

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Message from MARR's Board of Directors

2017 represented a culmination of many years of work for MARR. Following many studies including the PricewaterhouseCoopers Study of Major Appliance Recycling regarding the economics of the present system, MARR was able to formulate a revised program plan which built on the foundation of the private and public sector partners. The Board of Directors of MARR continues its commitment not to negatively impact those local government and private entities as the current system evolves in keeping with our revised program plans.

Some of the key achievements of the MARR program in 2017 include:

- Following consultation with our key stakeholders, MARR submitted a revised program plan to the Ministry of Environment and Climate Change Strategy (MOECCS) in which MARR commits to support the existing market driven supply chain by committing to fund and ensure the safe removal of Ozone Depleting Substances (ODS) from refrigerated appliances and to ensure that our collection partners receive funding on a cost-recovery basis where required.
- MARR also developed a pilot program to be implemented in the first quarter of 2018 to put the main tenets of the revised program plan into place pending the approval by the MOECCS.
- MARR worked with the Thompson Nicola Regional District and the Cariboo Regional District following the record forest fire season in 2017 and provided assistance with the cost of recycling the appliances removed from the affected homes.
- MARR continued to work at refining and updating their rules and policies and compliance framework in order to ensure that all obligated producers of major appliances fulfill their responsibilities under the regulation.

Once again, we thank those producers, obligated under B.C.'s Recycling Regulation, who choose to entrust MARR with the fulfillment of their responsibilities for management of end-of-life (EoL) products.

Warrington Ellacott,
Board Chair

1. Executive Summary

Products within plan	The Major Appliance Recycling Roundtable (MARR) program plan includes major household appliances powered either by 120 volt or 240 volt input power that have been designed for use in residential homes, including those that use natural gas or propane for heating purposes. Appliances used in or sold for industrial, commercial and/or institutional (IC&I) applications that have the same essential design characteristics as major household appliances, as defined above, are also included. **Major product types include:** • Refrigerators, wine coolers and beverage centers • Freezers • Portable, room and window air conditioners • Portable dehumidifiers • Clothes washers and dryers • Ranges, built-in ovens and surface cooking units • Built-in and over the range microwave ovens • Range hoods and downdrafts • Dishwashers • Food waste disposers and trash compactors • Electric water dispensers For a detailed list of included products and relevant definitions, please refer to the MARR website at www.marrbc.ca.
Program website	www.marrbc.ca

Recycling Regulation Reference	Topic	Summary Report
Part 2, section 8(2)(a)	Public Education Materials and Strategies	• Meeting of MARR - Local Government Advisory Committee. • Maintained collection site locator on www.marrbc.ca. • Participated in the Recycling Council of British Columbia (RCBC) Hotline and Recyclepedia website. • Made rack cards available to retailers and collection sites.

Recycling Regulation Reference	Topic	Summary Report
Part 2, section 8(2)(b)	Collection System and Facilities	• Existing comprehensive collection network available through market-driven system. • Completed System Study Update for 2017 in early 2018. • 272 drop-off collection sites were found to accept major appliances, above and beyond pick-up services offered by retailers, and some municipalities. • Based on the findings of the original System Study, accessibility for BC residents to a drop off location for major appliances was estimated at 98.5% for all locations, and 93.6% for free drop-off locations.
Part 2, section 8(2)(c)	Product Environmental Impact Reduction, Reusability and Recyclability	• Manufacturers of home refrigeration products have been transitioning from the use of HFC's in accordance with the *Ozone-depleting Substances and Halocarbon Alternatives Regulations,* and HFC-free refrigeration products are now available in Canada.
Part 2, section 8(2)(d)	Pollution Prevention Hierarchy and Product / Component Management	• Based on the original System Study, 74% of the total weight of EoL major appliances are ultimately recycled.
Part 2, section 8(2)(e) Part 2, section 8(2)(e.1)	Product Sold and Collected and Recovery Rate	• 111 producers were registered with the MARR Program and reported sales as of 31 December 2017. • The System Study Update estimated the quantity of products collected to be 38,650 tonnes, with an estimated capture rate of 98.9%.
Part 2, section 8(2)(f)	Summary of Deposits, Refunds, Revenues and Expenses	• See Appendix F for independently audited financial statements.

Comparison of Key Performance Targets			
Part 2 section 8(2)(g); See full list of targets in Plan Performance. Targets for the program remain the same as 2016 as the new program plan has yet to be approved by the Ministry of Environment and Climate Change Strategy (MOECCS).			
Performance Measure	**Target**	**2017 Results**	**Remediation Strategies**
Capture rate	90% target established for years 3-5	Target exceeded: 98.9%	n/a

2. Program Outline

The Major Appliance Recycling Roundtable (MARR) is a not-for-profit stewardship agency created to implement and operate a stewardship plan for End-of-Life (EoL) major household appliances in the province of British Columbia (BC) on behalf of the major appliance "producers" who are obligated under the BC Recycling Regulation ("Regulation"). The BC Major Appliance Stewardship Plan ("MARR Stewardship Plan") was developed jointly by the Association of Home Appliance Manufacturers Canada (AHAM Canada) and Retail Council of Canada (RCC) and received the approval of BC's MOECCS on June 29, 2012.

A new program plan was submitted to the Ministry of Environment and Climate Change Strategy (MOECCS) in June 2017. Following consultation with the MOECCS, a revised Program Plan was submitted in January 2018. At the time of the writing of this annual report, the Program Plan was under review with the MOECCS. This annual report addresses the performance of the Program in relation to the 2012-2016 Program Plan.

The MARR Stewardship Plan is fundamentally unique compared to many other BC product stewardship programs as there exists a long-standing and effective market-based system for recycling EoL major appliances. In a broad view, this market-based system exists largely because major household appliances, unlike most other electronic or electrical equipment, have a financial value at EoL. As such, the MARR Stewardship Plan is focused on enhancing the performance and transparency of the existing market-based system of collecting and recycling major household appliances in BC, rather than supplanting or replacing this system with a traditional stewardship model.

In particular, the MARR Stewardship Plan includes commitments to:

- Work with collectors and recyclers to research and promote best practices that ensure on-going system performance and improvement;
- Work with industry stakeholders to ensure the safe removal of Ozone Depleting Substances (ODS) from EoL refrigerated appliances and adherence to the MARR voluntary processing standard.
- Create a branding and communications strategy to encourage market participation in the MARR program; and
- Conduct pilot studies to enhance the operation and performance of the market-driven recycling system in 2018 to implement the changes proposed in the revised program plan submitted to the MOECCS in January 2018.

Product Care Association of Canada (PCA) was contracted in early 2013 by MARR to provide program management services and to assist in implementing the MARR Stewardship Plan in BC.

Some of the highlights of 2017 for MARR included:

- Updating the *Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia* ("System Study"), initially completed in 2013, to validate the performance of the BC market driven system for major appliances;
- Continuing active recruitment of obligated parties as program participants;
- Completing a study to assess the economic parameters underlying the collection and processing of EoL major appliances in BC. The final report is available on MARR's website at http://www.marrbc.ca/collectors/enhancing.

- Initiating consultations on the implementation of a pilot claims program for 2018 to subsidize collection sites of MARR program products for the removal of ODS (refrigerant) and collection of MARR products.
- Submitting a new stewardship plan pursuant to the BC Recycling Regulation.
- Participating in efforts to enhance access for First Nations communities undertaken by a First Nations Field Specialist in partnership with other stewardship organizations.

The MARR - Local Government Advisory Council (MARR-LGAC) was created in 2013 to provide a forum for local governments to deliver their unique perspective and advice to MARR, and for MARR to better understand municipal and regional needs, capabilities and capacities. MARR-LGAC met in 2017 to discuss a number of topics, including the ODS regulations, Economic Study and the proposed stewardship plan.

3. Public Education Materials and Strategies

MARR continued to engage in a number of initiatives in 2017 to raise consumer awareness about the Program.

Informational point of sale rack cards for existing retailers and wholesalers were replenished upon request free of charge. See **Appendix A** for an example.

MARR remained a member of the Recycling Council of British Columbia (RCBC) and continued its participation in a joint service agreement with other stewardship programs through Stewardship Association of BC (SABC) to provide the public with information about MARR through RCBC's Hotline and Recyclepedia. RCBC is a trusted public information resource used by consumers to learn about the recycling options available in their community. In 2017, RCBC Hotline and Recyclepedia received more than 227,000 inquiries about recycling from residents across B.C., including over 22,070 web / app searches and phone calls for MARR program products. PCA staff also responded to numerous consumer phone calls and email inquiries on behalf of MARR. All consumer concerns and questions were dealt with in a timely manner.

MARR continued to maintain its informational website at www.marrbc.ca, which included a list of accepted program products, collection site locator, program documents and other resources for program participants and consumers. An estimated 5,321 unique visitors utilized MARR's website during the 2017 calendar year.

In 2017, MARR continued its partnership with a group of other stewardship organizations to support the work of a First Nations Field Specialist. The position, coordinated through Recycle BC (formerly MMBC), worked to enhance collection access for First Nations communities. During the year, the specialist established relations with First Nations communities, undertook a needs and capacity assessment of these communities and initiated development of a toolkit for First Nations on how to engage with stewardship programs.

Processing Standard and Certification Program

Initially, the intention was to have the collectors of major appliances (retailers, municipalities etc.) to agree to decommission the appliances they collect in accordance with the standard, or require their processors to whom they sell or provide their appliances to be certified against the standard. Part of this framework includes a certification and audit program to ensure that applicable processors are processing appliances in accordance with the standard. MARR initially approached collectors to obtain agreement with such a standard in 2015, but received little response. As a result, MARR introduced the Voluntary Processing Standard in 2016. As of December 31, 2017, 27 facilities had adopted the Voluntary Processing Standard. See **Appendix B** for a list of the signatories.

With the introduction of a claims program for ODS removal in 2018, the terms of the Processing Standard have now been enshrined in the claims agreement signed by collection sites in order to receive subsidies.

4. Collection System and Facilities

As described in the MARR Program Plan, there is an existing recycling system for major appliances that has been in place in BC for decades, driven by the positive financial value of these products at EoL. This system is comprised of a variety of collectors, including retailers, local governments, utilities and private companies, which accept major appliances and then channel those products to scrap metal consolidators and processors. As part of the much larger commodities market, these scrap metal companies process the products to recover metal components, which are sold to end markets, such as steel mills, for recycling.

In 2013, waste consultant, Ecoinspire Planning Services, undertook a study of the BC market driven system for major appliance recycling on MARR's behalf. *The Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia, May 8, 2014* report ("System Study")[1] examined the operation and performance of the existing collection and recycling system, including identifying collection site locations. In early 2018, MARR, with the support of waste consultant Tetra Tech, undertook an update of the System Study for 2017 (System Study Update). Collection information reported comes from the System Study Update.

In 2017, MARR released a study to assess the economic parameters underlying the collection and processing of EoL major appliances in BC. The final report is available on MARR's website at http://www.marrbc.ca/collectors/enhancing.

Drop-Off Collection Sites

In addition to the numerous pick-up services for major appliances offered by retailers and some municipalities, the System Study Update identified 272 locations across BC that accepted some or all household major appliances for drop off, including the addition of 52 sites and the removal of 20 (see **Appendix C**, Tables 9 and 10). The System Study Update employed a different methodology in 2017 than 2016. In 2017, the survey identified sites that accepted some or all major appliances, while the 2016 System Study Update identified those sites that accepted all major appliances only.

Table 1 provides an estimate of the breakdown of the different types of locations that accepted major appliances across the Province.[2] **Appendix C**, Table 8 lists collection sites active in 2017 that accepted major appliances.[3] **Appendix D**, Table 11 lists the number of collection sites that accepted major appliances by Regional District.

[1] A copy of the System Study is available at http://www.marrbc.ca/collectors/studies

[2] The list of collectors provided is based on reports of which sites were accepting major appliances and represents the best available information as of April 2018. This list is not exhaustive, nor guaranteed to be current, due to ongoing changes in business operations. The list only includes local government and private/non-profit collector drop off sites, and does not include the numerous collection options that may be offered through retailers, utility bounty programs or other possible pick up options.

[3] *Ibid.*

Table 1: Sites Identified that Accepted MARR Products (2017)

Type of Collection Site	Number of Sites in 2017
Metal Recycling Facility (Private)	85
Local Government Facility	187
Total	**272**

Pick-up Services

Many retailers offer a delivery / take-back option when a consumer buys a new appliance. As part of the 2017 System Study Update, MARR surveyed 11 major appliance retailers regarding their delivery and pick-up services. Of the 8 retailers that responded to the survey, they indicated that 73% of products they sold were delivered to customers. Of those delivered, 40% included the pick-up of an old appliance. After pick-up, the old appliances were generally delivered to a drop-off site, although some retailers reported that appliances might have also gone to a refurbisher.

Bounty Programs

Of the two utilities in BC, the majority of the Province is serviced by BC Hydro. A smaller company, Fortis BC services an area in the Okanagan with electricity and natural gas, and other parts of the province with only natural gas. The objective of bounty programs is to save energy by reducing the number of secondary refrigerators in households, and to prevent the reuse of less energy-efficient models.

Neither of the two provincial utility companies, BC Hydro and Fortis, operated bounty programs in 2017.

Accessibility

According to a Geographic Information System (GIS) analysis completed in 2014 as a part of the System Study, 98.5% of British Columbians had convenient access to a drop-off location for major appliance products. Accessibility to free drop-off locations for BC residents was estimated at 93.6%.[4] Since undertaking this analysis, the number of collection sites accepting MARR products for free dropped to 97 in 2017. MARR recognises the decrease in sites since 2014 and have made this a focus for 2018 by launching a claims program to subsidize collection sites for the removal of ODS, which has already resulted in additional collection sites starting to accept all MARR products for free, increasing the total number of sites meeting the requirements under the regulation.

First Nations Collection Events

MARR also continued its efforts in 2017 to provide collection services to remote First Nations communities. In spring 2017, MARR took part in an initiative led by Scout Environmental as part of their "Tundra take back program" by supplying the ODS removal equipment and removing part of the stockpile for the Tahltan First Nation in Dease Lake and Telegraph Creek. In the fall of 2017, MARR supplied the equipment for the Kwadacha First Nation to successfully remove ODS from its EoL refrigerant appliances.

[4] The SABC defines accessibility as a 30-minute drive or less for those within urban areas, and a 45-minute drive or less for those in rural areas of the province.

5. Product Environmental Impact Reduction, Reusability and Recyclability

Design for the Environment

Major appliance manufacturers continue to focus significant attention on incorporating Design for the Environment (DfE) principles into the manufacturing of home appliances, specifically:

- Reducing the amount of materials used in the manufacture of the products,
- Incorporating new low-to-no Global Warming Potential (GWP) refrigerant technology such as hydrofluorolefins (HFOs)[5] or hydrocarbon refrigerants like isobutane (r600a) and foam blowing agents,
- Increasing energy and water efficiency, and
- AHAM, in conjunction with the Canadian Standards Association (CSA) and Underwriters Laboratories (UL), has published and continues to work on developing home appliance product sustainability standards.

Manufacturers have eliminated the use of mercury switches and PCB containing capacitors, and continue to explore ways to reduce the amount and weight of material used in the manufacturing of appliances, as well as its packaging. Light-weighting of products results in lower transportation costs (both in the outbound supply chain and in the EoL supply chain), as well as improvements in greenhouse gas (GHG) emissions. Efforts to improve the amount and weight of material used in the manufacturing of appliances must always be balanced against ensuring consumer safety and the overall protection and lifespan of the product.

Significant changes have and will continue to be made in the types of refrigerants and foam blowing agents used in refrigerators and freezers as manufacturers incorporate refrigerants and insulation with lower GHG impacts as mandated by new regulations in accordance with the Montreal Protocol along with U.S. and Canadian law. In November of 2017, Canada ratified the Kigali Amendment to the Montreal Protocol, committing Canada to phase down the production and usage of hydrofluorocarbons (HFCs) a class of potent GHG. To support Canada's efforts to phase down the use of HFC's, amended *Ozone-depleting Substances and Halocarbon Alternatives Regulations* were published in the Canada Gazette in October 2017. The amendments will essentially ban the use of HFCs in home refrigeration products. In particular the regulation will prohibit the use of HFC gases with a GWP of greater than 150, including imports as follows: HFC gases with a GWP greater than 150 will be prohibited as an insulation foam blowing agent as of January 1, 2021, and refrigerants with a GWP greater than 150 will be prohibited as of January 1, 2025. Manufacturers of home refrigeration products have already started this transition and HFC-free refrigeration products are already being sold in the Canadian market. These regulatory efforts build on a history of environmental stewardship by the home appliance industry that includes significant gains in energy efficiency and the phasing out of ozone-depleting substances without losing efficiency gains.[6]

Manufacturers have been able to reduce water consumption through design changes to dishwashers and innovations such as front-load and high efficiency top-load clothes washers. These reductions in water consumption also significantly reduce energy demand as there is less water to heat to perform the same cleaning task.

[5] Honeywell Fluorine Products. *Honeywell HFO-1234ze Blowing Agent.* Retrieved from: https://www51.honeywell.com/sm/lgwp-fr/common/documents/FP_LGWP_FR_Honeywell-HFO-1234ze_Literature_document.pdf

[6] Home Appliance Industry Sets Goal to Eliminate use of HFC Refrigerants (February 9, 2016), available at www.aham.org.

Significant gains in energy efficiency have also been made over the past 20 years. The average energy consumption of the typical set of major household appliances has declined by 50% since 1990. In December of 2016, Natural Resources Canada published Amendment 13 to the Energy Efficiency Regulations that established more stringent energy efficiency standards for all major appliances and will align Canada's energy efficiency regulations with the U.S. Department of Energy's more stringent standards. Natural Resources Canada's (NRCan) Office of Energy Efficiency has developed and published its Forward Regulatory Plan for 2017-19 which includes updates or new minimum energy performance standards (MEPS) for dehumidifiers, microwave ovens, electric ranges, wine chillers, clothes dryers and portable air conditioners. On March 31, 2018 NRCan published Amendment 14 to the Energy Efficiency Regulations which builds upon the significant energy reductions of Amendment 13.

Because of these Canadian regulatory changes, annual energy consumption due to Amendment 13 is estimated to be reduced by 4.1 petajoules (PJ) per year by 2020 and further reduced by 10.2 PJ per year by 2030. It is also estimated Amendment 13 will reduce GHG emissions by 0.8 Mt by 2030. Annual reductions in energy consumption associated with Amendment 14 are estimated to be 3.76 PJ in 2020, and to reach 15.76 PJ in 2030 as the sale of more efficient equipment steadily replaces the pre-regulation stock. Annual reductions in GHG emissions resulting from Amendment 14 are estimated to be 0.36 Mt in 2020, and to reach 1.54 Mt in 2030. The ENERGY STAR program continues to be an important influence on appliance efficiency, with new product specifications coming into effect for clothes dryers in 2017 and for home and commercial clothes washers in 2018.

In addition to the above DfE activities, AHAM is engaged in the development of Sustainability Standards for household appliances. In conjunction with CSA and UL, sustainability standards for household refrigeration, cooking, clothes washers, clothes dryers, room air conditioners, portable and floor care appliances, microwave ovens, and dehumidifiers have already been published, with other appliance standards currently under development.

AHAM's work to develop home appliance sustainability standards has resulted in refrigeration, clothes washers, clothes dryers, and room air conditioners all receiving national accreditation under the American National Standard Institute (ANSI) and Standards Council of Canada (SCC) processes and are approved National Standards for the U.S. and Canada. The sustainability standards are based on a lifecycle approach for identifying the environmental impacts of home appliance products in areas such as: energy, materials, EoL, performance and manufacturing. These sustainability standards use a broad multi-attribute approach that draws on life cycle assessment and hot button analysis as well as other key factors that influence product environmental performance. These sustainability standards are published jointly by the CSA, UL and AHAM.

6. Pollution Prevention Hierarchy and Product / Component Management

The following information is based on the understanding of the free market system, as well as findings from the System Study completed by MARR in 2014 reflecting the 2013 fiscal year. The System Study involved surveying industry participants with regard to collection volumes and product management practices. No further due diligence was performed on the information in terms of site visits or other investigations and therefore there is some degree of uncertainty surrounding the end fate of the products.

MARR strives to promote the principles of the pollution prevention hierarchy as much as possible, including design considerations and environmental impact initiatives outlined above in Section 5. According to research conducted for the System Study, 99.9% of major appliances have a lifespan of between 10 and 20 years.[7] This long life often results in a product having many different owners over its lifetime, usually facilitated by a used appliance retailer or refurbisher. Refurbishers are organizations involved in appliance reuse or the reuse of parts. They generally receive used major appliances from commercial generators or through retailers. The main goal of the refurbisher is to resell the unit into the second hand market, or at least use some of the parts for appliance repair.

Once an appliance is retired, or reaches EoL, it enters the collection system described above in Section 4. Major appliances are primarily metal (both ferrous and non-ferrous) with smaller amounts of other materials like glass, rubber, foam, paper, electronics, refrigerants, oils and other substances where applicable. Currently there are two mechanical processing facilities that receive EoL materials from BC that utilize shredders to break up scrap metal, including major appliances. The shredded material is then sorted and ferrous and non-ferrous metals are separated from other materials such as plastic and foam.

The material composition of major appliances is reported to be approximately 75% metal. Of this metal, processors report that 98% of ferrous and non-ferrous metal that enters the shredder is recovered and recycled back into the commodities market.[8]

Prior to shredding, products undergo decommissioning to remove refrigerant and to look for any other substances of concern. In general, the System Study identified that refrigerant was extracted responsibly, but that some gaps remained. The vast majority of retailers transferred major appliances with refrigerant to secondary collectors, and most processors use third party providers to remove ODS or they had onsite staff to perform refrigerant removal. At local government sites that accept appliances with refrigerants, most contracted out the removal of refrigerants as part of the scrap metal removal contract. Refrigerant removal generally occurred at the first location to receive the appliance. The refrigerant was removed by a technician and subsequently sent for recycling or destruction. In 2017, MARR continued conversations with local governments, ODS removal technicians and other industry stakeholders to explore ways to increase the availability and accessibility to qualified technicians for the safe removal of refrigerants, with a focus on rural and remote communities.

[7] Based on findings from a 2005 report produced by R.W. Beck and Weston for the Association of Home Appliance Manufacturers titled "Recycling, Waste Stream Management and Material Composition of Major Home Appliances" referenced in MARR's "Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia". The study also included weighted average composition for new and old appliances.

[8] Based on survey responses from the two processors in BC currently operating shredders.

Very few appliances reaching EoL contain mercury switches or PCBs though some contain heavy metals (e.g., circuit boards), mercury (i.e., fluorescent lights), compressor oil and polyurethane foam (i.e., insulation).

Table 2 illustrates the downstream management process for each material stream as identified in the System Study.

Table 2: Downstream Management Process of Materials Streams

Material Commodity	Recycled	Landfilled	Safely Destroyed
Ferrous Metal	X		
Non Ferrous Metal	X		
Plastic		X	
Refrigerant	X		X
Other		X	

It is estimated that 74% of materials are recycled (mostly ferrous and non-ferrous metal). The remaining 26%, including plastic, glass, rubber and foam, does not undergo further processing, and is currently sent to landfill.[9] MARR continues to examine the management of shredder residue and identify opportunities for achieving higher end uses of residual materials.

As major appliance recycling utilizes the existing market-driven system, MARR does not contract directly with collectors or processors, and is therefore not able to obtain information on percentages of materials processed. Volumes and percentages reported are based on estimates derived from survey responses obtained from collectors and processors as part of MARR's System Study.

[9] *Based on personal observations of MARR staff at processor locations and survey responses from the two processors currently receiving the majority of major appliances in BC.*

7. Product Sold, Collected and Recovery Rate

Products Sold

Registered participants of MARR (i.e., producers that have appointed MARR as their "agent" under the Regulation) are required to report their sales and remit Administrative Program Fees (APFs) to MARR. Table 3 displays the number of major appliance units sold in BC by product category between January 1 and December 31, 2017, as reported by MARR participants.

Table 3: Total Sales of Major Appliances in BC (2017)

Product Category	Total Sales in Units
1. Full-Size Refrigerators & Wine Coolers / Beverage Centres	157,060
2. Compact Refrigerators & Wine Coolers / Beverage Centres	73,975
3. Freezers	66,469
4. Room Air Conditioners	24,013
5. Portable Air Conditioners	48,368
6. Dehumidifiers	10,005
7. Clothes Washers	130,251
8. Clothes Dryers	100,514
9. Ranges	116,243
10. Range Hoods & Downdrafts	77,602
11. Built-In Ovens	24,101
12. Built-In & Over the range Microwave Ovens	42,125
13. Surface Cooking Units	22,181
14. Dishwashers	124,499
15. Food Waste Disposers	29,186
16. Trash Compactors	777
17. Electric Water Dispensers	5,508
Total	**1,052,877**

Products Collected

The results of the System Study Update were used to estimate the amount of EoL major appliances collected by weight under the market-driven system. The amount of major appliances available to collect in units and by weight in BC was developed by using a lifespan model to produce theoretical estimates of the quantity entering life annually. The lifespan model combines historical unit sales data for MARR's 17 product categories with lifespan data and unit weight data by product category to estimate the number of units and the total tonnage of MARR products at EoL each year.

The System Study Update estimated that approximately 38,650 tonnes of major appliances were collected in 2017. Table 4 below shows the estimated quantity of large appliances collected by regional district and for the province overall. The quantities listed by regional district reflect the combined tonnes of major appliances collected by local government, non-profit and private sector collectors. Quantities collected by bounty programs, retailers, scavengers and refurbishers are presented separately, with tonnes reported on a provincial basis.

Table 4: Estimated Tonnes of Collected Major Appliances by Region (2017)

Region and Collector Type	Estimated Tonnes Collected
Alberni Clayoquot	85
Bulkley - Nechako	346
Capital	1,687
Cariboo	218
Central Coast	23
Central Kootenay	292
Central Okanagan	1,122
Columbia Shuswap	223
Cowichan Valley	350
East Kootenay	352
Fraser Valley	1,616
Fraser - Fort George	500
Kitimat Stikine	162
Kootenay - Boundary	199
Metro Vancouver	12,301
Mount Waddington	67
Nanaimo	673
North Okanagan	359
Northern Rockies	25
Okanagan Similkameen	383
Peace River	318
Powell River	136
Skeena Queen Charlotte	75
Squamish - Lillooet	388
Strathcona	661
Sunshine Coast	183

Region and Collector Type	Estimated Tonnes Collected
Thompson - Nicola	725
Subtotal	**23,469**
Other Collectors	**Estimated Tonnes Collected**
Bounty programs	0
Retailers	12,775
Refurbishers	1,203
Scavengers	1,203
Subtotal	**15,181**
TOTAL	**38,650**

Collection Rate:
Targets for the program in 2017 remained the same as 2016 as the new program plan was not yet approved by the MOECCS at year end.

The collection rate of the BC market-driven collection and recycling system can be estimated using a "capture rate" calculation, which compares the estimated weight of products "available to collect" with the estimated weight of products collected in the same year. The System Study Update provided estimates of the weight of products collected (see above). Using the lifespan model described above, it was estimated that 39,073 tonnes reached EoL in BC in 2017 and were "available to collect". Accordingly, the 2017 collection rate was estimated at 98.9% of all discarded appliances, exceeding the program target of 90%. This result is consistent with research completed in other jurisdictions, where it was estimated that the market-driven collection and recycling system for EoL appliances achieved a collection rate of over 90%.[10]

The 2017 MARR non-financial audit report can be found in **Appendix E**.

[10] Studies include "*Generation and Diversion of White Goods from Residential Sources in Canada" (2005)* by Canadian Appliance Manufacturers Association, Hansen Research and Communication and Hikene International Policy, "*Recycling, Waste Stream Management and Material Composition of Major Home Appliances" (2005)* by RW Beck and Weston Solutions and "*White Goods Assessment – Ontario" (2009)* by SBR International Inc.

8. Summary of Deposits, Refunds, Revenues and Expenditures

MARR is funded by APFs, which are remitted to MARR by its participants based on the volume of sales of new major appliances sold in BC. The APF fee rates were set by MARR in consultation with industry and retailers. Retailers have the option to recover the fees from consumers as a separate visible environmental handling fee or to include it in the product's price. Program revenues are applied to the management of the program, including education, outreach and administration. Table 5 sets out the APF rates for program products effective since August 1, 2013.

A copy of MARR's audited financial statement can be found in **Appendix F**.

Table 5: Administrative Program Fees for Major Appliances by Product Category

Product Category	APF Per Unit
Refrigerant Appliances	
1. Full-Size Refrigerators & Wine Coolers / Beverage Centres	$1.25
2. Compact Refrigerators & Wine Coolers / Beverage Centres	$1.25
3. Freezers	$1.25
4. Room Air Conditioners	$1.25
5. Portable Air Conditioners	$1.25
6. Dehumidifiers	$1.25
Non-Refrigerant Appliances	
7. Clothes Washers	$1.10
8. Clothes Dryers	$1.10
9. Ranges	$1.10
10. Range Hoods & Downdrafts	$1.10
11. Built-In Ovens	$1.10
12. Built-In & Over the range Microwave Ovens	$1.10
13. Surface Cooking Units	$1.10
14. Dishwashers	$1.10
15. Food Waste Disposers	$1.10
16. Trash Compactors	$1.10
17. Electric Water Dispensers	$1.10

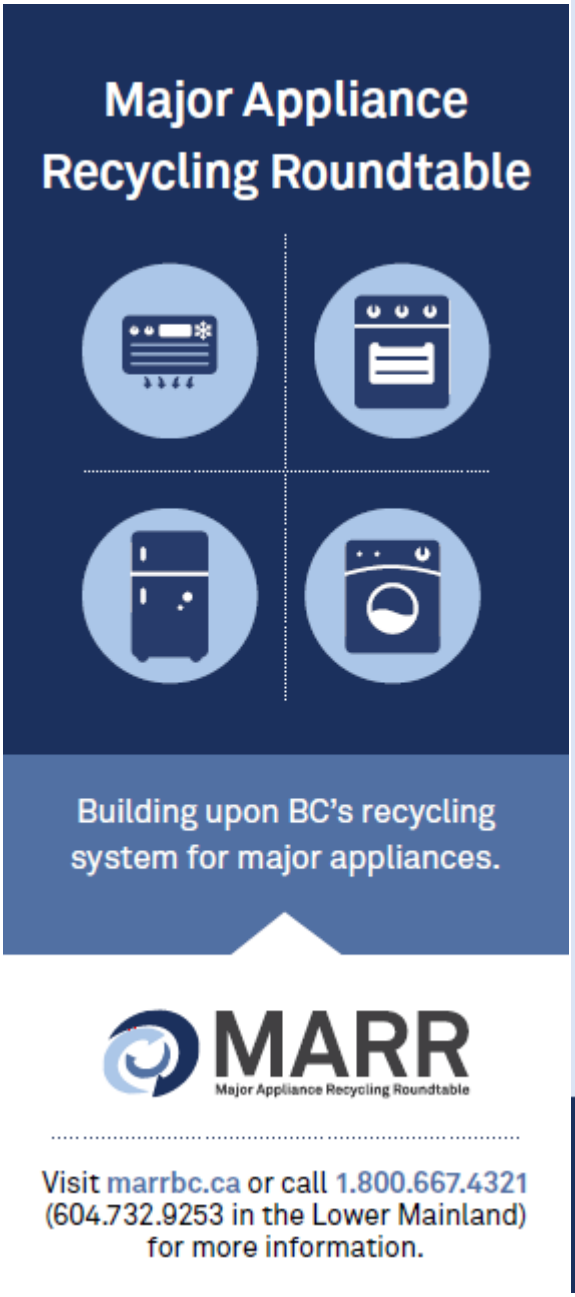
9. Plan Performance

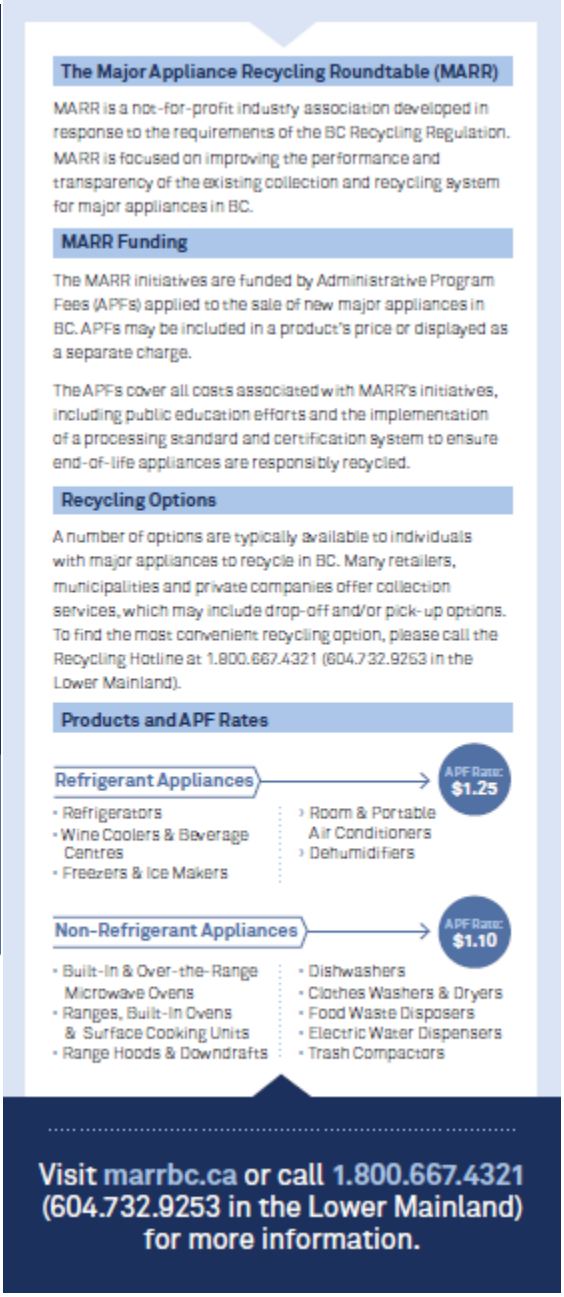
Table 6 details the targets and program performance results for the MARR program. Targets for the program remain the same as 2016 as the new program plan has yet to be approved by the MOECCS.

Table 6: Plan Performance Measures and Results

Performance Measure	Target	Results	Remediation Strategies
Capture rate	90%	Target exceeded. 98.9% capture rate	n/a

APPENDIX A: Educational Materials





APPENDIX B: Collection Facilities that are Signatories to the MARR Voluntary Processing Standard

Table 7: Collection Facilities that are Signatories to the MARR Voluntary Processing Standard

Collection Facility	City
B-Line Appliance Recycling	Vancouver
Fraser Valley Metal Exchange	Maple Ridge
Regional Recycling – (Old Victoria Road)	Nanaimo
Regional Recycling – (Hayes Road)	Nanaimo
Happy Stan's Recycling Services Ltd.	Port Coquitlam
Everclear Recycling	Mission
Smokey Creek Salvage Ltd.	Nelson
Alberni Clayoquot Regional District (West Coast Landfill)	Ucluelet
Alberni Valley Landfill	Port Alberni
Allied Salvage And Metals Ltd.	Richmond
ASM Squamish Scrap Metal Ltd.	Squamish
Thorsen Creek Waste & Recycling Depot	Bella Coola
Capt'n Crunch Auto Wrecking Ltd.	Abbotsford
ABC Metals Recycling	Campbell River
ABC Metals Recycling	Burnaby
ABC Metals Recycling	Prince George
ABC Metals Recycling	Surrey
ABC Metals Recycling	Kelowna
ABC Metals Recycling	Terrace
ABC Metals Recycling	Fort St. John
ABC Metals Recycling	Nanaimo
Schnitzer Steel	Cassidy
Schnitzer Steel	Campbell River
Schnitzer Steel	Victoria
Schnitzer Steel	Surrey
Schnitzer Steel	Duncan
Williams Scrap Metal Recycling	Victoria

APPENDIX C: Collection Sites that Accept MARR Program Products

Table 8: Collection Sites Identified that Accept MARR Program Products by Regional District

Collection Site	City	Regional District	Type
Alberni Foundry Ltd	Port Alberni	Alberni - Clayoquot	Municipal
Alberni Valley Landfill	Port Alberni	Alberni - Clayoquot	Municipal
Sherwood Auto Parts	Port Alberni	Alberni - Clayoquot	Private
West Coast Landfill	Ucluelet	Alberni - Clayoquot	Municipal
Area 'D' Transfer Station	Fraser Lake	Bulkley - Nechako	Municipal
Burns Lake Transfer Station	Burns Lake	Bulkley - Nechako	Municipal
Fort St. James Transfer Station	Fort St James	Bulkley - Nechako	Municipal
Granisle Transfer Station	Granisle	Bulkley - Nechako	Municipal
Knockholt Sub-Regional Landfill	Houston	Bulkley - Nechako	Municipal
Smithers-Telkwa Transfer Station	Smithers	Bulkley - Nechako	Municipal
Southside Transfer Station	Grassy Plains	Bulkley - Nechako	Municipal
Vanderhoof Transfer Station	Vanderhoof	Bulkley - Nechako	Municipal
Alpine Disposal & Recycling	Langford	Capital	Private
Brentwood Auto and Metal Recyclers	Saanichton	Capital	Private
Ellice Recycle Ltd	Victoria	Capital	Private
Galiano Island Recycling and Resources Society	Galiano Island	Capital	Municipal
Hartland Landfill & Recycling Centre	Saanich, BC	Capital	Municipal
Pender Island Recycling Depot	Pender Island	Capital	Municipal
Port Renfrew Recycling Depot	Port Renfrew	Capital	Municipal
Salt Spring Garbage	Salt Spring Island	Capital	Private
Salt Spring Island Recycling Depot	Salt Spring Island	Capital	Municipal
Sandy's Auto Wreckers	Langford	Capital	Private
Schnitzer Steel - Victoria	Victoria	Capital	Private
Williams Scrap Metal Recycling	Victoria	Capital	Private
150 Mile House Transfer Station	150 Mile House	Cariboo	Municipal
Alexis Creek Transfer Station	Alexis Creek	Cariboo	Municipal
Baker Creek Transfer Station	Quesnel	Cariboo	Municipal
Big Lake Refuse Site	Big Lake	Cariboo	Municipal
Cochin Lake Landfill	Cochin Lake	Cariboo	Municipal
Forest Grove Transfer Station	Forest Grove	Cariboo	Municipal
Frost Creek Transfer Station	Williams Lake	Cariboo	Municipal
Horsefly Transfer Station	150 Mile House	Cariboo	Municipal
Interlakes Landfill (Sheridan Lake Refuse Site)	Canim Lake	Cariboo	Municipal
Kleena Kleene Landfill	Kleena Kleene	Cariboo	Municipal
Lac La Hache Transfer Station	Lac La Hache	Cariboo	Municipal
Likely Landfill	Likely	Cariboo	Municipal

Collection Site	City	Regional District	Type
Mcleese Lake Transfer Station	Mcleese Lake	Cariboo	Municipal
Nazko Landfill	Nazko	Cariboo	Municipal
Nemaiah Valley Landfill	Nemaiah	Cariboo	Municipal
Puntzi Lake Refuse Site	Puntzi	Cariboo	Municipal
Quesnel Landfill (Carson Pit)	Quesnel	Cariboo	Municipal
Riske Creek Transfer Station	Williams Lake	Cariboo	Municipal
South Cariboo Landfill (100 Mile House)	100 Mile House	Cariboo	Municipal
Tatla Lake Landfill	Tatla Lake	Cariboo	Municipal
Watch Lake Landfill	Lone Butte	Cariboo	Municipal
Wells Transfer Station	Wells	Cariboo	Municipal
West Chilcotin Landfill	West Chilcotin	Cariboo	Municipal
Wildwood Transfer Station	Williams Lake	Cariboo	Municipal
Williams Lake Scrap Metal Recycling / BJ Trucking	Williams Lake	Cariboo	Private
Thorsen Creek Waste and Recycling Center	Bella Coola	Central Coast	Municipal
Balfour Towing and Salvage	Balfour	Central Kootenay	Private
Balfour Transfer Station	Balfour	Central Kootenay	Municipal
Boswell Transfer Station	Boswell	Central Kootenay	Municipal
Burton Transfer Station	Burton	Central Kootenay	Municipal
Central Landfill	Salmo	Central Kootenay	Municipal
Crawford Bay Transfer Station	Crawford Bay	Central Kootenay	Municipal
Creston Landfill	Creston	Central Kootenay	Municipal
Earls Towing	Creston	Central Kootenay	Private
Edgewood Transfer Station	Edgewood	Central Kootenay	Municipal
Grohman Narrows Transfer Station	Nelson	Central Kootenay	Municipal
Kaslo Transfer Station	Kaslo	Central Kootenay	Municipal
Marblehead Transfer Station	Meadow Creek	Central Kootenay	Municipal
Nakusp Landfill	Nakusp	Central Kootenay	Municipal
Ootischenia Landfill	Castlegar	Central Kootenay	Municipal
Rosebery Transfer Station	New Denver	Central Kootenay	Municipal
Scrap King Auto Wrecking & Towing Ltd	Salmo	Central Kootenay	Private
Slocan Transfer Station	Slocan	Central Kootenay	Municipal
Smokey Creek Salvage Ltd.	Nelson	Central Kootenay	Private
Western Auto Wreckers Ltd.	Nelson	Central Kootenay	Private
ABC Metals Recycling	Kelowna	Central Okanagan	Private
Eric's Refrigeration & Appliances	Kelowna	Central Okanagan	Private
Glenmore Landfill	Kelowna	Central Okanagan	Municipal
Knox Mountain Metals	Kelowna	Central Okanagan	Private
Planet Earth Recycling	West Kelowna	Central Okanagan	Private
Westside Residential Disposal & Recycling Centre	West Kelowna	Central Okanagan	Private
Falkland Transfer Station	Falkland	Columbia - Shuswap	Municipal

Collection Site	City	Regional District	Type
Glenemma Transfer Station	Salmon Arm	Columbia - Shuswap	Municipal
Golden Landfill	Golden	Columbia - Shuswap	Municipal
Malakwa Transfer Station	Malakwa	Columbia - Shuswap	Municipal
Parson Transfer Station	Skookumchuck	Columbia - Shuswap	Municipal
Revelstoke Landfill	Revelstoke	Columbia - Shuswap	Municipal
Salmon Arm Landfill	Salmon Arm	Columbia - Shuswap	Municipal
Scotch Creek Transfer Station	Scotch Creek	Columbia - Shuswap	Municipal
Seymour Arm Transfer Station	Seymour Arm	Columbia - Shuswap	Municipal
Sicamous Landfill	Sicamous	Columbia - Shuswap	Municipal
Skimikin Transfer Station	Chase	Columbia - Shuswap	Municipal
Trout Lake Transfer Station	Trout Lake	Columbia - Shuswap	Municipal
Westside Used Auto Parts	Salmon Arm	Columbia - Shuswap	Private
Comox Valley Waste Management Centre	Cumberland	Comox Valley	Municipal
Courtenay Return-It Depot	Courtenay	Comox Valley	Private
Hornby Island Recycling Depot	Hornby Island	Comox Valley	Municipal
Bings Creek SWM Complex	Duncan	Cowichan Valley	Private
Ernest A. Maxwell Enterprises Ltd.	Mill Bay	Cowichan Valley	Private
Malahat Metal Recycling	Malahat	Cowichan Valley	Private
Meade Creek Recycling Dropoff Depot	Lake Cowichan	Cowichan Valley	Municipal
Peerless Road Recycling Dropoff Depot	Ladysmith	Cowichan Valley	Municipal
Schnitzer Steel Pacific Recycling	Duncan	Cowichan Valley	Private
Canal Flats Transfer Station	Canal Flats	East Kootenay	Municipal
Columbia Recycle Ltd	Kimberly	East Kootenay	Private
Columbia Valley Landfill	Windermere	East Kootenay	Municipal
Cranbrook Transfer Station	Cranbrook	East Kootenay	Municipal
Elkford Transfer Station	Elkford	East Kootenay	Municipal
Fernie Transfer Station	Fernie	East Kootenay	Municipal
Kimberley Transfer Station	Kimberley	East Kootenay	Municipal
Sparwood Transfer Station	Sparwood	East Kootenay	Municipal
Tie Lake Transfer Station	Jaffray	East Kootenay	Municipal
Wasa Transfer Station	Wasa	East Kootenay	Municipal
ABC Metals Recycling	Prince George	Fraser - Fort George	Private
Allen's Scrap & Salvage Ltd.	Prince George	Fraser - Fort George	Private
Bear Lake Regional Transfer Station	Bear Lake	Fraser - Fort George	Municipal
Cummings Road Transfer Station	Prince George	Fraser - Fort George	Municipal
Foothills Boulevard Regional Landfill	Prince George	Fraser - Fort George	Municipal
Hixon Transfer Station	Hixon	Fraser - Fort George	Municipal
Mackenzie Regional Landfill	Mackenzie	Fraser - Fort George	Municipal
McBride Transfer Station	McBride	Fraser - Fort George	Municipal
Quinn Street Recycling Station	Prince George	Fraser - Fort George	Municipal

Collection Site	City	Regional District	Type
Richmond Steel Recycling - Prince George	Prince George	Fraser - Fort George	Private
Salvation Army	Prince George	Fraser - Fort George	Private
Shelley Regional Transfer Station	Prince George	Fraser - Fort George	Municipal
Valemount Transfer Station	Valemount	Fraser - Fort George	Municipal
Vanway Transfer and Recycle Station	Prince George	Fraser - Fort George	Municipal
Abbotsford Community Services	Abbotsford	Fraser Valley	Municipal
Bailey Sanitary Landfill - City of Chilliwack	Chilliwack	Fraser Valley	Municipal
Capt'n Crunch Auto Wrecking Ltd.	Abbotsford	Fraser Valley	Private
Chaumox Landfill	Boston Bar	Fraser Valley	Municipal
District of Hope Landfill	Hope	Fraser Valley	Municipal
Everclear Recycling	Mission	Fraser Valley	Municipal
First Class Transfer Station	Abbotsford	Fraser Valley	Private
Fraser Valley Metal	Abbotsford	Fraser Valley	Private
Goodies Trading Ltd	Chilliwack	Fraser Valley	Private
McNeils DBA Ideal U Pick	Chilliwack	Fraser Valley	Private
Mission Landfill (Minnie's Pit)	Mission	Fraser Valley	Municipal
Mission Recycling Depot	Mission	Fraser Valley	Municipal
Regional Recycling Abbotsford	Abbotsford	Fraser Valley	Private
Sunshine Valley Transfer Station	Cawston	Fraser Valley	Municipal
ABC Metals Recycling	Terrace	Kitimat - Stikine	Private
Hazelton Landfill	Hazelton	Kitimat - Stikine	Municipal
Stewart Landfill	Stewart	Kitimat - Stikine	Municipal
Thornhill Transfer Station	Thornhill	Kitimat - Stikine	Municipal
Christina Lake Transfer Station	Christina Lake	Kootenay Boundary	Municipal
Columbia Recycle 1996 Ltd	Trail	Kootenay Boundary	Private
Grand Forks Landfill	Grand Forks	Kootenay Boundary	Municipal
Rock Creek Transfer Station	Rock Creek	Kootenay Boundary	Municipal
West Boundary (Greenwood) Landfill	Greenwood	Kootenay Boundary	Municipal
ABC Metals Recycling	Burnaby	Metro Vancouver	Private
ABC Metals Recycling	Surrey	Metro Vancouver	Private
ACA Metal Recycle	Richmond	Metro Vancouver	Private
Allied Salvage And Metals Ltd.	Richmond	Metro Vancouver	Private
B-Line Appliance Recycling	Burnaby	Metro Vancouver	Private
Capital Salvage Company	Vancouver	Metro Vancouver	Private
City of Burnaby Eco-Centre (Burnaby Recycling Depot)	Burnaby	Metro Vancouver	Municipal
City of Richmond Recycling Depot	Richmond	Metro Vancouver	Municipal
Coquitlam Transfer Station (Wastech Services Ltd.)	Coquitlam	Metro Vancouver	Municipal
Davis Trading	Vancouver	Metro Vancouver	Private
Ecowaste Industries Ltd.	Richmond	Metro Vancouver	Private
Fraser Valley Metal Exchange	Maple Ridge	Metro Vancouver	Private

Collection Site	City	Regional District	Type
Happy Stan's Recycling Services Ltd.	Port Coquitlam	Metro Vancouver	Private
Langley Transfer Station	Aldergrove	Metro Vancouver	Municipal
Mac's Traders Inc.	Langley	Metro Vancouver	Private
Metro Metal Recycling aka JG Recycling	Delta	Metro Vancouver	Private
New Westminster Recycling Depot	New Westminster	Metro Vancouver	Municipal
North Shore Transfer Station	North Vancouver	Metro Vancouver	Municipal
North Star Metal Recycling	Vancouver	Metro Vancouver	Private
Parsons Scrap Metal	Surrey	Metro Vancouver	Private
Regional Recycling Richmond	Richmond	Metro Vancouver	Private
Regional Recycling Vancouver	Vancouver	Metro Vancouver	Private
Richmond Steel Recycling - Richmond	Richmond	Metro Vancouver	Private
Ridge Meadows Recycling Society Depot	Maple Ridge	Metro Vancouver	Municipal
Schnitzer Steel Pacific Recycling	Surrey	Metro Vancouver	Private
Scotty & Son Metal Recycling	Surrey	Metro Vancouver	Private
Surrey Transfer Station	Surrey	Metro Vancouver	Municipal
Vancouver Landfill	Delta	Metro Vancouver	Municipal
Vancouver South Transfer Station	Vancouver	Metro Vancouver	Municipal
Westcoast Metal Recycling	Langley	Metro Vancouver	Private
7 Mile Landfill & Recycling	Black Creek	Mount Waddington	Municipal
Cormorant Island Recycling Depot (Alert Bay Recycling Depot)	Alert Bay	Mount Waddington	Municipal
Fox Disposal Services Ltd	Port Hardy	Mount Waddington	Private
Malcolm Island Transfer Station	Sointula	Mount Waddington	Municipal
Port Alice Transfer Station	Port Alice	Mount Waddington	Municipal
Woss Transfer Station	Woss	Mount Waddington	Municipal
Bellevue Trade Centre	Parksville	Nanaimo	Private
Carl's Metal Salvage	Nanaimo	Nanaimo	Private
Church Road Transfer Station	Parksville	Nanaimo	Municipal
DBL Disposal and Recycling	Nanaimo	Nanaimo	Private
Gabriola Island Recycling Organization	Gabriola	Nanaimo	Municipal
Nanaimo Recycling Exchange Society	Nanaimo	Nanaimo	Municipal
Parksville Bottle & Recycling Depot	Parksville	Nanaimo	Private
Regional District of Nanaimo Landfill	Nanaimo	Nanaimo	Municipal
Schnitzer Steel - Cassidy	Cassidy	Nanaimo	Private
Islands Solid Waste Landfill	Port Clements	North Coast	Municipal
Masset Transfer Station	Masset	North Coast	Municipal
Sandspit Transfer Station	Sandspit	North Coast	Municipal
Skeena-Queen Charlotte Regional Recycling Depot	Prince Rupert	North Coast	Municipal
Skidegate Transfer Station	Haida	North Coast	Municipal
Armstrong-Spallumcheen Regional Disposal Facility	Armstrong	North Okanagan	Municipal
Cherryville & Area E Regional Disposal Facility	Cherryville	North Okanagan	Municipal

Collection Site	City	Regional District	Type
Dead Or Alive Auto & Metals Recycling	Vernon	North Okanagan	Private
Greater Vernon Recycling and Disposal Facility	Vernon	North Okanagan	Municipal
Kingfisher Transfer Station	Kingfisher-Enderby	North Okanagan	Municipal
Lumby and Area D Regional Disposal Facility	Lumby	North Okanagan	Municipal
Northern Rockies Regional Municipality (NRRM) Landfill	Fort Nelson	Northern Rockies	Municipal
Action Salvage & Recycling (Action Steel Sales)	Penticton	Okanagan - Similkameen	Private
Campbell Mountain Landfill	Penticton	Okanagan - Similkameen	Municipal
Keremeos Transfer Station	Keremos	Okanagan - Similkameen	Municipal
Okanagan Falls Landfill	Okanagan Falls	Okanagan - Similkameen	Municipal
Oliver Landfill	Oliver	Okanagan - Similkameen	Municipal
Oliver Recycling & Salvage	Oliver	Okanagan - Similkameen	Private
Osoyoos & District Sanitary Landfill	Osoyoos	Okanagan - Similkameen	Private
Princeton landfill	Princeton	Okanagan - Similkameen	Municipal
Puds Auto Wrecking Ltd	Osoyoos	Okanagan - Similkameen	Private
Summerland Landfill Recycling Depot	Summerland	Okanagan - Similkameen	Municipal
ABC Metals Recycling	Fort St. John	Peace River	Private
Bessborough Landfill	Dawson Creek	Peace River	Municipal
Cecil Lake Transfer Station	Fort St. John	Peace River	Municipal
Chetwynd Landfill	Chetwynd	Peace River	Municipal
Dawson Creek Transfer Station	Dawson Creek	Peace River	Municipal
Fort St. John Landfill (North Peace Regional Landfill)	Fort St. John	Peace River	Municipal
Hudson's Hope Landfill	Hudson's Hope	Peace River	Municipal
Kelly Lake Transfer Station	Tomslake	Peace River	Municipal
Prespatou Transfer Station	Prespatou	Peace River	Municipal
Recycle-It Resource Recovery	Fort St. John	Peace River	Private
Richmond Steel Recycling - Fort St. John	Fort St. John	Peace River	Private
Rose Prairie Transfer Station	Rose Prairie	Peace River	Municipal
Tomslake Transfer Station	Tomslake	Peace River	Municipal
Wonowon Transfer Station	Wonowon	Peace River	Municipal
Augusta Recyclers PLRD	Powell River	Powell River	Private
Blackpoint Auto Recyclers	Powell River	Powell River	Private
Lasqueti Island Landfill and Transfer Site	Lasqueti Island	Powell River	Municipal
Texada Island Transfer Station	Gilles Bay	Powell River	Municipal
ASM Squamish Scrap Metal Ltd.	Squamish	Squamish - Lillooet	Private
Gold Bridge Transfer Station	Gold Bridge	Squamish - Lillooet	Municipal
Lillooet Landfill & Recycling Centre	Lillooet	Squamish - Lillooet	Municipal
Pemberton Recycling Centre	Pemberton	Squamish - Lillooet	Private
Pemberton Transfer Station	Pemberton	Squamish - Lillooet	Municipal
Regional Recycling Whistler	Whistler	Squamish - Lillooet	Private
Squamish Landfill	Squamish	Squamish - Lillooet	Municipal

Collection Site	City	Regional District	Type
Whistler Waste Transfer Station	Whistler	Squamish - Lillooet	Municipal
ABC Metals Recycling	Campbell River	Strathcona	Private
Campbell River Waste Management Centre	Campbell River	Strathcona	Municipal
Cortes Island Recycling Centre	Cortes Island	Strathcona	Municipal
Schnitzer Steel	Campbell River	Strathcona	Private
Village of Gold River Public Works Yard (Gold River Waste Management Center)	Gold River	Strathcona	Municipal
Village of Zeballos Landfill	Zeballos	Strathcona	Municipal
Zeballos Public Works Yard (Metal Pile)	Zeballos	Strathcona	Municipal
By-Pass Truck & Equipment Recyclers (WTM Recycling Services)	Gibsons	Sunshine Coast	Private
Pender Harbour Transfer Station	Garden Bay	Sunshine Coast	Municipal
Sechelt Landfill	Sechelt	Sunshine Coast	Municipal
70 Mile House Eco-Depot	70 Mile House	Thompson - Nicola	Municipal
Barnhartvale Landfill	Kamloops	Thompson - Nicola	Municipal
Blue River Transfer Station	Blue River	Thompson - Nicola	Municipal
Cache Creek Refuse Transfer Station (Wastech Services Ltd)	Cache Creek	Thompson - Nicola	Municipal
Cariboo Salvage	Clinton	Thompson - Nicola	Private
Clearwater Eco Depot	Clearwater	Thompson - Nicola	Municipal
Clearwater Towing Ltd.	Clearwater	Thompson - Nicola	Private
Clinton Eco-Depot	Clinton	Thompson - Nicola	Municipal
Heffley Creek Eco-Depot	Heffley Creek	Thompson - Nicola	Municipal
Knutsford Eco-Depot	Knutsford	Thompson - Nicola	Municipal
Logan Lake Eco-Depot	Logan Lake	Thompson - Nicola	Municipal
Loon Lake	Clinton	Thompson - Nicola	Municipal
Louis Creek Eco Depot	Barriere	Thompson - Nicola	Municipal
Lower Nicola Eco Depot	Merritt	Thompson - Nicola	Municipal
Lytton Eco-Depot	Lytton	Thompson - Nicola	Municipal
Mission Flats Landfill	Kamloops	Thompson - Nicola	Municipal
Noreen's Reuse It and Recycle It	Cache Creek	Thompson - Nicola	Private
North West Metal Recycling	Kamloops	Thompson - Nicola	Private
Paul Lake Transfer Station	Kamloops	Thompson - Nicola	Municipal
Pritchard / South Thompson Eco Depot	Chase	Thompson - Nicola	Municipal
Richmond Steel Recycling - Kamloops (Kamloops Scrap Iron Ltd)	Kamloops	Thompson - Nicola	Private
Savona Transfer Station	Savona	Thompson - Nicola	Municipal
Spences Bridges Transfer Station	Spences Bridges	Thompson - Nicola	Municipal
Wastech Services Ltd. - Clinton	Clinton	Thompson - Nicola	Municipal
Westwold Eco-Depot	Westwold	Thompson - Nicola	Municipal

Table 9: Collection Sites that Accept MARR Program Product Added in 2017

Collection Facility	City	Regional District	Type
Alpine Disposal & Recycling	Langford	Capital	Private
Ellice Recycle Ltd	Victoria	Capital	Private
Salt Spring Garbage	Salt Spring Island	Capital	Private
Sandy's Auto Wreckers	Langford	Capital	Private
Schnitzer Steel - Victoria	Victoria	Capital	Private
Boswell Transfer Station	Boswell	Central Kootenay	Municipal
Western Auto Wreckers Ltd.	Nelson	Central Kootenay	Private
Eric's Refrigeration & Appliances	Kelowna	Central Okanagan	Private
Westside Used Auto Parts	Salmon Arm	Columbia - Shuswap	Private
Courtenay Return-It Depot	Courtenay	Comox Valley	Private
Ernest A. Maxwell Enterprises Ltd.	Mill Bay	Cowichan Valley	Private
Malahat Metal Recycling	Malahat	Cowichan Valley	Private
Allen's Scrap & Salvage Ltd.	Prince George	Fraser - Fort George	Private
Bear Lake Regional Transfer Station	Bear Lake	Fraser - Fort George	Municipal
Cummings Road Transfer Station	Prince George	Fraser - Fort George	Municipal
Hixon Transfer Station	Hixon	Fraser - Fort George	Municipal
McBride Transfer Station	McBride	Fraser - Fort George	Municipal
Quinn Street Recycling Station	Prince George	Fraser - Fort George	Municipal
Richmond Steel Recycling - Prince George	Prince George	Fraser - Fort George	Private
Salvation Army	Prince George	Fraser - Fort George	Private
Shelley Regional Transfer Station	Prince George	Fraser - Fort George	Municipal
Valemount Transfer Station	Valemount	Fraser - Fort George	Municipal
Vanway Transfer and Recycle Station	Prince George	Fraser - Fort George	Municipal
Abbotsford Community Services	Abbotsford	Fraser Valley	Municipal
First Class Transfer Station	Abbotsford	Fraser Valley	Private
Mission Recycling Depot	Mission	Fraser Valley	Municipal
Thornhill Transfer Station	Thornhill	Kitimat - Stikine	Municipal
ACA Metal Recycle	Richmond	Metro Vancouver	Private
Allied Salvage And Metals Ltd.	Richmond	Metro Vancouver	Private
B-Line Appliance Recycling	Burnaby	Metro Vancouver	Private
Metro Metal Recycling aka JG Recycling	Delta	Metro Vancouver	Private
North Star Metal Recycling	Vancouver	Metro Vancouver	Private
Parsons Scrap Metal	Surrey	Metro Vancouver	Private
Richmond Steel Recycling - Richmond	Richmond	Metro Vancouver	Private
Scotty & Son Metal Recycling	Surrey	Metro Vancouver	Private
Bellevue Trade Centre	Parksville	Nanaimo	Private
DBL Disposal and Recycling	Nanaimo	Nanaimo	Private
Schnitzer Steel - Cassidy	Cassidy	Nanaimo	Private
Skidegate Transfer Station	Haida	North Coast	Municipal

Collection Facility	City	Regional District	Type
Oliver Recycling & Salvage	Oliver	Okanagan - Similkameen	Private
Recycle-It Resource Recovery	Fort St. John	Peace River	Private
Richmond Steel Recycling - Fort St. John	Fort St. John	Peace River	Private
Lasqueti Island Landfill and Transfer Site	Lasqueti Island	Powell River	Municipal
Pemberton Recycling Centre	Pemberton	Squamish - Lillooet	Private
Cortes Island Recycling Centre	Cortes Island	Strathcona	Municipal
By-Pass Truck & Equipment Recyclers (WTM Recycling Services)	Gibsons	Sunshine Coast	Private
Cache Creek Refuse Transfer Station (Wastech Services Ltd)	Cache Creek	Thompson - Nicola	Municipal
Cariboo Salvage	Clinton	Thompson - Nicola	Private
Clearwater Towing Ltd.	Clearwater	Thompson - Nicola	Private
Noreen's Reuse It and Recycle It	Cache Creek	Thompson - Nicola	Private
North West Metal Recycling	Kamloops	Thompson - Nicola	Private
Wastech Services Ltd. - Clinton	Clinton	Thompson - Nicola	Municipal

Table 10: Collection Sites No Longer Accepting Some or All MARR Program Product

Collection Site	City	Regional District	Type
ACRD Recycling Depot	Port Alberni	Alberni - Clayoquot	Municipal
Westshore Auto Recycling / AMP Disposal	Sooke	Capital	Private
MC Metal Recycling	Revelstoke	Columbia - Shuswap	Private
Starlite Auto	Sorrento	Columbia - Shuswap	Private
Kool Country Auto Parts	Invermere	East Kootenay	Private
Matsqui Transfer Station	Abbotsford	Fraser Valley	Municipal
A-Star Automotive Recyclers Ltd.	Prince George	Fraser - Fort George	Private
Kitimat Landfill	Kitimat	Kitimat - Stikine	Municipal
Terrace Landfill	Terrace	Kitimat - Stikine	Municipal
Beaverdell Transfer Station	Beaverdell	Kootenay Boundary	Municipal
Big Y Auto	Grand Forks	Kootenay Boundary	Private
AABC Recycler's Group	Richmond	Metro Vancouver	Private
Regional Recycling	Surrey	Metro Vancouver	Private
Regional Recycling Burnaby	Burnaby	Metro Vancouver	Private
Regional Recycling Nanaimo	Nanaimo	Nanaimo	Private
Regional Recycling Nanaimo	Nanaimo	Nanaimo	Private
Regional Regional Recycling Nanaimo Bottle Depot - Fremont	Nanaimo	Nanaimo	Private
Tumbler Ridge Transfer Station	Groundbirch	Peace River	Municipal
Village of Tahsis Landfill	Tahsis	Strathcona	Municipal
Gibsons Recycling Depot	Gibsons	Sunshine Coast	Municipal

APPENDIX D: Number of Collection Sites that Accept Major Appliances by Regional District

Table 11: Collection Sites Identified that Accept MARR Appliances by Regional District

Regional District	Number of Sites
Alberni - Clayoquot	4
Bulkley - Nechako	8
Capital	12
Cariboo	25
Central Coast	1
Central Kootenay	19
Central Okanagan	6
Columbia - Shuswap	13
Comox	3
Cowichan Valley	6
East Kootenay	10
Fraser - Fort George	14
Fraser Valley	14
GVRD (Metro Vancouver)	30
Kitimat - Stikine	4
Kootenay Boundary	5
Mt. Waddington	6
Nanaimo	9
North Coast	4
North Okanagan	6
Northern Rockies	1
Okanagan - Similkameen	10
Peace River	14
Powell River	4
Squamish - Lillooet	8
Strathcona	7
Sunshine Coast	3
Thompson - Nicola	25
TOTAL	**272**

APPENDIX E: 2017 MARR Non-Financial Audit

MAJOR APPLIANCE RECYCLING ROUNDTABLE

INDEPENDENT REASONABLE ASSURANCE REPORT

31 DECEMBER 2017

ROLFE, BENSON LLP
CHARTERED PROFESSIONAL ACCOUNTANTS

1500 – 1090 West Georgia Street
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INDEPENDENT REASONABLE ASSURANCE REPORT

To the Directors of
Major Appliance Recycling Roundtable,

Assurance Level and Selected Information

We have been engaged by Major Appliance Recycling Roundtable ("MARR") to perform a reasonable assurance engagement in respect of the following information (the "Selected Information"), detailed in Appendix 1, and also included within MARR's Annual Report to the Ministry of Environment for the year ended 31 December 2017:

- Section 4 - Collection System and Facilities and Appendix C - the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of BC Regulation 449/2004 (the "Recycling Regulation");
- Section 6 - Pollution Prevention Hierarchy and Product/Component Management - the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- Section 7 - Product Collected - the description of how total amounts of the producer's product collected has been calculated in accordance with Section 8(2)(e) of the Recycling Regulation; and
- Section 9 - Plan Performance - the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.

Our reasonable assurance engagement does not constitute a legal determination on MARR's compliance with Sections 8(2)(b), (d) and (e) of the Recycling Regulation.

Responsibilities

Preparation and fair presentation of the Selected Information in accordance with the evaluation criteria as listed in Appendix 1 is the responsibility of MARR'S management. Management is also responsible for such internal control as management determines is necessary to enable the preparation of the Selected Information such that it is free from material misstatement. Furthermore management is responsible for preparation of suitable evaluation criteria in accordance with the Guide to Third Party Assurance Requirements for Non-Financial Information in Annual Reports – 2017 Reporting Year dated October 2017 as specified by the Director under section 8(2)(h) of the Recycling Regulation of the Province of British Columbia.

Our responsibility is to express an opinion on the Selected Information based on the procedures we have performed and the evidence we have obtained.

Evaluation Criteria

The evaluation criteria presented in Appendix 1 are an integral part of the Selected Information and address the relevance, completeness, reliability, neutrality and understandability of the Selected Information.

Applicable Quality Control Requirements

We apply Canadian Standard on Quality Control 1 and, accordingly, maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Scope of the Reasonable Assurance Engagement

We carried out our reasonable assurance engagement in accordance with the International Standard on Assurance Engagements 3000 (ISAE 3000) published by the International Federation of Accountants. This Standard requires that we comply with independence requirements and plan and perform the engagement to obtain reasonable assurance about whether the Selected Information is free of material misstatement.

A reasonable assurance engagement includes examining, on a test basis, evidence supporting the amounts and disclosures within the Selected Information. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement in the Selected Information due to omissions, misrepresentations and errors. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the Selected Information in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the entity's internal control. A reasonable assurance engagement also includes assessing the evaluation criteria used and significant estimates made by management, as well as evaluating the overall presentation of the Selected Information. The main elements of our work were:

- Gain an understanding of the data collection, monitoring and reporting processes through inquiries of management;
- Evaluating the qualifications and independence of contractors used to help prepare the 2017 System Study Update to the Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia (the "System Study Update");
- Testing the processes, documents and records on a sample basis;
- Re-calculating quantitative data on a sample basis as it pertains to the Selected Information; and

- Ensuring the Selected Information is presented consistently in the Annual Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Inherent Limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the Selected Information and the methods used for determining and calculating such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments. Furthermore, the nature and methods used to determine such information, as well the evaluation criteria and the precision thereof, may change over time. It is important to read our report in the context of evaluation criteria.

Conclusion

In our opinion, the Selected Information within MARR's Annual Report for the year ended 31 December 2017 presents fairly, in all material respects, in accordance with the evaluation criteria listed in Appendix 1:

- the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation;
- the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- the description of how total amounts of the producer's product collected has been calculated in accordance with Section 8(2)(e) of the Recycling Program; and
- the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.

Emphasis of Matter

Without qualifying our opinion, the following should be noted regarding the information contained in the Annual Report:

1. The Selected Information included in Section 4 - Collection System and Facilities, and Section 7 - specifically relating to Products Collected and Section 9 - Plan Performance is based on information included in the System Study Update as described in Appendix 1. Additionally, the information included in Section 6 - Pollution Prevention Hierarchy and Product / Component Management is based on information in the 2013 System Study and was not included in the System Study Update. As such, there is uncertainty surrounding the information presented.
2. MARR does not present a recovery rate in the Annual Report. As such, the total amount of producer's products sold as presented on Table 3 - Total Sales of Major Appliances in BC (2017) has not been included in the Selected Information in accordance with the Guide to Third Party Assurance Requirements for Non-Financial Information in Annual Reports – 2017 Reporting Year dated October 2017 as specified by the Director under section 8(2)(h) of the Recycling Regulation of the Province of British Columbia.

3. Section 9 - Plan Performance of the Annual Report contains a performance target for capture rate which is not included in the scope of our reasonable assurance engagement under Section 8(2)(e) of the Recycling Regulation, and as such, this is not included in the Selected Information. Section 7.1 of MARR's approved stewardship plan as issued on 29 June 2012 incorrectly makes reference to a recovery rate target whereas the actual target presented in the stewardship plan is for capture rate.

Other Matter

Our report has been prepared solely for the purposes of management's stewardship under the Recycling Regulation and is not intended to be and should not be used for any other purpose. Our duties in relation to this report are owed solely to MARR, and accordingly, we do not accept any responsibility for loss occasioned to any other party acting or refraining from acting based on this report.

Rolfe, Benson LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

Vancouver, Canada
5 June 2018

Appendix 1
Evaluation Criteria
Collection facilities

Specific disclosures in the annual stewardship report from Section 4 - Collection System and Facilities for which evaluation criteria were developed	
Disclosure per Annual Report	**Reference**
Total number of collection sites – 272	Table 1 – Sites Identified that Accepted MARR Products (2017); Appendix C - Table 8 – Collection Sites Identified that Accept MARR Program Products by Regional District
"In addition to the numerous pick-up services for major appliances offered by retailers and some municipalities, the System Study Update identified 272 locations across BC that accepted some or all household major appliances for drop off, including the addition of 52 sites and the removal of 20. The System Study Update employed a different methodology in 2017 than 2016. In 2017, the survey identified sites that accepted some or all major appliances, while the 2016 System Study Update identified those sites that accepted all major appliances only." "The list of collectors provided is based on reports of which sites were accepting major appliances and represents the best available information as of April 2018. This list is not exhaustive, nor guaranteed to be current, due to ongoing changes in business operations. The list only includes local government and private/non-profit collector drop off sites, and does not include the numerous collection options that may be offered through retailers, utility bounty programs or other possible pick up options."	

The following evaluation criteria were applied to the assessment of the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation:

- The number and location of collection facilities have been determined using the information included in *The Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia*, dated 8 May 2014 ("2013 System Study") which was originally prepared for the 2013 fiscal year and has been updated to reflect 2017 fiscal year data ("System Study Update").
- The content of the System Study Update appears to be sufficient to meet the reporting requirements of MARR to the British Columbia Ministry of Environment with respect to the number and location of collection facilities.
- The System Study Update was performed by MARR with the support of a third party consultant who reviewed the procedures, methods and calculations used in the System Study Update and provided a letter of assurance thereon.
- The third party consultant involved in the System Study Update is independent from MARR and has no business relationship outside of the System Study Update. Their qualifications appear sufficient to be able to prepare the report.
- The number and location of collection facilities as disclosed in the Annual Report agrees with the information included in the System Study Update.
- The change in the number of collection facilities is determined by comparing the estimated number of collection facilities between the 2016 and 2017 System Study Updates. In 2016, a collection facility was defined as a site that accepted all major appliances whereas in 2017 a collection facility was defined as a site that collected some or all major appliances.

Pollution prevention hierarchy

Specific disclosures in the annual stewardship report from Section 6 - Pollution Prevention Hierarchy and Product/Component Management for which evaluation criteria were developed	
Disclosure per Annual Report	**Reference**
Ferrous Metal - Recycled Non Ferrous Metal - Recycled Plastic - Landfilled Refrigerant - Recycled or Safely Destroyed Other - Landfilled	Table 2: Downstream Management Process of Materials Streams
"The following information is based on the understanding of the free market system, as well as findings from the System Study completed by MARR in 2014 reflecting the 2013 fiscal year. The System Study involved surveying industry participants with regard to collection volumes and product management practices. No further due diligence was performed on the information in terms of site visits or other investigations and therefore there is some degree of uncertainty surrounding the end fate of the products."	
"As major appliance recycling utilizes the existing market-driven system, MARR does not contract directly with collectors or processors, and is therefore not able to obtain information on percentages of materials processed. Volumes and percentages reported are based on estimates derived from survey responses obtained from collectors and processors as part of MARR's System Study."	
"The material composition of major appliances is reported to be approximately 75% metal. Of this metal, processors report that 98% of ferrous and non-ferrous metal that enters the shredder is recovered and recycled back into the commodities market." "Prior to shredding, products undergo decommissioning to remove refrigerant and to look for any other substances of concern. In general, the System Study identified that refrigerant was extracted responsibly, but that some gaps remained. The vast majority of retailers transferred major appliances with refrigerant to secondary collectors, and most processors use third party providers to remove ODS or they had onsite staff to perform refrigerant removal. At local government sites that accept appliances with refrigerants, most contracted out the removal of refrigerants as part of the scrap metal removal contract. Refrigerant removal generally occurred at the first location to receive the appliance. The refrigerant was removed by a technician and subsequently sent for recycling or destruction." "Very few appliances reaching EoL contain mercury switches or PCBs though some contain heavy metals (e.g., circuit boards), mercury (i.e., fluorescent lights), compressor oil and polyurethane foam (i.e., insulation)." "It is estimated that 74% of materials are recycled (mostly ferrous and non-ferrous metal). The remaining 26%, including plastic, glass, rubber and foam, does not undergo further processing, and is currently sent to landfill."	

The following evaluation criteria were applied to the assessment of how the recovered product is managed in accordance with the pollution prevention hierarchy in accordance with Section 8(2)(d) of the Recycling Regulation:

- The information on product management has been determined based on MARR's general understanding of the free market collection system and by using the information included in *The Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia*, dated 8 May 2014 ("2013 System Study") which was originally

prepared for the 2013 fiscal year. The Systems Study Update for the 2017 fiscal year did not include an extrapolation of the product management data to the 2017 fiscal year.

- The content of the 2013 System Study appears to be sufficient to meet the reporting requirements of MARR to the British Columbia Ministry of Environment with respect to the product management.
- The third party consultant involved in the 2013 System Study was independent from MARR and had no business relationship outside of the System Study. Their qualifications appeared sufficient to be able to prepare the report.

Product collected

Specific disclosures in the annual stewardship report from Section 7 - Product Sold and Collected and Recovery Rate for which evaluation criteria were developed	
Disclosure per Annual Report	**Reference**
Product collected Estimated tonnes of product collected – 38,650	Table 4: Estimated Tonnes of Collected Major Appliances by Region (2017)

The following evaluation criteria were applied to the assessment of the description of how total amounts of the producer's product collected has been calculated in accordance with Section 8(2)(e) of the Recycling Regulation:

Product Collected:

- The Estimated Tonnes of Collected Major Appliances have been determined using the information included in *The Study on the Operations and Effectiveness of the Major Appliance Collection and Recycling System in British Columbia*, dated 8 May 2014 ("2013 System Study") which was originally prepared for the 2013 fiscal year and has been updated to reflect 2017 fiscal year data ("System Study Update").
- The content of the System Study Update appears to be sufficient to meet the reporting requirements of MARR to the British Columbia Ministry of Environment with respect to the product collected.
- The System Study Update was performed by MARR with the support of a third party consultant who reviewed the procedures, methods and calculations used in the System Study Update and provided a letter of assurance thereon.
- The third party consultant involved in the System Study Update is independent from MARR and has no business relationship outside of the System Study Update. Their qualifications appear sufficient to be able to prepare the report.
- The volumes of product collected as disclosed in the Annual Report agree with the estimated collection volumes as reported in the System Study Update.

APPENDIX F: 2017 MARR Financial Statements

MAJOR APPLIANCE RECYCLING ROUNDTABLE

FINANCIAL STATEMENTS

31 DECEMBER 2017

MAJOR APPLIANCE RECYCLING ROUNDTABLE
Financial Statements
For the year ended 31 December 2017

Contents

ROLFE, BENSON LLP
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INDEPENDENT AUDITORS' REPORT

To the Members,
Major Appliance Recycling Roundtable

Report on the Financial Statements

We have audited the accompanying financial statements of Major Appliance Recycling Roundtable, which comprise the statement of financial position as at 31 December 2017, and the statements of changes in net assets, operations and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the organization's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the organization's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

INDEPENDENT AUDITORS' REPORT - Continued

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Major Appliance Recycling Roundtable as at 31 December 2017, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Rolfe, Benson LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

Vancouver, Canada
5 June 2018

MAJOR APPLIANCE RECYCLING ROUNDTABLE
Statement of Financial Position
31 December 2017

	2017	2016
Assets		
Current		
Cash and cash equivalents	**$ 1,537,202**	$ 1,010,810
Accounts receivable (Note 4)	**538,793**	327,329
Prepaid expenses	**28,084**	5,634
GST receivable	**-**	7,922
	2,104,079	1,351,695
Reserve Fund (Note 5)	**300,813**	300,813
Tangible capital assets (Note 6)	**-**	1,097
	$ 2,404,892	$ 1,653,605
Liabilities		
Current		
Accounts payable and accrued liabilities	**$ 61,511**	$ 81,667
GST payable	**206,528**	-
	268,039	81,667
Net Assets		
Unrestricted	**1,836,040**	1,271,125
Internally Restricted Reserve (Note 5)	**300,813**	300,813
	2,136,853	1,571,938
	$ 2,404,892	$ 1,653,605

APPROVED BY THE DIRECTORS:

_____ Director _____ Director

The accompanying notes are an integral part of these financial statements.

MAJOR APPLIANCE RECYCLING ROUNDTABLE
Statement of Changes in Net Assets
For the year ended 31 December 2017

	Unrestricted	Internally Restricted Reserve	Total 2017	Total 2016
Balance - beginning of year	$ 1,271,125	$ 300,813	**$ 1,571,938**	$ 1,048,131
Excess of revenues over expenses for the year	564,915	-	**564,915**	523,807
Balance - end of year	**$ 1,836,040**	**$ 300,813**	**$ 2,136,853**	$ 1,571,938

The accompanying notes are an integral part of these financial statements.

MAJOR APPLIANCE RECYCLING ROUNDTABLE
Statement of Operations
For the year ended 31 December 2017

	2017	2016
Revenues	**$ 1,286,583**	$ 1,232,250
Expenses		
Program administration	**600,485**	470,893
Research and studies	**88,725**	211,458
Communications	**32,458**	26,092
	721,668	708,443
Excess of revenues over expenses for the year	**$ 564,915**	$ 523,807

The accompanying notes are an integral part of these financial statements.

MAJOR APPLIANCE RECYCLING ROUNDTABLE
Statement of Cash Flows
For the year ended 31 December 2017

	2017	2016
Cash provided by (used in):		
Operating activities		
Excess of revenues over expenses for the year	**$ 564,915**	$ 523,807
Item not involving cash		
Amortization	**1,097**	1,096
	566,012	524,903
Changes in non-cash working capital balances		
Accounts receivable	**(211,464)**	(94,739)
Prepaid expenses	**(22,450)**	(2,928)
GST	**214,450**	(10,677)
Accounts payable and accrued liabilities	**(20,156)**	22,418
	526,392	438,977
Investing activities		
Transfer to reserve fund	**-**	(603)
Purchase of tangible capital assets	**-**	(2,193)
	-	(2,796)
Net increase in cash and cash equivalents	**526,392**	436,181
Cash and cash equivalents - beginning of year	**1,010,810**	574,629
Cash and cash equivalents - end of year	**$ 1,537,202**	$ 1,010,810
Cash and cash equivalents consists of:		
Cash	**$ 1,487,164**	$ 1,003,310
Term deposit	**50,038**	7,500
	$ 1,537,202	$ 1,010,810

The accompanying notes are an integral part of these financial statements.

1. Incorporation

Major Appliance Recycling Roundtable ("MARR") was incorporated under the Canada Not-for-Profit Corporations Act on 17 July 2012 and commenced operations on 1 August 2013. MARR is a not-for-profit organization and it is not subject to income taxes providing certain requirements are met. MARR currently operates a stewardship program in the Province of British Columbia to assist the major appliance producers in discharging their obligation to establish end of life product collection and recycling programs under the British Columbia Recycling Regulations.

2. Summary of significant accounting policies

These financial statements are prepared in accordance with Canadian accounting standards for not-for-profit organizations. The significant policies are detailed as follows:

(a) Revenue recognition

Revenue from administrative program fees ("APF") is recognized at the time an APF applicable product is sold by a member of MARR, and the APF becomes due and payable. APF's are received from registered members which participate in MARR's programs. MARR recognizes these fees as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured. APF revenues are recognized as individual members report and remit them as required by applicable provincial environmental legislation.

(b) Cash and cash equivalents

MARR's policy is to disclose bank balances under cash and cash equivalents, including bank overdrafts with balances that fluctuate frequently from being positive to overdrawn and term deposits with a maturity period of three months or less from the date of acquisition.

(c) Financial instruments

(i) Measurement of financial instruments

MARR initially measures its financial assets and liabilities at fair value and subsequently measures all of its financial assets and financial liabilities at amortized cost.

Financial assets measured at amortized cost include cash and cash equivalents, accounts receivable and the reserve fund.

Financial liabilities measured at amortized cost include accounts payable and accrued liabilities.

2. Summary of significant accounting policies - Continued

(c) Financial instruments - Continued

(ii) Impairment

Financial assets measured at cost are tested for impairment when there are indicators of impairment. The amount of the write-down is recognized in the statement of operations. The previously recognized impairment loss may be reversed to the extent of the improvement, directly or by adjusting the allowance account, provided it is no greater than the amount that would have been reported at the date of the reversal had the impairment not been recognized previously. The amount of the reversal is recognized in the statement of operations.

(iii) Transaction costs

MARR recognizes its transaction costs in the statement of operations in the period incurred. However, financial instruments that will not be subsequently measured at fair value are adjusted by the transaction costs that are directly attributable to their origination, issuance or assumption.

(d) Use of estimates

The preparation of financial statements in accordance with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amount of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reported period. Accounts subject to estimates include accrued liabilities and revenue recognized for APF's receivable. Actual results could differ from these estimates.

3. Financial instruments risks

MARR is exposed to various risks through its financial instruments. The following analysis provides a measure of MARR's risk exposure and concentrations at the statement of financial position date, 31 December 2017.

(a) Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. MARR’s main credit risks relate to its cash and cash equivalents and accounts receivable. Cash and cash equivalents is in place with major financial institutions. Concentrations of credit risk with respect to accounts receivable are limited due to the large number of members. MARR has evaluation and monitoring processes in place and writes off accounts when they are determined to be uncollectible. There has been no change to this risk exposure from the prior year.

3. Financial instruments risks - Continued

(b) Liquidity risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities. MARR is exposed to this risk mainly in respect of its accounts payable and accrued liabilities. MARR maintains adequate cash to meet obligations as they become due. There has been no change to this risk exposure from the prior year.

(c) Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk. MARR is exposed to interest rate risk.

(d) Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. MARR is exposed to interest rate risk on its fixed and floating interest rate financial instruments. Fixed-rate instruments subject the Entity to a fair value risk while the floating-rate instruments subject it to a cash flow risk. There has been no change to this risk exposure from the prior year.

4. Accounts receivable

	2017	2016
Accounts receivable	**$ 559,786**	$ 327,329
Allowance for doubtful accounts	**(20,993)**	-
	$ 538,793	$ 327,329

5. Reserve Fund

In a prior year, the Board of Directors passed a resolution to establish the Reserve Fund. The purposes of the Reserve Fund are as follows:

(a) To assist in stabilizing eco fees by being available to manage year to year volume fluctuations;

(b) To cover the costs of winding up the Program by the decision of the members or as a consequence of regulatory change, in an orderly manner, not to exceed one year;

5. Reserve Fund - Continued

(c) To cover any claims against the Program, Board of directors or staff in excess of the Program's insurance coverage;

(d) To cover the cost of unanticipated or extraordinary items;

(e) To make available interim funding for program expansion;

(f) To fund other special projects (such as the acquisition or construction of a building);

(g) To fund the purchase of capital equipment; and

(h) To act as a sinking fund to cover the cost of managing products with long life spans, for which collection may occur well in the future.

Transfers to the Reserve Fund are made upon resolutions passed by the Board of Directors. Total contributions to the Reserve Fund are not to exceed one year's operating expenses.

The Reserve Fund consists of an investment in a commercial savings account and is managed in accordance with MARR's investment policy. During the year, $Nil (2016 - $603) was transferred from unrestricted net assets to the Reserve Fund.

6. Tangible capital assets

	Cost	**Accumulated Amortization**	**2017 Net**	2016 Net
Computer equipment	**$ 1,905**	**$ 1,905**	**$ -**	$ 1,097