

# **BC Major Appliance Stewardship Plan**

## **Draft for Consultation**

Product Category:

Major Household Appliances within the Electronic and Electrical Product Category

**Submitted to the Ministry of Environment by:  
Major Appliance Recycling Roundtable**

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## Glossary of Terms and Abbreviations

AHAM	Association of Home Appliance Manufacturers
APF	Administrative Program Fee
Capture Rate	The estimated weight of products collected in a given year divided by the estimated weight of products “available to collect” (that is, the amount reaching end-of-life in the same year)
Collection site	Facility that accepts end-of-life major appliances
DfE	Design for the Environment
EoL	End-of-life
EPR	Extended Producer Responsibility
GHG	Greenhouse gases
GWP	Global Warming Potential
IC&I	Industrial, commercial and/or institutional
LGAC	Local Government Advisory Council
Local Government	Municipalities, regional districts and First Nation governments
MARR	Major Appliance Recycling Roundtable
ODS	Ozone Depleting Substances (includes all halocarbon refrigerants) from products that utilize a vapor-compression refrigeration system
RCBC	Recycling Council of British Columbia
RCC	Retail Council of Canada
SABC	Stewardship Agencies of BC

# 1. Introduction

In British Columbia, the Recycling Regulation<sup>1</sup> under the *Environmental Management Act* sets out the requirements for extended producer responsibility (EPR), including the requirement for approved product stewardship plans. The requirements for product stewardship plans are outlined in section 4 of the Recycling Regulation, stating:

*“A producer must submit a product stewardship plan, at the time specified in the applicable Schedule, if any, and in a manner and format satisfactory to a director, for the products within the product category of the product the producer sells, offers for sale, distributes or uses in a commercial enterprise in British Columbia.”*

This five-year product stewardship plan for major household appliances (“Stewardship Plan”) is being submitted by the Major Appliance Recycling Roundtable (“MARR”) in accordance with the Recycling Regulation under the *Environmental Management Act*. The Stewardship Plan covers major household appliances contained within the electronic and electrical product category of the Recycling Regulation, and includes the following major product types<sup>2</sup>:

- 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

This Stewardship Plan replaces the previous stewardship plan for major appliances submitted by the Association of Home Appliance Manufacturers Canada (AHAM Canada) and the Retail Council of Canada (RCC) approved on June 29, 2012.

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<sup>1</sup> British Columbia Ministry of Environment, BC *Recycling Regulation*, BC Reg. 449/2004, as amended B.C. Reg. 88/2014, May 23, 2014. Accessed at [http://www.bclaws.ca/civix/document/id/complete/statreg/449\\_2004](http://www.bclaws.ca/civix/document/id/complete/statreg/449_2004).

<sup>2</sup> For an up-to-date listing of the products covered by the Stewardship Plan, please refer to the detailed list of included and excluded products available at: <http://www.marrbc.ca/participants/products>

## 2. Duty of the Producer

As per section 2(1) of the Recycling Regulation under the *Environmental Management Act*:

*“Except as otherwise specifically provided in this regulation, a producer must*

- (a) have an approved plan under Part 2 [Product Stewardship Plans] and comply with the approved plan, or*
- (b) comply with Part 3 [Product Stewardship Program Requirements If No Product Stewardship Plan]*

*with respect to a product in order to sell, offer for sale, distribute or use in a commercial enterprise the product in British Columbia.”*

### 3. Appointment of the Stewardship Agency

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 BC. It acts on behalf of producers of major appliances who are obligated under the BC Recycling Regulation.

In registering, each producer must sign an Agency Appointment Agreement<sup>3</sup> that formalizes the role of MARR as its agent to carry out the duties of the producer as set out in section 2(2) of the Recycling Regulation. This Stewardship Plan confirms the duties that MARR will perform on behalf of each registered producer. Copies of membership agreements are available upon request to the Director.

The MARR program is open to all obligated producers of major household appliances in BC, including manufacturers, wholesalers and retailers. A current list of registered participants is available on MARR's website at <http://www.marrbc.ca/participants/registered>. As of February 20, 2017, there were 110 individual companies registered with MARR.

As MARR currently administers the only approved stewardship plan for major household appliances in BC, it is expected that member producers represent the vast majority of major appliance sales in the province. With representation from major manufacturers, retailers and wholesalers, the more than 100 registered participants of MARR reported total unit sales of 949,067 major appliances for 2015 across all product types. A list of the registered participants currently participating in the MARR program can be found here: <http://www.marrbc.ca/documents/MARR-Registered-Participant-List.pdf>

Information for consumers on how to recycle major appliances, including a list of collection sites, is easily found on the MARR website at the following links:

- How to Recycle: <http://www.marrbc.ca/consumers/recycle>
- Collection Sites: <http://www.marrbc.ca/collection-site-locator>

To increase public awareness of the stewardship program, MARR provides point-of-sale materials to retailers, wholesalers and other organizations to explain the stewardship program to customers and other stakeholders. Point-of-sale materials, as well as a document with Frequently Asked Questions, are available on the MARR website at <http://www.marrbc.ca/participants/pos>.

#### Agency Governance

MARR is a not-for-profit stewardship agency incorporated under the *Canada Not-for-Profit Corporations Act* on July 17, 2012. The Retail Council of Canada and the Association of Home Appliance Manufacturers are the corporation's two members. MARR is governed by a Board of Directors comprised of representatives from major appliance manufacturers and retailers. The MARR Board currently includes representatives from Whirlpool Canada, Samsung Electronics Canada, Electrolux, Home Depot Canada, the Association of Home Appliance Manufacturers (Canada) and the Retail Council of Canada. A list of current board members is provided in the following table.

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<sup>3</sup> Available on MARR's website at <http://www.marrbc.ca/documents/MARR-Agency-Appointment-Agreement-May-1-2013.pdf>

**Table 1: MARR Board Members (as of May 2017)**

Name and Position	Affiliation
Warrington Ellacott, Chair	Whirlpool Canada LP
Bruce Rebel, Member	Association of Home Appliance Manufacturers (AHAM) Canada
Greg Wilson, Member	Retail Council of Canada (RCC)
Jeff Van Damme, Director	Samsung Electronics Canada
Norm MacNeil, Director	Electrolux
Grant Garrard, Director	Home Depot Canada

MARR maintains a high degree of transparency with its members and stakeholders by posting relevant policies, guidelines, reports and materials on its website. Rules and Policies, Annual Reports and Financial Statements are publicly available to members and stakeholders on the following webpages:

- Rules and Policies: <http://www.marrbc.ca/participants/register> and <http://www.marrbc.ca/participants/registered>
- Annual Reports and Financial Statements: <http://www.marrbc.ca/about>

The MARR-Local Government Advisory Council (MARR-LGAC) was created in 2013 to provide a forum for local governments involved in the collection of major household appliances to deliver their unique perspective and advice to MARR. The MARR-LGAC includes representation from regional districts and municipalities representing urban, rural and remote communities, allowing MARR to better understand municipal and regional needs, capabilities and capacities.<sup>4</sup>

## Performance Monitoring and Reporting Commitments

### Reporting Commitments

In its annual report to the BC Ministry of Environment, MARR will note any changes to its operational structure or Board of Directors since the previous annual report.

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<sup>4</sup> The current membership of the MARR-LGAC includes the Regional District of Mount Waddington, the Capital Regional District, the Metro Vancouver Regional District, the Regional District of Central Kootenay, the Regional District of Bulkley-Nechako, the Regional District of North Okanagan, and the City of Vancouver.

## 4. Products Covered Under the Stewardship Plan

This stewardship plan covers a variety of large appliances as listed under **2(1)(c)**, “electronic or electrical appliances” and detailed in **Schedule 3** of the **Electronic and Electrical Product** category of the BC Recycling Regulation under the *Environmental Management Act*.

The plan covers major appliances that have been designated for residential use in BC, provided they are electrical or electrically powered. However, it also includes:

- Products that are dual fuel natural gas or propane products, provided the other power source is electricity;
- Appliances used in or sold for industrial, commercial and/or institutional (IC&I) applications that have essentially the same design characteristics as major household appliances; and
- Products that are used for refrigeration or freezing that contain a compressor and/or refrigerant gases.

### MARR’s Stewardship Role

Currently there are no other agencies, aside from MARR, appointed to act in a product stewardship capacity for major appliances in British Columbia. As such, there are no other product stewardship agencies or plans covering the same products.

The stewardship plan covers the following products:

- 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; and
- Electric water dispensers.

For a detailed list of included products and relevant definitions, please refer to the MARR website:

<http://www.marrbc.ca/documents/MARR-Product-List-Definitions.pdf>

## 5. Stakeholder Consultation

### Consultation Undertaken Prior to Stewardship Plan Submission

A wide range of stakeholders will be consulted prior to the submission of this stewardship plan for approval. Stakeholders were engaged prior to the development of the plan, and will also be asked to participate in a series of consultation sessions to comment on the actual draft of the plan. The input gathered through the consultation activities will inform the final stewardship plan that is submitted to the BC Ministry of Environment.

The following stakeholder groups were consulted during the stewardship planning process:

#### Stakeholders Consulted

##### 1. Local Governments

Members of the Local Government Advisory Council (LGAC) were consulted to ensure MARR had a clear understanding of the unique challenges local governments face when it comes to major appliance recycling in BC. LGAC members represented both regional districts and municipalities, and provided insight and perspectives from urban, rural and remote communities across the province.

##### 2. First Nation Communities

It was important to the stewardship planning process to develop an understanding of the perspective and experience of First Nation communities with respect to major appliance recycling. Representatives of First Nation governments familiar with major appliance recycling were consulted, with their feedback and suggestions helping to inform MARR's understanding and development of options to improve product stewardship for major appliances in BC.

##### 3. MARR Member Organizations

Members of AHAM and the RCC were each consulted prior to the development of this plan. These organizations provided insight on the perspective of manufacturers and retailers of major appliances.

##### 4. ODS Removal Technicians

Through consultation with local governments, it was found that the technicians that remove ozone depleting substances (ODS) are critical to the recycling of cooling appliances (e.g., refrigerators, freezers and portable air conditioners). These service providers are trained in the removal of harmful chemicals from appliances, which is required prior to crushing and recycling end-of-life appliances.

##### 5. Metal Recyclers/Processors

This category includes companies involved in scrap metal collection, processing, consolidation and re-sale that may interact both directly and indirectly with other stakeholders involved in the recycling of EoL major appliances in BC.

## Summary of Consultation

The stakeholder consultation process included the following early stakeholder engagement initiatives:

- A focus group (webinar) with the MARR-LGAC to inform the stewardship plan development – April 24<sup>th</sup>, 2017
- A focus group (webinar) with First Nation representatives to inform the stewardship plan development – May 23<sup>rd</sup>, 2017
- Interviews with ODS removers and metal recyclers to inform the stewardship plan development – May 22<sup>nd</sup> to 30<sup>th</sup>, 2017

As a prerequisite to the finalization and filing of this stewardship plan with the BC Ministry of Environment, consultations also included the following activities:

- A draft of the plan posted on the MARR website for public comment over a three-week period between June 5<sup>th</sup> and June 23<sup>rd</sup>, 2017
- An email notification of the draft plan to MARR members
- Notification on the draft plan to the Chair of the BC Product Stewardship Council, the CEO of the Recycling Council of BC and the President along with the Executive Director of the Waste Management Association of BC to actively solicit feedback and participation from members
- An open public consultation (webinar) with all stakeholders – Week of June 12<sup>th</sup>
- Consultation with members of the BC Product Stewardship Council (webinar) – Week of June 12<sup>th</sup> (proposed)
- A follow-up consultation (webinar) with the MARR-LGAC – Week of June 19<sup>th</sup> (proposed)
- An in-person consultation at the Recycling Council of BC Conference – Alpine E Room, Westin Whistler Resort, June 21<sup>st</sup>, 2017, 10 am to 12 noon
- Written submissions provided by stakeholders

Appendix A provides a summary of the proceedings from the consultation process, along with responses to stakeholder submissions.

## Ongoing Stakeholder Consultation

MARR engages with stakeholders on an ongoing basis through:

- Consultation on MARR studies and reports
- Ongoing engagement with member organizations and registered participants
- Consultation with MARR-LGAC members

## 6. Collection System and Consumer Accessibility

With respect to the recycling of major household appliances, there exists a long-standing and effective market-based system for end-of-life (EoL) product management. 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 end-of-life. That is, collectors and processors of EoL major appliances have a financial incentive to recycle the product, as it can be a revenue-generating activity.

A recent study on the economics of major appliance recycling commissioned by MARR in 2016 (*Study of Major Appliance Recycling, Pricewaterhouse Coopers (PwC), February 17, 2017*) identified that some stakeholders involved in the existing collection system are not recouping their costs related to the collection and management of products covered under the stewardship plan that exceed the revenues associated with the sale of EoL materials. In particular, local governments such as regional districts, municipalities and First Nations that operate collection sites for major appliances claim they face administrative costs that exceed revenues generated from this activity. For example, local governments must often pay for the removal of ODS as well as transportation costs in order for the materials to be crushed, processed and transported to a metal recycler. Furthermore, low metal prices have reduced the potential revenue source for local governments and other industry participants, causing strain on the current market-based system. However, requested financial information was not available from most regional districts and municipalities to PwC for this report.

This stewardship plan for major appliances proposes to build on and support the existing market-based system for EoL major appliances, rather than supplant and replace it with a traditional stewardship program model wherein all aspects of EoL product collection, transportation and processing are controlled and managed by a single stewardship agency. The imposition of a traditional stewardship model on the pre-existing market-based system has the potential to cause significant economic dislocation for businesses operating in that system, confusion for consumers and ultimately reduced environmental performance. In the view of MARR and its member companies, building upon the market-based system and the existing economic players within that system is the most responsible, economically efficient and environmentally prudent approach to maintaining and enhancing the already impressive performance of major appliance recycling in British Columbia.

The activities proposed in this plan are therefore meant to enhance the performance of the current system, to address specific circumstances and challenges affecting key stakeholder groups, and to ensure continuous improvement with respect to the achievement of desired outcomes. Guiding the stewardship plan are the following commitments:

1. A commitment to enhance the performance of the current system by facilitating the management and collection of ODS from products within the product category.
2. A commitment to reasonable and free consumer access to collection facilities.

To inform this plan, stakeholders were engaged to better understand the challenges with respect to the current system, and areas for potential improvement. For more details on stakeholder consultation activities, please refer to Section 5.

## Collection System and Product Pathways Not Directly Managed by the Stewardship Program

A market-driven recycling system for major appliances has been in place in British Columbia for decades, historically driven by the positive financial value of these products at end-of-life. 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 larger commodities market, 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, conducted 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") examined the operation and performance of the existing collection and recycling system, including identifying collection site locations. In early 2017, MARR, with the support of waste consultant Tetra Tech, undertook an update of the System Study to reflect operation and performance measures for 2016 ("System Study Update"). Both studies helped inform this stewardship plan.

### Drop-Off Collection Sites

In addition to the numerous pick-up services for major appliances offered by retailers and some municipalities, there are 308 locations in BC listed on the MARR website that accept some or all household major appliances for drop off. Of these, 238 locations accept all major appliance products under the MARR program, a net reduction of 6 (2.5 percent) from 2015.

Table 2 provides an estimate of the breakdown of the different types of locations that accept major appliances across the province.<sup>5</sup> Appendix B lists all collection sites that accept all MARR program products as of May 2017, as well as the number of collection sites that accept all major appliances by regional district.<sup>6</sup>

**Table 2: Estimate of Collection Sites that Accept All MARR Products (2017)**

Type of Collection Site	Number of Sites in 2017
Metal Recycling Facility (Private)	59
Local Government Facility	179
<b>Total</b>	<b>238</b>

### Pick-up Services

There are a number of options available to consumers to manage the exchange of new and old appliances. When a consumer purchases a new appliance, many retailers offer a delivery/take-back

<sup>5</sup> The list of collectors provided represents the best available information as of May 2017. 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 or other possible pick up options.

<sup>6</sup> Ibid.

option that facilitates the proper recycling or resale of the used appliance on behalf of the consumer. According to survey results of 116 major appliance retailers conducted as a part of the System Study, 84 percent of respondents offered a take-back service to their customers when a new appliance was delivered.

### Accessibility to Collection Sites

The Stewardship Agencies of British Columbia guidance defines accessibility as a 30-minute drive or less to a facility for those within urban areas, and a 45-minute drive or less for those in rural areas of the province. According to a Geographic Information System (GIS) analysis completed as a part of the System Study, 98.5 percent 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 percent.

### Tracking Product Pathways

As major appliance recycling utilizes the existing market-based 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 and System Study Update.

The "recovery rate" of the BC market-based collection and recycling system (that is, the amount of product collected divided by the amount of product generated, expressed as a percentage) 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.

Using a lifespan model described in the Systems Study, it was estimated that 38,925 tonnes reached end-of-life in BC in 2016 and were "available to collect". The System Study Update provided estimates of the weight of products collected in the same year, and based on this, the 2016 capture rate was estimated at 98.6 percent, exceeding the program target of 90 percent. This result is consistent with research completed in other jurisdictions, where it was estimated that the market-based collection and recycling system for end-of-life appliances achieved a capture rate of over 90 percent.<sup>7</sup>

### Improving the Existing Collection System and Consumer Accessibility

To provide enhanced support to the existing market-based system for major appliance recycling in BC, this stewardship plan identifies the following activities that MARR will undertake to ensure continuous improvement in EoL major appliance recycling and achievement of desired outcomes:

1. MARR will establish and provide an incentive program to mitigate market barriers to the removal of ODS from major appliances dropped off at local government facilities. This will allow the products to be crushed or shredded on site for easier transportation to metal recyclers, and

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<sup>7</sup> 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.

will also allow for improved data and reporting with respect to the number of appliances processed and collected.

In addition to these steps, MARR will compile and maintain a list of trained ODS removal technicians, along with their regional service coverage, and will post this information on the MARR website.

2. MARR will work to remove barriers related to transport associated with the collection and pick-up of appliances and scrap metal (resulting from the compaction or shredding of major appliances) from local government waste disposal sites. Of concern is the issue that products are currently being “stockpiled” in rural and remote areas of the province.

The actions outlined above are intended to support the existing market-based system for major appliance recycling along with the achievement of desired program outcomes. These actions are expected to:

- Address inefficiencies associated with major appliance recycling for key system stakeholders.
- Maintain collection rates for EoL major appliances while removing existing barriers.

## Performance Monitoring and Reporting Commitments

### Performance Measures

<b>Collection System and Consumer Accessibility Metrics</b>	<ul style="list-style-type: none"><li>• Capture rate – the estimated weight of products collected divided by the estimated weight of products “available to collect”. <b>Note:</b> this performance measure aligns with the third-party assurance for non-financial information.</li><li>• Collection accessibility:<ul style="list-style-type: none"><li>○ Number of facilities province-wide</li><li>○ Number of facilities providing free-access province-wide</li><li>○ Facilities for each regional district</li><li>○ Rural/urban regions</li><li>○ Different types of products</li></ul></li></ul>
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### Performance Targets

MARR will target:

- A capture rate of more than 90 percent for major appliances in BC.
- Accessibility to free drop-off locations for more than 90 percent of the BC population to which the Stewardship Agencies of BC Standard applies.

### Reporting Commitments

In addition to the performance targets, MARR will also report annually on:

- The total amount of the producer’s product sold.
- The total amount of the producer’s product collected.
- The total amount of the product recovered in each regional district.
- The total amount of the product recovered per capita for each regional district and for the province.

- The varying collection performance for the sub-categories of products covered under the stewardship plan and the actions that will be taken to increase the collection of these products.
- The location of collection facilities, and any changes in the number and location of collection facilities from the previous report.
- Identified under-served areas or regions with lower than average collection and the actions that will be taken to address collection in underserved areas (e.g., funded collection and awareness events, etc.).
- Information from local government waste composition analysis identifying the kilos per capita for program materials (if or as available).

## 7. Consumer Awareness

Since the approval of the initial product stewardship plan for major appliances in 2012, MARR has developed consumer education materials and resources for producers and retailers, and online resources directly for consumers. It has also partnered with other organizations to increase its presence and accessibility to consumers.

MARR's advertising and consumer education materials include:

### 1) MARR Website:

MARR has a comprehensive website that includes resource sections for consumers, participants and sellers, and collectors and recyclers. Resources provided to website visitors are outlined below.

Targeted at Consumers	Targeted at Producers and Retailers
<ul style="list-style-type: none"><li>• <a href="#">Information on MARR's role</a></li><li>• <a href="#">How to Recycle</a></li><li>• <a href="#">Products and Fees</a></li><li>• <a href="#">Collection Site Locator Tool</a></li></ul>	<ul style="list-style-type: none"><li>• Information on:<ul style="list-style-type: none"><li>○ <a href="#">Rules and Policies</a></li><li>○ <a href="#">Products and Fees</a></li><li>○ <a href="#">Registration</a></li></ul></li><li>• <a href="#">Studies and Reports</a></li><li>• <a href="#">Producer Webinar</a></li><li>• <a href="#">Frequently Asked Questions</a></li><li>• <a href="#">Program Updates</a></li></ul>

### 2) Print Materials:

MARR has developed print materials, which are available to participants and retailers to inform consumers about MARR's role and major appliance recycling at the point of sale. Available print materials include:

- **Rack Cards** – Informational cards for display in retail locations, outlining MARR's role, and recycling options for consumers.
- **Frequently Asked Questions (FAQ)** – A PDF document that outlines MARR's role, lists the products covered under MARR's environmental stewardship plan and provides useful information on how to recycle appliances in BC.

### 3) Recycling Council of BC Website and Hotline:

As a member of the Stewardship Agencies of BC (SABC), MARR is listed on RCBC's Recycling Hotline Database ([bcrecycles.ca](http://bcrecycles.ca)), where consumers can access information on how and where to recycle items, including large appliances, across the province.

- Listing of website on Recycling Hotline Database.
- Participation in RCBC's recycling hotline providing free, province-wide live information service for recycling, pollution prevention, waste avoidance, safe disposal options and regulations.
- Hotline information officers field 80,000 inquiries each year, referring consumers to the appropriate organization and/or program.
- Recyclepedia Smart Phone app – where to recycle specific products.

In addition to continuing with the strategies above, MARR also has and intends to move forward with the following activities to advance consumer awareness around the major appliance recycling system in BC:

- Engagement with other stewardship agencies to leverage consumer awareness events and activities.
- Remote appliance stockpile recovery efforts, with a focus on community engagement and ongoing benefit.

## Performance Monitoring and Reporting Commitments

### Performance Measures

Consumer Awareness Metrics	<ul style="list-style-type: none"><li>• Consumer awareness metric based on a survey</li></ul>
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### Performance Targets

MARR will determine a performance target for consumer awareness once an initial baseline is established.

### Reporting Commitments

In addition, MARR will report annually on:

- The number of unique visitors to MARR’s website.
- The number of RCBC inquiries for MARR program materials.

## 8. Management of Program Costs

MARR is funded by Administrative Program Fees (APFs) applied to the sale and supply of new major household appliances in BC, effective August 1, 2013. The fees are used by MARR to cover all costs associated with implementing the MARR Stewardship Plan.

These fees are reported and remitted to MARR on a calendar quarter basis by registered participants (i.e., manufacturers, distributors, retailers) who have joined MARR to fulfill their regulatory obligations. Currently, it is the decision of each participant on how to manage this business cost. APFs may be shown as a separate line item on the product invoice/receipt, incorporated directly into the price of the product or absorbed, at the discretion of the relevant participant(s). If an amount is charged by a MARR participant to its customer to recover the APF, the amount must not exceed the actual APF paid by the participant to MARR. Transparency of program costs and fees is an important principle to stakeholders, particularly consumers.

### Financial Risk Management Principles

In 2015, the Board of Directors passed a resolution to establish a Reserve Fund. The purposes of the Reserve Fund are as follows:

- To assist in stabilizing eco fees by being available to manage year to year revenue and costs due to volume fluctuations.
- To cover the costs of winding up the Program by the decision of the members or because of regulatory change, in an orderly manner, not to exceed one year.
- To cover any claims against the Program, Board of Directors or staff in excess of the Program's insurance coverage.
- To cover the costs of any unanticipated or extraordinary items.
- To fund other special projects that enhance the recycling of Major Appliances.
- To fund the purchase of capital equipment.
- To cover the cost of managing products with long life spans, for which collection may occur well in the future.

Transfers to the fund are made upon resolutions passed by the Board of Directors. Total contributions to the Reserve Fund are targeted to be approximately one year's operating expenses.

Rates for APFs are set by MARR and are subject to change as needed to address changing program costs and commitments, as well as annual surpluses or deficits. APFs are reviewed on a regular basis to ensure there are sufficient funds to operate the Stewardship Plan. Current APFs for products covered under the plan are listed on MARR's website at <http://www.marrbc.ca/participants/products>.

MARR's audited financial statements are also posted on the MARR website as part of its annual report.

## Performance Monitoring and Reporting Commitments

### Performance Measures

#### Program Cost Management Metrics

- An appropriate financial performance measure will be determined within a year following plan approval.

### Performance Targets

A performance target will be determined once an initial baseline is established.

### Reporting Commitments

MARR commits to producing and publishing independently audited financial statements annually, detailing revenues and expenditures for any fees associated with the approved stewardship plan that are charged separately and identified on the consumer receipt of sale.<sup>8</sup>

The above information will be included in the agency's annual financial statements. The financial statements will be appended to the agency's annual report, which is published on the program website and accessible to the public at [www.marrbc.ca](http://www.marrbc.ca).

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<sup>8</sup> Please note that MARR does not collect deposits nor pay associated refunds for products covered under the plan.

## 9. Management of Environmental Impacts

MARR strives to promote the principles of the pollution prevention hierarchy where technically feasible and economically viable, to divert as much material as possible from the waste stream. Options and strategies employed by MARR and its member organizations for managing EoL major appliances based on the pollution prevention hierarchy are described below, along with factors influencing the decision-making process, and areas for further research and development or materials processing. In addition, improvements in GHG performance can be achieved from the proper recovery and reuse of ODS materials.

### *Pollution Prevention*

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 hydrofluoroolefins (HFOs)<sup>9</sup> 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 end-of-life supply chain), as well as improvements in 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 greenhouse gas impacts as mandated by new regulations in accordance with the Montreal Protocol along with U.S. and Canadian law. Manufacturers of home appliance refrigeration products have announced a goal to voluntarily phase out the use of hydrofluorocarbon (HFC) refrigerants in household refrigerators and freezers after 2024. Currently, many refrigeration products have already transitioned to low GWP refrigerants. This effort builds on a history of environmental stewardship that includes significant gains in energy efficiency and the phasing out of ozone depleting substances without losing efficiency gains.<sup>10</sup>

Likewise, industry is moving towards the use of low GWP foam blowing agents for the insulation of refrigeration products due to the lower greenhouse gas emission potential. In 2015, home appliance

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<sup>9</sup> 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](https://www51.honeywell.com/sm/lgwp-fr/common/documents/FP_LGWP_FR_Honeywell-HFO-1234ze_Literature_document.pdf)

<sup>10</sup> Home Appliance Industry Sets Goal to Eliminate use of HFC Refrigerants (February 9, 2016), available at [www.aham.org](http://www.aham.org).

manufacturers, working closely with the U.S. Environmental Protection Agency (EPA), set a path to phase out the use of HFC foam blowing agents in refrigeration products by 2020. Environment and Climate Change Canada has proposed to phase out the use of foam blowing agents and refrigerants in home refrigeration products with a GWP greater than 150 by January 2021 and January 2025 respectively.

Manufacturers have been able to reduce water consumption through design changes to dishwashers and innovations such as front-load and high efficiency top-load washers. Water consumption in dishwashers has been reduced by 37 percent (litres/cycle) between 1990 and 2009. Water usage in washers has also been reduced by 43 percent between 2005 and 2010. These reductions in water consumption also significantly reduce energy demand as there is less water to heat to perform the same cleaning task.

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 percent since 1990. In December of 2016, Natural Resources Canada published an amendment to the Energy Efficiency Regulations which will establish more stringent energy efficiency standards for all major appliances and will finally align Canada's energy efficiency regulations with the U.S. Department of Energy's more stringent standards. Natural Resources Canada's Office of Energy Efficiency has released its Forward Regulatory Plan 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.

Because of these Canadian regulatory changes, annual energy consumption 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 these amendments will reduce greenhouse gas emissions by 0.8 Mt by 2030. The ENERGY STAR program continues to be an important influence on appliance efficiency with new product specifications for clothes dryers and washers in 2015, and dishwashers in 2016.

In addition to the above DfE activities, the AHAM is currently 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, and room air conditioners have already been published, with other appliance standards currently under development.

In January of 2015, the AHAM 7001-2014/CSA SPE-7001-14/UL 7001, *Sustainability Standard for Household Refrigeration Appliances*, and in February 2016, the AHAM 7003/CSA R7003-16/UL 7003, *Sustainability Standard for Household Clothes Washers* received national accreditation under the American National Standard Institute (ANSI) and Standards Council of Canada (SCC) as approved National Standards for the U.S. and Canada. The Standard is based on a lifecycle approach for identifying the environmental impacts of refrigeration products in five key areas: energy, materials, end-of-life, performance and manufacturing. These and other 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.

### *Reuse and Recycle*

According to research conducted for the System Study completed by MARR in 2014 (reflecting the 2013 fiscal year), 99.9 per cent of major appliances have a lifespan of between 10 and 20 years.<sup>11</sup> 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 end-of-life, it enters the collection system described above in Section 6. 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 in 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 percent metal. Of this metal, processors report that 98 percent of the ferrous and non-ferrous metal that enters the shredder is recovered and recycled back into the commodities market.<sup>12</sup>

### *Pollution Control and Disposal*

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 some gaps remained. Most retailers surveyed transferred major appliances with refrigerant to secondary collectors, and most processors 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 2015, MARR continued conversations with local governments 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.

Very few appliances reaching end of life 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).

## **Material End Fates and Product and/or Material Processing Pathways**

Table 3 illustrates the downstream management process for each material stream (based on results from the System Study).

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<sup>11</sup> 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.

<sup>12</sup> Based on survey responses from the two processors in BC currently operating shredders.

**Table 3: 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 percent of materials are recycled (mostly ferrous and non-ferrous metal). The remaining 26 percent, including plastic, glass, rubber and foam, does not undergo further processing, and is currently sent to landfill.<sup>13</sup> MARR continues to examine the management of shredder residue and identify opportunities for achieving higher end uses of residual materials. For example, in some cases, plastic residuals may be sent to waste-to-energy facilities. In 2015, MARR met with other stewardship organizations to discuss this issue and will continue to consider options for achieving higher end uses of residual materials.

### Program Environmental and Safety Risk Management and Due Diligence

In 2015 MARR continued to explore avenues for implementing a Major Appliance Processing Standard to ensure the proper decommissioning of end-of life appliances and the safe handling of substances of concern, including mercury switches and refrigerants. At the onset, 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 introduced a Voluntary Processing Standard<sup>14</sup> in 2015 and will continue to meet with industry players to encourage them to sign on to the Standard.

The following list of collection facilities are signatories to the MARR Voluntary Processing Standard.

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<sup>13</sup> Ibid.

<sup>14</sup> <http://www.marrbc.ca/documents/MARR-Voluntary-Processing-Standard.pdf>

**Table 4: List of Collection Facilities that are Signatories to the MARR Voluntary Processing Standard**

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

## Performance Monitoring and Reporting Commitments

### Performance Measures

#### Environmental Management Metrics

- Volumes of ODS removal facilitated by the MARR program

### Performance Targets

A performance target will be determined once an initial baseline is established.

### Reporting Commitments

MARR commits to reporting annually on the following:

- Efforts taken by or on behalf of producers to reduce environmental impacts throughout the product life cycle and to increase reusability or recyclability at the end of the life cycle.
- A description of how the recovered product was managed in accordance with the pollution prevention hierarchy, including:
  - Conformance with acceptable product and/or material end disposition.
  - Program environmental and safety risk management practices and due diligence processes for the collection and processing of product(s) and/or material(s).
- A status update with respect to industry adoption of the major appliance processing standard.

## 10. Dispute Resolution

Should any disputes arise involving MARR with respect to the implementation of the product stewardship plan, MARR will first discuss the issue directly with the involved party, and may pursue standard commercial legal procedures should the need arise, including mediation, arbitration and civil proceedings, where necessary.

In addition, MARR is currently conducting a compliance, Agency Appointment Agreement and policies review. A formal dispute resolution process may be developed and integrated into its agreements and policies as a result of this review.

## 11. Performance Monitoring and Reporting Commitments

The following table summarizes the performance monitoring and reporting commitments outlined in this Stewardship Plan.

Performance Measure	Target and/or Reporting Commitments
<i>Governance</i>	
Changes to Operating Structure and Board of Directors	Report annually
<i>Collection System and Consumer Accessibility</i>	
<ul style="list-style-type: none"> <li>• Capture rate – the estimated weight of products collected divided by the estimated weight of products “available to collect”</li> </ul> <p><b>Note:</b> this performance measure aligns with the third-party assurance for non-financial information</p>	Achieve a capture rate of more than 90 percent for major appliances in BC.
<ul style="list-style-type: none"> <li>• Collection accessibility:               <ul style="list-style-type: none"> <li>○ Number of facilities province-wide</li> <li>○ Number of facilities providing free-access province-wide</li> <li>○ Facilities for each regional district</li> <li>○ Rural/urban regions</li> <li>○ Different types of products</li> </ul> </li> </ul>	Achieve accessibility to free drop-off locations for more than 90 percent of the BC population to which the Stewardship Agencies of BC Standard applies.
<ul style="list-style-type: none"> <li>• The total amount of the producer’s product sold</li> <li>• The total amount of the producer’s product collected</li> <li>• The total amount of the product recovered in each regional district</li> <li>• The total amount of the product recovered per capita for each regional district and for the province</li> <li>• The varying collection performance for the sub-categories of products covered under the stewardship plan and the actions that will be taken to increase the collection of these products</li> </ul>	Report annually.

<ul style="list-style-type: none"> <li>• The location of collection facilities, and any changes in the number and location of collection facilities from the previous report</li> <li>• Identified under-served areas or regions with lower than average collection and the actions that will be taken to address collection in underserved areas (e.g., funded collection and awareness events, etc.)</li> <li>• Information from local government waste composition analysis identifying the kilos per capita for program materials (if or as available)</li> </ul>	
<i>Consumer Awareness</i>	
<ul style="list-style-type: none"> <li>• Consumer awareness metric based on a survey</li> </ul>	A performance target will be determined once an initial baseline is established.
<ul style="list-style-type: none"> <li>• The number of unique visitors to MARR’s website</li> <li>• The number of RCBC inquiries for MARR program materials</li> </ul>	Report annually.
<i>Financial Management</i>	
<ul style="list-style-type: none"> <li>• An appropriate financial performance measure will be determined within a year following plan approval.</li> </ul>	A performance target will be determined once an initial baseline is established.
<p>MARR commits to producing and publishing independently audited financial statements annually, detailing:</p> <ul style="list-style-type: none"> <li>• Revenues and expenditures for any fees associated with the approved stewardship plan that are charged separately and identified on the consumer receipt of sale.</li> </ul>	Report annually.
<i>Environmental Management</i>	
<ul style="list-style-type: none"> <li>• Volumes of ODS removal facilitated by the MARR program</li> </ul>	A performance target will be determined once an initial baseline is established.
<ul style="list-style-type: none"> <li>• Efforts taken by or on behalf of the producer to reduce environmental impacts throughout the product life cycle and to increase reusability or recyclability at the end of the life cycle</li> </ul>	Report annually.

<ul style="list-style-type: none"><li>• A description of how the recovered product was managed in accordance with the pollution prevention hierarchy, including:<ul style="list-style-type: none"><li>○ Conformance with acceptable product and/or material end disposition</li><li>○ Program environmental and safety risk management practices and due diligence processes for the collection and processing of product(s) and/or material(s)</li></ul></li><li>• A status update with respect to industry adoption of the major appliance processing standard</li></ul>	
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## APPENDIX A: Consultation Summary

*Please note that this section will be updated as stakeholders are consulted on the draft plan.*

### Local Government Focus Group (April 24, 2017)

- Six local government participants from the Local Government Advisory Council.
- Representation from urban, rural and remote areas of the province.
- Webinar format which included polling questions and open-ended discussion.

Topics	Summary of Comments
Local Government Challenges	<p><b>1. Transportation of Recyclables</b></p> <ul style="list-style-type: none"> <li>• Urban areas are dealing with limited storage and high costs of stockpiling, requiring multiple pickups per day.</li> <li>• Rural and remote areas face higher costs due to longer distances from landfills and end users (i.e., metal markets).</li> <li>• Challenges associated with ODS removal result in a need to transport products prior to crushing (which comes at a higher cost).</li> <li>• Additional challenges are being faced for areas that must ship over water.</li> </ul> <p><b>2. Availability and Frequency of Metal Pickup</b></p> <ul style="list-style-type: none"> <li>• As noted above, urban areas lack storage (due to constrained space and related costs) and require frequent pick ups, whereas rural and remote regions find it difficult to arrange pick ups due to geographic challenges.</li> <li>• More frequent pickups result in significant transportation costs.</li> </ul> <p><b>3. Metal Market Prices</b></p> <ul style="list-style-type: none"> <li>• Local governments feel susceptible to fluctuations in metal market prices.</li> <li>• There is a perception that the MARR should take on this risk, not local governments.</li> <li>• Rural and remote locations tend to view metal from major appliances as more of a liability than an asset. Due to low metal prices, positive economic value is negated once transportation, storage, and ODS removal costs are factored in.</li> </ul> <p><b>4. Storage of Recyclable Appliances</b></p> <ul style="list-style-type: none"> <li>• In keeping with earlier points, urban areas need to address challenges with limited space and associated costs to store recyclable appliances.</li> <li>• Rural and remote areas are faced with a need for longer term storage of recyclable appliances due to transportation challenges (costs, frequency and availability).</li> </ul> <p><b>5. Disposal of Hazardous Substances</b></p> <ul style="list-style-type: none"> <li>• Some regions (remote and small communities) find it difficult to secure contractors to remove ODS due to local availability, geographic accessibility, travel costs and other constraints.</li> </ul>

Topics	Summary of Comments
	<ul style="list-style-type: none"> <li>• Participants noted challenges are particularly great for rural and remote areas that do not have local contractors.</li> <li>• If rural and remote areas cannot secure contractors to remote ODS prior to transport, they cannot crush the appliances to help reduce shipping costs.</li> </ul> <p><b>6. Illegal Dumping</b></p> <ul style="list-style-type: none"> <li>• Both rural and remote as well as urban representatives noted that there are issues with illegal dumping.</li> <li>• For urban areas, illegal dumping was perceived as mainly a transportation related matter (i.e., fewer residents have large vehicles to transport their appliances) and as a public awareness along with education challenge (i.e., limited consumer knowledge of recycling options).</li> </ul>
Suggested System Enhancements	<p><b>Addressing ODS Removal</b></p> <ul style="list-style-type: none"> <li>• Support remote and rural communities in accessing ODS removal services, allowing local governments to crush major appliances before transport, saving space and making it less costly. Delivery options included: <ul style="list-style-type: none"> <li>○ Training in-community resources to become certified for ODS removal.</li> <li>○ Providing MARR-contracted ODS removal technicians to provide better geographic coverage.</li> </ul> </li> <li>• Implement a labelling system on appliances that identifies any hazardous substances inside the appliance.</li> <li>• Incentivize communities to remove ODS from materials prior to transportation, which would also reduce transportation costs.</li> </ul> <p><b>Addressing Transportation</b></p> <ul style="list-style-type: none"> <li>• Designate a post-collection service provider to manage pickups and avoid storage issues.</li> <li>• Provide funding to cover transportation for end-of-life major appliances as part of MARR’s stewardship role. Delivery options were: <ul style="list-style-type: none"> <li>○ Contracting out transportation of recyclable appliances.</li> <li>○ Reimbursing local governments for transportation of recyclable appliances.</li> </ul> </li> <li>• Expand geographic coverage and ensure the same service levels to consumers across the province.</li> </ul>

## APPENDIX B: Drop off Sites

**Table B-1: Collection Sites that Accept All MARR Program Products (2017)**

Collection Site	City	Regional District	Type
ACRD Recycling Depot	Port Alberni	Alberni-Clayoquot	Municipal
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
Brentwood Auto and Metal Recyclers	Saanichton	Capital	Private
Galiano Recycling	Galiano Island	Capital	Municipal
Hartland Landfill	Saanich, BC	Capital	Municipal
Pender Island Recycling	Pender Island	Capital	Municipal
Port Renfrew Recycling Depot	Port Renfrew	Capital	Municipal
Salt Spring Island Recycling Depot	Saltspring Island	Capital	Municipal
Westshore Auto Recycling /AMP Disposal	Sooke	Capital	Private
Williams Scrap Metal Recycling	Victoria	Capital	Private
100 Mile House Refuse Site	100 Mile House	Cariboo	Municipal
150 Mile House Transfer Station	150 Mile House	Cariboo	Municipal
Alexis Creek Transfer Station	Alexis Creek	Cariboo	Municipal
Baker Creek Transfer Station	Baker Creek	Cariboo	Municipal
Big Lake Refuse Site	Big Lake	Cariboo	Municipal
Cochin Refuse Site	Cochin Lake	Cariboo	Municipal
Forest Grove Transfer Station	Forest Grove	Cariboo	Municipal
Frost Creek	Williams Lake	Cariboo	Municipal
Horsefly Transfer Station	150 Mile House	Cariboo	Municipal
Kleena Kleene Refuse Site	Kleena Kleene	Cariboo	Municipal
Lac La Hache Transfer Station	Lac La Hache	Cariboo	Municipal
Likely Refuse Site	Likely	Cariboo	Municipal
Mcleese Lake Transfer Station	Mcleese Lake	Cariboo	Municipal
Nazko Refuse Site	Nazko	Cariboo	Municipal
Nemaiah Valley Refuse Site	Nemaiah	Cariboo	Municipal
Puntzi Lake Refuse Site	Puntzi	Cariboo	Municipal

Collection Site	City	Regional District	Type
Quesnel Landfill	Quesnel	Cariboo	Municipal
Riske Creek Transfer Station	Riske Creek	Cariboo	Municipal
Sheridan Lake Refuse Site	Canim Lake	Cariboo	Municipal
Tatla Lake Refuse Site	Tatla Lake	Cariboo	Municipal
Watch Lake Refuse Site	Lone Butte	Cariboo	Municipal
Wells Refuse Site	Wells	Cariboo	Municipal
West Chilcotin Refuse Site	West Chilcotin	Cariboo	Municipal
Wildwood Transfer Station	Williams Lake	Cariboo	Municipal
Williams Lake Scrap Metal	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
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 Landfill	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
ABC Metals Recycling	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
Glenemma Transfer Station	Salmon Arm	Columbia-Shuswap	Municipal
Golden Landfill	Golden	Columbia-Shuswap	Municipal
Malakwa Transfer Station	Malakwa	Columbia-Shuswap	Municipal
MC Metal Recycling	Revelstoke	Columbia-Shuswap	Private
Parson Transfer Station	Skookumchuck	Columbia-Shuswap	Municipal
Revelstoke Landfill	Revelstoke	Columbia-Shuswap	Municipal
Salmon Arm Landfill	Salmon Arm	Columbia-Shuswap	Municipal

Collection Site	City	Regional District	Type
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
Starlite Auto	Sorrento	Columbia-Shuswap	Private
Trout Lake Transfer Station	Trout Lake	Columbia-Shuswap	Municipal
Comox Valley Waste Management Centre	Cumberland	Comox Valley	Municipal
Hornby Island Recycling Depot	Hornby Island	Comox Valley	Municipal
Bings Creek SWM Complex	Duncan	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	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
Kool Country Auto Parts	Invermere	East Kootenay	Private
Sparwood Transfer Station	Sparwood	East Kootenay	Municipal
Tie Lake Transfer Station	Jaffray	East Kootenay	Municipal
Wasa Transfer Station	Wasa	East Kootenay	Municipal
Bailey Landfill	Chilliwack	Fraser Valley	Municipal
Capt'n Crunch Auto Wrecking Ltd.	Abbotsford	Fraser Valley	Private
CCON Steel Inc.	Abbotsford	Fraser Valley	Private
Chaumox Landfill	Boston Bar	Fraser Valley	Municipal
Everclear Recycling	Mission	Fraser Valley	Municipal
Goodies Trading Ltd	Chilliwack	Fraser Valley	Private
Hope Landfill/Transfer Station	Hope	Fraser Valley	Municipal
Matsqui Transfer Station	Abbotsford	Fraser Valley	Municipal
McNeils DBA Ideal U Pick	Chilliwack	Fraser Valley	Private
Minnie's Pit/Mission Landfill	Mission	Fraser Valley	Municipal
Regional Recycling Abbotsford	Abbotsford	Fraser Valley	Private
Sunshine Valley Transfer Station	Cawston	Fraser Valley	Municipal
ABC Metals Recycling	Prince George	Fraser-Fort George	Private
A-Star Automotive Recyclers Ltd.	Prince George	Fraser-Fort George	Private
Foothills Boulevard Regional Landfill	Prince George	Fraser-Fort George	Municipal
Mackenzie Landfill	Mackenzie	Fraser-Fort George	Municipal
ABC Metals Recycling	Terrace	Kitimat-Stikine	Private

Collection Site	City	Regional District	Type
Hazelton Landfill	Hazelton	Kitimat-Stikine	Municipal
Kitimat Landfill	Kitimat	Kitimat-Stikine	Municipal
Stewart Landfill	Stewart	Kitimat-Stikine	Municipal
Terrace Landfill	Terrace	Kitimat-Stikine	Municipal
Beaverdell Transfer Station	Beaverdell	Kootenay Boundary	Municipal
Big Y Auto	Grand Forks	Kootenay Boundary	Private
Christina Lake Transfer Station	Christina Lake	Kootenay Boundary	Municipal
Columbia Recycle	Trail	Kootenay Boundary	Private
Grand Forks and Electoral Area B Landfill	Grand Forks	Kootenay Boundary	Municipal
Rock Creek Transfer Station	Rock Creek	Kootenay Boundary	Municipal
West Boundary Landfill	Greenwood	Kootenay Boundary	Municipal
AABC Recycler's Group	Richmond	Metro Vancouver	Private
ABC Metals Recycling	Surrey	Metro Vancouver	Private
ABC Metals Recycling	Burnaby	Metro Vancouver	Private
Burnaby Recycling Depot	Burnaby	Metro Vancouver	Municipal
Capital Salvage Co	Vancouver	Metro Vancouver	Private
Coquitlam Transfer Station	Coquitlam	Metro Vancouver	Municipal
Davis Trading	Vancouver	Metro Vancouver	Private
Ecowaste	Richmond	Metro Vancouver	Private
Fraser Valley Metal Exchange	Maple Ridge	Metro Vancouver	Private
Happy Stan's Recycling Services Ltd.	Port Coquitlam	Metro Vancouver	Private
Mac's Traders Inc.	Langley	Metro Vancouver	Private
New West Recycling Depot	New Westminster	Metro Vancouver	Municipal
North Shore Transfer Station	North Vancouver	Metro Vancouver	Municipal
Regional Recycling	Surrey	Metro Vancouver	Private
Regional Recycling Vancouver	Vancouver	Metro Vancouver	Private
Richmond Recycling Depot	Richmond	Metro Vancouver	Municipal
Ridge Meadows Recycling	Maple Ridge	Metro Vancouver	Municipal
Schnitzer Steel Pacific Recycling	Surrey	Metro Vancouver	Private
Surrey Transfer Station	Surrey	Metro Vancouver	Municipal
Township of Langley	Aldergrove	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	Black Creek	Mount Waddington	Municipal
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
Village of Port Alice	Port Alice	Mount Waddington	Municipal
Woss Transfer Station	Woss	Mount Waddington	Municipal

Collection Site	City	Regional District	Type
Carl's Metal Salvage	Nanaimo	Nanaimo	Private
Church Road Transfer Station	Parksville	Nanaimo	Municipal
Gabriola Island Recycling Organization	Gabriola	Nanaimo	Municipal
Nanaimo Recycling Exchange Society	Nanaimo	Nanaimo	Municipal
Parksville Bottle & Recycling Depot	Parksville	Nanaimo	Private
Regional Landfill	Nanaimo	Nanaimo	Municipal
Regional Recycling Nanaimo	Nanaimo	Nanaimo	Private
Regional Recycling Nanaimo Bottle Depot - Fremont	Nanaimo	Nanaimo	Private
Armstrong-Spallumcheen Regional Disposal Facility	Armstrong	North Okanagan	Municipal
Cherryville & Area E Regional Disposal Facility	Cherryville	North Okanagan	Municipal
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
NRRM Landfill	Fort Nelson	Northern Rockies	Municipal
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
Osoyoos & District Sanitary Landfill	Osoyoos	Okanagan-Similkameen	Private
Princeton landfill	Princeton	Okanagan-Similkameen	Municipal
Puds Auto Wrecking Ltd	Osoyoos	Okanagan-Similkameen	Private
Summerland Landfill	Summerland	Okanagan-Similkameen	Municipal
ABC Metals Recycling	Fort St. John	Peace River	Private
Bessborough Landfill	Dawson Creek	Peace River	Municipal
Cecil Lake	Fort st John	Peace River	Municipal
Chetwynd Landfill	Chetwynd	Peace River	Municipal
Dawson Creek Transfer Station	Dawson Creek	Peace River	Municipal
Hudson's Hope Transfer Station	Hudson's Hope	Peace River	Municipal
Kelly Lake Transfer Station	Tomslake	Peace River	Municipal
North Peace Regional Landfill	Charlie Lake	Peace River	Municipal
Prespatou Transfer Station	Prespatou	Peace River	Municipal
Rose Prairie Transfer Station	Rose Prairie	Peace River	Municipal

Collection Site	City	Regional District	Type
Tomslake Transfer Station	Tomslake	Peace River	Municipal
Tumbler Ridge Transfer Station	Groundbirch	Peace River	Municipal
Wonowon Transfer Station	Wonowon	Peace River	Municipal
Augusta Recyclers Inc.	Powell River	Powell River	Private
Blackpoint Auto Recyclers	Powell River	Powell River	Private
Texada TS	Texada Island	Powell River	Municipal
Islands Landfill	Port Clements	Skeena-Queen Charlotte	Municipal
Masset TS	Masset	Skeena-Queen Charlotte	Municipal
Sandspit TS	Sandspit	Skeena-Queen Charlotte	Municipal
Skeena-Queen Charlotte Regional Recycling Depot	Prince Rupert	Skeena-Queen Charlotte	Municipal
Skidegate TS	Skidegate	Skeena-Queen Charlotte	Municipal
ASM Squamish Scrap Metal Ltd.	Squamish	Squamish-Lillooet	Private
Gold Bridge Transfer Station	Gold Bridge	Squamish-Lillooet	Municipal
Lillooet Landfill	Lillooet	Squamish-Lillooet	Municipal
Pemberton Transfer Station	Pemberton	Squamish-Lillooet	Municipal
Regional Recycling Whistler	Whistler	Squamish-Lillooet	Private
Squamish Landfill	Squamish	Squamish-Lillooet	Municipal
Whistler Transfer Station	Whistler	Squamish-Lillooet	Municipal
ABC Metals Recycling	Campbell River	Strathcona	Private
Campbell River Waste Management Centre	Campbell River	Strathcona	Municipal
Gold River Waste Management Centre	Gold River	Strathcona	Municipal
Schnitzer Steel	Campbell River	Strathcona	Private
Village of Tahsis Landfill	Tahsis	Strathcona	Municipal
Village of Zeballos Landfill	Zeballos	Strathcona	Municipal
Zeballos Public Works Yard (Metal Pile)	Zeballos	Strathcona	Municipal
Gibsons Disposal	Gibsons	Sunshine Coast	Municipal
Pender Harbour Landfill	Garden Bay	Sunshine Coast	Municipal
Sechelt Landfill	Sechelt	Sunshine Coast	Municipal
70 Mile house	70 Mile House	Thompson-Nicola	Municipal
Barnhartvale Landfill	Kamloops	Thompson-Nicola	Municipal
Blue River	Blue River	Thompson-Nicola	Municipal
Clearwater Eco depot	Clearwater	Thompson-Nicola	Municipal
Clinton	Clinton	Thompson-Nicola	Municipal
Heffley Creek Eco depot	Heffley Creek	Thompson-Nicola	Municipal
Kamloops Scrap Iron Ltd	Kamloops	Thompson-Nicola	Private
Knutsford	Knutsford	Thompson-Nicola	Municipal
Logan Lake	Logan Lake	Thompson-Nicola	Municipal

Collection Site	City	Regional District	Type
Loon Lake	Clinton	Thompson-Nicola	Municipal
Louis Creek Eco depot	Barriere	Thompson-Nicola	Municipal
Lower Nicola Eco Depot	Merritt	Thompson-Nicola	Municipal
Lytton	Lytton	Thompson-Nicola	Municipal
Mission Flats Landfill	Kamloops	Thompson-Nicola	Municipal
Paul Lake	Kamloops	Thompson-Nicola	Municipal
Savona	Savona	Thompson-Nicola	Municipal
South Thompson Eco Depot	Chase	Thompson-Nicola	Municipal
Spences Bridges Transfer Station	Spences Bridges	Thompson-Nicola	Municipal
Westwold	Westwold	Thompson-Nicola	Municipal

**Table B-2: Number of Sites that Accept All MARR Program Products by Regional District (2017)**

<b>Regional District</b>	<b>Number of Sites</b>
Alberni-Clayoquot	5
Bulkley-Nechako	8
Capital	8
Cariboo	25
Central Coast	1
Central Kootenay	17
Central Okanagan	5
Columbia-Shuswap	14
Comox Valley	2
Cowichan Valley	4
East Kootenay	11
Fraser Valley	12
Fraser-Fort George	4
Kitimat-Stikine	5
Kootenay Boundary	7
Metro Vancouver	23
Mount Waddington	6
Nanaimo	8
North Okanagan	6
Northern Rockies	1
Okanagan-Similkameen	9
Peace River	13
Powell River	3
Skeena-Queen Charlotte	5
Squamish-Lillooet	7
Strathcona	7
Sunshine Coast	3
Thompson-Nicola	19
<b>TOTAL</b>	<b>238</b>