

# BC Major Appliance Stewardship Plan

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
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 Halocarbon refrigerants subject to BC regulation B.C. Reg. 317/2012 <i>OZONE DEPLETING SUBSTANCES AND OTHER HALOCARBONS REGULATION</i> from residential products that utilize a vapor-compression refrigeration system listed in MARR’s Product List and Definitions listed on MARR’s website <sup>1</sup> .
RCBC	Recycling Council of British Columbia
RCC	Retail Council of Canada
SABC	Stewardship Agencies of BC

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<sup>1</sup> <http://www.marrbc.ca/documents/MARR-Product-List-Definitions.pdf>

# 1. Introduction

In British Columbia (BC), the Recycling Regulation<sup>2</sup> under the *Environmental Management Act* sets out the requirements of extended producer responsibility (EPR), including for approved product stewardship plans. These 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>3</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>2</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>3</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 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>4</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 1,047,708 major appliances for 2016 across all product types. MARR's registered producers represent the prevailing share of producers of major appliances obligated under the B.C. Recycling Regulation.

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>4</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 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 (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 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>5</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>5</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.

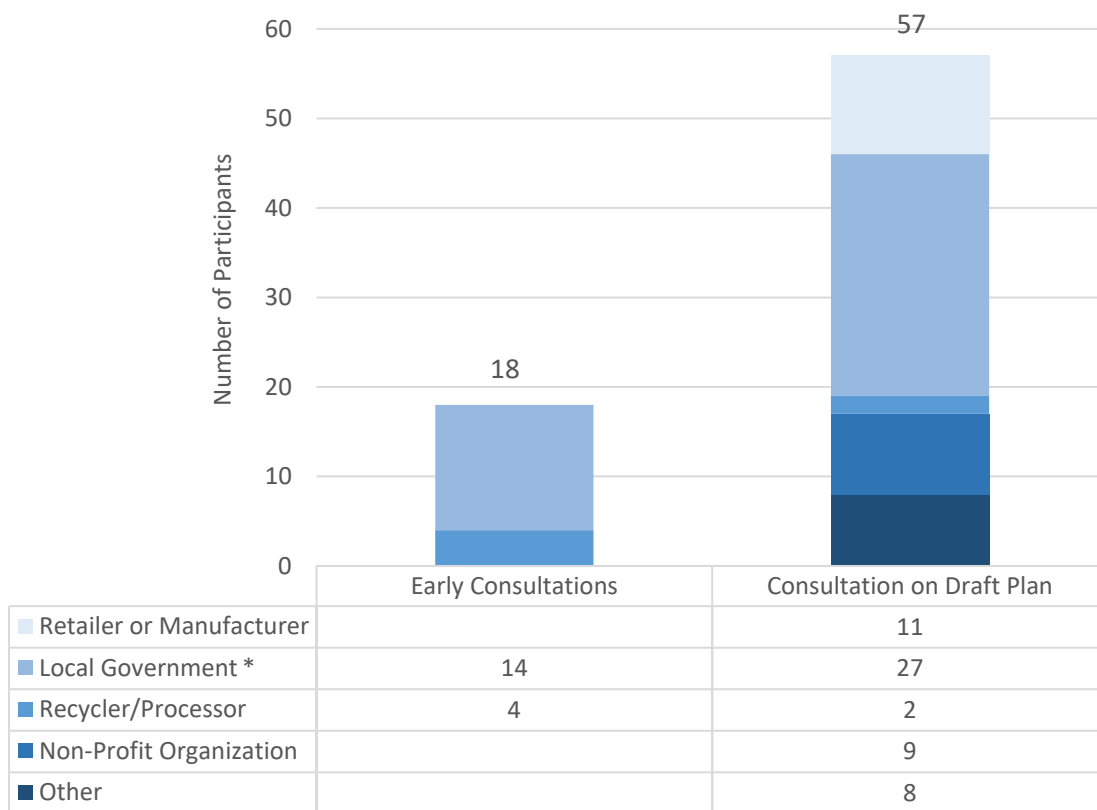
For a detailed list of included products and relevant definitions, please refer to the MARR website:

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

## 5. Stakeholder Consultation

### Consultation Undertaken Prior to Stewardship Plan Submission

To inform the renewal of this plan, stakeholder consultation was approached as an iterative process. The first cycle of consultations, taking place from April 25<sup>th</sup> to May 30<sup>th</sup>, included an initial round of structured dialogues with key stakeholder groups to inform the drafting of the plan. The second cycle of consultations, from June 5<sup>th</sup> to June 23<sup>rd</sup>, included the public posting of the plan, along with facilitated group consultations on the draft plan using online and in-person formats. The figure below provides a summary of the stakeholder groups that participated in consultation activities during the development of the plan.



\* including First Nations

The following table provides a detailed summary of the stakeholder consultation activities carried out prior to stewardship plan submission.

Consultation Activity	Logistics of the Consultation	Participation
<b>Early Consultations (April 25<sup>th</sup> to May 30<sup>th</sup>)</b>		
Focus Group with Local Government Advisory Council  April 25, 2017 1:30 – 3:00 pm	<ul style="list-style-type: none"> <li>• Coordinated through the MARR Board and the Chair of the LGAC</li> <li>• Sent notice of invitation directly to LGAC members by email</li> <li>• Focus group carried out using a combination of webinar and conference call facilities</li> </ul>	This session included six local government representatives from the LGAC. Participants represented urban, rural and remote areas of the province
Industry Interviews  May 22 to 30, 2017	<ul style="list-style-type: none"> <li>• Structured telephone interviews with metal recyclers and technicians involved in the removal of ozone depleting substances (ODS) to inform the stewardship plan development</li> </ul>	Interviews were conducted with two recycling companies and two ODS removal contractors
Focus Group with First Nations Representatives  May 23, 2017 3:30 – 5:00 pm	<ul style="list-style-type: none"> <li>• Referred through the LGAC to a First Nations solid waste disposal working group</li> <li>• Sent invitations in the form of an email communique</li> <li>• Focus group carried out using a combination of webinar and conference call facilities</li> </ul>	This session included eight participants from First Nations communities across the province, representing semi-urban, rural, and remote communities
<b>Consultation on Draft Stewardship Plan (June 5<sup>th</sup> to June 23<sup>rd</sup>)</b>		
Consultation Session with BC Product Stewardship Council  June 14, 2017 10:00 – 11:30 am	<ul style="list-style-type: none"> <li>• Coordinated through the administrator of the BC Product Stewardship Council</li> <li>• The session was carried out using a webinar platform, and provided:               <ul style="list-style-type: none"> <li>○ An opportunity for BC Product Stewardship Council members to comment on the draft stewardship plan for major appliance recycling in BC;</li> <li>○ An overview of the plan, followed by online polling questions, and two survey questions in conclusion to gather additional feedback</li> </ul> </li> </ul>	This session included a total of 17 participants, representing: <ul style="list-style-type: none"> <li>• Non-profit organizations</li> <li>• Local governments</li> <li>• Regional districts</li> <li>• First Nations communities</li> <li>• Ministry of Environment</li> </ul>

Consultation Activity	Logistics of the Consultation	Participation
<p>Open Public Consultation Session</p> <p>June 16, 2017 10:00 – 11:30 am</p>	<ul style="list-style-type: none"> <li>• Notice of public consultations was provided on the MARR website and was distributed to association members as well as interested parties through an email listserve</li> <li>• The Recycling Council of BC and Stewardship Agencies of BC were also provided with the consultation notice for circulation to members</li> <li>• The session was carried out using a webinar platform, and guided by a PowerPoint presentation, including open ended discussion questions, polling questions, and two written response survey questions seeking additional feedback</li> </ul>	<p>This session included 25 participants representing:</p> <ul style="list-style-type: none"> <li>• Non-profits</li> <li>• Local governments</li> <li>• Regional districts</li> <li>• Retailers</li> <li>• Recyclers</li> <li>• Ministry of Environment</li> </ul>
<p>Consultation Session at Recycling Council of BC Conference</p> <p>June 21, 2017 10:00 am – 12:00 pm</p>	<ul style="list-style-type: none"> <li>• Notice of public consultations was provided on the MARR website and was distributed to association members as well as interested parties through an email listserve</li> <li>• Notice of the in-person consultation was also provided to the Recycling Council of BC and Stewardship Agencies of BC for circulation to members and registered conference delegates</li> <li>• The session was facilitated in-person, guided by a PowerPoint presentation, including open ended discussion questions and polling questions</li> </ul>	<p>A total of 17 individuals participated in polling, while 33 participants attended the session. Participants represented:</p> <ul style="list-style-type: none"> <li>• Manufacturers</li> <li>• Local governments</li> <li>• Non-profit organizations</li> <li>• Other (i.e., Ministry of Environment, industry associations, etc.)</li> </ul>
<p>Follow Up Discussion with Local Government Advisory Council</p> <p>June 22, 2017 2:00 – 3:00 pm</p>	<ul style="list-style-type: none"> <li>• While members of the LGAC were provided with an opportunity to participate in the above-mentioned consultations, a follow up teleconference with LGAC members was coordinated through the Chair of the Committee</li> </ul>	<p>This session included two members of the LGAC and two MARR Board members. The LGAC participants represented both urban and rural/remote regions</p>

Consultation Activity	Logistics of the Consultation	Participation
Written Responses to Online Posting of Draft Plan	<ul style="list-style-type: none"> <li>Written comments were submitted to MARR via email at <a href="mailto:consultations@marrbc.ca">consultations@marrbc.ca</a> during the consultation period</li> </ul>	Additional written feedback was received from MARR member producers, First Nations, and local governments

Appendix A includes a description of the stakeholder groups consulted during the stewardship planning process, a summary of proceedings from the consultation sessions, as well as responses to stakeholder submissions on the draft plan.

### Ongoing Stakeholder Consultation

Effective stakeholder engagement is an ongoing process. MARR’s program plan development was later in the cycle than would be ideal. Nonetheless, there was strong stakeholder participation and many valuable comments were submitted during the consultation process held over late April into June of 2017.

In keeping with the important principle of maintaining engagement, MARR will post the program plan document as submitted to the Ministry of Environment on the MARR website. We welcome further comment which can be sent to: [consultations@marrbc.ca](mailto:consultations@marrbc.ca).

It will be necessary to work closely with stakeholders who collect, operate facilities and process end-of-life major appliances as MARR’s program evolves over the coming years to deliver upon the commitments in this program plan. MARR is committed to working openly with our partners to assure the best outcomes and to ensure compliance with the Recycling Regulation.

## 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 product management. In a broad view, this market-based system exists largely because major household appliances currently have a financial value at end-of-life. That is, collectors and processors of end-of-life 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 end-of-life materials. In particular, local governments such as regional districts, municipalities and First Nations that operate collection sites for major appliances reported that they face administrative costs that may 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. Some caution should be taken when interpreting the results of the study, however, as there were limitations with respect to the availability of requested financial information.

This stewardship plan for major appliances proposes to build on and support the existing market-based system for end-of-life major appliances, rather than supplant and replace it with a traditional stewardship program model wherein all aspects of end-of-life 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<sup>6</sup>, 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 providing incentives for the management and collection of ODS from products within the product category through a network of approved collectors.
2. A commitment to reasonable and free consumer access to collection facilities. This will be accomplished by providing incentives for administrative costs and transportation costs as required by region on a cost recovery basis.

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<sup>6</sup> 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.

MARR will provide these economic incentives to qualified collectors who have executed a collector agreement, and who, upon verification have met the requirements specified in those agreements and will be subject to ongoing audit and compliance verification.

Recognizing that BC's geography is varied, and having heard from local governments that they have differing needs based upon their location, MARR will operationalize these commitments in close consultation with impacted local governments. This is a recognition that one solution may not work for all communities, and that different communities have different operational models and requirements.

### 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 for 2016 ("System Study Update"). Both studies helped inform this stewardship plan.

MARR's intention is to provide an opportunity for those currently involved in the collection of end-of-life appliances to become qualified collectors and to be part of the collection network when the incentive programs take effect.

MARR will establish a set of basic collector qualification standards to be met in order to qualify as a collector under the MARR program, such as free drop off service to residents, proof of all necessary licenses and permits, compliance with health and safety requirements, and specified liability and business insurance coverage. Qualification standards will also include reporting requirements to allow MARR to meet its reporting requirements to the MOE.

Qualified Collectors will be required to report data such as:

- Number of units collected by category
- Tonnes of metal recycled
- Weight of ODS collected
- Weight of ODS sent for destruction

## 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.

Table 2 provides an estimate of the breakdown of the different types of locations that accept major appliances across the province.<sup>7</sup> Appendix B lists 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>8</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 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. It is MARR's intention to close this gap by requiring all qualified collectors who receive an incentive to offer free drop-off to residents.

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<sup>7</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>8</sup> Ibid.



## 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>9</sup>

Following one year of operating under the qualified collector framework, MARR will include and reflect the information in its annual reporting of diversion.

## 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 end-of-life 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 collection sites. This will allow the products to be crushed or shredded on site for easier transportation to metal recyclers, and 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 collection sites. Of concern is the issue that products are currently being "stockpiled" in rural and remote areas of the province.

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<sup>9</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.

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 end-of-life major appliances while removing existing barriers.

As noted earlier, MARR will operationalize these commitments in close consultation with impacted local governments.

## Performance Monitoring and Reporting Commitments

### Performance Measures

<b>Collection System and Consumer Accessibility Metrics</b>	<ul style="list-style-type: none"> <li>• Capture rate:               <ul style="list-style-type: none"> <li>○ Estimated weight of products collected divided by the estimated weight of products “available to collect”. <i>Note: this measure aligns with the third-party assurance for non-financial information.</i></li> </ul> </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 is committed to working with partner stakeholders, including First Nations, local government and non-profit associations – along with other stewardship agencies – to improve consumer awareness on an ongoing basis.

MARR's existing 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 participates in the Recycling Hotline Database administered by the RCBC. The Recycling Hotline Database provides information to consumers on how and where to recycle items, including large appliances, across the province.

Participation includes:

- Listing of MARR website on [bcrecycles.ca](http://bcrecycles.ca).
- Participation in RCBC's Recycling Hotline providing free, province-wide live information service for recycling, pollution prevention, waste avoidance, safe disposal options and regulations.

- Access to Hotline information officers who field more than 80,000 inquiries each year, referring consumers to the appropriate organization and/or program.
- Use of the Recyclepedia Smart Phone app that provides information to consumers on where to recycle specific products.

In addition to continuing with the strategies above, MARR will also 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

- Percentage of surveyed adults in British Columbia that are aware of a program for safely recycling and disposing of large appliances.<sup>10</sup>

### Performance Targets

MARR will target continuous improvement with respect to consumer awareness, aiming to achieve a consumer awareness target over 2016 baseline values over the term of the plan.

### Reporting Commitments

In addition, MARR will report annually on the program’s educational materials and strategies, as well as:

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

<sup>10</sup> This information will likely be obtained through a survey administered every three years by the Stewardship Agencies of BC.

## 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. Current APFs for products covered under the plan are listed on MARR's website at <http://www.marrbc.ca/participants/products>.

APFs 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. The Reserve Fund, however, serves as a transitional measure and/or source of funds to manage APFs during periods of program change as well as annual surpluses or deficits. APFs are reviewed by MARR on a regular basis to ensure there are sufficient funds to operate the stewardship plan.

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>11</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>11</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 end-of-life 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) 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>12</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 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

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<sup>12</sup> Home Appliance Industry Sets Goal to Eliminate use of HFC Refrigerants (February 9, 2016), available at [www.aham.org](http://www.aham.org).



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 percent of major appliances have a lifespan of between 10 and 20 years.<sup>13</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>14</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 2016, 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>13</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>14</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>15</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 2017, MARR met with other stewardship organizations and metal recyclers to discuss this issue and will continue to consider options for achieving higher end uses of residual materials. Metal recyclers are continually upgrading equipment and processes to minimize shredder residuals.

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

In 2016, MARR completed the development of 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. MARR met with private scrap metal facilities across the province to promote and encourage adoption of the standard.

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.

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

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<sup>15</sup> Ibid.

**Table 4: List of Metal 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:               <ul style="list-style-type: none"> <li>○ Estimated weight of products collected divided by the estimated weight of products “available to collect”</li> </ul> <p><i>Note: this measure aligns with the third-party assurance for non-financial information</i></p> </li> </ul>	<p>Achieve a capture rate of more than 90 percent for major appliances in BC.</p> <p>Following one year of operating under the qualified collector framework, MARR will report out on the total number of units collected by product type.</p>
<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>	<p>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.</p>
<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> <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</li> </ul>	<p>Report annually.</p>

<p>underserved areas (e.g., funded collection and awareness events, etc.)</p> <ul style="list-style-type: none"> <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>Percentage of surveyed adults in British Columbia that are aware of a program for safely recycling and disposing of large appliances.<sup>16</sup></li> </ul>	MARR will target continuous improvement with respect to consumer awareness, aiming to achieve a consumer awareness target over 2016 baseline values over the term of the plan.
<p>MARR will report on the program’s educational materials and strategies, as well as:</p> <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>	<p>A performance target will be determined once an initial baseline is established.</p> <p>Following one year of operating under the qualified collector framework, MARR will report out on the total volume of ODS collected.</p>
<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> <li>A description of how the recovered product was managed in accordance with the pollution prevention hierarchy, including:</li> </ul>	<p>Report annually.</p> <p>Collectors will be required to adopt the MARR Processing Standard for Recyclers of Major Appliances in order to become Qualified Collectors and be eligible to receive incentives.</p>

<sup>16</sup> This information will likely be obtained through a survey administered every three years by the Stewardship Agencies of BC.



<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><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

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

1. **Retailers and Manufacturers**, representing MARR member producers.
2. **Local Governments**, representing regional districts, municipalities and First Nation governments.
3. **Metal Recyclers/Processors**, including companies involved in scrap metal collection, processing, consolidation and resale, as well as service providers trained in the removal of harmful substances from end-of-life major appliances.
4. **Non-Profit Organizations**, including those involved in the recycling system in BC.
5. **Other stakeholders**, including representatives from the provincial government and other interested parties.

A summary of consultation activities and proceedings, as well as responses to feedback received on the draft stewardship plan, are included in the following sections.

### Initial Cycle of Consultations

Prior to drafting the updated stewardship plan, over the period of April 25<sup>th</sup> to May 30<sup>th</sup>, 2017, MARR undertook early consultation efforts that informed the development and direction of the plan. This included the following:

- A webinar focus group with the Local Government Advisory Council (LGAC);
- Interviews with metal recyclers/processors and ODS removal contractors; and
- A webinar focus group with representatives from First Nations communities.

A summary of the comments that emerged from these early consultations is included in the tables below.

<b>Local Government Advisory Council Webinar Focus Group</b>
<p>Participants noted the following with respect to the management of end-of-life major appliances:</p> <ul style="list-style-type: none"><li>• The transportation of recyclables, including the availability and frequency of metal pickup, is influenced by cost, storage and geographic factors.</li><li>• Fluctuations in metal market prices can lead to rural and remote communities viewing scrap metal from major appliances as a liability rather than an asset.</li><li>• The storage of recyclable appliances in urban areas is impacted by the availability of space, and in rural and remote communities there can be stockpiling due to challenges around ODS removal as well as transportation.</li><li>• The disposal of hazardous substances, particularly in rural and remote communities, depends in part on the access to ODS removal contractors.</li><li>• Illegal dumping in urban areas can be a transportation related issue, while others perceive this as a public awareness along with education challenge.</li></ul>

### Interviews with Metal Recyclers/Processors and ODS Removal Contractors

These interviews suggested that:

- There is little financial benefit to handle ODS containing appliances, as reflected in these same appliances not being accepted by all metal recyclers and processors. This may also be a factor preventing new entrants in seeking the necessary qualifications.
- Compliance within the industry could be improved with respect to the removal of hazardous substances prior to processing.

### First Nations Webinar Focus Group

Participants noted that:

- There are challenges with the removal of hazardous substances from end-of-life major appliances, as well as more broadly around the handling and storage of recyclables in remote communities.
- Transportation of recyclable major appliances is impacted by communities incurring costs in collection, processing and transportation.
- Low metal market prices combined with the long distance between communities and recyclers and salvagers, makes it difficult to recuperate costs.

In response to the above feedback, MARR outlined two key commitments in the draft stewardship plan to enhance the existing collection system for major appliances in BC. As outlined in Section 6, these commitments include the following:

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 collection sites. This will allow the products to be crushed or shredded on site for easier transportation to metal recyclers, and 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 collection sites. Of concern is the issue that products are currently being “stockpiled” in rural and remote areas of the province.*

Recognizing that BC’s geography is varied, and having heard from local governments that they have differing needs based upon their location, MARR will operationalize these commitments in close consultation with impacted local governments. This is a recognition that one solution may not work for all communities, and that different communities have different operational models and requirements.

## Second Cycle of Consultation on the Draft Plan

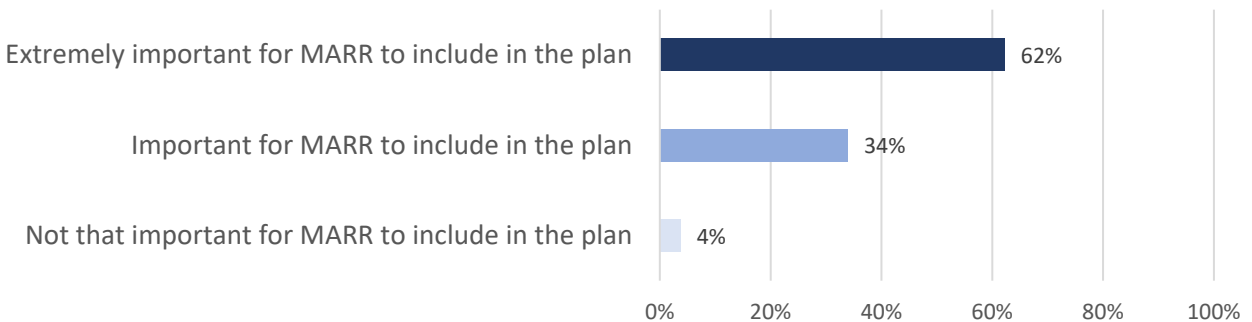
Following the initial consultation, the plan was drafted and posted online for public comment between June 5<sup>th</sup> and June 23<sup>rd</sup>, 2017. MARR consulted with a range of stakeholder groups during this period to discuss the draft plan and collect feedback for consideration, taking the form of:

- An online webinar consultation session with members of the BC Product Stewardship Council;
- An online webinar and in-person consultation session with members of the interested public, including representatives from retailers and manufacturers, metal recyclers/processors, local government, provincial government, non-profit organizations and others;
- A follow-up teleconference with the Local Government Advisory Council (LGAC); and
- Written submissions received by email.

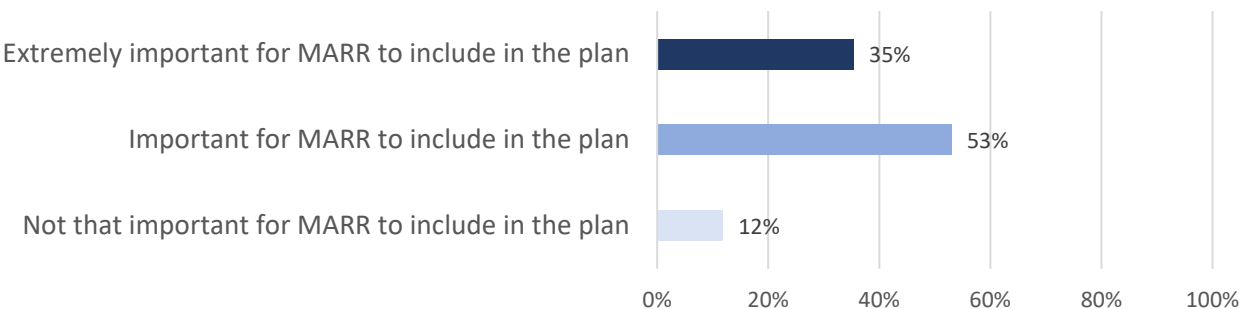
The webinar and in-person consultation sessions included a series of polling questions with respect to the commitments outlined in the draft plan. In total, 57 participants provided responses to the polling questions.

As part of the polling, participants were asked to indicate the extent to which each of the following commitments was important to include in the plan. Those commitments with the greatest support from stakeholders included the provision of an incentive for ODS removal (62 percent indicating this as “extremely important” to include in the plan), and addressing barriers to transportation (56 percent indicating this as “extremely important” to include in the plan).

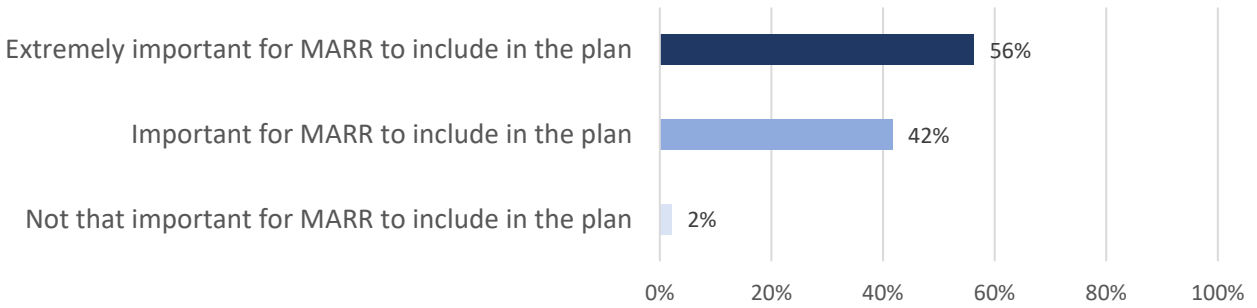
### 1. Commitment to establish an incentive program to mitigate barriers to the removal of ozone depleting substances (ODS)



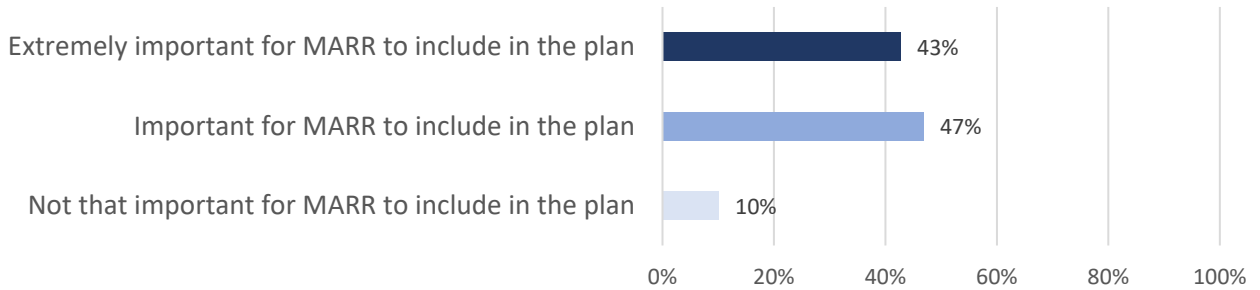
### 2. Commitment to maintain a list of trained ODS removal technicians



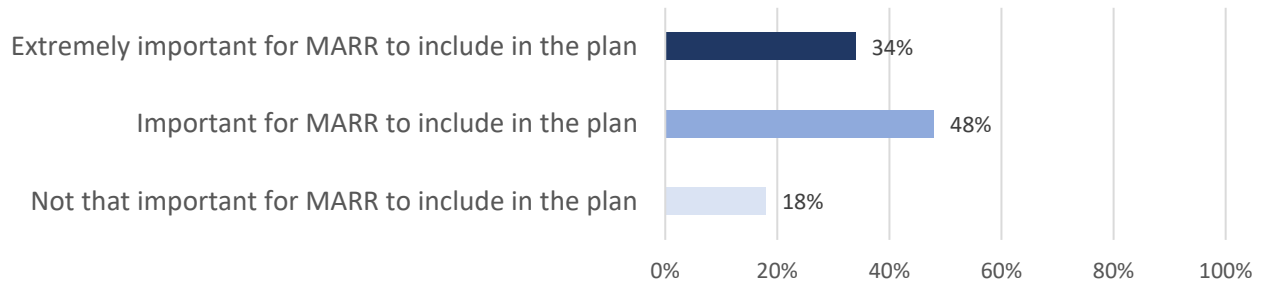
**3. Commitment to address barriers to transport major appliances from local government waste disposal sites**



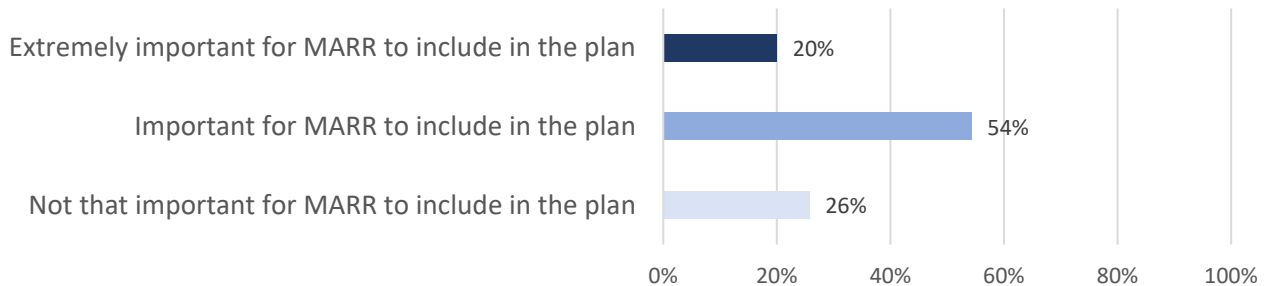
**4. Commitment to advance consumer awareness of major appliance recycling**



**5. Commitment to report on how industry manages environmental impacts**



**6. Commitment to encourage and report on the adoption of the voluntary processing standard**



Additional feedback received from stakeholders during consultation on the draft stewardship plan is summarized in the following tables, along with MARR’s consideration of and response to the feedback in finalizing the plan.

<b>BC Product Stewardship Council Consultation Session (Webinar)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<ul style="list-style-type: none"> <li>Participants indicated that a commitment to establish a program to mitigate barriers to the removal of ODS, while important to include in the plan, should be clarified including specific reference to financial incentives.</li> </ul>	<p>In deliberating the options, it was considered that BC has a diverse geography and local governments across the province have different needs, such that an effective incentive program wouldn’t necessarily be ‘one size fits all’. MARR will work with the affected stakeholders in the implementation of this commitment, and has included language to support this in the finalization of the plan.</p>
<ul style="list-style-type: none"> <li>Some participants noted that they are required to go to tender to seek contractor services for ODS removal, so a list of these contractors would be minimally helpful, while others noted they could reference an approved list.</li> </ul>	<p>MARR recognizes that local governments will have different needs. The implementation of plan commitments is intended to support local governments that currently contract this service, as well as those with difficulty accessing qualified technicians.</p>
<ul style="list-style-type: none"> <li>Participants noted they were looking for additional details in relation to MARR’s commitment around addressing transportation challenges for local governments, suggesting MARR look to a model in which local governments collect end-of-life appliances for a fee, and MARR assumes responsibility for transporting them to processors while also taking on the risks associated with metal market fluctuations.</li> </ul>	<p>MARR recognizes the challenges incurred by local governments in transporting end-of-life major appliances and in managing metal market fluctuations, and recognizes that these challenges may differ across regions of the province. MARR intends to work with impacted parties to identify potential implementation options to remove transportation barriers, recognizing that one solution may not work for all.</p>
<ul style="list-style-type: none"> <li>As an Extended Producer Responsibility program, it was raised that MARR should not be advertising facilities unless they are at no cost (i.e. currently MARR’s website directs consumers to local depots that may charge tipping fees and ODS removal fees and are not free for consumers to access). Furthermore, it was noted that illegal dumping (while a legal matter) would be reduced if governments or private businesses were able to provide a sustainable and free drop off service for materials covered by the program. Lastly, it was suggested that for customers wishing to learn about the disposal/recycling fees for MARR program materials, the disclaimer that is inserted below the map on the Collection Site</li> </ul>	<p>MARR reviews the listing of collection facilities on an ongoing basis to ensure the information reported is accurate and up-to-date, and will incorporate the suggestion to add the disclaimer referenced on the “Consumers-How to Recycle” webpage for additional clarity. As noted in Section 6, MARR is also committed to improving the existing collection system and in ensuring reasonable and free consumer access to collection facilities. Actions outlined in this plan were developed with the intention of supporting the achievement of this desired outcome.</p>

<b>BC Product Stewardship Council Consultation Session (Webinar)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
Locator be clearly communicated and inserted in the “Consumers–How to Recycle” page of the MARR website.	
<ul style="list-style-type: none"> <li>Participants suggested that commitments on reporting industry initiatives to manage environmental impacts are not as important as addressing cost-related issues for local governments including regional districts.</li> </ul>	MARR recognizes the importance of cost-related issues for local governments, and have made commitments in the plan to work towards alleviating some of these challenges.
<ul style="list-style-type: none"> <li>Participants viewed the voluntary processing standard as secondary or lower in importance relative to addressing the cost-related issues for local governments including regional districts.</li> </ul>	MARR recognizes the importance of cost-related issues for local governments, and intends to work in consultation with local governments on the implementation of commitments included in the plan.
<ul style="list-style-type: none"> <li>Participants expressed concern with respect to the reporting accuracy of MARR’s stewardship plan as it relates to collection estimates with a related comment being that it would also be useful to see unit recovery rates posted rather than percentages.</li> </ul>	MARR’s collection estimates are based on the System Study Update conducted annually, with data collected from a sample of collection facilities. Estimated total volumes of collected material by weight are reported as part of the System Study Update.
<ul style="list-style-type: none"> <li>A participant suggested that the MARR plan include additional studies for tracking the product pathways that are not directly managed by the stewardship program, such as behavioural surveys and waste composition studies.</li> </ul>	MARR conducts a System Study Update annually that reports on the estimated weight of products collected through unmanaged pathways. MARR also has access to waste composition studies commissioned by the Stewardship Agencies of BC, and will monitor these reports for products covered under the stewardship plan.
<ul style="list-style-type: none"> <li>A local government participant highlighted how annual recycling data is provided to their Board and communities by the end of March each year, thus it would be helpful to obtain the stewardship earlier rather than in June or July.</li> </ul>	The timelines for reporting on the MARR program follows the requirements set by the Ministry of Environment, and is not determined independently by MARR.

<b>Public Consultation Session (Webinar)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<ul style="list-style-type: none"> <li>Participants suggested that the commitment to establish an incentive program to mitigate ODS removal costs: <ul style="list-style-type: none"> <li>Needs to consider the circumstances of local governments including regional districts (e.g., a local government participant indicated they want to continue collecting major</li> </ul> </li> </ul>	MARR will work with the affected stakeholders in the implementation of the ODS incentive program, as it is recognized that the needs of local governments may vary due to regional and other differences. Further, the commitment to provide an incentive for ODS removal is intended to enhance the performance of the

<b>Public Consultation Session (Webinar)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<p>household appliances at local depots, but the costs make it a challenge).</p> <ul style="list-style-type: none"> <li>○ Is an area in which MARR can do more as many local governments are incurring the costs or passing costs onto consumers (e.g., tipping fees, ODS removal fees).</li> </ul>	<p>existing system, including accessibility to free drop off facilities.</p>
<ul style="list-style-type: none"> <li>● Participants noted the commitment to maintain a list of trained ODS removal technicians will be helpful to some local governments; and, that while a number of local governments would like to see MARR contracting directly with ODS removal technicians and paying the costs for removal, others already have qualified staff who received the necessary training.</li> </ul>	<p>MARR recognizes that BC has a diverse geography and local governments across the province will have different needs. MARR will consult with affected stakeholder on the implementation of plan commitments, and will consider options to support local governments that currently contract this service, as well as those with qualified technicians.</p>
<ul style="list-style-type: none"> <li>● While participants were in support of a commitment to address barriers to transport major appliances from local government collection sites, they suggested it was not specific enough (e.g., an action plan could be described for this item).</li> </ul>	<p>MARR recognizes the challenges incurred by local governments in transporting end-of-life major appliances, and notes that these challenges are expected to differ across local governments. MARR intends to work with impacted parties to identify potential implementation options to remove transportation barriers, recognizing that one solution may not work for all.</p>
<ul style="list-style-type: none"> <li>● Participants noted a lack of specificity around the plan’s consumer awareness commitment, suggesting it would be helpful to know if the commitment refers to advancing awareness on (1) where to recycle, or (2) awareness of MARR as a stewardship organization. It was also suggested that the plan should include more detail around how MARR plans to undertake the commitment.</li> </ul>	<p>The draft plan has been revised to include a detailed consumer awareness performance measure and related targets, based on survey data available through the Stewardship Agencies of BC. Specific actions towards achieving the targets will be determined upon implementation of the plan.</p>
<ul style="list-style-type: none"> <li>● Participants suggested that the commitment to report on how industry manages environmental impacts is critical; and that MARR should draw alignment between the administrative program fees it collects and how this relates to environmental impacts.</li> </ul>	<p>MARR will continue to report on how industry manages environmental impacts. Future reporting will also include information on volumes of ODS removal facilitated through the program.</p>
<ul style="list-style-type: none"> <li>● Session participants noted there is not enough awareness of the voluntary processing standard. It was suggested that the voluntary</li> </ul>	<p>Initially, the intention was to have collectors of major appliances (retailers, municipalities, etc.) agree to decommission the appliances they</p>



<b>Public Consultation Session (Webinar)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<p>standard should be made mandatory, reaffirming the commitment to the environment. Metal recyclers/processors expressed some concern with respect to industry compliance with the standard, but also noted how materials are being handled safely and in compliance with all legislated processing requirements.</p>	<p>collect in accordance with the standard, or require their processors to whom they sell or provide their appliances to be certified against the standard. MARR will continue to educate processors on the Voluntary Processing Standard, and on the proper handling of substances of concern.</p>
<ul style="list-style-type: none"> <li>• A concern was raised with regard to the reporting out on the volume of recyclables collected in the absence of all collectors submitting their numbers to MARR. Local government participants also expressed concern about system accessibility as many facilities charge tipping fees.</li> </ul>	<p>The collection estimates reported are based on data from a sample of collection facilities. Moving forward, and as the plan commitments are operationalized, MARR intends to provide enhanced reporting on materials collected through the program (e.g. volumes of ODS removal). Further to this, and as noted in Section 6, MARR is committed to improving the existing collection system including ensuring reasonable and free consumer access to collection facilities.</p>
<ul style="list-style-type: none"> <li>• Participants reiterated how the value of scrap metal can make it difficult to recoup costs incurred through collection; and, that MARR should take on more ownership over the collection and transportation of end-of-life major appliances (e.g., providing depots with a collectors fee).</li> </ul>	<p>MARR recognizes the challenges incurred by local governments in managing transportation costs and metal market fluctuations. MARR intends to work with impacted parties to identify potential implementation options in alleviating transportation barriers, recognizing that one solution may not work for all.</p>

<b>Recycling Council of BC Conference Consultation Session (In-Person)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<ul style="list-style-type: none"> <li>• Participants suggested that providing an incentive program for ODS removal was an important step for MARR, but wanted more details about the incentive, along with the assurance that the incentive program would cover the full costs of administering the program and be tailored for different regions of the province.</li> </ul>	<p>Recognizing that BC has a diverse geography and local governments across the province have different needs, MARR understands that an effective incentive program wouldn't necessarily be 'one size fits all'. MARR will work with the affected stakeholders to operationalize the incentive program for ODS removal, and has included language to support this in the finalization of the plan.</p>
<ul style="list-style-type: none"> <li>• Participants indicated that maintaining a list of trained ODS removal contractors was an important activity for MARR to undertake, but cautioned that training of ODS removal technicians may not solve the issue, given that there may not be enough work to sustain the</li> </ul>	<p>MARR understands the complexities with respect to the accessibility of trained service providers, and will work with local governments to develop an incentive program that alleviates some of challenges with respect to ODS removal. MARR will also review the</p>

<b>Recycling Council of BC Conference Consultation Session (In-Person)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<p>business. Other participants suggested that ODS removal should be entirely MARR’s responsibility.</p>	<p>implementation of this commitment with respect to the achievement of desired results, and may adjust the program over time to better suit the needs of system stakeholders.</p>
<ul style="list-style-type: none"> <li>MARR’s commitment to remove barriers to transportation was seen by all participants as important to include in the plan. Some participants suggested that transportation is not a “barrier” for local governments, but rather is a cost that is being borne by local governments from handling scrap metal, which is influenced in turn by market price fluctuations. For others, it was a matter of MARR taking responsibility for materials, with the participation of local governments as optional.</li> </ul>	<p>MARR recognizes that local governments may incur costs associated with the transportation of appliances from their collection sites, and that such costs associated with transportation will differ across the province. MARR intends to work with impacted parties to identify potential implementation options for removing transportation barriers, recognizing that one solution may not work for all. In addition, MARR will review the implementation on an ongoing basis to ensure it is addressing stakeholder needs while improving the performance of the current system.</p>
<ul style="list-style-type: none"> <li>It was questioned how the MARR program will address non-government, non-profit depots that accept major appliances.</li> </ul>	<p>Non-government, non-profit depots represent a relatively small percentage of the current collection system. The immediate priority for MARR in the current plan is in addressing the challenges that relate to collection facilities operated by local governments, in order to maintain the strong performance of the current system with respect to accessibility, collection and capture rates.</p>
<ul style="list-style-type: none"> <li>Consumer awareness was a priority for most participants based on polling, although some perceived the current level of public awareness to be sufficient. Participants suggested that MARR should increase consumer awareness through promotion of less-known products covered by the stewardship program.</li> </ul>	<p>MARR intends to further consumer awareness through the commitments outlined in this plan, and will report annually on the program’s educational materials and related strategies.</p>
<ul style="list-style-type: none"> <li>Reporting on how industry manages environmental impacts was seen as somewhat important for MARR to focus on, with related suggestions to set an advanced disposal fee that covers all aspects of handling of end-of-life materials. Concern was also expressed that energy star appliances are increasingly composed of non-metal material (plastic and foam), and that repair costs may prevent products from second use.</li> </ul>	<p>MARR will continue to report on how products are managed according to the pollution prevention hierarchy, including Design for the Environment principles, as well as secondary use and material end fates. MARR also recognizes that producers play a role in reducing the costs and environmental impacts associated with end-of-life recycling (e.g., the transition towards the use of new no-to-low Global Warming Potential refrigerant technologies).</p>

<b>Recycling Council of BC Conference Consultation Session (In-Person)</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<ul style="list-style-type: none"> <li>The commitment to report on the voluntary processing standard was seen as important, however most stakeholders, including manufacturers, would like to see a mandatory processing standard in place coupled with the knowledge that processors are following regulations.</li> </ul>	Initially, the intention was to have collectors of major appliances (retailers, municipalities, etc.) 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. MARR will continue to educate processors on the Voluntary Processing Standard, and on the proper handling of substances of concern.
<ul style="list-style-type: none"> <li>Concern was expressed over the reporting of diversion rates given available data, particularly in situations where appliances are piled, crushed and bailed.</li> </ul>	MARR's collection estimates are based on the System Study Update conducted annually, with data collected from a sample of collection facilities. The weight of materials is used as it is difficult to track unit appliances collected for these reasons.
<ul style="list-style-type: none"> <li>For urban areas, it was questioned how the incentives may be applied when recyclers collect, pick up, maintain and resell appliances to residents.</li> </ul>	The commitments in the plan relate to the end-of-life processing of major appliances, and therefore are not intended to address secondary use and repair. MARR recognizes that there is an effective existing market-based system in place for secondary use, especially in urban areas of the province.

<b>Written Submissions to Public Posting of Draft Plan</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<ul style="list-style-type: none"> <li>Several respondents noted support for MARR to undertake a communications campaign to increase awareness of the program at point of sale, and to target the illegal dumping of appliances.</li> </ul>	MARR plans to increase consumer awareness through the commitments outlined in this plan. MARR will report annually on the program's educational materials, strategies and program priorities. Dumping is a criminal activity, and outside the direct responsibility of MARR as a stewardship agency.
<ul style="list-style-type: none"> <li>A number of respondents noted administrative program fees as an area to revisit, notably the alignment between the fees being collected and MARR's stewardship activities, while retailers also stressed the need to keep the eco-fee affordable.</li> </ul>	Rates for administrative program fees are set by MARR and are subject to change as needed to address changing program costs and commitments. MARR acknowledges that transparency with respect to program costs is important to stakeholders, including consumers, and will ensure any changes to administrative program fees are communicated appropriately.
<ul style="list-style-type: none"> <li>A few local government respondents noted concern around the illegal dumping of appliances, with some suggesting this is an</li> </ul>	Illegal dumping is by its very nature a criminal activity, and outside the direct responsibility of MARR as a stewardship agency. Though, as

<b>Written Submissions to Public Posting of Draft Plan</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<p>increasing problem. A specific area of note were the costs associated with illegal dumping and whether local governments would be compensated for collection.</p>	<p>noted in Section 6, MARR is committed to improving the existing collection system and in ensuring reasonable and free consumer access to collection facilities which in turn may help alleviate the challenge of illegal dumping.</p>
<ul style="list-style-type: none"> <li>Several respondents noted a need to better track recovery rates, moving from estimates to more accurate statistics on the collection and recycling of end-of-life major appliances (i.e., collectors and depots have not been asked to keep records or report to MARR on volumes and reporting incentives are not offered). A few municipalities were willing to work in partnership with MARR to achieve better tracking through a formalized collection process.</li> </ul>	<p>The collection estimates reported are based on data collected from a sample of collection facilities. Moving forward, and as the plan commitments are operationalized, MARR intends to provide enhanced reporting on materials collected through the program (e.g. volumes of ODS removal).</p>
<ul style="list-style-type: none"> <li>A number of local government respondents suggested cost recovery was a challenge, particularly for more remote regions. These respondents noted they often take on the cost of scrap metal removal, relying on the charging of tipping fees, ODS removal fees, and sometimes metal market prices to recoup the expense of collection, storage, decommissioning and transport of end-of-life major appliances. Added to this was the concern that scrap metal prices may not fully mitigate the costs incurred in collecting MARR program materials.</li> </ul>	<p>MARR recognizes the importance of cost-related challenges for local governments including regional districts, and plans to work with local governments in the implementation of the plan towards alleviating some of these challenges.</p>
<ul style="list-style-type: none"> <li>A few written submissions noted geographic challenges unique to more remote areas of BC, with recyclers unwilling to pick up scrap metal, difficulties accessing ODS removal services, and the high cost of ODS removal and transportation of end-of-life major appliances.</li> </ul>	<p>Recognizing that BC has a diverse geography and local governments across the province have different needs, MARR plans to consult with affected stakeholders on the implementation of plan commitments, and will consider options to support local governments with respect to ODS removal and transportation barriers.</p>
<ul style="list-style-type: none"> <li>A few responses addressed the voluntary processing standard, suggesting that MARR move toward a mandatory standard that is monitored and enforced. There were also suggestions that MARR develop a best practices policy for the safe disposal of appliances covered under the stewardship plan.</li> </ul>	<p>MARR will continue to consult with stakeholders on this topic, and, in the implementation of the plan, may consider options that include defined processing standards for ODS removal that is facilitated by the program.</p>

<b>Written Submissions to Public Posting of Draft Plan</b>	
<b>Feedback Received on Draft Stewardship Plan</b>	<b>Response from MARR</b>
<ul style="list-style-type: none"> <li>There was expressed interest from respondents in the commitment to develop an incentive for ODS removal, with local governments suggesting the need for a financial incentive, cost recovery, and/or education and training in ODS removal offered.</li> </ul>	<p>The commitment to provide an incentive for ODS removal is intended to enhance the performance of the existing system, and MARR intends to work with stakeholders to implement the ODS incentive program to ensure it meets the needs of affected stakeholders.</p>

## 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
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

Collection Site	City	Regional District	Type
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
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

Collection Site	City	Regional District	Type
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>