



## **An Extended Producer Responsibility Plan for Refrigeration Units**

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Updated Plan Webpage: <https://www.canadianbeverage.ca/industry-initiatives/stewardship/>

Original Stewardship Plan Approval: December 27, 2012.

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## Glossary of Terms and Abbreviations

BC	British Columbia
CBA	Canadian Beverage Association
EOL	End-of-Life
EPR	Extended Producer Responsibility
GHG	Greenhouse Gases
GWP	Global Warming Potential
HFC	Hydrofluorocarbons
ODS	Ozone Depleting Substances

## Introduction

The British Columbia (BC) Recycling Regulation,<sup>1</sup> under the Environmental Management Act, sets out the requirements for extended producer responsibility (EPR) plans. The requirements for the submission of an EPR Plan are outlined in Section 4 of the Recycling Regulation, which states:

*A producer must submit an extended producer responsibility 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 uses in a commercial enterprise, sells, offers for sale or distributes in British Columbia.*

### Duty of the Producer

Under Schedule 3, Electronics and Electrical Products, beverage brand-owners are financially responsible for the recovery of refrigeration units that exhibit their branding or are owned outright by beverage companies. The following Plan addresses the key elements required by the BC Ministry of Environment and Climate Change Strategy to form an EPR Plan:

- Product Management Goals
- Product Life Cycle Management
- Proposed Management System
- Program Performance Measurement (financial/cost management, environmental management)

This updated EPR Plan is available on the website of the Canadian Beverage Association (CBA).<sup>2</sup> If approved, it will replace the CBA's previous Refrigeration Units Stewardship Plan, which was approved on December 27, 2012.

The duty of the producer is outlined in Section 2(1) of the Recycling Regulation under the Environmental Management Act:

*2 (1) Except as otherwise specifically provided in this regulation, a producer must*

*(a) have an approved plan under Part 2 [Extended Producer Responsibility Plans] and comply with the approved plan, or*

*(b) comply with Part 3 [Extended Producer Responsibility Program Requirements if No Extended Producer Responsibility Plan]*

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

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<sup>1</sup> [http://www.bclaws.ca/civix/document/id/lc/statreg/449\\_2004](http://www.bclaws.ca/civix/document/id/lc/statreg/449_2004)

<sup>2</sup> <https://www.canadianbeverage.ca/industry-initiatives/stewardship/>

## Products Covered by the Plan

This EPR Plan covers refrigeration units as listed under **2(1)(c)**, “electronic or electrical appliances,” outlined in **Schedule 3** of the **Electronic and Electrical Product** category of the BC Recycling Regulation under the Environmental Management Act.<sup>3</sup>

Under this EPR Plan, refrigeration units include coolers, vending machines and beverage dispensing systems that exhibit the branding of or are owned by a participating CBA-member beverage company. CBA members place these units at commercial locations (such as gas stations, convenience stores, restaurants, offices, factories, department stores, shopping centres) and are individually responsible for their maintenance, refurbishment and end-of-life (EOL) management. The products covered under this EPR Plan include the following CBA member-owned and branded refrigeration units:

Product Type	Further Description
<b>Beverage Coolers</b>	Countertop 1 door units 2 door units 3 door units
<b>Beverage Vending Machines</b>	72” and 79” high machines that distribute cans and/or PET bottles
<b>Beverage Dispensing Systems</b>	Bar guns Counter units Drop-in units Combo units

The average lifespan of refrigeration units tends to be extensive. Although maintenance and servicing are required to ensure their longevity, developments in technology have increased the lifespan of these units further. The table below shows the average lifespan of the different types of refrigeration equipment.

Product Type	Average Product Lifespan
<b>Beverage Coolers – Small (countertop)</b>	3-6 years
<b>Beverage Coolers – Larger</b>	13 -15 years
<b>Beverage Vending Machines</b>	9 - 12 years
<b>Beverage Dispensing Systems</b>	7 – 9 years

Currently there are no other agencies, apart from the CBA, appointed to act in a product stewardship capacity for beverage refrigeration units for commercial use in BC. As such, there are no other product stewardship/EPR agencies or plans covering the same products.

<sup>3</sup> [https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/449\\_2004#Schedule3](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/449_2004#Schedule3)

## Program Costs

No consumer fees are charged. As per Section 5(1)(c)(i) of the BC Recycling Regulation under the Environmental Management Act, CBA-member producers participating in this plan are paying the costs of collecting and managing their owned and branded refrigeration units within the product category covered by this EPR plan, including products that are currently or previously sold, offered for sale or distributed in BC.

## Stewardship Agency: Canadian Beverage Association (CBA)

The Canadian Beverage Association (CBA) is the national industry association representing the broad spectrum of brands and companies that manufacture and distribute the majority of non-alcoholic beverages consumed in Canada. It acts on behalf of producers of beverage refrigeration units, which are obligated under the BC Recycling Regulation.

In registering with the CBA, each producer must sign a Participant Agreement that formalizes the role of the CBA as its agent to carry out the duties of the producer as set out in Section 2(2) of the Recycling Regulation. This EPR Plan confirms the duties that the CBA will perform on behalf of each registered producer.

A current list of producers that the CBA represents is available on the association's website at <http://www.canadianbeverage.ca/about-us/>. The four members participating in the EPR Plan, include:

- The Coca-Cola Company
- Coca-Cola Canada Bottling Limited
- PepsiCo Beverages Canada
- Red Bull Canada

As the CBA currently administers the only approved stewardship plan for beverage refrigeration units in BC, it is expected that member producers manage all member-owned or branded beverage refrigeration units for commercial use in the province.

## Public Education Materials and Strategies

The EPR Plan only includes commercial products managed and processed internally by CBA members and distributors. To ensure public awareness of the CBA's efforts to properly manage refrigeration units, the CBA will continue to post its EPR Plan and annual reports on its website. The link to the website is the following: <http://www.canadianbeverage.ca/environment/stewardship/>

CBA members will continue to place a notification sticker on all refrigeration units that are sold to a third party in order to direct that third party to contact the CBA for instructions on where the unit can be

properly disposed of at its EOL. To contact the CBA, please visit:  
<https://www.canadianbeverage.ca/contact-us/>

## Agency Governance

The CBA is a not-for-profit organization incorporated under the Canada Not-for-profit Corporations Act. Full details of the CBA's incorporation are accessible at the following federal government website:  
<https://www.ic.gc.ca/app/scr/cc/CorporationsCanada/fdrlCrpDtIs.html?corpId=737119>.

The association's current board of directors is listed in Appendix I.

The CBA maintains transparency with its members and stakeholders by posting annual reports and materials on its website. Annual reports can be accessed at the following link:  
(<http://www.canadianbeverage.ca/environment/stewardship/>).

## Annual Report

The CBA will compile an annual report to be submitted to the Ministry of Environment and Climate Change Strategy that includes the following:

1. Program Highlights
2. Supply Data
3. Performance Data
  - a. Recovery
  - b. Post-Collection Management
4. Continuous Improvement

In its annual report to the BC Ministry of Environment and Climate Change Strategy, the CBA will note any changes to its operational structure or Board of Directors since the previous annual report.

## Dispute Resolution

The program will enter into contract agreement with suppliers or service providers as required. Any disputes arising from contracts would be resolved using normal commercial legal procedures.

## Product Life Cycle Management

### Baseline data

The CBA's Refrigeration Units Stewardship Plan has been supported by a 2013 Baseline Study prepared by Reclay StewardEdge (RSE), which established the recycling rates for each type of refrigeration unit. The baseline recycling rate analysis found the average recycling rate for all refrigeration units is 83%.

The CBA engaged RSE to conduct a review of the baseline study. After the completion of further research and work to reassess the baseline study to ensure its accuracy, the CBA has determined the original recycling assumptions from the 2013 Baseline Study for CBA-member refrigeration units remains valid and accurate.

Going forward, as part of this EPR Plan and the annual reporting process, the CBA will seek existing audited data from processing facilities with the aim of collating this information to recalculate recycling rates. This information would be used to reaffirm the recycling rates listed in the baseline study or to make any adjustments, if required.

### **Current Collection System**

CBA members continue to operate a closed-collection network and any maintenance, refurbishments or end of life management are undertaken by the beverage company or its local distributor. Therefore, when a unit requires retrofitting or refurbishment, it is collected and transported by the member or distributor to their facility for further triage and maintenance. Units are collected for refurbishment or EOL management at collection locations in the Metro Vancouver Regional District. Any metal parts that need to be replaced during maintenance or refurbishments are sent to a metal scrapyards.

When it has been determined that refrigeration equipment can no longer be used by the CBA member, the equipment is removed from the company's list of assets and is sent to be recycled by a contracted third party in BC (referred to as a processor).

### **End-of-Life Management**

Beverage coolers, vending machines and dispensing system units are owned by beverage companies and placed in commercial facilities for use. Generally, if a unit breaks down in use, it will either be repaired on site or transported to a member's off-site facility for repair. When the equipment is removed, it is replaced with either a used machine or a new machine. If it is determined that a refrigeration unit is no longer serviceable, it is prepared for EOL management.

Before refrigeration units are recycled, the refrigerant is removed from the compressor by a licensed technician for reclamation or destruction in accordance with provincial regulations. All member companies or contracted technicians that service beverage refrigeration equipment must comply with the Ozone Depleting Substances and Other Halocarbons Regulation under the Waste Management Act (BC Reg. 387/99, as amended), including all requirements for the use of "approved persons" and devices in the removal of the refrigerant, the use of approved containers to store and transport the refrigerant for the purposes of disposal and recycling, and record-keeping. Additionally, the oil and fluorescent lightbulbs, as well as any other useful parts, are removed to be reused or recycled. Once refrigeration units are ready for EOL management, including the required labelling and record keeping as per BC Reg. 387/99, as amended, they are shipped to intermediary scrap metal processors.

Refrigeration equipment from CBA members is a very small percentage of the overall metal managed by intermediary processors. As a result, beverage refrigeration equipment is mixed with other scrap metal, including major appliances (such as washers, dryers and freezers), car bodies and other light mixed

metals (e.g., bicycle frames, barbeques, metal sheets and siding, metal doors and shelving) from various residential and commercial sources.

The intermediary processors based within BC then sell the baled metal to downstream scrap metal processors where it is shredded to recover the various ferrous and non-ferrous metals. These scrap metal processors use large electric-powered hammer mill shredders that pulverize bales of mixed metals, which are composed of automobile bodies, appliances and other light mixed scrap metal. Once the scrap metal is pulverized into small pieces, they are then sorted by different “downstream” metal separation processes including magnets, trommels, screens, optical scanners, eddy currents and other types of proprietary process equipment. Shredder output, which is known as “aggregate” in the industry, is an intermediate process material that contains significant amounts of valuable ferrous and nonferrous metal that is separated and sold as commodities. On average, ferrous and non-ferrous metals recovered through these operations account for approximately 75% of the inbound material.

The remaining estimated 25% of the material from the shredded equipment cannot be recovered and is commonly referred to as shredder fluff. Shredder fluff is a mixture of largely non-metallic materials resulting from the shredding of auto bodies, appliances, and other scrap metal materials. It consists primarily of foam, fabric, plastics, rubber, tires, glass, wood, and debris materials. This shredder fluff also consists of approximately 1% of non-recoverable ferrous and non-ferrous metals, such as strips of copper or aluminum that are wrapped around parts of the equipment, or metals imbedded in the insulation or plastic materials. This material cannot be recovered and is therefore sent for disposal.

Again, in our research, we found the recycling rate for refrigeration equipment is higher than the industry average. The baseline study prepared by RSE for the CBA shows that, on average, the recycling rate for all beverage refrigeration units is 83%.

## **Program Performance Measurement**

The CBA will monitor and report on how refrigeration units are managed at their EOL by obligated CBA members.

### **Performance measure: Collection Rate**

The Recycling Regulation defines the recovery rate as the “amount of product collected divided by the amount of product produced, expressed as a percentage.” However, given that refrigeration units are a commercial product with a longer useful life than many other products under the Electronic and Electrical Product Category, a more appropriate performance measure is the “collection rate.” Each CBA member has its own internal processes to manage the collection of refrigeration units, which corresponds to the pollution hierarchy to reduce, reuse, recycle and recover. The goal is to extend the useful life of refrigeration units for as long as possible before they must be sent for EOL management.

Due to the closed-loop, commercial nature of the beverage sector’s operations, refrigeration units are tracked by CBA members throughout their lifecycle until they are sent for EOL management to contracted recyclers.

A small number of refrigeration units are sold to customers for continued use and exit the plan’s tracking system while a certain number are transferred out of BC for continued use in a different

province, where they would be recycled at the EOL. It is only when units are lost-in-trade (that is, either stolen or misplaced by a customer) that they would not be collected for EOL management. Therefore, the plan's collection rate is calculated in the following way:

**Units Collected** (Units sold to third parties, units collected for refurbishment, units sent for EOL management and units transferred to other provinces)

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**Units Removed from Tracking System:** (Numerator plus # of units lost in trade and other adjustments with a net removed from trade position)

### **Performance Target**

The BC Recycling Regulation requires EPR Plans to achieve a recovery rate of 75% whereas the CBA's stewardship plan has had a collection target of 80%.

As part of this EPR Plan, the CBA has set for itself a revised collection target of 85% to be achieved in Years 1 to 5 of this Plan. These targets will be maintained moving forward until such a time that new targets are approved.

### **Program Administration**

Members will report to the CBA annually on the following:

- Number of Units: Number of vending and refrigeration units installed, added and removed from the Province of BC in the reporting period.
- Documented Policies and Procedures: List of company policies/procedures pertaining to the EOL management of vending and refrigeration units (including asset tracking protocols).
- Continuous Improvement Efforts: including, but not limited to, improvements in the EOL management of obligated material.

### **Program reporting**

Members will report to the CBA annually on the following:

- Number of units retrofitted/refurbished in the reporting period.
- Number of units that have reached their EOL and were sent to a recycling facility.
- Improvements made with respect to diversion and recycling as they relate to vending and refrigeration units during the reporting period.

### **Procedure for Third Party Units**

A small percentage of units that are removed from service each year are sold to third parties:

- If sold to a third party, the procedure outlining proper disposal will include:

- A notification sticker on refrigeration units to direct the third party to contact the CBA for instructions on where the unit can be properly disposed of at its EOL at the applicable CBA member location.
- In addition, a clause will be added to future purchase agreements instructing the purchaser of the obligation to properly dispose of the unit at its EOL at the applicable CBA member location.
- If the CBA is contacted by a third party in possession of a refrigeration unit previously owned by a CBA member, the association will inform that person of the options to properly dispose of the unit at the applicable CBA member location.
- Information on the options to properly dispose of the unit, including locations where third-party generators can send CBA-member branded products for EOL management will be provided to transfer stations and landfill operators in the event that generators attempt to dispose of these units at such locations.

## **Product Environmental Impact Reduction, Reusability and Recyclability**

Most CBA members' refrigeration units undergo more than one retrofit or refurbishment throughout their lifecycle in order to extend their useful life in-trade. Furthermore, CBA members increasingly use units that depreciate much more slowly, delaying the need for disposal. Further efforts undertaken to reduce environmental impacts include the recycling and reuse of old parts removed from units during refurbishment/repairs.

Efforts in the industry to increase the useful life of all refrigeration equipment through enhanced durability and modular systems that can be more easily replaced and repaired will reduce the number of units managed for EOL over time. Member companies are undertaking initiatives to improve the environmental and energy performance of their refrigeration units as part of their overall sustainability commitments.

## **Leadership on Halocarbon Management**

CBA members are playing a leadership role on reducing the use of hydrofluorocarbons (HFCs) in refrigeration equipment. HFCs are powerful greenhouse gases (GHGs) with global warming potentials (GWP) thousands of times greater than carbon dioxide. These chemicals were introduced for use as refrigerants and blowing agents to replace ozone-depleting substances (ODS).

As part of the CBA's efforts to address climate change, CBA member companies with facilities in BC are phasing out the use of HFCs in refrigeration units. These efforts include transitioning to natural refrigerants or refrigerants with a low GWP and installing HFC-free insulating foam in new refrigeration units.

For existing machines that still contain ODSs and HFCs, CBA members track and manage these chemicals in accordance with BC Regulation 387/99, as amended. Member companies either have their own trained, licensed technician remove refrigerants from the compressors of beverage machines or have a licensed service provider do so for them. All member company or contracted technicians that service

beverage equipment must comply with the Ozone Depleting Substances and Other Halocarbons Regulation under the Waste Management Act (BC Regulation 387/99, as amended), including all requirements for the use of “approved persons” and devices in the removal of the refrigerant, the use of approved containers to store and transport the refrigerant for the purposes of disposal and recycling, and record-keeping. After the refrigerant is safely recovered into an approved container, it is then returned to the supplier for reclamation or destruction.

## Plan Performance Summary

Summary of Program Performance Measures:

Measures	Year 1	Year 2	Year 3	Year 4	Year 5
Collection Rate	Collection Target is 85%.	Collection Target is 85%.	Collection Target is 85%.	Collection Target is 85%.	Collection Target is 85%.
Collection System	No specific target. CBA members to continue to maintain reverse logistics for products retained which remain in operation or “in-trade” until EOL. For products sold to third parties for continued use (~2% of products available at end of life), CBA commits to educate and provide collection options.				
Consumer Awareness	No specific target. CBA members to maintain current processes. Given product longevity and specificity of market, CBA commits to continue to make third parties aware of EPR Plan through notification on product itself and details included in purchase agreements.				
Pollution Prevention Hierarchy	Target all products for collection and management according to Pollution Prevention Hierarchy	Target all products for collection and management according to Pollution Prevention Hierarchy	Target all products for collection and management according to Pollution Prevention Hierarchy	Target all products for collection and management according to Pollution Prevention Hierarchy	Target all products for collection and management according to Pollution Prevention Hierarchy
Reporting commitments	CBA commits to publishing the annual reports for collection rate targets as stated in this EPR Plan.				

## Appendix I

CBA's current board of directors are listed below:

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