



Canadian Beverage Association
Association canadienne des boissons

BC Refrigeration Units Stewardship Plan

Annual Report to the Director

2024

Submitted to: Director, Extended Producer Responsibility Programs
PO Box 9341, STN PROV GOVT
Victoria, BC V8W 9M1

Prepared by: Krista Scaldwell, President
Canadian Beverage Association
20 Bay St.
Toronto, Ontario M5J 2N8
416-362-2424

June 27, 2025

Table of Contents

Executive Summary.....	3
Program Outline.....	5
Public Education Materials and Strategies	6
Collection System and Facilities.....	6
Product Environmental Impact Reduction, Reusability and Recyclability.....	7
Pollution Prevention Hierarchy and Product / Component Management.....	8
Product Sold and Collected and Recovery Rate.....	11
Plan Performance.....	14

Executive Summary

Products within Plan	Vending Machines, Refrigeration Coolers, Beverage Dispensing Systems operated for commercial purposes only by Canadian Beverage Association (CBA) members.
Program website	http://www.canadianbeverage.ca/environment/stewardship/

Recycling Regulation Reference	Topic	Summary
Part 2, section 8(2)(a)	Public Education Materials and Strategies	<ul style="list-style-type: none"> Stewardship Plan and annual reports continue to be posted on CBA's website CBA to continue to provide any third-party instructions on where refrigeration units can be properly disposed for end-of-life management
Part 2, section 8(2)(b)	Collection System and Facilities	<ul style="list-style-type: none"> Refrigeration units are collected by CBA members at locations in BC Once collected, units destined for end-of-life management are transported to processing facilities
Part 2, section 8(2)(c)	Product Environmental Impact Reduction, Reusability and Recyclability	<ul style="list-style-type: none"> CBA members continue to retrofit or refurbish refrigeration units throughout their lifecycle to extend their useful life in-trade. Continued efforts are being undertaken to reduce environmental impacts, including: the recycling and reuse of old parts removed from units during refurbishment/repairs, as well as phasing out the use of hydrofluorocarbons in refrigeration equipment
Part 2, section 8(2)(d)	Pollution Prevention Hierarchy and Product / Component Management	<ul style="list-style-type: none"> Refrigeration units that are collected are either refurbished/re-used or sent for recycling to metal processor in British Columbia (See table 4) Approximately 82% of the components in each beverage vending machine are recycled (See table 4) Approximately 84% of the components in each beverage cooler are recycled (See table 4) Approximately 75% of the components in each beverage dispensing unit are recycled (See table 4)
Part 2, section 8(2)(e)	Product Sold and Collected and Recovery Rate	<ul style="list-style-type: none"> 5,837 refrigeration units were introduced into trade in 2024 (See table 6) 3,132 refrigeration units were collected in 2024 for end-of-life management, collected for refurbishment and sold third parties (See table 7) Collection rate for 2024 was 70.75% (See table 7)
Part 2, section 8(2)(e.1)		<ul style="list-style-type: none"> All products collected in British Columbia are collected in the Metro Vancouver Regional District

Comparison of Key Performance Targets		
Part 2 section 8(2)(g); See full list of targets in Plan Performance		
Priority Stewardship Plan Targets (as agreed with ministry file lead)	Performance	Strategies for Improvement
Annual Collection Target: 80%	Collection Rate: 70.75%	There are several improvements to the program as part of our updated plan. Many new initiatives in place.

Program Outline

The three (3) members participating in the Plan include:

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

All beverage refrigeration units covered under this Plan are used for commercial purposes and are managed by internal process by CBA member companies and/or their distributors throughout the units' lifecycle. The products covered under the Plan include the following CBA member-owned and branded refrigeration units:

Table 1: Products covered under Stewardship Plan

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

General Disclosure:

This self-assessed report was conducted by the Canadian Beverage Association on behalf of its members. The same process was followed as in previous years.

Public Education Materials and Strategies

The Plan only includes commercial products managed and processed internally by CBA members and distributors. To ensure public awareness of our industry's efforts to properly manage our refrigeration units, the CBA will continue to post the Plan and annual reports on our 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 if sold to a third-party to direct the third-party to contact the CBA for instructions on where the unit can be properly disposed of at its end-of-life.

Collection System and Facilities

CBA members continue to operate a closed-collection network and any maintenance or refurbishments (parts replacements, etc.) 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 end-of-life (EOL) management and refurbishment at five collection locations depending on the steward of the unit. The collection locations are all located in the Metro Vancouver Regional District.

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

Five (5) processing facilities were used by stewards for EOL management, which are located in the Metro Vancouver Regional District. The locations of these facilities are listed below:

ABC Recycling
8081 Meadow Avenue
Burnaby, BC V3N 2V9

Allied Salvage & Metals
11651 Twigg Place
Richmond, BC V6V 2K7

Jim Galbraith Trucking LTD
23617 16 Avenue
Langley, BC V2Z 1K8

RYPAC
11849 Tannery Rd
Surrey BC V3V 3W8

Carrier Enterprises
Suite 101 26868 56 Avenue
Langley, BC V4W 1N9

Two (2) collection facilities are used and they are:

Coke Canada Distribution Centre
2450 United Boulevard
Coquitlam, BC
V3K 6G2

Allied Salvage & Metals
11651 Twigg Place
Richmond, BC V6V 2K7

All locations are in the Metro Vancouver Region. Product was not collected or processed in any other regional district.

Product Environmental Impact Reduction, Reusability and Recyclability

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

An area of continuous improvement relates to the manufacturers and beverage companies as a whole. 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.

Leadership on Halocarbon Management

CBA members actively take steps to manage halocarbons, as well as play leadership role to reduce 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 beverage machines.

For existing machines that still contain ODSs and HFCs, CBA members track and manage these chemicals in accordance with BC Regulation 387/99. 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. The refrigerant is safely recovered into a container that is then returned to the supplier for reclamation or destruction.

Pollution Prevention Hierarchy and Product / Component Management

Beverage coolers, beverage vending machines and beverage dispensing system units are owned by beverage companies and placed in commercial facilities for use. Therefore, CBA members are individually responsible for the maintenance and end-of-life management. All CBA members in the Plan have internal processes, which ensure the collected product is managed appropriately as per the pollution prevention hierarchy.

Generally, if a unit breaks down in use, the machine will either be repaired on-site, or removed to a member's off-site triage facility to be repaired. When the equipment is removed, it is replaced with either a used machine or a new machine.

The average lifespan of these types of machines tends to be extensive, although maintenance and servicing is required to ensure longevity and developments in technology have increased the lifespan of machines. The following table shows the average lifespan of the different types of refrigeration equipment.

Table 2: Average lifespan of different types of refrigeration equipment

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

Before a beverage machine is recycled, the refrigerant is removed from the compressor by a licensed technician for reclamation or destruction in accordance with provincial regulations. 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, 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, barbecues, 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 the equipment 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. In total, 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, along with minute amounts of remaining metallic material that is too small to be economically separated and removed from the aggregate.

This shredded 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.

Table 3: Acceptable Product End Fate Matrix

If possible, units are retrofitted or refurbished; if reuse is not possible the unit is destined for end-of-life management. This table only considers units sent for EOL management.

Unit	Reused	Recycle	Energy Recovery	Land Fill
Vending Machines	N/A	1st Preference	N/A	X
Cooler Units	N/A	1st Preference	N/A	X
Beverage Dispensing Systems	N/A	1st Preference	N/A	X

Table 4: Estimated Product End Fate Data for year ended December 31, 2024¹

Unit	Reused	Recycle	Energy Recovery	Land Fill	Unknown
Vending Machines	0%	82%	0%	18%	N/A
Cooler Units	0%	84%	0%	16%	N/A
Beverage Dispensing Systems	0%	75%	0%	25%	N/A

The table below demonstrates the general nature of the processing pathway which occurs once a unit can no longer be used by the CBA member company (i.e., can't be refurbished/re-used) and is sent to a third-party processor for recycling and processing. The first phase of processing consists of the unit being sent to intermediary processor in British Columbia, where the unit is baled and sold to a downstream processor located in province or elsewhere in North America. At the second phase of processing the bale is shredded to separate recyclable mixed metal components from non-recyclable mixed materials. Depending on the unit type, at least 75% of the unit's components are recycled while the remaining 16-25% of components are sent for landfill disposal.²

Table 5: Processing Pathways for EOL Management

Unit	Nature of Processing	
	Phase#1 - Transfer to Intermediary Processor in British Columbia	Phase#2 - Transfer to direct processor in British Columbia or elsewhere in North America
<i>Vending Machines</i>	100% of unit components	~82% of unit components recycled (mixed metal)
<i>Cooler Units</i>	100% of unit components	~84% of unit components recycled (mixed metal)
<i>Beverage Dispensing Systems</i>	100% of unit components	~75% of unit components recycled (mixed metal)

¹ Units sent for EOL Management

² In response to a Ministry request to review the baseline study for the stewardship Plan, the CBA engaged Reclay StewardEdge (RSE). RSE had prepared the research for our association's original 2013 Baseline Study Report by conducting interviews with local scrap metal processors. After reassessing the baseline study and conducting additional research to ensure its accuracy, RSE confirmed in December 2017 that it "is confident the original recovery assumptions from the 2013 Baseline Study for CBA member refrigeration units remain valid and accurate."

Product Sold and Collected and Recovery Rate

The tables and information below show highlights of the Stewardship Plan for the year 2024. In 2024, the total number of products collected was 4,427. The total number of units introduced and distributed into the province was 5,837.

Table 6, located on the next page, shows the total number of refrigeration units at the start of Quarter 1 2024 compared to the end of Quarter 4 2024 in-trade.

The collection rate for 2024 is lower than previous years. This was due to two scenarios affecting the loss of an unexpected number of units. The first scenario involved a distribution partner losing 177 units. Some units have been recovered and brought back into inventory and there is hope that they will find more of them. The equipment supply relationship with this customer has been severed to avoid any future risk and we will continue every effort to recover and redeploy the stolen assets. The second scenario is a member's annual audit. These audits are completed alphabetically and the 2024 audit included all businesses that had closed. Since units are more likely to be lost when a business is closed than when it is still operational (e.g., due to theft, lockout, etc.), this group of businesses audited contains a disproportionate number of units lost in trade compared to other audit groups. The small number of producers participating in this plan also means anything unusual in one member's reporting will heavily sway the collection rate for the entire group overall. While this year's collection rate is lower than usual, it is important to look at trends. Figure 1 shows how our average collection rate for the duration of this approved plan exceeded our target at 84.65% and this is only the second time we have been below our target rate in 11 years.

Table 6: Number of units in-trade at start of Q1 2024 and at the end of Q4 2024

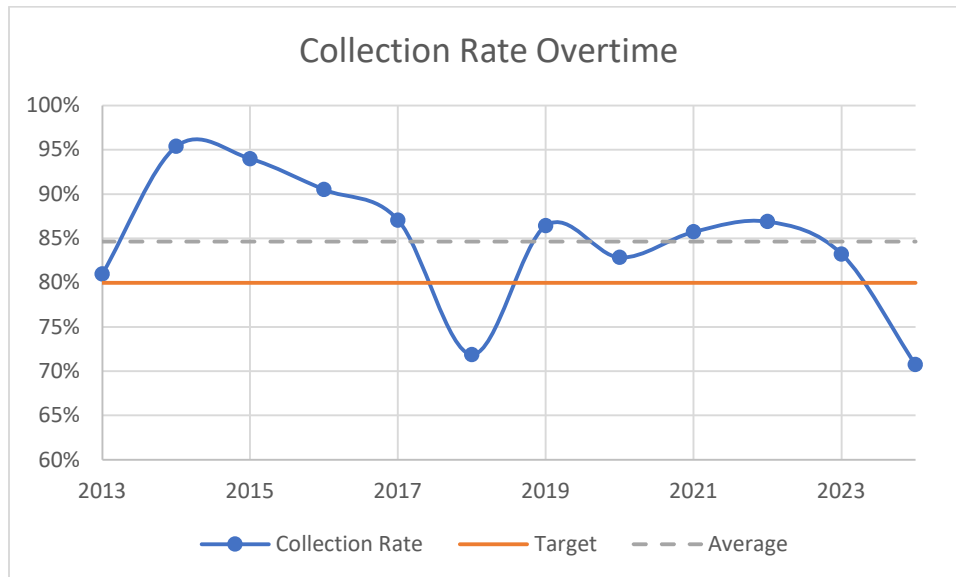
	Number in-trade: start of Q1 2024	Introduced into trade: Q1-Q4 2024 ³	Removed from trade: Q1-Q4 2024 ⁴	Number in-trade: end of Q4 2024	Net Change: 2024 Year End⁵
Beverage Vending Machines	2,842	259	879	3,080	620
Beverage Coolers	20,072	4,911	3,151	21,279	1,760
Beverage Dispenser Systems	4,377	667	397	4,522	270
Total	27,291	5,837	4,427	28,881	1,410

³ Includes both new and refurbished units as well as other adjustments with a net in-trade position.

⁴ Includes units sold to third parties, collected for refurbishment, collected for EOL management or lost in trade and other adjustments with a net removed from trade position.

⁵ Net change equals Q1 number in-trade plus, new in trade plus other adjustments with a net in-trade position, less units lost in trade, units sold to 3rd party, units collected for EOL management, units in refurbishment/retrofitting, and less other adjustments.

Figure 1: Graph of Collection Rate Overtime



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 10 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:

<p>Units Collected (Units sold to 3rd parties, units collected for refurbishment, units sent for EOL management and units transferred to other provinces)</p>
<hr style="border: 0.5px solid black;"/> <p>Units Removed from Tracking System: (numerator + units lost in trade and other adjustments with a net removed from trade position)</p>

Table 7: Collection Rate for the Year of 2024

	(a) # of Units Collected for EOL Management	(b) # of Units Sold to 3 rd Party	(c) # of Units in Refurbishment	(d) # of Units Transferred to Other Provinces	(e) # of Units Collected	(f) # of Units Lost in Trade (2024)	(g) Other Adjustments	(h) Units Removed from Tracking System	Collection Rate (%)
Beverage Vending Machines	358	0	0	163	521	358	0	879	59.27%
Beverage Coolers	1,217	8	9	1,053	2,287	864	0	3,151	72.58%
Beverage Dispenser Systems	230	9	0	85	324	73	0	397	81.61%
Total:	1,805	17	9	1,301	3,132	1,295	0	4,427	70.75%
<i>Notes:</i>					<i>(a)+(b)+(c)+(d)</i>			<i>(e)+(f)+(g)</i>	<i>(e)/(h)</i>

Table 8: Geographic Breakdown of Units Collected Based on Collection Facilities

	Beverage Vending Machines	Beverage Coolers	Beverage Dispenser Systems	Total
Metro Vancouver Regional District	358	1,226	230	1,814⁶
Other BC Regional Districts	<i>No units were collected in any other regional district.</i>			
Other (Out-of-Province)	N/A	N/A	N/A	N/A

⁶ This number does not include units sold to third parties, transferred to other provinces, or lost in trade.

Plan Performance

Summary of Program Performance Measures:

Measures	Targets/Gol												
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Collection	75% target committed to in Plan.	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%	Collection Target is 80%
	Gather baseline collection data to confirm future year recovery rates.	Collection Rate: 81.0 %	Collection Rate: 95.39%	Collection Rate: 94.01%	Collection Rate: 90.52%	Collection Rate: 87.06%	Collection Rate: 71.89%	Collection Rate: 86.46%	Collection Rate: 82.86%	Collection Rate: 85.75%	Collection Rate: 86.91%	Collection Rate: 83.24%	Collection Rate: 70.75%
Collection System	No specific target was committed for 2024. CBA members to continue to maintain complete reverse logistics for products retained which remain in operation or “in-trade” until end of life. For products sold to third parties for continued use (~2% of products available at end of life), the CBA is committed to providing education and collection options.												
Consumer Awareness	No specific target was committed for 2024. CBA members to maintain current processes. Given product longevity and specificity of the market, CBA commits to continue to make third-parties aware of the stewardship program through notification on product itself and details included in purchase agreements.												

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Product Life Cycle	Depends on product type (see <i>Pollution Prevention Hierarchy and Product / Component Management Section above</i>)	No specific target was committed for 2013-2024. Depends on product type (see <i>Pollution Prevention Hierarchy and Product / Component Management Section above</i>)											
Pollution Prevention Hierarchy	Target all products for collection and management according to the PPH.	No specific target was committed for 2013-2024.											
		Target all products for collection and management according to the PPH.											