

BC Brewers Recycled Container Collection Council

Annual Report to the Director

2017 Calendar Year

Submitted to:

**Executive Director
Environmental Standards Branch
Ministry of Environment
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BRCCC 2017 Product Stewardship Report to the Executive Director, Environmental Standards Branch

1. Executive Summary

Products within plan:	Refillable Glass Beer, Cider & Cooler Containers, and Metal Beverage Alcohol Cans
Program website:	http://www.EnviroBeerBC.com

Recycling Regulation Reference	Topic	Summary (5 Bullet Maximum)
Part 2, Section 8(2)(a)	Public Education Materials & Strategies Schedule 1 & 5	<ul style="list-style-type: none"> • Issued press releases reaffirming the container recycling program and announcing the related packaging program that was launched in 2017 • Updated and issued new infographic educating consumers on the life cycle of beer and cider packaging in order to bring additional awareness of the program • Supported numerous authorized Depot open houses and environmental events (Earth Day etc.) • Continued promotion of the BC Recycles portal as a 'one-stop' location for information on recycling in BC
Part 2, Section 8(2)(b)	Collection Systems & Facilities Schedule 1 & 5	<ul style="list-style-type: none"> • BRCCC delivers beer to retail locations and licensed establishments and collects containers at retail locations, licensed establishments and container depots • BDL operates 2 warehouse facilities and 44 delivery vehicles in BC • There are 1,146 container redemption facilities for BRCCC program containers in the province; see tables 1 and 2 for breakdown by return location type and by regional district, respectively
Part 2, Section 8(2)(c)	Product Environmental Impact Reduction, Reusability & Recyclability Schedule 1 & 5	<ul style="list-style-type: none"> • All primary containers are either reused or recycled • All associated secondary packaging is returnable and recyclable • Estimated waste diversion rate of 22,475TN, avoided 80,998TN of CO₂E associated with containers
Part 2, Section 8(2)(d)	Pollution Prevention Hierarchy & Product Component Management Schedule 1 & 5	<ul style="list-style-type: none"> • Reduction of new materials used continues to be recognised through the reuse of refillable bottles • Brewers receiving bottles for refilling have expressed intent to continue to refill those containers • 100% of aluminum containers collected were recycled in 2017 • 100% of refillable glass collected are either sent for intended re-use by brewers or recycling (99% sent to brewers for re-use, 1% sent directly to a glass recycler for recycling) • 100% of material reported as collected as packaging, sent to a recycler for recycling
Part 2, Section 8(2)(e)	Product Sold and Collected & Recovery Rate Schedule 1 & 5	<ol style="list-style-type: none"> 1. 669.7 million containers sold and 608.4 million containers recovered 2. 90.84% recovery rate 3. 10th consecutive year program has achieved a recovery rate over 90% 4. 59.29% Secondary Packaging recovery rate
Part 2, Section 8(2)(e.1)		See Section 7 for estimated breakdown per regional district.

Part 2, Section 8(2)(f)	Summary of Deposits & Refunds Schedule 1	Deposits Received: \$63,593,955 Deposits Refunded: \$60,623,718 Audit of B.C. Brewers' Recycled Container Collection Council Financial Statements and audit procedures in connection with Sections 8(2)(b), (d), and (e) of the Recycling Regulation and deposits received and refunds paid conducted by KPMG LLP.
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Comparison of Key Performance Targets
Part 2 – Section 8(2)(g); See full list of targets in Plan Performance

Priority Stewardship Target (as agreed with Ministry File Lead)	Performance	Strategies for Improvement
1. <u>Container Return Rates</u> 87.5% recovery/collection rate in each container category	<u>Targets Achieved:</u> <ul style="list-style-type: none"> • 96.83% return rate for refillable industry standard bottles (ISB) • 92.13% return rate for refillable proprietary glass bottles • 90.38% return rate for aluminum cans • 90.84% return rate overall 	N/A
2. <u>Secondary Packaging Return Rates</u> 70% Recovery/Collection Rate of secondary packaging material	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 59.29% recovery/collection rate attained for secondary packaging 	<ul style="list-style-type: none"> • Review secondary packaging collection system to identify opportunities for recovering more of the generated packaging • Work with existing partners to secure additional material for recovery (i.e. Recycle BC, Depot partners) • Work with brewers to refine the recovery tracking process for secondary packaging
3. <u>Consumer Accessibility for Containers:</u> — Improve consumer access to BRCCC return locations to 285 (210 LRS, 75 depots) with at least 1 contracted return location in each regional district	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 173 return locations (102 LRS, 71 depots) • 27 of 28 regional districts with at least 1 contracted return location 	<ul style="list-style-type: none"> • Reviewing current coverage levels to identify key areas for LRS contracted expansion • Expanding Depot coverage to provide additional coverage in target areas • Drive time study planned for 2018 to identify potential areas for increased coverage
4. <u>Consumer Accessibility for Secondary Packaging:</u> — 1,147 total return locations	<u>Targets Partially Achieved:</u> <ul style="list-style-type: none"> • 1,146 total return locations in the BRCCC network • Materials received from Recycle BC are collected through the Recycle BC network which includes additional collection locations not included in the 1,146 reported in the BRCCC network 	<ul style="list-style-type: none"> • Add one incremental collection site to the BRCCC collection network
5. <u>Pollution Prevention</u> 100% of collected materials for re-use or to recycling commodity markets	<u>Targets Achieved:</u> <ul style="list-style-type: none"> • Aluminum: 100% Processed for metal recovery • Refillable Glass Bottles: 	<ul style="list-style-type: none"> • Continue to ensure service providers meet processing standards

<p>Secondary Packaging:</p> <ul style="list-style-type: none"> - Report in accordance with PHP - Track end fate of materials in annual stewardship audit 	<ul style="list-style-type: none"> - 99% of material shipped, sent to brewers for reuse (100% of which were intended to be refilled) - 1% of material shipped, sent directly to a glass recycler for recycling by BDL • 100% of material reported as collected, sent to a recycler for recycling 	<ul style="list-style-type: none"> • Work with brewers and other collection locations to strengthen reporting and tracking systems
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2. Program Outline

The BC Brewers Recycled Container Collection Council (BRCCC) is a not-for-profit BC society, whose members represent over 95% of overall beer production in BC and the majority of import production. Those producers appointing BRCCC as their stewardship agency under Schedule 1 and Schedule 5 of the *Recycling Regulation* are comprised of breweries and other beverage alcohol manufacturers, including those operating in the province in addition to import brewers who designate BRCCC as their product steward when they obtain LDB approval to sell their products in BC.

Brewers Distributor Limited (BDL) is a joint venture company owned by Labatt Breweries of Canada and Molson Coors Canada that provides distribution services throughout Western Canada for the majority of brewers that sell into British Columbia. BDL operates warehouses and distribution facilities throughout British Columbia and distributes beer to provincially licenced liquor stores including government-run Liquor Distribution Branch (LDB) outlets, private licensee retail stores (LRS) and LDB rural agency stores (private businesses authorized by the LDB to sell liquor with other goods in small or remote communities) as well as bars, restaurants, and other licensed establishments.

BDL acts as the service provider to BRCCC, operating the stewardship program. On behalf of the BRCCC, BDL collects refillable glass beer, cider, and cooler bottles as well as imported & domestic metal beverage alcohol cans sold in British Columbia and the secondary packaging that accompanies those items (beer cases etc.). This recovery happens predominately in conjunction with the distribution of full goods, with container returns occupying trailers returning from delivering full goods to retail and private sites.

BDL's return collection includes the beer industry standard refillable glass bottle (ISB), as well as non-standard proprietary refillable beer, cider, and cooler bottles and metal beverage alcohol cans as well as the packaging that accompanies these containers as well as the packaging associated with non-refillable beer containers as applicable. BDL's distribution and collection also extends to beer kegs. Beverage alcohol sold in these containers includes a deposit which is paid by the consumer at the point of purchase and returned at the point of return. BRCCC has also established a cost recovery mechanism for cans and secondary packaging, which funds BRCCC's product stewardship functions through its subscribers. All costs associated with BRCCC and its container recovery system are internalized in brewers' operating costs, and are not passed on to the consumer in addition to retail prices.

Consumers are able to return all program containers and associated packaging to any retail location where beer is sold or to a BRCCC authorized container return depot. BDL collects containers and packaging from these retail locations and authorized depots, as well as from licensees like bars and restaurants. Intact refillable containers are returned to the brewers to be reused in the brewing process, while damaged or broken bottles are sent to Pacific Metals Recycling International in Vancouver for recycling. Aluminum cans are compacted and were sent to ALCOA in the United States in 2017 to be recycled into new cans and other aluminum based products. Paper packaging is sent to a number of recyclers to be turned into liner board used to make drywall, boxboard rolls to create packaging such as cereal boxes and tissue rolls.

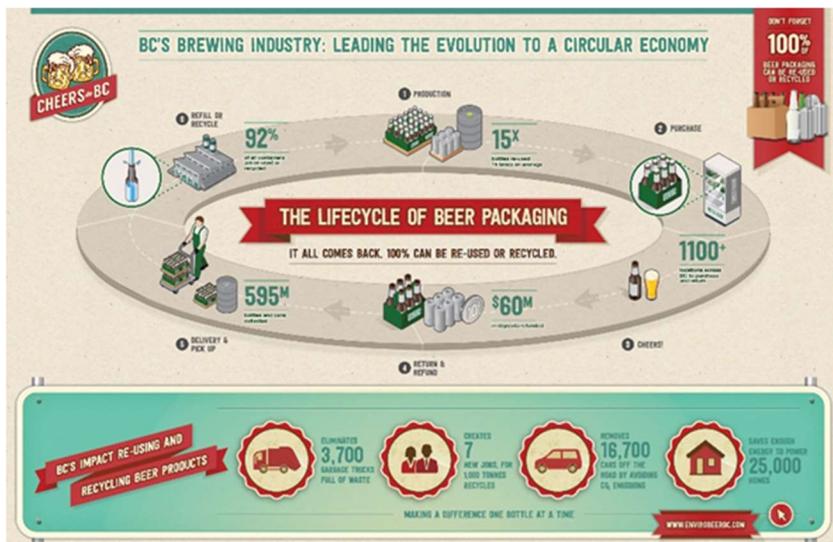
Information on BRCCC's product stewardship systems can be found at www.EnviroBeerBC.com.

3. Public Education Materials & Strategies

BRCCC continues to enjoy among the highest consumer awareness levels in BC for its recovery program for containers, with very high levels of consumer satisfaction with regard to their access to return locations. In 2016, the Stewardship Agencies of BC undertook a consumer awareness survey with respect to the various stewardship programs operating in BC (results were received

in Q3 2016). Based on these results, BRCCC’s program for beer containers was the among the most well-known of the stewardship programs. Among all respondents, 95% of BC residents were aware of the program for beer containers, with 98% of those with the relevant product being aware of BRCCC’s program for refillable alcohol containers and alcohol cans.

In 2017, BRCCC’s consumer awareness strategy has focused on reinforcing the effectiveness of the container recovery program while at the the same time introducing the complimentary secondary packaging program that was approved by the B.C Ministry of Environment in late 2016. The secondary packaging program was launched in 2017 and saw a number of announcements and updates made to help educate stakeholders about the program. Overall, BRCCC continued efforts to a) educate stakeholders – principally the consumer – about BRCCC and how its stewardship system operates and the environmental benefits it delivers; and b) promoting the authorized return locations within its stewardship network. To aid in the education of consumers, the infographic below was created that outlines the circular nature of the packaging associated with beer and ciders and emphasises the industries efforts to ensure that 100% of all packaging material used is fully recyclable.



BRCCC continued to work with ABLE BC to secure additional private retail liquor locations to support collections. ABLE BC regularly informs their members of this benefit through newsletters, publications and surveys.

In 2017, BRCCC also supported numerous Depot partners in educating consumers on the BRCCC return system through open houses and environmental initiatives. Program “swag”, including items like coasters and beer cozies were supplied to be used as give-aways and meant to drive awareness of the programs.

Finally, BRCCC continues to maintain its membership in the Stewardship Agencies of BC (SABC). As a member of SABC, BRCCC funds the Recycling Council of BC’s (RCBC) various consumer information vehicles, such as the Recycling Hotline, the RCBC website and the Recyclepedia. BRCCC also directs consumers to the ‘BC Recycles’ portal as a one-stop location for information on recycling in BC.

4. Collection System and Facilities

Consumers can return all program containers and related secondary packaging to BRCCC Authorized Depots, Licensee Retail Stores (LRS), Government Liquor Stores (GLS) and Rural Agency Locations (RAL) for their deposit redemption. BRCCC, through BDL, also provides on-site collection services through thousands of licensed establishments (i.e. restaurants and bars). Table 1 provides the number and type of operating collection facilities within the province. In 2017, BDL performed the collection, sorting, and storage of containers from 2 warehouse locations. Transport and distribution of product and collection of containers is supported by a fleet of

44 BDL vehicles as well use of third party carriers, where required. BRCCC also accepts all secondary packaging associated with containers for return and recycling.

Table 1 – BC Container Redemption Locations for Beer Containers & Secondary Packaging

Return Location Type	2017	2016
BDL Authorized Depots	71	72
Licensee Retail Stores	653	649
Government Liquor Stores	200	200
Rural Agency Locations	222	219
Grand Total	1146	1140

Currently, there are 1,146 retail and authorized depot redemption centres available for container collections across British Columbia. This is an increase of 6 locations from 2016. BRCCC facilitates a high rate of return of containers through its convenient and numerous collection facilities within all regional districts of British Columbia, as outlined in Table 2.

Table 2 – Number of Collection Locations by Regional District

Regional Districts	2017 (All Locations)	2016 (All Locations)	2017 (Contracted Locations)	2016 (Contracted Locations)
Alberni - Clayoquot	17	18	7	8
Bulkley - Nechako	19	20	5	5
Capital	84	85	15	15
Cariboo	39	39	6	6
Central Coast	4	3	0	0
Central Kootenay	44	43	3	3
Central Okanagan	50	47	7	8
Columbia - Shuswap	40	39	2	2
Comox Valley	25	25	5	5
Cowichan Valley	28	29	8	8
East Kootenay	35	35	2	2
Fraser - Fort George	34	35	13	13
Fraser Valley	73	73	9	9
Greater Vancouver	295	285	45	45
Kitimat - Stikine	17	17	7	7
Kootenay Boundary	18	18	1	1
Mount Waddington	18	19	1	1
Nanaimo	48	48	5	6
North Okanagan	32	33	2	2
Northern Rockies	5	5	2	2
Okanagan - Similkameen	36	38	4	4
Peace River	32	32	3	3
Powell River	12	12	1	1
Skeena - Queen Charlotte	12	12	4	4
Squamish - Lillooet	20	21	3	3
Strathcona	31	31	6	6
Sunshine Coast	15	15	3	2
Thompson - Nicola	63	63	4	4
Grand Total	1146	1140	173	175

BRCCC, through BDL, continues to monitor coverage levels to identify key areas for LRS contracted expansion that would improve the consumer experience as well as overall productivity of the program. As such, BRCCC is planning to increase the number of contracted container return locations in the province over the next few years. Consumers can visit www.EnviroBeerBC.com/Locations/ to search for the closest Authorized BRCCC Depot or retail location by postal code.

With the introduction of Schedule 5, secondary packaging, material is also sourced from Recycle BC in accordance with a contractual arrangement between BRCCC and Recycle BC. This helps to capture the secondary packaging associated with one-way glass containers and other beer and cider packaging that may not have otherwise come back with the containers. In 2017, 917 tonnes of material was acquired from Recycle BC in the calendar year. This material was collected via the Recycle BC network and therefore collected at even more collection locations than outlined in the tables above.

5. Product Environmental Impact Reduction, Reusability and Recyclability

The brewers of British Columbia hold environmental awareness and preservation in high regard. The industry has taken back containers and packaging since brewers started brewing in the province over 130 years ago; the practice continues today. The foundation of BDL's business strategy remains the efficient collection and recycling of containers and packaging and maximizing return rates, which helps achieve environmental goals, and ensures fewer raw materials are in use in the brewing process. Providing consumers with the ability to take-back returns at retail establishments generates high returns on containers and packaging and does so in a cost-effective manner. Coordinating the redistribution of trailer space between full goods and returned containers reduces fuel consumption, which minimizes environmental impact and operating costs. The cost-effectiveness of the system enables the brewing sector to maintain production in refillable containers and encourages new brewers in BC to use refillable over non-refillable containers. Each new entrant who chooses to use refillable containers continues to shrink the environmental impact of the industry and contributes to its exceptional return rates.

The pillar of BDL's business model is the recovery rates of the containers and by extension the related secondary packaging as the majority of the bottles returned to a collection location are done so in their original packaging. All secondary packaging produced by brewers in BC is 100% recyclable and by returning it to a collection location along with the containers, it ensures that cardboard and plastic are being kept out of landfills. Through the network of return locations, these resources are able to be optimized for high-end recycling and sold back to industry to be used again.

In order to maximize the efficiency of the production cycle, the Canadian beer industry has developed an industry standard bottle (ISB), which is available to every brewer in the country. The use of a standard bottle limits the need and cost for specialized handling and storage of bottles returning to different brewers and significantly improves the production efficiencies by eliminating the need for brewers to perform costly packaging line changeovers. Presently there are numerous western Canadian breweries that are signatories to the Standard Mould Bottle Agreement (sometimes referred to as the Industry Standard Bottle Agreement) and sell their products in the ISB. The economic efficiency of the British Columbia brewers' reuse and recycling system extends its benefits as savings to the consumers and to the environment.

BRCCC's container redemption system generates one of the highest return rates for aluminum cans in North America. Producing cans from recycled aluminum instead of virgin aluminum reduces the energy resources used and pollution produced.

The secondary packaging (the outer box) is more than just packaging in this circular economy. As long as the case is intact, these cases also act as the transportation vessel that the refillable containers travel back to brewers in.

6. Pollution Prevention Hierarchy and Product / Component Management

The Schedule 1 product stewardship plan outlines two types of containers to be used by the BRCCC brand owners: refillable glass bottles and recyclable metal (principally aluminum) cans. According to the expanded hierarchy of material management, reuse and recycle are among the most favourable forms of prevention (see Figure 1)¹. BRCCC remains committed to ensuring the use of 100% recyclable and non-toxic containers, each with their own well established secondary markets. The long-standing history of the refillable glass bottle along with its substantial environmental benefits sets its precedent as the preferred container type among brewers, especially when compared to one-way glass containers. Each time a glass bottle is reused, the total amount of raw materials needed is reduced, as well as the energy resources needed to produce new glass stock. This helps the beer industry significantly reduce its CO2 emissions and save significant amount of energy. Operationally, the washing and cleaning of refillable bottles requires much less energy and water than that of producing new glass. For each ton of aluminum recycled, over 200 GJ of energy are saved in avoided production processes including: bauxite mining, alumina refining, and electrolysis².



Figure 1 Pollution Prevention Hierarchy

The number of refillable glass bottles shipped to brewers for re-use is tracked and recorded by BDL, as well as the weight of broken or culled glass shipped directly to glass recyclers. BDL's records also include the weights of aluminum cans that are crushed into "biscuits" and shipped to aluminum recyclers. In 2017, 100% of the aluminum and glass containers sent from BDL to recyclers was recycled. By reusing and recycling containers and packaging, then releasing the containers back into the market, brewers maintain their commitment to the environment and ensure that the recycling operations done by BDL are utilized to the fullest. Table 3 shows the results for the materials recovered in 2017.

Table 3: Results of Recovered Containers & Packaging 2017³

Type of Container	Results of Recovered Material	
Aluminum Cans	100% Processed for metal recovery	
Refillable Glass Bottles	100% of the material sent to Brewers were intended to be refilled	
	99% of material shipped, sent to brewers for reuse	1% of material shipped, sent directly to a glass recycler for recycling by BDL
Secondary Packaging	100% of material reported as collected, sent to a recycler for recycling	

BRCCC's product stewardship system for containers also results in energy savings and reduced greenhouse gas (GHG) emissions, which are significant and are outlined in Table 4. The estimated GHG reductions associated with the program's recycling and reuse in 2017 are equivalent to pulling over 17,344⁴ cars off of provincial roads

¹ See Zero Waste SA: South Australia's Waste Strategy 2011-2015. 2011 Report

² PE Americas. Life Cycle Impact Assessment of Aluminum Beverage Cans. 2010 Report.

³ Results of Recovered Containers reviewed by KPMG LLP

⁴<http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results>

Table 4 - Energy, Greenhouse Gas, and Avoided Pollutants Associated with BRCCC Container Recovery 2017

Pollution Prevention Metric	Glass Reuse & Recycling	Aluminum Recycling	Total Diversion
Weight of Materials Diverted (tonnes)	14,667	7,808	22,475
Avoided GHG Emissions (MT-CO2-eq)	5,573	75,424	80,998
Avoided Energy Consumption (GJ)	99,736	682,099	781,835
Avoided Pollution - Nitrogen Oxides (tonnes)	25	245	271
Avoided Pollution - Sulphur Oxides (tonnes)	89	713	802
Avoided Pollution - Particulate Matter (tonnes)	55	248	302
Avoided Pollution - Solid Waste (tonnes)	978	33,551	34,528

Note: Figures in table have been rounded

The significant environmental savings associated with recycling aluminum extend from energy reduction to direct atmospheric emissions. Nitrogen oxides, sulphur dioxides, and particulate matter emissions are reduced by over 60%, 90% and 95% respectively when aluminum products are made from recycled materials. In 2017, the estimated total emission reductions of nitrogen oxides, sulphur oxides and particulate matter from recycling aluminum and reusing glass bottles in BC are 271, 802, and 302 metric tonnes respectively.

Additionally, the production of aluminum generates solid waste that is four and a half times heavier than the resulting aluminum. The BRCCC container recovery system ensures the reduction of significant quantities of virgin aluminum or glass production through reuse and recycling. An estimated 34,528 metric tonnes of solid waste was prevented in 2017 as a result of BRCCC's container management. The prevented waste is also in addition to the approximately 22,475 tonnes of reused or recycled materials already diverted from provincial landfills in 2017 as a result of BRCCC's efforts. Combined, these totals represent BRCCC's accumulative impact of roughly 57,003 tonnes of reduced solid waste production annually – equivalent to approximately \$6.2 million in Vancouver tipping fees⁵. In summary, BRCCC continues to deliver outstanding results for British Columbia's environment through its product stewardship program.

In 2017, BRCCC began to run a schedule 5 program to recover secondary packaging associated with beer and cider (refillable and one-way containers), the vast majority of this packaging is boxboard/cardboard, such as can cases and beer boxes. These materials are then sent to a recycler and eventually make their way into a variety of products including cereal boxes and drywall components.

7. Product Sold and Collected and Recovery Rate

Return rates for all BRCCC container categories exceed the 87.5% performance target established under the 2015-2019 stewardship plan and also greatly exceed the 75% target mandated under the Environmental Management Act regulations. In 2017, BRCCC's product stewardship plan collected over 608 million containers with a program return rate of 90.84%. For ten consecutive years the overall return rate has surpassed 90%. Table 5 outlines a summary of the recovery rate by container type for 2017.

⁵ Based on Vancouver 2015 tipping fee of \$109 per tonne for waste disposal.

http://www.bctrucking.com/sites/default/files/gvsdd_2015_tipping_fee_bylaw_no._287.pdf

Table 5a – BRCCC Container Recovery Rates 2017⁶

Container Type	Sales Dozens	Returns Dozens	Recovery Rate (%)
Cans	51,059,829	46,145,844	90.38%
Refillable Glass Containers			
Industry Standard Bottles	3,772,980	3,653,210	96.83%
Non-Standard Bottles	977,405	900,510	92.13%
Total Refillables	4,750,385	4,553,720	95.86%
Total All Containers	55,810,215	50,699,564	90.84%

Note: Figures in Table 5 have been rounded

Table 5b – BRCCC Secondary Packaging Recovery Rates 2017⁶

Packaging Type	Tonnes Generated	Tonnes Recovered	Recovery Rate (%)
Secondary Packaging	5,546	3,289	59.29%

Secondary Packaging and Other Containers

BRCCC is proud to have been collecting and recycling secondary packaging now included in Schedule 5 (Packaging and Printed Paper) of the BC Recycling Regulation for decades prior to its enactment. In addition to refillable beer containers and alcohol containers, the BRCCC now runs a program that formally includes the collection of all secondary packaging associated with those containers as well as imported beer and ciders. BRCCC provides a return and recycle option for all associated packaging related to every product sold to customers.

BDL also sells and facilitates the collection and recycling of beer kegs. In 2017, BDL sold approximately 281,892 kegs primarily to licensed establishments. The efficiency of the closed loop collection system offered by BDL ensures similar results for kegs as other stewardship program containers. In 2017, the return rates for these container types were in excess of 98%. This volume is equivalent to over 4.04 million cases of packaged beer⁷, which translates to approximately 640 tonnes of aluminum or 12,833 tonnes of glass bottles⁸.

Table 6 provides estimated values of program diversion by regional district. As BRCCC does not compile sales of collection data by Regional District, the values for diversion estimates were assumed to follow the per capita distribution for each district. Population distribution estimates for 2017 were obtained from the BC Stats website⁹.

⁶ Data reviewed by KPMG LLP. Sales for non-industry standard refillable bottles were provided by the BC Liquor Distribution Branch (LDB)

⁷ Assumed 58.67L Kegs and 12 x341 glass bottles as a package

⁸ Assumed 7lbs/case of glass bottles and 1lbs per 33 355ml cans

⁹ Source: <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>

Table 6 - 2017 Program Diversion Estimates by Regional District (Based on Collected Materials)

Regional District	Aluminum Units (000)	Aluminum Weight (Tonnes)	Glass Units (000)	Glass Weight (Tonnes)	Total Units (000)	Total Schedule 1 Weight (Tonnes)	Secondary Packaging Weight (Tonnes)	Total Weight (Tonnes)
Alberni-Clayoquot	3,501	48	345	91	3,847	140	21	160
Bulkley-Nechako	5,158	71	509	135	5,667	206	31	236
Capital	45,067	619	4,447	1,177	49,514	1,796	268	2,064
Cariboo	7,289	100	719	190	8,008	291	43	334
Central Coast	374	5	37	10	411	15	2	17
Central Kootenay	6,989	96	690	182	7,679	279	42	320
Central Okanagan	22,878	314	2,258	597	25,135	912	136	1,048
Columbia-Shuswap	6,114	84	603	160	6,718	244	36	280
Comox Valley	7,606	105	751	199	8,357	303	45	348
Cowichan Valley	9,824	135	969	257	10,793	392	58	450
East Kootenay	6,685	92	660	175	7,345	266	40	306
Fraser Valley	34,915	480	3,445	912	38,360	1,392	207	1,599
Fraser-Fort George	10,361	142	1,022	271	11,384	413	62	475
Kitimat-Stikine	4,249	58	419	111	4,668	169	25	195
Kootenay-Boundary	3,357	46	331	88	3,689	134	20	154
Metro Vancouver	297,984	4,096	29,405	7,781	327,389	11,876	1,770	13,646
Mount Waddington	1,278	18	126	33	1,404	51	8	59
Nanaimo	18,496	254	1,825	483	20,322	737	110	847
North Coast	1,930	27	190	50	2,120	77	11	88
North Okanagan	9,938	137	981	259	10,919	396	59	455
Northern Rockies Okanagan-Similkameen	676	9	67	18	743	27	4	31
Peace River	10,030	138	990	262	11,019	400	60	459
Powell River	7,152	98	706	187	7,858	285	42	328
Squamish-Lillooet	2,305	32	227	60	2,533	92	14	106
Strathcona	4,975	68	491	130	5,465	198	30	228
Sunshine Coast	5,355	74	528	140	5,883	213	32	245
Thompson-Nicola	3,378	46	333	88	3,712	135	20	155
British Columbia	15,886	218	1,568	415	17,454	633	94	728
British Columbia	553,750	7,611	54,645	14,459	608,395	22,070	3,289	25,359

Summary of Deposits, Refunds, Revenues and Expenditures

Costs associated with the collection systems are managed by BRCCC, which operates on a non-profit basis.

a. Refillable Bottles

In the case of refillable bottles, manufacturers are assessed a per-dozen fee for the collection, sorting and return of containers based on projected and audited costs. Costs associated with cleaning and reusing refillable bottles are borne by the manufacturer.

b. Recycled Cans

BRCCC retains unredeemed deposits with respect to can sales and retains revenues from aluminum material sales to offset costs related to: administration, transportation, collection and sorting fees and infrastructure. In 2017, there was no additional container cost recovery charged to brewers for cans under the program. BDL, on behalf of BRCCC, has also entered into service agreements with several container return depots for collection and sorting services. BRCCC revenues collected from both cans and bottles pay return location partners for the collection, sorting and return of BRCCC containers.

In the case of the Liquor Distribution Branch, BRCCC continues to operate under an agreement with the agency to pay it handling fees for each container collected from its stores. Licensee retail stores that sign up as contracted collection partners are also paid a handling fee for each container collected.

In accordance with the *Recycling Regulation*, Table 7 outlines the deposits received and paid for each container type. Figures presented for ISBs and Non-ISBs include estimated values for the month of January and part of February based on dozens multiplied by \$1.20.

Table 7 2017 Deposit Summary

	Cans	Industry Standard Bottles (ISB)	Non-ISB Refillable Bottles	Total
Deposits Received (\$)	\$58,429,540	\$4,063,738	\$1,100,678	\$63,593,955
Refunds Paid (\$)	\$55,326,322	\$4,064,330	\$1,030,010	\$60,420,662

Note: The figures are in accordance with an audit of B.C. Brewers' Recycled Container Collection Council Financial Statements and audit procedures in connection with Sections 8(2)(b), (d), and (e) of the Recycling Regulation and deposits received and refunds paid conducted by KPMG LLP.

Secondary Packaging

Costs related to the recovery of secondary packaging are assessed to program brewers based on a per tonne rate set annually which is intended to cover any costs related to the collection of secondary packaging. The efficient collection method in place for decades assists in keeping the program costs relatively low.

8. Plan Performance

Target	2017 Performance	Strategies for Improvement
87.5% recovery/collection rate in each container category	<ul style="list-style-type: none"> 96.83% return rate for refillable industry standard bottles (ISB) 92.13% return rate for refillable proprietary glass bottles 90.38% return rate for aluminum cans 90.84% return rate overall 	N/A
70% Recovery/Collection Rate of secondary packaging material	<ul style="list-style-type: none"> 59.29% recovery/collection rate attained for secondary packaging 	<ul style="list-style-type: none"> Review secondary packaging collection system to identify opportunities for recovering more of the generated packaging Work with existing partners to secure additional material for recovery (i.e. Recycle BC, Depot partners) Work with brewers to refine the recovery tracking process for secondary packaging
<p>Accessibility Targets: Containers</p> <ul style="list-style-type: none"> Improve consumer access to BRCCC return locations to 285 (210 LRS, 75 depots) with at least 1 contracted return location in each regional district 	<ul style="list-style-type: none"> 173 return locations (102 LRS, 71 depots) 27 of 28 regional districts with at least 1 contracted return location 	<ul style="list-style-type: none"> Reviewing current coverage levels to identify key areas for LRS contracted expansion Expanding Depot coverage to provide additional coverage in target areas Drive time study planned for 2018 to identify potential areas for increased coverage
<p>Accessibility Targets: Secondary Packaging</p> <ul style="list-style-type: none"> 1,147 total return locations 	<ul style="list-style-type: none"> 1,146 total return locations in the BRCCC network Materials received from Recycle BC are collected through the Recycle BC network which includes additional collection locations not included in the 1,146 reported in the BRCCC network 	<ul style="list-style-type: none"> Add one incremental collection site to the BRCCC collection network
<p>Pollution Prevention Hierarchy/ Product Life Cycle Targets:</p> <p>100% of collected materials for re-use or to recycling commodity markets</p> <p>Secondary Packaging:</p> <ul style="list-style-type: none"> Report in accordance with PHP Track end fate of materials in annual stewardship audit 	<ul style="list-style-type: none"> Aluminum: 100% Processed for metal recovery Refillable Glass Bottles: <ul style="list-style-type: none"> 99% of material shipped, sent to brewers for reuse (100% of which were intended to be refilled) 1% of material shipped, sent directly to a glass recycler for recycling by BDL 100% of material reported as collected, sent to a recycler for recycling 	<ul style="list-style-type: none"> Continue to ensure service providers meet processing standards Work with brewers and other collection locations to strengthen reporting and tracking systems

In closing, BRCCC would like to thank all of our partners and the residents of British Columbia for making the programs successful and for ensuring that container reuse is possible in the province. BRCCC looks forward to a successful 2018 program year and striving to heighten consumer awareness of the packaging recovery system.



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INDEPENDENT ASSURANCE REPORT TO BC BREWERS RECYCLED CONTAINER COLLECTION COUNCIL

To the Directors of BC Brewers Recycled Container
Collection Council

Assurance level and subject matter

We have been engaged by BC Brewers Recycled Container Collection Council (“BRCCC”) and the management of Brewers Distributor Limited (“BDL”) (collectively “Management”) to undertake a reasonable assurance engagement in respect of the following disclosures in BRCCC’s Annual Report to the Director for the 2017 calendar year (together the “Subject Matter”):

- Section 4 (Table 1 and Table 2) *Collection System and Facilities* – the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of BC Regulation 449/2004 (the Recycling Regulation);
- Section 6 (Table 3) *Pollution Prevention Hierarchy and Product/Component Management* – the Company’s description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- Section 7 (Table 5a and Table 5b) *Product Sold and Collected and Recovery Rate* – the total amounts of product sold and collected and recovery rate in accordance with Section 8(2)(e) of the Recycling Regulation;
- Section 8 (2017 Performance) *Plan Performance* – the Company’s description of performance for the year in relation to targets under Section 8(2)(g) of the Recycling Regulation that are associated with Section 8(2)(b), (d) and (e); and,
- Section 7 (Table 7) *BRCCC Deposit Summary* – Deposits received and refunds paid of cans, industry standard bottles (ISB) and non-ISB.

BRCCC Responsibilities

Management is responsible for the preparation and presentation of the Subject Matter that is free of material misstatement. This responsibility also includes the preparation of the evaluation criteria.



Management is also responsible for establishing and maintaining appropriate performance management and internal control systems from which the reported Subject Matter is derived, for preventing and detecting fraud and for identifying and ensuring that BRCCC complies with laws and regulations applicable to its activities.

Assurance standard and professional requirements

Our responsibility in relation to the Subject Matter is to perform a reasonable assurance engagement and to express a conclusion based on the work performed. Our opinion does not constitute a legal determination on BRCCC's compliance with the Recycling Regulation.

We conducted our engagement in accordance with *International Standard on Assurance Engagements (ISAE) 3000 (Revised) Assurance Engagements other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board. ISAE 3000 requires that we plan and perform our procedures to obtain reasonable assurance about whether the Subject Matter is presented fairly, in accordance with the evaluation criteria, in all material respects.

The firm applies *International Standard on Quality Control 1* and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Applicable criteria

The suitability of the evaluation criteria is the responsibility of Management. The evaluation criteria presented in Appendix 1 are an integral part of the Subject Matter and address the relevance, completeness, reliability, neutrality and understandability of the Subject Matter.

Summary of work performed

We planned and performed our work to obtain all of the evidence, information and explanations we considered necessary in order to form our conclusion as set out below. A reasonable assurance engagement includes examining, on a test basis, evidence supporting the amounts and disclosures within the Subject Matter. A reasonable assurance engagement also includes assessing the evaluation criteria used and significant estimates made by management, as well as evaluating the overall presentation of the Subject Matter. The main elements of our work were:

- Inquiries of relevant management, including walkthroughs, to gain an understanding of the Company's data collection and reporting processes in relation to the Subject Matter included in the Annual Report;
- Comparison of collection facility data included in the Annual Report to internal records and reconciliation with third party records.
- Comparison of sales and collection data included in the Annual Report to internal records and recalculation of data, where appropriate;



- Comparison of product recycling data against internal records of transfers to recycling facilities;
- Comparison of data on product reused data against internal records of delivery to brewers;
- Comparison of data on secondary packaging to records of Recycle BC, Liquor Distribution Branch (LDB) and the individual brewers; and
- Comparison of deposits received and refunds paid on cans against internal records of BRCCC and BDL of refunds and payments for cans, ISB and non-ISB.

Basis of Qualified Opinion

Included within Section 7 (Table 5b) – *BRCCC Secondary Packaging Recovery Rates 2017* is 41.1% of LDB total recycled packaging for 2017, which represents the proportion of eligible secondary beer packaging which is recycled through the LDB recycling program. The 41.1% is based on a 2016 independent audit report, no report is available for 2017. Consequently, we were unable to determine whether any adjustments is required to the tonnes recovered for 2017.

Opinion

In our opinion, except for the effects of the matter described in the Basis for Qualified Opinion paragraph, the Subject Matter within the BDL Annual Report for the year ended December 31, 2017 presents fairly in accordance with the evaluation criteria, in all material respects:

- the number and the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation;
- the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- the total amounts of the producer's product sold and collected and, if applicable, the producer's recovery rate in accordance with Section 8(2)(e) of the Recycling Regulation; and,
- the performance for the year in relation to targets under Section 8(2)(g) of the Recycling Regulation that are related to Section 8(2)(b), (d)and (e); and,
- the total amount of deposits received and refunds paid on cans, ISB and non-ISB.

Emphasis of matter

Without further qualifying our opinion we draw attention to the following sections in the Annual Report which are critical to an understanding of the disclosures related to treatment of recovered containers in 2017:

- As disclosed in Section 6 (Table 3) in the Annual Report, 99% of refillable bottles were sent to brewers for reuse. We note that the actual rate of reuse by brewers is not reported to BDL and was not within the scope of our audit.



- As discussed in Section 4 the secondary packaging recovered of 3,289 tonnes reported in Section 7 (Table 5(b) includes 917 tonnes of material acquired from Recycle BCs recovery network. This tonnage is a subset of the total tonnage of secondary packaging processed by Recycle BC.

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

KPMG LLP

Toronto, Canada
June 14, 2018



APPENDIX 1 TO THE AUDITOR’S REPORT

EVALUATION CRITERIA

COLLECTION FACILITIES

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference
Total Contracted Collection Facilities – 173 locations	4. Collection System and Facilities table 1 on Page 7
Location of contracted collection facilities -- by region	4. Collection System and Facilities table 2 on Page 7
Change in the number and locations of contracted collection facilities in 2017 -- Comparison between 2017 and 2016	4. Collection System and Facilities table 2 on Page 7

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

1. Total number of contracted collection facilities includes Licensee Retail Stores, Government Liquor Stores and BDL authorized depots and their satellites that BDL has a contractual relationship with.
2. Collection facilities are divided into 28 regional districts in BC based on the address in BDL’s J.D. Edwards system. Addresses of the facilities per BDL are reconciled with those provided by LDB where applicable at a regional district level.

Changes in the number and location of collection facilities are calculated based on comparison to the previous year’s list by regional district.



PRODUCT SOLD AND COLLECTED

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference
BRCCC Container Sales 2017 (dozens): ISB – 3,772,980 Non-ISB – 977,405 Total Refillables – 4,750,385 Cans – 51,059,829 BRCCC Container Recovery 2017 (dozens): ISB – 3,653,210 Non-ISB – 900,510 Total Refillables – 4,553,720 Cans – 46,145,844 BRCCC Container Recovery Rates 2017: ISB – 96.83% Non-ISB – 92.13% Total Refillables – 95.86% Cans – 90.38%	7. Product Sold and Collected and Recovery Rate Table 5a on Page 11
Secondary Packaging 2017: Tonnes Generated – 5,546 Recovered – 3,289	7. Product Sold and Collected and Recovery Rate Table 5b on Page 11

The following evaluation criteria were applied to the assessment of the description of how total amounts of the producer’s product sold and collected the tonnes of secondary packaging generated and recovered and the recovery rates has been calculated in accordance with Section 8(2)(e):

1. Product sold: The total number of bottles or cans sold is based on the sales figures received from the LDB
2. Product collected - bottles:



- The total number of bottle returns (product collected) is calculated as follows: Closing inventory balance - Opening inventory balance + Returns to brewers during the calendar year.
 - The quantity of bottles returned to brewers from BDL warehouses is based on records in the J.D. Edwards system.
 - Opening and closing inventory balances at BDL warehouses are based on year-end physical counts as recorded in the J.D. Edwards system.
3. Product collected--cans: Total number of can returns is based on the total recorded in the J.D. Edwards system during the calendar year.
4. The tonnes generated is based on information provided by the brewers.
5. The tonnes recovered is based on:
- The amount of acquired material from Recycle BC.
 - The amount of secondary packaging that the LDB report has recovered; this is determined based on the rate of beer packaging material as a percentage of total packaging material recovered by LDB.
 - The amount of secondary packaging the brewers report as recovered.

Management of Recovered Product

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference
Aluminum cans: <ul style="list-style-type: none"> • 100% processed for material recovery Refillable glass bottles: <ul style="list-style-type: none"> • 1% of material shipped, sent directly to a glass recycler for recycling by BDL • 99% of material sent to brewers for reuse 	7. Pollution Prevention Hierarchy and Product/Component Management Table 3 on Page 9

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

1. Aluminum cans

The total weight of cans received by Alcoa is based on Alcoa’s confirmation of each shipment by BDL during calendar year 2017. Total weight confirmed by Alcoa is reconciled with total weight shipped by BDL. End fate of aluminum cans is based on qualitative end fate data reported by Alcoa Inc. to BDL.



2. Refillable bottles sent directly from BDL for recycling

The quantity of bottles/glass sent by BDL to Pacific Metals for recycling is determined based on J.D.Edwards system data on empty shipments to Pacific Metal with the description “ditched bottles”.

The % sent directly from BDL for recycling is calculated as: the quantity of bottles/glass sent to Pacific Metals during the reporting year (equivalent of dozens) divided by the total quantity of bottles/glass sent to Pacific Metals and bottles sent to brewers during the reporting year (equivalent of dozens)

3. Refillable bottles sent to brewers:

The quantity of bottles sent to brewers for reuse is determined based on J.D.Edwards system data on empty shipments to brewers.

The % sent to brewers is calculated as: the quantity of bottles sent to brewers during the reporting year (equivalent of dozens) divided by the total quantity of ditched bottles/glass sent to Pacific Metals and bottles sent to brewers during the reporting year (equivalent of dozens)

Following the instruction in Waste Prevention Branch’s email to Stewards on February 18, 2016: *“Reuse” of a product as it was originally intended (e.g. bottles) does not need to be assured beyond when the product is shipped from the program if evidence is provided that demonstrates the intent is reuse (e.g. the auditor will not need to confirm the actual reuse of the individual product).*

TARGETS

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference
Recovery Targets: 2017 Assertion – Targets achieved: 96.83% return rate for refillable ISB 92.13% return rate for refillable proprietary glass bottles 90.38% return rate for aluminum cans 90.84% return rate overall	8. Plan Performance on Page 14
Recovery Targets: 2017 Assertion – Target not achieved 59.29% recovery/collection rate attained for secondary packaging	8. Plan Performance on Page 14



<p>Accessibility Targets (secondary packaging): 2017 Assertion – Targets partially achieved: 71 bottle depots 102 collection retail sites 27 of 28 regional districts with at least 1 contracted return location</p>	<p>8. Plan Performance on Page 14</p>
<p>Accessibility Targets: 2017 Assertion – Targets partially achieved: 1,146 total return locations in the BRCCC network Materials received from Recycle BC are collected through the Recycle BC network which includes additional collection locations not included in the 1,146 reported in the BRCCC network</p>	<p>8. Plan Performance on Page 14</p>
<p>Pollution Prevention Hierarchy/Product Life Cycle Targets: 2017 Assertion --Targets achieved: Aluminum: 100% Processed for metal recovery Refillable Glass Bottles: 99% of material shipped, sent to brewers for reuse (100% of which were intended to be refilled) 1% of material shipped, sent directly to a glass recycler for recycling by BDL 100% of material reported as collected, sent to a recycler for recycling</p>	<p>8. Plan Performance on Page 14</p>

The following evaluation criteria were applied to the assessment of the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.

1. Recovery Targets: Recovery rate of 87.5% in each container category
 Recovery rate is calculated as follows: container returned during the period ÷ container sold during the period. The description of progress against targets to date is supported by records of progress maintained by the Company.
2. Recovery Targets: Secondary packaging 70% of secondary packaging material
3. Accessibility Targets: 285 unlimited return locations (210 LRS, 75 depots) and at least 1 unlimited return location in each regional district



Unlimited Collection Partners are those locations active as of Dec 31 that have a contractual relationship with BDL to collect unlimited containers from customers, and refund customers the full amount of the deposit per bottle or can. The description of progress against targets to date is supported by records of progress maintained by the Company.

Regional district is allocated based on address of the collection facility.

4. Accessibility Targets: Secondary packaging 1,147 total return locations.
5. Pollution Prevention Hierarchy/Product Life Cycle Targets: 100% of collected materials for re-use or to recycling commodity markets

Calculation of % is based on methodology defined in Management of Recovered Products section.

DEPOSIT RECEIVED AND REFUNDS PAID OF CANS

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference
Deposits Received: Cans:- \$58,429,540 ISB: - \$4,063,738 Non-ISB Refillable Bottles - \$1,100,678	7. Product Sold and Collected and Recovery Rate Table 7 on Page 13
Refunds Paid: Cans: - \$55,326,322 ISB - \$4,064,330 Non-ISB Refillable Bottles - \$1,030,010	

The following evaluation criteria were applied to the assessment of the description of total amount of deposits received and refunds paid of cans, ISB and non-ISB as required under Section 8(2)(f)(i):

1. The deposits received are based on funds received from LDB by BRCCC during the period from January 1, 2017 to December 31, 2017 recorded in the general ledger of BRCCC.
2. The refunds paid are based on payments to collection facilities during the period from January 1, 2017 to December 31, 2017 recorded in the general ledger of BDL.