



# **Brewers Distributor Limited**

## **2010 Stewardship Annual Report**

**(Calendar Year)**

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*January 1, 2010 – December 31, 2010*

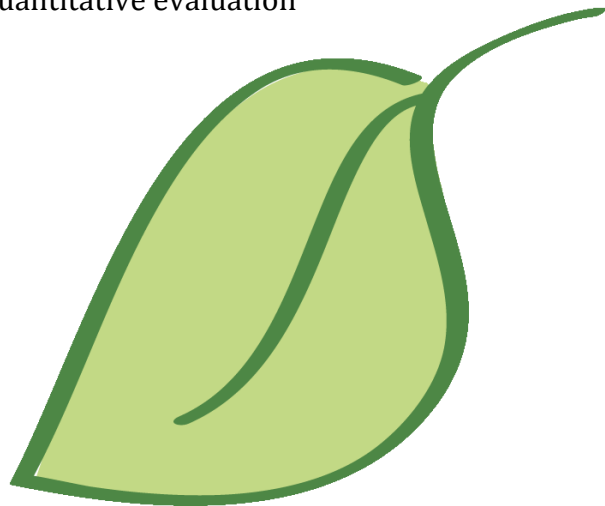


## **Environmental Principles of the Canadian Brewing Industry**

Canadian brewers recognize their responsibility to minimize the impact on the pristine natural resources they rely on to brew some of the world's best beers.

Canadian brewers have been reusing, recycling and reducing packaging waste for over a century. The industry assumes complete responsibility for the end-of-life management of all of its products. This is a level of environmental commitment unmatched by any other Canadian industry.

- Commitment to full producer responsibility
  - \* fully self sustained and self funded
  - \* accounting for all life-cycle packaging and associated costs
  - \* focus on consumer convenience and high service levels to facilitate container returns
- Commitment to environmental protection through reduction and reuse:
  - \* 100% of brewer packaging is reusable or recyclable
  - \* reducing energy and natural resource consumption, emissions and solid waste through reuse
  - \* continually seeking efficiencies and new technologies to reduce materials, energy consumption and waste
- A commitment to continually setting and meeting meaningful performance targets:
  - \* effecting policies and programs that ensure high rates of waste reduction, reuse and recycling
  - \* ongoing measurement and quantitative evaluation
  - \* continual improvement



## **The Numbers**

Beer Products in BDL Containers: 200+

Number of Breweries using Refillable Beer Bottles in B.C.: 24

Total Empty Beer Container Return Locations: 1258

Including:

Private Liquor Stores: 655

Government Liquor Stores: 197

Rural Agency Stores: 229

Depots: 177

Percent of British Columbians within 2 kilometres of a return location: 78 %

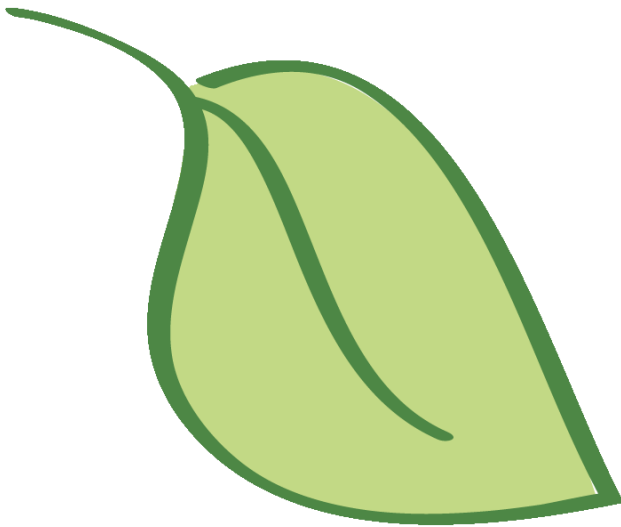
Refillable Glass Bottles Recovered in 2010: 133 Million

Aluminum Cans Recovered in 2010: 436 Million

Overall Return Rate: 94 %

Total Waste Diversion: 48,500 tonnes

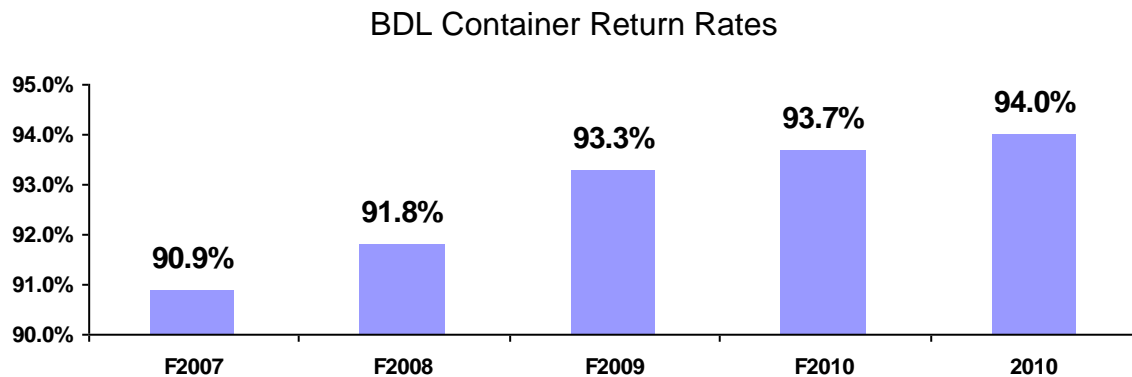
Greenhouse Gas Reductions equivalent to  
approximately 13,000 cars taken from the road:



## 1. Executive Summary

In calendar 2010, the Brewers Distributor Limited (BDL) product stewardship network continued to generate outstanding results. Overall return rates increased slightly in calendar 2010 in comparison to Fiscal 2010 rising 0.3% percentage points to 94%.<sup>1</sup> BDL's principle performance target return rate of 85% was exceeded in all product categories.

For over 80 years, B.C. Brewers have been a provincial leader in packaging management by sustaining the top container return rates in the province, and country. For example, BDL's return rate of 94.6% on beer cans is one of the highest return rates, if not the highest, for that package type in North America.<sup>2</sup> Overall container return rates have increased in each of the last four years.



Use of reusable containers and the diversion of recyclable materials from our landfills avoids unnecessary consumption of energy and related greenhouse gases and pollution. In calendar 2010 the BDL product stewardship system generated a reduction of metrics tonnes of CO2 equivalent to pulling 13,000 vehicles off the road.

The return network continues to grow with consumer convenience remaining a key priority. Private liquor retailers continue to be the largest channel for beer sales in British Columbia and are an important partner in facilitating the return of empty beer containers. As of December 31, 2010 BDL had contracted with 201 unlimited collection partners where consumers can take back an unlimited number of containers for full deposit refunds. In addition government liquor stores, private liquor retailers, agency stores and other depots represent over a thousand additional locations where containers can be returned.

<sup>1</sup> With this year's stewardship annual report, BDL is changing its reporting period from a fiscal basis, ending at the end of March each year to a calendar basis. This year's report for the year ending December 31, 2010 represents results for calendar 2010 and overlaps slightly with last year's report which covered the year ending March 31, 2010.

<sup>2</sup> Return rates on can containers are under 90% in most jurisdictions. Some recently reported return rates for aluminum can containers in Canada include the following Encorp Pacific BC 2010: 83.5% (soft drink cans), Alberta Beverage Container Recycling Corporation 2010: 88.2% (beer and soft drink cans combined); The Beer Store (Ontario) F2010: 82% (beer cans).

## **2. Programme Outline**

Brewers Distributor Limited (BDL) has product stewardship responsibilities for refillable domestic beer containers and imported & domestic beer cans sold in British Columbia. These containers include the industry standard brown refillable glass beer bottle, non-standard refillable glass beer bottles and aluminum beer cans. Additionally, BDL is responsible for the stewardship of domestic refillable glass cider and cooler bottles. BDL also distributes and collects beer kegs.

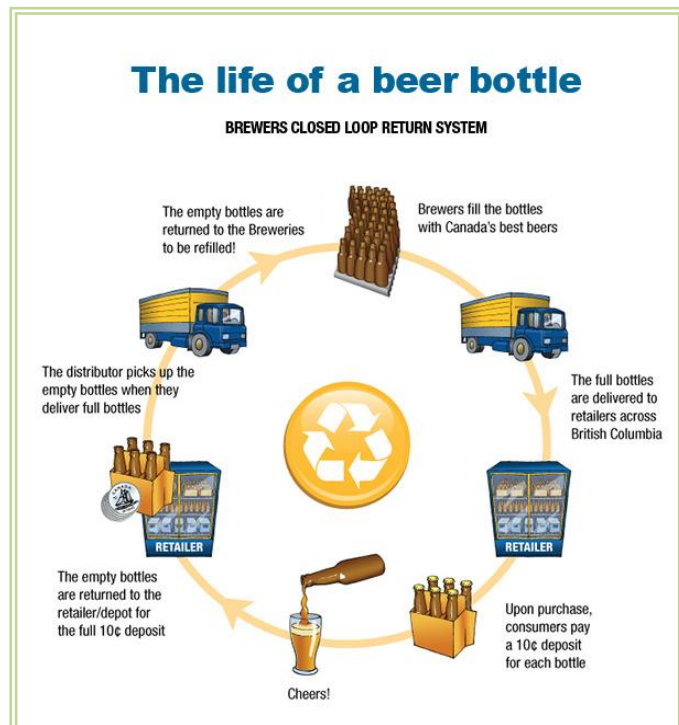
Breweries and other beverage manufacturers represented under the plan include all breweries operating in the province, and imported brewers who designate BDL as their product steward when they obtain Liquor Distribution Branch approval to sell brands in can containers. For a list of brewers, other manufacturers and selected brands covered under the plan see Appendix A.

BDL is a joint venture company owned by Molson Breweries and Labatt Breweries of Canada which distributes beer throughout Western Canada. In British Columbia, BDL's product stewardship functions are funded by fees set by the British Columbia Brewers Recycled Container Council (the Council), a not-for-profit society comprised of representatives from the domestic and import brewing industry selling beer products in the province.

Council member companies collectively represent over 95 percent of beer sold in the province and include a cross section of large and small brewing business interests. The Council was established to provide transparent management of BDL's financial, regulatory and logistical product stewardship requirements.

BDL operates warehousing and distribution facilities throughout British Columbia and distributes beer to all types of provincial 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 smaller or remote communities) as well as bars, restaurants, cabarets and other licensed establishments.

As the province's primary beer distributor, BDL is ideally placed to operate an efficient closed loop



container return system. This means that while BDL delivers full goods to over 4,000 retail locations and licensed establishments, including bars and restaurants, they are also picking up empty containers in the same trip. This minimizes the number of trucks on the road, and reduces BDL's carbon footprint. This convenient and efficient system helps to reduce costs to consumers and improve return rates.

Consumers can return beer containers to the retail locations where beer is purchased or to container return depots. BDL then collects its containers from licensees, retail locations and selected container return depots. BDL has entered into contractual arrangements with a number of private licensee retail operators and container return depots to collect and sort BDL containers. These contracts commit BDL collection partners to remit full refunds and accept unlimited returns when they collect BDL containers.

Refillable bottles collected by BDL are returned to manufacturers for cleaning and reuse on average 15 times. Refillable bottles account for just under 24% of the containers for which BDL has stewardship responsibility.

Beer sold in aluminum cans accounts for over 76% of the containers in BDL's product stewardship plan. Aluminum cans collected by BDL and their partner depots are compressed and sent to ALCOA in the United States to be recycled into new cans and other products.

Aluminum kegs are collected from licensees and returned to brewers for refilling. Draught beer kegs are reusable and in some instances can last for up to 50 years. Kegs at the end of their lifecycle are crushed and recycled.

BDL's product stewardship system is funded by fees paid by brewers based on their container volumes, any unclaimed portion of consumer deposits on containers, built in container recycling fees and the revenues BDL obtains on the sale of collected materials such as aluminum and cardboard.

In May 2010, the container recycling fee on cans was increased from \$0.01 to \$0.02 per can to offset the increased value of the Canadian dollar and the decline in the value of aluminum.



Brewers environmental stewardship goes beyond the regulated container collection system as 100% of brewer packaging is reusable or recyclable. Information on BDL's product stewardship system can be found at [www.beerbottlerefund.com](http://www.beerbottlerefund.com).

*The Canadian Brewers' Industry Standard Bottle is a highly efficient and environmentally preferable method of packaging beer. Consistently high recovery rates combined with multiple uses (usually about 15 trips) make the refillable beer bottle Canada's beverage packaging success story*  
*Clarissa Morawski, Who Pays What? An Analysis of Beverage Container Recovery and Costs in Canada, 2010*

### **3. Educational Materials and Strategies**

Polling conducted by BDL as part of its 5-year stewardship plan indicates that consumer awareness and satisfaction with return locations and options in BC is high. Ninety-eight percent of consumers are aware deposits apply to beer containers and 93% indicated they are pleased with the level of service and access to return locations. These awareness and satisfaction levels remain strong as evidenced through the sustained high return rates and BDL's efforts to increase return locations. In 2011, the industry will survey the market again to measure customer satisfaction and identify areas of opportunity.

BDL educational materials and strategies build on high consumer awareness by focusing on improving consumer information about container return options and the availability of full refund deposit locations.

BDL has met all of the consumer awareness performance targets associated with its five year product stewardship plan through the implementation of the following initiatives:

Traffic to the consumer website, [www.beerbottlerefund.com](http://www.beerbottlerefund.com) continues to grow, experiencing an average 1500 hits per month. Consumers are directed to the site through search engines, links through external liquor retail websites, BDL advertising and container recycling information websites.

Additionally, BDL continues to provide point of sale materials to all of its collection partners which emphasize to consumers that full refunds are available at these locations.

The Full Refund Program continues to be promoted to the private liquor licensee retail stores through the industry association, The Alliance of Beverage Licensees of BC. Additionally, ABLE regularly informs their members of the program via newsletters, publications and surveys. The Brewers also sponsored the Recycling Council's annual recycling conference and continues to sponsor their recycling hotline for the 11th consecutive year.

In 2011, materials are being provided to contracted depots to assist them with marketing their location as a full refund depot, and pamphlets will be sent to all LRSs in the province reminding them of the importance of accepting empty containers and the opportunities to receive payment from BDL.

Looking forward, BDL will continue to work with collection partners, liquor industry stakeholders and community groups and others to promote awareness about full refund deposit return locations.



#### **4. Collection System Information**

Consumers can take back BDL containers to multiple locations including:

- \* BC Liquor Distribution Branch stores;
- \* Licensee Retail Stores (163 LRS stores are under contractual agreement with BDL to accept unlimited returns and all LRS are required to provide full refund deposits);
- \* Bottle Depots (38 depots are under contract with BDL to provide full refund deposits - BDL also pays 45 additional depots for containers collected but is not under formal contractual arrangements with these depots);
- \* LDB authorized agency stores (businesses in smaller or remote communities that are authorized by the LDB to sell liquor with other goods).

BDL continues to build the return network on the principle of consumer convenience. BDL is nearing its 2014 target of 45 contracted depots. While BDL has doubled the number of contracted full deposit return locations over its five year plan increasing that number to 201 by 2010, it is still short of its target of 275 contracted full refund locations for 2011. Through the next year, BDL will expand promotion and recruitment methods to increase the number of contracted retail locations in an effort to come closer to reaching its five year plan return location targets.

**Table 1: BC Container Redemption Locations for Beer Containers<sup>3</sup>**

<b>Return Locations</b>	<b>March 2006</b>	<b>March 2007</b>	<b>March 2008</b>	<b>March 2009</b>	<b>March 2010</b>	<b>Dec 2010</b>	<b>Change F06-F10</b>	<b>Percent Change</b>
<b>Depots</b>	170	170	170	170	177	177	+ 7	4.1 %
<b>Licensee Retail Stores</b>	592	631	654	676	670	655	+ 63	10.6 %
<b>Government Liquor Stores</b>	208	201	199	197	197	197	- 11	- 5.3 %
<b>Rural Agency Stores</b>	230	230	228	227	224	229	- 1	- 0.4 %
<b>Total</b>	1200	1232	1251	1270	1268	1258	+ 58	4.8 %

**BDL full refund contracted collections partners**

<b>Depots</b>	19	30	30	39	39	38	19	100 %
<b>Licensee Retail Stores</b>	74	75	151	156	158	163	89	120 %
<b>Total</b>	93	95	181	195	197	201	108	116 %

<sup>3</sup> Note: Due to a database error, the number of depot return locations in last year's report was incorrectly stated as 191. The number has been readjusted to 177 in this report.





## 5. Recovery Rates

BDL collects a number of containers and materials on behalf of brand owners. BDL has formal product stewardship responsibilities for domestic refillable glass beer containers, imported and domestic beer cans and domestic refillable glass cider bottles.

### Beer Containers:

**Table 2: BDL Container Recovery Rates: 2010<sup>4</sup>**

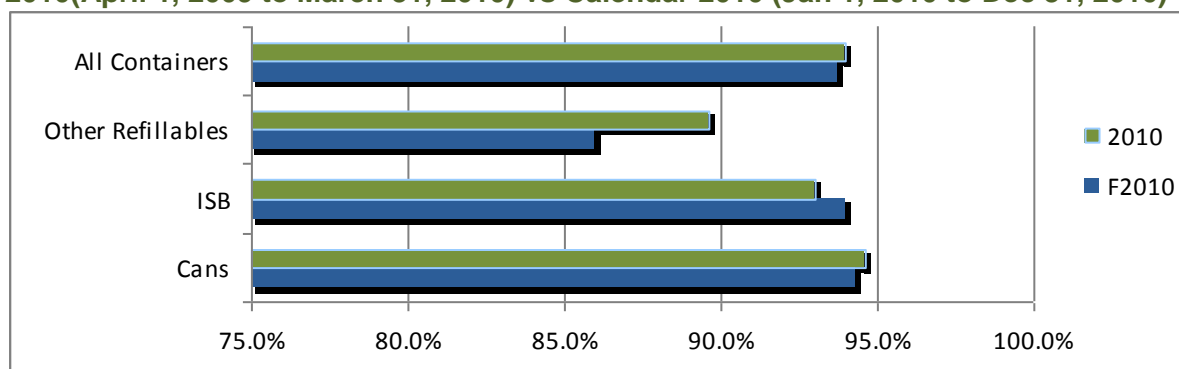
	<b>Cans</b>	<b>Industry Standard Bottle (ISB)</b>	<b>Non-ISB Refillable Bottle<sup>5</sup></b>	<b>Total</b>
<b>Sales Dozens</b>	38,380,532	9,255,732	2,759,729	50,395,993
<b>Returns Dozens</b>	36,305,990	8,606,189	2,473,881	47,386,060
<b>Return Rates 2010</b>	<b>94.59 %</b>	<b>92.98 %</b>	<b>89.64 %</b>	<b>94.03 %</b>

BDL return rates in all product categories exceeded the 85% performance target established under its 5-year plan and are well in excess of the 75% target mandated under *Environmental Management Act* regulations.

In 2010 BDL collected 569 million beer containers under its product stewardship plan and its overall container return rate increased by 0.3 percentage points to 94 %. This is the fourth consecutive year that the overall return rate has increased. The return rates for cans improved slightly in 2010 increasing by 0.3% points up to 94.6%. The return rate of refillable ISB bottles dropped by 1% to 93% but the overall return rate for refillables increased due to a 3.6% increase in the return rate for non-ISB refillables.

**Chart 1: Return Rates by Container Type:**

**F2010(April 1, 2009 to March 31, 2010) vs Calendar 2010 (Jan 1, 2010 to Dec 31, 2010)**



<sup>4</sup> Beer container return rates are audited annually by S.J.Yeung Chartered Accountant.

<sup>5</sup> Sales for non-industry standard refillable bottles were provided by the BC Liquor Distribution Branch.

**Table 3: Estimate of Unit Returns and Tonnes Diverted by Regional District<sup>6</sup>**

Regional District		Aluminum	Glass	Total
<b>Alberni-Clayoquot</b>	Units (000)	3,012	919	3,931
	Tonnes	42	243	285
<b>Bulkley-Nechako</b>	Units (000)	3,479	1,062	4,450
	Tonnes	48	281	329
<b>Capital</b>	Units (000)	37,105	11,324	48,428
	Tonnes	512	2,999	3,510
<b>Cariboo</b>	Units (000)	6,220	1,898	8,118
	Tonnes	86	503	588
<b>Central Coast</b>	Units (000)	282	86	367
	Tonnes	4	23	27
<b>Central Kootenay</b>	Units (000)	5,840	1,782	7,622
	Tonnes	81	472	553
<b>Central Okanagan</b>	Units (000)	18,021	5,500	23,521
	Tonnes	249	1,456	1,705
<b>Columbia-Shuswap</b>	Units (000)	5,229	1,596	6,825
	Tonnes	72	423	495
<b>Comox Valley</b>	Units (000)	6,282	1,917	8,199
	Tonnes	87	508	594
<b>Cowichan Valley</b>	Units (000)	7,937	2,422	10,359
	Tonnes	109	641	751
<b>East Kootenay</b>	Units (000)	5,782	1,765	7,547
	Tonnes	80	467	547
<b>Fraser Valley</b>	Units (000)	26,171	7,987	34,158
	Tonnes	361	2,115	2,476
<b>Fraser-Fort George</b>	Units (000)	8,959	2,734	11,693
	Tonnes	124	724	848
<b>Kitimat-Stikine</b>	Units (000)	3,517	1,073	4,590
	Tonnes	49	284	333
<b>Kootenay Boundary</b>	Units (000)	3,131	955	4,086
	Tonnes	43	253	296
<b>Metro Vancouver</b>	Units (000)	228,728	69,804	298,532
	Tonnes	3,155	18,485	21,639
<b>Mount Waddington</b>	Units (000)	1,100	336	1,436
	Tonnes	15	89	104

<sup>6</sup> Unit returns and tonnes diverted have been estimated from provincial totals based on Regional District populations of persons 19 to 90 and their proportion to the provincial total (source [www.bcstats.gov.bc.ca](http://www.bcstats.gov.bc.ca)). BDL does not compile sales or collection information by Regional District.

**Table 3: Estimate of Unit Returns and Tonnes Diverted by Regional District**

<b>Regional District</b>		<b>Aluminum</b>	<b>Glass</b>	<b>Total</b>
<b>Namaimo</b>	Units (000)	14,911	4,551	19,461
	Tonnes	206	1,205	1,411
<b>North Okanagan</b>	Units (000)	7,987	2,437	10,424
	Tonnes	110	645	756
<b>Northern Rockies</b>	Units (000)	533	163	696
	Tonnes	7	43	50
<b>Okanagan-Similkameen</b>	Units (000)	8,314	2,537	10,852
	Tonnes	115	672	787
<b>Peace River</b>	Units (000)	5,591	1,706	7,297
	Tonnes	77	452	529
<b>Powell River</b>	Units (000)	2,014	615	2,629
	Tonnes	28	163	191
<b>Skeena-Queen Charlotte</b>	Units (000)	1,774	541	2,315
	Tonnes	24	143	168
<b>Squamish-Lillooet</b>	Units (000)	3,769	1,150	4,920
	Tonnes	52	305	357
<b>Stikine Region</b>	Units (000)	102	31	133
	Tonnes	1	8	10
<b>Strathcona</b>	Units (000)	4,238	1,293	5,531
	Tonnes	58	342	401
<b>Sunshine Coast</b>	Units (000)	2,985	911	3,895
	Tonnes	41	241	282
<b>Thompson-Nicola</b>	Units (000)	12,662	3,864	16,526
	Tonnes	175	1,023	1,198
<b>Total</b>	Units (000)	<b>435,672</b>	<b>132,961</b>	<b>568,633</b>
	Tonnes	<b>6,009</b>	<b>35,209</b>	<b>41,218</b>

Based on a provincial population of 3.62 million people age 19 and over, the per capita return rate for the province was 157 BDL containers per person or about 13 cases of a dozen beer.

The number of beer containers sold under the BDL plan declined by 3.7 % in 2010 with most of that reduction occurring in refillable glass containers (down 10.4 %). Consequently, BDL tonnage diversion totals declined in 2010 as well despite a slight increase in the return rate for packaging covered under the plan.

### **Other Packaging Materials:**

In addition to managing the containers designated under its stewardship plan, BDL also sells and collects beer kegs and collects and facilitates recycling with respect to a number of secondary packaging materials including cardboard cases, can flats and plastic shrink wrap. In fact BDL collects and recycles all of the packaging that it uses and sells.

### ***BDL Keg Sales:***

In 2010 BDL sold 410,684 kegs primarily to licensed establishments. Given the efficiencies of the closed loop system related to keg sales, returns are extremely high for these containers at 99.7 % in 2010. This volume is equivalent to over 5.9 million cases of packaged beer. The volume of beer sold in refillable kegs is equivalent to diversion of approximately 1,000 tonnes of aluminum or 19,000 tonnes of glass bottles.

**BDL keg returns  
are equivalent to  
over 5.9 million  
cases of beer  
containers**

### ***Cardboard and other secondary packaging:***

Estimates for 2010, indicate that BDL collected and diverted approximately 2,018 tonnes of cardboard. BDL will continue to develop a monitoring and reporting process that will enable the estimation of return rates related to these packaging streams.

Total BDL landfill diversion equates to approximately 48,500 tonnes.

**Table 4: BDL BC Landfill Diversion Summary**

<b>Material</b>	<b>Tonnes Diverted</b>
<b>Aluminum<sup>7</sup></b>	<b>6,009</b>
<b>Glass<sup>8</sup></b>	<b>35,209</b>
<b>Cardboard</b>	<b>2,018</b>
<b>Plastic</b>	<b>na</b>
<b>Keg Packaging Equivalent<sup>9</sup></b>	<b>5,245</b>
<b>Total</b>	<b>48,481</b>

<sup>7</sup> Note: The methodology regarding the calculation of BDL aluminum diversion has been changed in this year's report to reflect the weight of BDL shipments to aluminum processors. Last year's diversion was based on an estimate of the weight of aluminum containers collected.

<sup>8</sup> Note: The methodology in this year's report regarding glass diversion has been changed. This report's glass diversion total represents the weight of glass containers shipped back to brewers by BDL. Last year's report estimated glass diversion as the difference between the weight of glass purchases required by brewers to sustain their refillable bottle floats versus the tonnage of glass containers sold to consumers. In other words, the glass tonnage reduction associated with utilization of refillable bottles. At the time of publication, the documentation of glass purchases and recycling by brewers necessary to verify that methodological approach was not available.

<sup>9</sup> Based on the current package split for bottles and cans related to BC beer sales.

## 6. Life Cycle Management

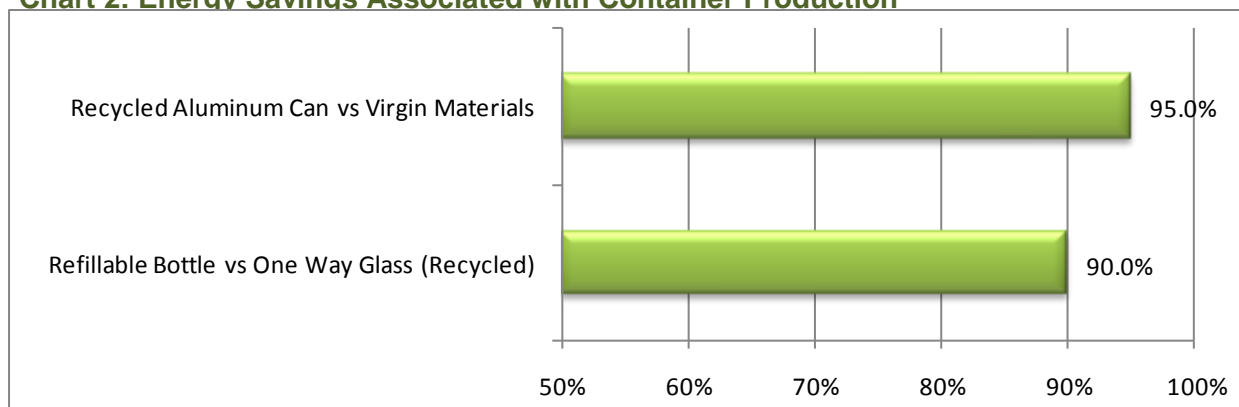
The BDL product stewardship plan embodies several key elements of a successful life cycle management process. The system is fully funded by brewers and their consumers as all costs associated with managing beer containers are incorporated into the price of the product. Extended producer responsibility ensures that brewers have incentives to manage containers and packaging as efficiently as possible.

BDL's closed loop transportation system minimizes transportation costs associated with retrieving empty containers from retailers. Return-to-retail collection, which is convenient for consumers, also encourages high return rates making the overall container management system more efficient.

BDL's distribution practices also support the use of refillable containers such as kegs and glass bottles. Given that refillable beer bottles can be utilized an average of 15 times, the use of refillable beer bottles in British Columbia avoids the production of over 132 million glass bottles annually or approximately 38,000 tonnes of glass containers. Reduced production requirements generate significant energy and pollution savings in comparison to the use of one-way glass containers (see below).

The Canadian brewing industry has brought about further improvements in the use of refillable containers by adopting an industry standard bottle (ISB). The ISB is leading example of design for the environment. The ISB reduces the cost of sorting empty containers, minimizes inventory storage requirements and improves production efficiencies by eliminating the need for brewers to perform costly packaging line changeovers (associated with different containers for different brands). At present ten British Columbia breweries are signatories to the Industry Standard Bottle Agreement and use the ISB bottle as their principal glass container.

**Chart 2: Energy Savings Associated with Container Production**



Finally, BDL's product stewardship plan generates exceptionally high return rates for recyclable containers. BDL's return rate for aluminum cans, which represent over 75% of its packaging, was 94.6 % in 2010. This represents one of the highest return rates for aluminum cans in North America and a figure that is over 10 percentage points higher than typical return rates for soft drink cans in British Columbia. Given the production of aluminum from recyclable materials uses 95% less energy than the production of aluminum from virgin materials, the BDL product stewardship plan generates significant energy and pollution savings related to the collection and recycling of beer cans.

### ***Pollution Prevention Hierarchy***

Manufacturing aluminum from recycled materials reduces harmful atmospheric emissions, waterborne contaminants and solid waste in comparison to virgin production. Similarly, use of refillable glass bottles drastically reduces the amount of glass materials needed to sell a given amount of product. Studies sponsored by the Environmental Protection Agency (EPA) in the United States, enable BDL to estimate the reduction of several pollutants associated with container recovery.

Table 5: Reduced Pollutants Associated with BDL Container Recovery 2010<sup>10</sup>

	<b>Nitrogen Oxides</b>	<b>Sulfur Oxides</b>	<b>Particulate Matter</b>	<b>Solid Waste</b>
Reduced kg of pollutant per Tonne: Recycled versus Virgin Aluminum	31.4	91.3	31.7	4,297
Recycled BDL Aluminum 2010 Metric Tonnes	6,009	6,009	6,009	6,009
Tonnes Avoided Pollutants Cans	189	549	190	25,821
Pollutants (kg) Glass Production per Tonne	1.73	6.1	3.73	66.65
Diverted Glass Tonnes BDL Refillable Glass Bottles	35,209	35,209	35,209	35,209
Tonnes Avoided Pollutants Refillable Glass Bottles	61	215	131	2,347
<b>Total Tonnes of Avoided Pollutants</b>	<b>250</b>	<b>764</b>	<b>321</b>	<b>28,168</b>

<sup>10</sup> Pollutant reductions associated with recycled versus virgin aluminum production and glass production from Weitz, Keith A. et al. 2003. *Life-Cycle Inventory Data Sets for Materials Production of Aluminum, Glass, Paper, Plastic, and Steel in North America*. Report prepared by RTI International for the U.S. EPA, Office of Research and Development. EPA-600/Q-03-001. Research Triangle Park, NC.



**BDL recycling and reuse  
reduces atmospheric  
emissions, water pollution  
and solid waste:**

**90% reduction in sulfur oxides**

**95% reduction in particulate  
emissions**

**99% reduction in heavy metals  
released such as mercury and  
cadmium**



Table 5 provides examples of selected pollutant reductions associated with BDL's product stewardship system. Nitrogen oxide contributes to ground level ozone, acid rain, nutrient overload and global warming and combines with other chemicals to contribute to respiratory problems. Sulfur oxides also contribute to respiratory problems and acid rain. Particulate matter contains microscope solids and liquids that contribute to a variety of health problems such as lung disease and chronic bronchitis.

According to the EPA study, recycling aluminum results in significant reductions in atmospheric emissions. Nitrogen oxides, sulfur oxides and particulate matter emissions are reduced by over 60%, 90% and 95% respectively when aluminum is made from recycled materials.

For 2010, total reductions in emissions of nitrogen oxides, sulfur oxides and particulate matter from aluminum recycling and the use of refillable bottles in BC are estimated at 250; 764 and 321 metric tonnes respectively.





In addition to reductions in atmospheric emissions, BDL container management also generates significant solid waste reductions associated with material production. Aluminum cans are light but making aluminum from virgin material creates solid waste that is four and half times heavier than the aluminum itself. There were 28,168 less metric tonnes of solid waste generated in 2010 related to aluminum recycling and the use of refillable glass bottles. This reduced tonnage is in addition to the 48,481 tonnes of packaging materials diverted from provincial landfills in 2010. When these totals are combined, BDL's product stewardship program reduces solid waste production by approximately 76,650 tonnes annually - equivalent to \$7.4 million in Vancouver tipping fees.<sup>11</sup>

Although not reported in Table 5 - recycling aluminum also generates significant reductions in waterborne waste. Production of heavy metals such as cadmium and mercury are reduced by more than 99% when aluminum is manufactured from recycled materials.

**BDL product stewardship  
reduces solid waste in two  
ways:**

**- 28,000 metric tonnes avoided  
in the production of packaging  
materials;**

**-48,500 metric tonnes in  
packaging waste diverted from  
landfills.**

**That's equivalent to about  
5.2 % of Greater  
Vancouver's annual landfill  
tonnage**



<sup>11</sup> Based on a Vancouver 2010 tipping fee of \$97 per tonne for waste disposal.

### ***Green House Gas Reductions and Energy Savings***

Every can and refillable glass bottle returned by beer consumers contributes to energy savings and reduced greenhouse gas emissions.

Manufacturing aluminum from recycled materials such as beer cans generates enormous energy savings as processing aluminum from bauxite is an energy intensive process. Similarly, reusing a glass beer bottle 15 times eliminates the need to produce a new bottle for every beer sold thereby eliminating the raw material processing and energy requirements associated with making new glass.

The 71,426 metric tonnes of greenhouse gases avoided annually through the use of can recycling and glass bottle reuse is equivalent to pulling about 13,000 cars off of B.C. roads<sup>12</sup> or equivalent to the energy contained in 150,690 barrels of oil worth approximately \$14 million at the current price for crude oil.<sup>13</sup>

**Table 6: Energy and Greenhouse Gas Savings BDL Container Recovery 2010<sup>14</sup>**

	<b>Glass Reuse</b>	<b>Aluminum Recycling</b>	<b>Total</b>
<b>Tonnes Diverted</b>	35,209	6,009	41,218
<b>Avoided GHG Emissions (MTCO2E)</b>	13,379	58,047	71,426
<b>Avoided Energy (Gigajoules)</b>	239,421	524,946	764,367

<sup>12</sup> Based on the assumption that the average car emits approximately 5.46 tonnes of GHG emissions per year. Source US Climate Technology Cooperation Gateway: Greenhouse Gas Equivalencies Calculator: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

<sup>13</sup> Based on a June 2011 crude oil price per barrel of \$93.40.

<sup>14</sup> Source for avoided energy and emission multipliers: Determination of the Impact of Waste Management activities on Greenhouse Gas Emissions: 2005 Update Final Report, ICF Consulting for Environment Canada & Natural Resources Canada, October 2005 and GHG Calculator for Waste Management, Update Oct 2009, ICF Consulting for Environment Canada. Multipliers for avoided GHG Emissions (eCO<sub>2</sub>/tonne) used were 0.38 for glass reuse and 9.66 for aluminum recycling. Avoided energy multipliers used (Gigajoules/tonne) were 6.8 for glass reuse and 87.36 for aluminum recycling. Avoided GHGs from glass bottle reuse (0.38) is not presented in the *Determination of the Impact of Waste Management Activities on Greenhouse Gas Emissions: 2005 Update Final Report*. This multiplier was provided in the previous version of the report from 2004.

## **7. Fee Information**

Costs related to BDL's container collection system are managed by the British Columbia Brewers Recycled Container Council which operates the program on a cost recovery basis.

### **Refillable bottles**

In the case of refillable bottles the Council establishes rates for the collection, sorting and return of containers based on projected and audited costs. Container recycling fee rates are then charged by BDL to the manufacturer in return for access to those refillable containers. Costs associated with cleaning and reusing refillable bottles are borne by the manufacturer. In the case of refillable bottles, manufacturers retain unredeemed deposits and use all of these funds to offset, in part, these total costs.

### **Recycled Cans**

In the case of recycled cans, a container recycling fee is established by the Council and applied to the product's wholesale price set by the Liquor Distribution Branch. In 2010 this fee was set at \$0.02 per can, this increase was implemented as a result of a decline in the global cost of aluminum and the increase in the value of the Canadian dollar relevant to the American dollar. BDL retains unredeemed deposits with respect to can sales and retains revenues from aluminum material sales to offset, administration, transportation, collection and sorting fees and infrastructure costs.

BDL revenues collected from both cans and bottles pay return location partners for the collection, sorting and return of BDL containers. In the case of the Liquor Distribution Branch, BDL has entered into a 5-year agreement with the agency to pay it fees for each container collected from its stores. Licensee retail stores that sign up as collection partners are also paid a fee for each container collected. BDL has also entered into service agreements with several container return depots for collection and sorting services.

**Table 7: BDL Deposit Summary 2010<sup>15</sup>**

	<b>Cans</b>	<b>Industry Standard Bottle (ISB)</b>	<b>Non-ISB Refillable Bottle<sup>16</sup></b>	<b>Total</b>
<b>Deposits Received</b>	\$46,056,638	\$11,106,878	\$3,311,674	\$60,475,190
<b>Refunds Paid</b>	\$43,567,188	\$10,327,426	\$2,968,657	\$56,863,271
<b>Return Rates 2010</b>	<b>94.6 %</b>	<b>93 %</b>	<b>89.6 %</b>	<b>94 %</b>

<sup>15</sup> Deposit amounts audited by S.J. Yeung Chartered Accountant, Calgary, Alberta.

<sup>16</sup> Sales for non-industry standard refillable bottles were provided by the BC Liquor Distribution Branch.

Deposit amounts reported in Table 7 are audited annually by S.J. Yeung Chartered Accountant. The Council contingency fund to ensure stable financing with respect to management of can containers was \$2.3 million as of March 31, 2011 and is projected to meet its target goal of \$4 million by 2012.

## 8. Performance Targets

Table 6: Performance Target Summary

Stewardship Plan Target 2010	Results
1. Maintain 85 % return rate in each container category.	<p>Target Exceeded:</p> <ul style="list-style-type: none"> <li>Recovery Rates 2010: <ul style="list-style-type: none"> <li>94.6 % Cans</li> <li>92.2 % Refillable Glass Bottles</li> </ul> </li> </ul>
2. Increase the number of collection partners under contract with BDL to offer full-deposit refunds. Target 275 by 2011 and 347 by F2014	<p>Target On Track:</p> <ul style="list-style-type: none"> <li>201 contracted container collection partners as of December 31, 2010</li> </ul>
3. Improve Consumer Awareness through various initiatives: <ul style="list-style-type: none"> <li>launch new consumer website;</li> <li>rollout POS full-refund materials to collection partners;</li> <li>advertise in community/industry recycling publications;</li> <li>partner with community groups, NGOs on awareness initiatives.</li> </ul>	<p>Target Achieved:</p> <ul style="list-style-type: none"> <li>www.beerbottlerefund.com maintained</li> <li>all collection partners receive POS materials as of June 2007;</li> <li>sponsor of RCBC Annual Conference and consumer information hotline.</li> <li>Promotion through stakeholder websites</li> </ul>
4. Benchmark BDL collection of secondary packaging materials	<p>Target partially achieved for 2010:</p> <ul style="list-style-type: none"> <li>Portion of secondary packaging recycled through warehouse operations, accounted for, estimate for packaging recycled through other means</li> </ul>

## Appendix A

### Domestic Brewers and Selected Brands (Refillable Bottles)

Brewer	Selected Products
Big Rock Brewery	Grasshopper Wheat Ale, McNally's Extra Ale, Traditional Ale
Brick Brewing Company	Red Cap Ale
Chilkoot Brewing Co. Ltd (Yukon)	Yukon Red
Dead Frog Brewery	Pepper Lime Lager
Fireweed Brewing Corporation	Cutthroat Pale Ale, Hophead IPA, Spy Porter
Garrison Brewing Company	Irish Red Ale
Granville Island	Brockton IPA, Cypress Honey Lager, English Bay Pale Ale
Great Western Brewing Company	Brewhouse Pilsner, Gold
Labatt Breweries	Kokanee, Labatt Blue, Alexander Keith's, Budweiser
Mark Anthony Group	Okanagan Cider, California Cooler
McAuslan Brewing	Apricot Wheat Ale
Molson Breweries	Rickards Red, Canadian, Coors Light
Moosehead Breweries Ltd	Moosehead Lager
Nelson Brewing	Nelson After Dark Ale, Blackheart Oatmeal Stout
Okanagan Spring Brewery Ltd.	1516 Bavarian Lager, Extra Special Ale
Pacific Western Brewing Co. Ltd.	Cariboo Cream Ale, Ironhorse
Phillips Brewing Co.	Phoenix, Wheatking
Plan B Brewing Co.	Half Cracked Nut Brown
Russell Brewing	Cream Ale, Extra Special Lager
Sleeman Brewing Co.	Sleeman Cream Ale, Honey Brown Lager, Unibroue Blanche des Chambly
The John Allen Brewing Co. Ltd.	Revolution Russian Imperial Stout
Vancouver Island Brewing	Piper's Pale Ale, Island Lager
Vincor International	Grower's Cider, Canada Cooler
Yukon Brewing	Arctic Red

Import and Domestic Suppliers and Selected Brands (Cans)

<b>Agent/Brewer</b>	<b>Sample Brand</b>
Amador Importers	
Atlas Wine Merchants	
Big Rock Brewery Limited	Rock Creek Cider, Traditional Ale
Bowen Island Brewing	Special Light, Irish Cream Ale, Traditional Lager, Honey Brown Lager, Extra Pale Ale
Bruce Ashley Group	
Calibrium International Limited	
Cannery Brewing	Anarchist Amber Ale
Carlsberg Canada Inc.	Carlsberg Lager
Central City Brewing Company Limited	Red Racer Lager, Red Racer Pale Ale
Charton-Hobbs Inc.	
Culin Importers Ltd.	
Diageo Canada Inc. (Dorval)	Smirnoff Ice
Diamond Estates Wines & Spirits B.C.	
Fernie Brewing Company Limited	First Trax Brown Ale, Rocky Mountain Genuine Lager
Fireweed Brewing Corporation	Thirsty Beaver Amber Ale, Kelowna Pilsner
Granville Island Brewing Co. Limited	Brockton Ipa, Honey Lager, English Bay Pale Ale
Great Western Brewing Company Ltd	Gold
Hell's Gate Brewing	Genuine Pale Ale
Hi-Bridge Consulting Group	Yanjing Beer
Independent Distillers (Canada) Limited	Alive Grapefruit
Innovative Commodity Imports Limited	
Labatt Breweries Of British Columbia	Alexander Keith's, Kokanee, Budweiser, Stella Artois
Lighthouse Brewing Co. Ltd.	Beacon Ipa, Race Rocks
Lmp Wines Inc.	Asahi
Lothar Heinrich Agencies Ltd.	Warsteiner



M.J.S. Beverage Concepts Int'l	
Mark Anthony Group Inc.	Mike's Hard Lemonade
Mcclelland Premium Imports Inc.	
Meagher's Distillery (B.C.) Ltd.	
Molson Brewery B.C. Ltd.	Heineken, Coors Light, Rickard's Red
Moosehead Breweries	Lager
Nelson Brewing Co.	Wild Honey Organic, Face Plant Ipa
Northam Brewery	
Okanagan Spring Brewery Ltd.	1516, Pale Ale, Strongbow
Pacific Western Brewing Co. Ltd.	Cantebury Dark, Pacific Dry
Premier Brands Limited	Holsten
Premium Beer Company Inc.	Mooshead Lager
Russell Brewing Company Ltd.	Cream Ale, Extra Special Pale Ale
Sebucom International Corporation	
Sleeman Breweries	Honey Brown
Sunny Star Import Export Limited	
The Barley Mill	
The Cannery Brewing Company	Anarchist Amber Ale
The Kirkwood Group	Radeberger Pilsner
United Distributors Of Canada	
Vancouver Island Brewing Co.	Island Lager, Pipers Pale Ale
Whitehall Agencies Ltd.	

