

# **Canadian Battery Association**

## **Annual Report to the Director**

### **2015 Calendar Year**

**Submitted to:** Director, Extended Producer Responsibility Programs  
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**Amended December, 2016**

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## Executive Summary

The 2015 Annual Report for lead-acid batteries includes the merged data from CBA and Interstate Battery Systems of America. The two stewardship programs merged in 2015 and the results presented in the Annual Report fulfill the requirements of both programs in 2015. In addition, the 2015 sales results include lead-acid batteries embedded in new vehicles.

Products within plan	All lead-acid batteries sold in British Columbia
Program website	<a href="http://www.canadianbatteryassociation.ca">www.canadianbatteryassociation.ca</a> and <a href="http://www.recyclemybattery.ca">www.recyclemybattery.ca</a>

Recycling Regulation Reference	Topic	Summary (5-bullet maximum)
Part 2, section 8(2)(a)	<a href="#">Public Education Materials and Strategies</a>	<ul style="list-style-type: none"> <li>• Phone and web based recycling information through <a href="http://www.recyclemybattery.ca">www.recyclemybattery.ca</a> and RCBC's Recycling Hotline, Recyclepedia and Recyclepedia for Smart Phones;</li> <li>• Participated in BCRecycles Ambassador Program in 2015;</li> <li>• Completed MoU with Call2Recycle to create common battery-recycling message for both the public and IC&amp;I sectors;</li> <li>• Direct outreach and communication with 25 First Nation communities in partnership with Aboriginal Affairs and the Automotive Recyclers Environmental Association.</li> </ul>
Part 2, section 8(2)(b)	<a href="#">Collection System and Facilities</a>	<ul style="list-style-type: none"> <li>• CBA members visit thousands of retailers and IC&amp;I customers on a weekly to monthly basis as part of their reverse distribution system of dropping off new and collecting used lead-acid batteries (LABs);</li> <li>• Distributor core charge of \$15 on most automotive batteries to promote the recovery of LABs from the retailer;</li> <li>• 179 Return Collection Facilities for the public and 21 warehouse operations for recycling of IC&amp;I batteries;</li> <li>• Created table of RCFs by Regional District and Community to identify gaps in recycling options for the public – see Appendix 1 and Appendix 2;</li> <li>• Merged with Interstate Battery Systems of America to integrate the RCFs and reduce confusion with consumers.</li> </ul>
Part 2, section 8(2)(c)	<a href="#">Product Environmental Impact Reduction, Reusability and Recyclability</a>	<ul style="list-style-type: none"> <li>• Implemented <i>The Management of Recyclable Lead-Acid Batteries - Collection, Storage &amp; Transportation in Canada</i> in most of BC's 21 warehouse locations;</li> <li>• Worked with MoE to revise the definition of "hazardous waste" to ensure that reuse options for used LABs are available to CBA members;</li> <li>• started a program designed to recover LABs from BC's remote and First Nations communities in partnership with Aboriginal Affairs and the Automotive Recyclers Environmental Association.</li> </ul>

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Recycling Regulation Reference	Topic	Summary (5-bullet maximum)
Part 2, section 8(2)(d)	<a href="#">Pollution Prevention Hierarchy and Product / Component Management</a>	<ul style="list-style-type: none"> <li>• all LABs collected by CBA members were sent to permitted smelters for recycling – 100% compliance with Basel Convention regarding the shipment of hazardous waste to non-OECD countries;</li> <li>• 99% of lead in LABs recovered in smelting process. 1% of dross is privately landfilled;</li> <li>• 100% of electrolyte (H2SO4) is reused in other production processes;</li> <li>• 30% of plastic battery casings used for energy recovery and creating anoxic conditions during the smelting process;</li> <li>• 70% of plastic LAB casings recycled into new LAB casings.</li> </ul>
Part 2, section 8(2)(e)	<a href="#">Product Sold and Collected and Recovery Rate</a>	<ul style="list-style-type: none"> <li>• 23M kg of LABs sold in BC in 2015 by CBA members– &gt;95% market share;</li> <li>• 101.5% of automotive batteries; 66% of motive batteries and 1% of stationary batteries sold by CBA members in 2015 were recovered by CBA members reverse distribution system;</li> <li>• 21.5M kg of LABs recovered by CBA members for overall recovery rate of 94.3% of CBA sales;</li> <li>• 10% of LABs sold in BC are recovered by private recyclers outside the CBA’s stewardship program.</li> </ul>
Part 2, section 8(2)(e.1)		<b>See Section 7 for breakdown per regional district</b>
Part 2, section 8(2)(f)	<a href="#">Summary of Deposits, Refunds, Revenues and Expenses</a>	The CBA does not charge an Eco-Fee to the consumer.

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Comparison of Key Performance Targets		
Part 2 section 8(2)(g); See full list of targets in <a href="#">Plan Performance</a>		
Priority Stewardship Plan Targets (as agreed with ministry file lead)	Performance	Strategies for Improvement
1. Awareness: Long Term Target of 75%	69%	<p>Continue to use RBC’s Hotline and Recyclepedia as the primary tool for consumer outreach and information.</p> <p>Will continue to participate in the SABC Consumer Awareness Study. The next study is scheduled for 2016.</p> <p>Participated in the BCRecycles’ 2015 Ambassador Program to increase awareness at the Automotive Retail locations. This program has not yielded the direct results and messaging with retailers and service stations. The CBA will not participate in the Ambassador Program in 2016.</p> <p>Continue to work with Call2Recycle to create a common message to the Public and IC&amp;I sectors on the importance and methods available to recycle all types of batteries.</p> <p>Prepare additional information for CBA members to distribute to their retailers and IC&amp;I customers.</p>
2. Accessibility: - 150 RCFs; - 30 minutes in urban - 45 minutes in rural	<p>- 179 RCF for public drop off – an increase of 1 new locations - see <a href="http://www.recyclemybattery.ca">www.recyclemybattery.ca</a></p> <p>- 21 warehouse operations for IC&amp;I sector</p>	<p>Serviced and underserved communities were identified in 2015 - see Appendix 1 &amp; 2.</p> <p>Add 20 new RCFs in rural underserved communities in 2016.</p> <p>Continue to work with the Automotive Recyclers Environmental Association to implement outreach and recycling programs for remote First Nation Communities.</p>

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<b>Comparison of Key Performance Targets</b>		
Part 2 section 8(2)(g); See full list of targets in <a href="#">Plan Performance</a>		
<b>Priority Stewardship Plan Targets</b> (as agreed with ministry file lead)	<b>Performance</b>	<b>Strategies for Improvement</b>
3. Recovery Rate: 95%	<ul style="list-style-type: none"> <li>- All results include Interstate Battery’s 2015 Sales and Recovery data and the sales data from new car sales;</li> <li>- 94.3% recovery for all CBA LAB sales broken down by type:                             <ul style="list-style-type: none"> <li>- 101.5% recovery for automotive type batteries sold by CBA members;</li> <li>- 66% recovery of motive batteries;</li> <li>- 1% recovery of stationary batteries.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- continue to encourage the private recycling sector to provide their data to the CBA. Two private battery recyclers were added to the CBA’s 2015 data base and the addition increased the CBA’s recovery rate by 6%.</li> <li>- CBA Members that sell industrial batteries are becoming more aggressive with their take-back programs with customers (note that industrial batteries do not have a “core charge”).</li> </ul>
4. Generation, Storage and Transportation – 100% compliance with Federal and Provincial laws.	<ul style="list-style-type: none"> <li>- developed compliance and emergency response manual to ensure compliance with Provincial Hazardous Waste Regulations and Federal Transportation of Dangerous Goods Regulations.</li> <li>- All recovered LABs collected by CBA members are sent to recycling and smelting facilities in Canada and the USA that have valid permits and/or approvals - 100% compliance to Basel Convention.</li> </ul>	<ul style="list-style-type: none"> <li>- CBA members now have up to date BC Generator Numbers (BCG#);</li> <li>- the MoE has clarified when the lead-acid battery becomes a waste hazardous waste promoting the refurbishing of used lead-acid batteries and that information has been circulated to CBA Members.</li> </ul>

## 1. Program Outline

### *About the Canadian Battery Association*

The Canadian Battery Association (CBA) was established in 1970 by the Canadian Manufacturers of lead-acid batteries (LABs) and in 2015 one of the Association's focuses is on the establishment of a National Stewardship Program for LABs.

In 2015, the Stewardship Program from Interstate Battery Systems of America was merged with the CBA's Stewardship Program to capture over 95% of LABs sold in Canada.

The CBA is now the National Stewardship Agency in Canada for LABs with approved Stewardship Programs in Prince Edward Island, New Brunswick, Manitoba and British Columbia.

### *Membership*

The signatories to the CBA's Stewardship Program in BC are summarized on the [CBA's website](#). The Distributors of LABs have assumed the stewardship obligations on behalf of the thousands of BC retailers that sell lead-acid batteries.

In 2015, the CBA launched a significant program to integrate new car dealers into the Stewardship Program. To date, approximately 125 new car dealers have been integrated into the Stewardship Program and in 2016 another 125 new car dealers will be added.

The inclusion of the new car dealers has reduced the level of non-compliance by Producers from 20% of sales to less than 5% of sales.

### *Stewarded Products*

The CBA Stewardship Program focuses exclusively on three types of LAB. The Starting, Lighting and Ignition (SLI) batteries are the most common LAB sold in Canada representing about 90% of all LAB sales. An automotive battery is a typical SLI battery. The remaining batteries are motive and stationary LABs and are used in commercial applications such as forklifts and UPS systems for energy storage and emergency electronic and lighting applications.

### *Collection Approach*

There are three factors that influence how LABs are recovered and recycled. First and foremost, LABs have a value at the end-of-life due the inherent value of the lead. Secondly, most consumer and all commercial LABs are replaced at a commercial facility by a licensed technician. Thirdly, most CBA members have core charges on retailers and contracts with smelters that require a constant supply of recyclable LABs. As such, the CBA members utilizes a 'reverse

distribution' system where distributors drop off new batteries at retail and pick up the used batteries for return to the smelters.

*Accomplishments in 2015*

Key accomplishments in 2015 were:

- Working with SABC members and Metro Vancouver to complete the characterization of 91 samples of residential and IC&I waste;
- Completing a MoU with Call2Recycle to create and coordinate a common battery recycling message for the public and IC&I sectors;
- Implementing a new definition of when a LAB becomes a Hazardous Waste as defined by BC's Hazardous Waste Regulation thus promoting the refurbishment and reuse of used LABs;
- Funding of RCBC's public outreach through the Hotline and Recyclepedia for LABs;
- Participation in BCRecycles Ambassador program that targeted retailers and automotive repair facilities that manage LABs;
- Undertake inventory for the recovery of LABs from remote and First Nation Communities and participate in the development of a Guide on the Recycling on LABs in First Nation communities;
- Initiate a compliance program for new car dealers of new products that have a LAB embedded in their new vehicles;
- Merge the Stewardship Programs for Interstate Battery Systems of America and the Canadian Battery Association and added 2 private recyclers to the recycling data base.

## **2. Public Education Materials and Strategies**

The CBA's communication strategies recognize that the majority of end-of-life lead-acid batteries (LABs) are installed, maintained and eventually removed by qualified technicians. Consequently, the education materials and strategies have a different emphasis when compared to other "consumer" products.

The CBA has three communication strategies:

- 1) Consumers. The CBA operates and maintains its website [www.recyclemybattery.ca](http://www.recyclemybattery.ca) that lists the retail locations that will take LABs from the public. In 2015, the CBA's website had just over 4205 visits from BC. In addition, the CBA is a financial supporter of RCBC and its interface with the public through RCBC's Hotline, Recyclepedia and Recyclepedia for Smart Phones. In 2015, RCBC received approximately 1846 lead-acid battery inquires on the Recycling Hotline and Recyclepedia.
- 2) CBA Members: the CBA has prepared technical and recycling information that can be used by its members to educate their staff and their IC&I



customers on the safe collection, storage and transportation of LABs. These education materials focus on compliance to Federal and Provincial regulations that pertain to the safe collection, storage and transportation of lead-acid batteries.

- 3) **Automotive Repair Technicians:** Because the majority of LABs are removed from automobiles by qualified Auto Repair Technicians, the CBA participated in the BC Recycles Ambassador Program that targets the retail and automotive service facilities in BC. The BC Recycles Ambassador Program visited 137 Municipalities, 1710 retailers and recyclers and attended 24 public events. The 2015 program achieved over 30 earned media interviews, 17 government interviews and 425,000 media impressions. In total, the 2015 program reached approximately 300,000 citizens with the CBA's message.

In addition to the above communication programs, the CBA will participate in SABC's Consumer Awareness Study in 2016 and compare to the 2014 results.

Finally, in 2015 the CBA started the implementation of the Memorandum of Understanding with Call2Recycle to harmonize the message to the public and the IC&I sector regarding the recycling of batteries. The goal is to have one message promoted by both programs on the importance of recycling batteries of all types.

### **3. Collection System and Facilities**

The majority of lead-acid batteries recovered were collected in a reverse distribution system between the CBA member and their retail and IC&I customers. CBA members deliver new lead-acid batteries to retail and IC&I customers and pick up the used lead-acid batteries at the same time.

The CBA has identified 179 Return Collection Facilities (RCFs) for the recovery lead-acid batteries from the public – see Appendix 1. This is an increase in 1 RCF over 2014. The majority of the RCFs for the public are retail locations. Go to [www.recyclemybattery.ca](http://www.recyclemybattery.ca) to access the list of RCFs available to the public. Appendix 2 summarizes the communities and regions in BC that do not have an official Return Collection Facility.

In addition, there were 21 warehouse operations that have been identified as a location for industrial lead-acid batteries. Go to <http://recyclemybattery.ca/industrial-batteries> for a listing of the warehouse locations in BC that will take consumer and industrial batteries.

Lastly, the CBA has taken on the issue of recovering lead-acid batteries in BC's remote communities – the majority of the remote communities are First Nation communities.

The CBA has partnered with the Automotive Recyclers Environmental Association (AREA) and Indigenous and Northern Affairs Canada to:

- Participate in the development of the *BC First Nations' Guide to Recycling End-of-Life Vehicles and Other Stewarded Products – Pollution Prevention through Recycling*. This document details the roles and responsibilities of the community, Indigenous and Northern Affairs Canada and includes a section on the proper recycling of lead-acid batteries in First Nation Communities; and,
- Undertake an assessment of 25 First Nation communities between Prince George and Prince Rupert. The assessment indicated that there is not an accumulation of lead-acid batteries in the communities close to Highway 16 West.

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

For the past 5 years, the CBA worked with BC Environment's Hazardous Waste group to clearly define when a "used" lead-acid battery becomes a "waste". In 2015, the new policies were completed that will promote the refurbishing of used lead-acid batteries rather than declaring lead-acid batteries a "hazardous waste" at the end of the battery's "primary use". Approximately 10 to 15% of used lead-acid batteries can be refurbished and resold.

In 2015, the CBA lead the SABC participation in the Waste Characterization Study in the Lower Mainland in partnership with Metro Vancouver. The study undertook 91 samples of the residential and IC&I waste stream. A single lead-acid battery weighing 5.85kg was found in the IC&I waste stream. The battery was a small sealed lead-acid battery that was likely embedded in a product that was imported from China. The brandowner of the recovered battery cannot be identified and the brandowner is not part of the CBA's Stewardship Program.

#### **5. Pollution Prevention Hierarchy and Product Management**

All recovered LABs collected by CBA members are sent to recycling and smelting facilities in Canada and the USA that have valid permits and/or approvals. The recycling requirements and emission levels for recyclers and smelters are set by Federal, Provincial and State governments as part of their permit/approval processes for the recycling and smelting facilities.

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Battery Council International provides the following information on how a battery is recycled.

<b>Material</b>	<b>Description</b>	<b>Fate</b>
Metals	99% of lead is recovered during the smelting process	Lead ingots are sold as a Commodity on the open market.
	1% of lead from the smelting process is not recovered and is contained in dross – a waste from the smelting process	Private Landfill
	Antimony and Calcium are used to provide strength within the lead plates	Remain as an alloy of the lead after smelting.
Electrolytes	Sulphuric Acid is recovered and sold as an input to another manufacturing process.	Recycled and sold as a commodity.
Plastics	<p>The Polypropylene Case that provides structure to most batteries.</p> <p>Stationary batteries have a clear casing made of Acrylic.</p> <p>Within each battery, Plastic Separators are used to Isolate the Positive and Negative plates in a cell.</p>	<p>About 70% of the plastic is recycled and used to make new battery casings.</p> <p>Acrylic casings are not recyclable and are burned for energy recovery.</p> <p>The Plastic Separators are burned at the smelters for energy recovery and creating an oxygen free environment during the smelting process.</p>

**6. Product Sold and Collected and Recovery Rate**

With the integration of Interstate Battery Systems of America and the majority of the new car dealers in 2015, the members of the CBA account for about 95% of the lead-acid batteries sold in BC. In total, there were about 23.4 million kg of LABs sold in BC in 2015 in the three product categories:

**2015 Lead-Acid Sales Data for British Columbia**

	CBA Members (kg)	Unaccounted Sales (kg)	Total (kg)
Starting, Lighting, Ignition (SLI)	20,334,000	500,000	20,836,000
Motive (e.g., forklift)	1,327,000	50,000	1,384,000
Stationary (e.g., UPS)	1,169,000	50,000	1,219,000
Totals	22,830,000	600,000	23,439,000

\* Sales from one CBA member were estimated from previous data - the estimates involved were sales of 3M kgs.

CBA members recovered just over 21,520,000kg of lead-acid batteries in 2015 for an overall recovery rate of 94.3% of CBA sales. The CBA recovery rate for the three battery types was 101.5%; 66% and 1.0% of CBA sales for SLI, Motive and Stationary batteries respectively.

**2015 Lead-Acid Recovery Data for British Columbia by CBA Members**

	Recovery (kg)	Recovery Rate (%)
Starting, Lighting, Ignition (SLI)	20,630,000	101.5
Motive (e.g., forklift)	882,000	66.0
Stationary (e.g., UPS)	8,500	1.0
Totals	21,521,500	94.3

All waste LABs recovered by CBA members were shipped to smelters in Canada or the USA. No waste batteries were shipped to brokers in the USA that could then ship to a non-OECD country and violate the Basel Agreement.

Because used LABs are recovered by the CBA through a reverse-distribution collection system the volume of waste lead-acid batteries cannot be determined until they have been sorted and tested at one of BC's 21 warehouse locations. Consequently, the recovery per Regional District must be an estimate based on the average recovery rate per person.

The recovery volumes of lead-acid batteries by Regional District (Table 1) were estimated based on a 2015 recovery rate of 4.23kg of waste lead-acid batteries per capita.

**Table 1: Recovery Estimates of Lead-Acid Batteries by Regional District**

Name	Population	Kg
Alberni-Clayoquot	31,542	133,841
Bulkley-Nechako	38,860	164,893
Capital	367,572	1,559,700
Cariboo	65,047	276,011
Central Coast	3,118	13,230
Central Kootenay	59,756	253,560

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Central Okanagan	184,411	782,502
Columbia-Shuswap	53,713	227,918
Comox Valley	64,084	271,924
Cowichan Valley RD	81,689	346,627
East Kootenay	59,954	254,400
Fraser Valley	280,210	1,189,001
Fraser-Fort George	95,652	405,875
Metro Vancouver	2,318,526	9,838,086
Kitimat-Stikine	39,380	167,099
Kootenay-Boundary	32,111	136,255
Mount Waddington	12,042	51,097
Nanaimo	147,866	627,432
North Okanagan	83,179	352,949
Northern Rockies	6,003	25,472
Okanagan-Similkameen	83,337	353,620
Peace River	62,244	264,117
Powell River	20,207	85,743
Skeena-Queen Charlotte	19,438	82,480
Squamish-Lillooet	39,209	166,374
Strathcona	44,189	187,505
Sunshine Coast	29,551	125,392
Thompson-Nicola	131,675	558,730

### 7. Summary of Deposits, Refunds, Revenues and Expenditures

The Canadian Battery Association does not charge eco-fees at the point of sale and does not report under this section of the Recycling Regulation.

## 8. Plan Performance

Plan Target	Results	Strategies for Improvement
<p>1. Awareness: Long Term Target of 75%</p>	<p>69% Measured in a 2014 Consumer Awareness Study</p>	<p>Continue to use RBC’s Hotline and Recyclepedia as the primary tool for consumer outreach and information.</p> <p>Will continue to participate in the SABC Consumer Awareness Study. The next study is scheduled for 2016.</p> <p>Participated in the BCRecycles’ 2015 Ambassador Program to increase awareness at the Automotive Retail locations. This program has not yielded the direct results and messaging with retailers of new lead-acid batteries. The CBA will not participate in the Ambassador Program in 2016.</p> <p>Continue to work with Call2Recycle to create a common message to the Public and IC&amp;I sectors on the importance and methods available to recycle lead-acid batteries.</p> <p>Prepare additional information for CBA members to distribute to their retailers and IC&amp;I customers.</p>
<p>2. Accessibility:</p> <ul style="list-style-type: none"> <li>• 150 Return Collection Facilities;</li> <li>• 30 minutes in Urban Areas;</li> <li>• 45 minutes in Rural Areas</li> </ul>	<ul style="list-style-type: none"> <li>• 179 Return Collection Facilities (RCF) – an increase of 1 RCF over 2014 – see <a href="http://www.recyclemybattery.ca">www.recyclemybattery.ca</a>;</li> <li>• 21 warehouse operations that link to the IC&amp;I sector;</li> <li>• Summary of RCFs in each Regional District and Community – See Appendix 1 and Appendix 2</li> </ul>	<p>Serviced and underserved communities were identified in 2015 - see Appendix 1 &amp; 2.</p> <p>Add 20 new RCFs in rural underserved communities in 2016.</p> <p>Continue to work with the Automotive Recyclers Environmental Association to implement outreach and recycling programs for remote First Nation Communities.</p>

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Plan Target	Results	Strategies for Improvement
<p>3. Recovery Rate: 95%</p>	<ul style="list-style-type: none"> <li>- All results include Interstate Battery's 2015 Sales and Recovery data and the sales data from new car sales;</li> <li>- 94.3% recovery for all CBA LAB battery types;               <ul style="list-style-type: none"> <li>- 101.5% recovery for automotive type batteries sold by CBA members;</li> <li>- 66% recovery of motive batteries;</li> <li>- 1% recovery of stationary batteries.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- continue to encourage the private recycling sector to provide their data to the CBA. Two private battery recyclers were added to the CBA's 2015 data base and the addition increased the CBA's recovery rate by 6%.</li> <li>- CBA Members that sell industrial batteries are becoming more aggressive with their take-back programs with customers (note that industrial batteries do not have a "core charge").</li> </ul>
<p>4. Generation, Storage and Transportation – 100% compliance with Federal and Provincial laws.</p>	<ul style="list-style-type: none"> <li>- developed compliance and emergency response manual to ensure compliance with Provincial Hazardous Waste Regulations and Federal Transportation of Dangerous Goods Regulations.</li> <li>- All recovered LABs collected by CBA members are sent to recycling and smelting facilities in Canada and the USA that have valid permits and/or approvals - 100% compliance to Basel Convention.</li> </ul>	<ul style="list-style-type: none"> <li>- CBA members now have up to date BC Generator Numbers (BCG#);</li> <li>- the MoE has clarified when the lead-acid battery becomes a waste hazardous waste promoting the refurbishing of used lead-acid batteries and that information has been circulated to CBA Members.</li> </ul>

**Appendix 1: List of Return Collection Facilities in BC**

Regional District	City / Town	Population	RCFs
<b>Alberni-Clayoquot</b>	Port Alberni	17,741	2
<b>Bulkley-Nechako</b>	Burns Lake	2,114	1
	Fort St. James	1,322	1
	Houston	2,958	1
	Smithers	5,321	2
	Vanderhoof	4,143	1
<b>Capital</b>	Central Saanich	16,170	1
	Colwood	16,174	1
	Esquimalt	17,682	1
	Highlands	2,175	1
	Langford	27,328	2
	Saanich	113,516	2
	Sidney	11,578	1
	Sooke	10,540	1
	Victoria	82,785	2
	View Royal	9,583	1
<b>Cariboo</b>	100 Mile House	1,941	1
	Quesnel	9,710	2
	Williams Lake	11,090	2
<b>Central Coast</b>			
<b>Central Kootenay</b>	Castlegar	7,871	2
	Creston	5,246	1
	Nakusp	1,530	1
	Nelson	9,938	1
<b>Central Okanagan</b>	Kelowna	120,812	7
	West Kelowna	27,303	3
<b>Columbia-Shuswap</b>	Golden	3,959	2
	Revelstoke	7,267	1
	Salmon Arm	17,220	2
	Sicamous	2,950	1
	Falkland	600	1
	Glenemma		1
	Skimikin		1
	Scotch Creek		1
<b>Comox Valley</b>	Courtenay	24,216	2



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<b>Cowichan Valley</b>	Duncan	5,008	2
<b>East Kootenay</b>	Cranbrook	19,161	2
	Fernie	4,415	1
	Invermere	3,668	1
	Sparwood	3,804	1
<b>Fraser Valley</b>	Abbotsford	135,866	4
	Chilliwack	76,106	3
	Mission	37,167	1
	Unincorporated Areas	17,693	1
<b>Fraser-Fort George</b>	Mackenzie	3,827	1
	Prince George	74,547	5
<b>Metro Vancouver</b>	Burnaby	222,802	6
	Coquitlam	123,213	4
	Delta	99,862	4
	Langley, Township of	103,267	4
	Langley	25,526	3
	Maple Ridge	75,051	2
	North Vancouver	48,881	3
	Port Coquitlam	56,446	1
	Richmond	193,255	7
	Surrey	446,561	10
	Vancouver	628,621	6
	White Rock	19,102	1
<b>Kitimat-Stikine</b>	Kitimat	9,226	1
	Terrace	11,675	2
<b>Kootenay-Boundary</b>	Grand Forks	4,150	1
	Trail	7,353	1
<b>Mount Waddington</b>	Port McNeill	2,618	1
<b>Nanaimo</b>	Nanaimo	84,228	5
<b>North Okanagan</b>	Armstrong	4,533	2
	Coldstream	10,388	2
	Enderby	2,906	2
	Lumby	1,804	2
	Vernon	38,968	3

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<b>Northern Rockies</b>	Fort Nelson	3,902	1
<b>Okanagan-Similkameen</b>	Oliver	4,783	1
	Penticton	33,250	2
	Princeton	2,757	1
<b>Peace River</b>	Chetwynd	2,676	1
	Dawson Creek	11,514	2
	Fort St. John	19,457	2
<b>Powell River</b>	Powell River	13,338	2
<b>Skeena-Queen Charlotte</b>	Prince Rupert	12,846	1
<b>Squamish-Lillooet</b>	Lillooet	2,367	1
	Squamish	17,181	2
<b>Strathcona</b>	Campbell River	31,328	2
<b>Sunshine Coast</b>	Sechelt	9,164	2
<b>Thompson-Nicola</b>	Cache Creek	1,083	1
	Clearwater	2,348	1
	Kamloops	87,017	7
	Merritt	7,450	2

## Appendix 2: Underserviced Communities in BC

Community / Regions	Population
North Vancouver	86,725
New Westminster	65,016
West Vancouver	43,307
Cariboo Unincorporated Areas	42,049
Nanaimo Unincorporated Areas	39,388
Cowichan Valley Unincorporated Areas	35,888
Port Moody	32,998
Central Kootenay Unincorporated Areas	31,818
North Cowichan	29,493
Capital Unincorporated Areas	25,875
Thompson - Nicola Unincorporated Areas	24,825
Okanagan - Similkameen Unincorporated Areas	24,636
Comox Unincorporated Areas	23,261
Peace River Unincorporated Areas	22,870
Columbia - Shuswap Unincorporated Areas	22,317
Metro Unincorporated Areas	22,131
Bulkley - Nechako Unincorporated Areas	20,127
Central Okanagan Unincorporated Areas	19,643
North Okanagan Unincorporated Areas	19,452
Oak Bay	18,012
Pitt Meadows	17,915
East Kootenay Unincorporated Areas	17,788
Fraser Valley Unincorporated Areas	17,693
Kitimat - Stikine Unincorporated Areas	17,127
Fraser - Fort George Unincorporated Areas	15,560
Sunshine Coast Unincorporated Areas	15,108
Comox	13,444
Parksville	11,783
Lake Country	11,409
Summerland	11,243
North Saanich	11,021
Kootenay - Boundary Unincorporated Areas	10,857
Strathcona Unincorporated Areas	10,563
Alberni - Clayoquot Unincorporated Areas	10,381
Whistler	10,228
Qualicum Beach	8,766
Ladysmith	8,118
Squamish - Lillooet Unincorporated Areas	7,017
Powell River Unincorporated Areas	6,851
Kimberley	6,705

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Hope	6,269
Northern Rockies Regional Municipality	5,558
Kent	5,515
Peachland	5,244
Osoyoos	5,189
Metchosin	5,133
Spallumcheen	5,128
Gibsons	4,448
Mount Waddington Unincorporated Areas	4,118
Port Hardy	3,986
Lantzville	3,701
Skeena - Queen Charlotte Unincorporated Areas	3,679
Bowen Island	3,608
Rosland	3,532
Lake Cowichan	3,182
Cumberland	3,163
Sunshine Coast Unincorporated Areas - Pender Harbour	3,000
Elkford	2,591
Chase	2,478
Tumbler Ridge	2,450
Pemberton	2,416
Logan Lake	2,189
Anmore	2,160
Fruitvale	2,031
Bella Coola	1,900
Tofino	1,829
Warfield	1,811
Ashcroft	1,740
Barriere	1,722
Harrison Hot Springs	1,594
Ucluelet	1,591
Taylor	1,480
Keremeos	1,479
Gold River	1,425
Lions Bay	1,398
Telkwa	1,357
Central Coast Unincorporated Areas	1,761
Kaslo	1,184
Fraser Lake	1,122
Salmo	1,060
Hudson's Hope	1,051
Valemount	1,044

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Montrose	1,043
Radium Hot Springs	1,005
Village of Queen Charlotte	961
Cherryville	930
Masset	929
Port Alice	842
Sechelt Ind Gov Dist (Part)	831
Canal Flats	817
Pouce Coupe	746
Belcarra	681
Greenwood	676
McBride	674
Midway	658
New Hazelton	604
Clinton	597
Port Edward	570
New Denver	516
Alert Bay	478
Port Clements	453
Norther Rockies Unincorporated Areas	445
Stewart	444
Granisle	396
Slocan	391
Tahsis	381
Sayward	331
Hazelton	304
Wells	257
Lytton	226
Silverton	202
Zeballos	161

## Appendix 3: Independent Reasonable Assurance Report Evaluation Criteria

### COLLECTION FACILITIES

<b>Specific Disclosures in the annual stewardship report for which evaluation criteria were developed</b>		
<b>Disclosed information</b>	<b>Claim in the Report</b>	<b>Reference</b>
Number of collection facilities	<ul style="list-style-type: none"> <li>• 179 Return Collection Facilities (RCFs) for the public and 21 return locations for the IC&amp;I sector</li> </ul>	<ul style="list-style-type: none"> <li>• Section 4, page 9</li> <li>• Section 9, page 14</li> </ul>
Changes to number of collection facilities	<ul style="list-style-type: none"> <li>• There was 1 new RCF added in 2015.</li> </ul>	<ul style="list-style-type: none"> <li>• Section 4, page 9</li> <li>• Section 9, page 14</li> </ul>

The following definitions 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:

- Collection Facility: any consumer or industrial facility that accepts Lead Acid Batteries.

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. The number of collection facilities is determined based on the number of retail outlets or industrial depots that advertise they will accept lead acid batteries.
2. Changes in the number of collection facilities are determined based on a review of retail outlets and CBA members self reporting industrial battery depots.

**PRODUCT MANAGEMENT**

<b>Specific Disclosures in the annual stewardship report for which evaluation criteria were developed</b>		
<b>Disclosed information</b>	<b>Claim in the Report</b>	<b>Reference</b>
A description of how the recovered product was managed in accordance with the pollution prevention hierarchy (S.8(2)(d))	<ul style="list-style-type: none"> <li>All recovered LABs collected by CBA members are sent to recycling and smelting facilities that have valid permits and/or approvals</li> </ul>	<ul style="list-style-type: none"> <li>Section 6.Pollution Prevention Hierarchy and Product / Component Management</li> <li>Page 10</li> </ul>

The following definitions were applied to the assessment of the description of how the recovered product was managed in accordance with the pollution prevention hierarchy in accordance with Section S.8(2)(d):

- Total weight of LABs processed, by category, is determined based on scaled deliveries to licensed smelters in North America by CBA members.
- The recycling requirements and emission levels for recyclers and smelters are set by Provincial or State governments as part of their permit/approval processes for the recycling and smelting facilities.

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

1. All recovered LABs collected by CBA members are sent to recycling and smelting facilities that have valid permits and/or approvals.

**PRODUCT SOLD AND COLLECTED**

<b>Specific Disclosures in the annual stewardship report for which evaluation criteria were developed</b>		
<b>Disclosed information</b>	<b>Claim in the Report</b>	<b>Reference</b>
Product collected	<ul style="list-style-type: none"> <li>CBA members reported just over 21,500,000 kg of lead-acid batteries recovered in 2015</li> </ul>	<ul style="list-style-type: none"> <li>Section 7, page 11</li> </ul>
Product sold	<ul style="list-style-type: none"> <li>CBA members reported sales of just over 22,800,000 kg of lead acid batteries in 2015</li> </ul>	<ul style="list-style-type: none"> <li>Section 7, page 11</li> </ul>
Recovery rate	<ul style="list-style-type: none"> <li>See the evaluation criterion for performance for the year in relation to targets in the approved stewardship plan below</li> </ul>	

The following evaluation criteria were applied to the assessment of total amounts of the producer’s product sold and collected and, if applicable, the producer’s recovery rate has been calculated in accordance with Section 8(2)(e);

1. Product Sold: Product sold is determined based on self-reporting by each steward of units sold by category on a monthly/quarterly basis.
2. Product Collected: The weight of product collected is based on the weight of material shipped to smelters by CBA members
3. Product Collected: Adjustments for in-transit material and inventory at consolidation sites that are not yet invoiced by processors are made for annual reporting purposes.



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### TARGETS

<b>Specific Disclosures in the annual stewardship report for which evaluation criteria were developed</b>		
<b>Disclosed information</b>	<b>Claim in the Report</b>	<b>Reference</b>
Targets associated with Section 8(2)(b) per Approved Stewardship Plan: <ul style="list-style-type: none"> <li>• There will be over 150 retail families located in urban locations for the public to drop off LABs at no charge</li> <li>• There will be a minimum of 10 large warehouse locations for drop off of industrial and commercial batteries at no charge.</li> </ul>	<ul style="list-style-type: none"> <li>• The CBA has identified 179 Return Collection Facilities (RCFs) for the public and 21 return locations for the IC&amp;I sector.</li> </ul>	Section 9, page 14
Targets associated with Section 8(2)(d): <ul style="list-style-type: none"> <li>• No target</li> </ul>	<ul style="list-style-type: none"> <li>• All LABs collected by CBA members were sent to permitted smelters in North America for recycling</li> </ul>	Section 9, page 14
Targets associated with Section 8(2)(e): <ul style="list-style-type: none"> <li>• 95% Recovery Rate</li> </ul>	<ul style="list-style-type: none"> <li>• Product sold 22,830,000kg</li> <li>• Product recovered 21,520,500kg</li> <li>• Recovery rate 94.3% of CBA sales</li> </ul>	Section 9, Page 14  Section 7, Page 11 & 12

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

1. Targets in the stewardship plan have been identified and reported on by management in the annual report; and
2. The description of progress against targets to date is supported by records maintained by the Canadian Battery Association.
3. The expected outcomes and target dates in the annual report are consistent with the targets in the approved stewardship plan

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4. The facts disclosed in the annual update on progress are supportable by evidence, neutral and understandable.
  
5. All LABs are delivered to permitted smelters in North America. This is intended to demonstrate that LABs are recycled in accordance with strict environmental standards. This is covered by the product management evaluation criteria above and no further evaluation criteria are necessary.