



Canadian Battery Association

2011 Annual Report
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Preface:

The Canadian Battery Association (CBA) was established in 1970 by the Canadian manufacturers of lead-acid batteries. Since its inception, the CBA has worked on a variety of issues and now the focus is on the National Stewardship of Lead-Acid Batteries (LABs) at the end-of-life.

LAB technology was first invented in the mid-1800's and the technology has expanded over the years to many applications. Today, LABs can be grouped into three basic product categories: SLI, Motive and Stationary. SLI stands for Starting, Lighting and Ignition and is best represented by vehicle LABs. Motive batteries include fork lift and golf cart LABs and Stationary batteries include back-up power systems. Within each category, the LABs come in a wide-diversity of shapes, sizes and applications.

The most important aspect of the CBA's National Stewardship Program is that the end-of-life LABs have a positive residual value because of the inherent value of lead as a commodity. Because of the positive value of lead, there is a complex recycling infrastructure in place across Canada that is very efficient at recovering approximately 150,000,000kg/yr of end-of-life LABs valued at more than \$250,000,000. The challenge for the CBA's National Stewardship Program is to monitor the recycling infrastructure and track collection rates in a manner that is acceptable to the regulatory agencies yet respects the market place and the confidentiality of the data.

The Canadian Battery Association is the primary Steward in Canada for LABs and the Association has approved Stewardship Programs in Manitoba and British Columbia. The long-term goal of the CBA is to develop a National Stewardship Program that meets individual Provincial requirements. The CBA's 2011 Annual Report attempts to meet the regulatory requirements in Manitoba and British Columbia as well as summarize the progress toward the establishment of a National Stewardship Program for LABs.

For more information about the CBA and its stewardship programs, please contact your CBA member at <http://canadianbatteryassociation.ca/index.php/about-the-cba/members>. For information about where the public can drop LABs at no charge to ensure proper recycling, go to www.recyclemybattery.ca.

Bob Twidle,
President
Canadian Battery Association

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Executive Summary

The Canadian Battery Association (CBA) officially started its Stewardship Program first in Manitoba on April 1, 2011 and in British Columbia on July 1, 2011. The 2011 Annual Report summarizes the activities of the CBA in Manitoba and British Columbia; however, the sales and recovery data presented in the 2011 Annual Report is for the entire calendar year 2011.

The Stewardship of Lead-Acid Batteries (LABs) is influenced by three primary factors:

1. LABs are, for the most part, a product within a product (e.g., battery within a vehicle) and management of end-of-life LABs is primarily at commercial businesses (e.g., repair shops);
2. LABs have a significant commodity value at the end-of-life with an estimated economic value of \$250,000,000 per year in Canada;
3. There is a significant independent recycling infrastructure that recovers the LABs from the commercial and industrial operations.

The CBA established a comprehensive network of Return Collection Facilities (RCF) for LABs from the public and industrial consumers. For the Public, 117 RCFs were established in British Columbia and 67 RCFs were established in Manitoba in 2011. The majority of the RCFs for the public were at Retail Locations where new Starting, Lighting and Ignition (SLI) type LABs are purchased (ie LABs for our vehicles). RCFs for the larger Motive and Stationary LABs were warehouse operations and 20 and 5 RCFs were established in BC and Manitoba respectively.

The CBA's Collection Rate was 143% and 80.7% in Manitoba and BC respectively. Sales data in 2011 indicate that approximately 15% of LAB sales in Manitoba and BC were external to an Approved Stewardship Plan. In BC, approximately 30% of the LABs were collected by recyclers outside of an Approved Stewardship Plan. For the CBA to meet its future Collection Targets in subsequent years, the CBA will incorporate data from the smelters to estimate the unaccounted sales and collection of LABs.

End-of-life LABs are considered Dangerous Goods under Federal Transportation of Dangerous Goods Act and a Recyclable Material in Manitoba and a Hazardous Waste in BC. The CBA is ensuring the RCF for both SLI and industrial LABs are collected, stored and transported to Provincial and Federal requirements.

The CBA has a variety of priorities for 2012 including:

- Better estimates of sales and collection on a Province-by-Province basis;
- Education Program to ensure Regulatory Compliance at RCFs; and,
- Awareness Program for the commercial and industrial "consumers".

1.0 Introduction

The Canadian Battery Association's (CBA) 2011 Annual Report details its National Stewardship activities as well as the regulatory requirements of the Association in Manitoba and British Columbia.

The recycling of lead-acid batteries (LABs) in Canada is driven primarily by the commodity value of lead. The average vehicle LAB in 2011 had a commodity value of between \$5 and \$15 depending on the proximity to a smelter.

The challenge for the CBA was to develop a National Stewardship Program for LABs that:

- preserved the open market for recycled lead;
- promoted the safe collection, storage and recycling of LABs;
- confirmed the high collection rates on a Province-by-Province basis by including data from the smelters.

1.1 Program Goals and Objectives of CBA

When the Canadian Battery Association was established in the 1970's, the founding members had five primary objectives. The objectives are:

- To promote and further the best interests of the members, and industry, in all reasonable, lawful and proper ways.
- To develop standards of manufacture, performance, safety, and nomenclature of batteries.
- To provide a forum for the exchange of legally exchangeable information on all subjects of common interest to members.
- To collect, analyze, and distribute to its members, technical and statistical data, and
- To unite in making representation to government, and other public bodies, on questions of common concern to members, and to obtain information with respect to, and inform members of government and other actions affecting members.

Within the above stated goals, the CBA has focused in recent years on Environmental Stewardship due to expanding requirements under Provincial Extended Producer Responsibility Regulations.

1.2 Approved Stewardship Plan and Signatories

On April 1, 2011, lead-acid batteries were included in Manitoba's Household Hazardous Material and Prescribed Material Stewardship Regulation and on July 1, 2011 British Columbia's Recycling Regulation.

The CBA has approved Stewardship Programs in Manitoba and British Columbia and the CBA's 2011 Annual Report will include data and information that meets those specific regulatory requirements. The Annual Report will also include a brief summary of the Stewardship activities in other Provinces.

Appendix 1 summarizes the "Stewards" that are signatories to the CBA's Stewardship Program in Manitoba and British Columbia. These Stewards provide sales and collection data that will be summarized in this report.

The Manufacturers and National Distributors listed in Appendix 1 have assumed the stewardship obligations on behalf of the thousands of wholesalers and retailers – even when the retailer owns a "Brand" of LAB. In addition, some of the Manufacturers and National CBA Members listed in Appendix 1 have Parent Companies in the USA that ship LABs directly to Canada. The sales data of the Parent Companies are summarized by the Canadian Subsidiary and reported to the CBA.

Like all Stewardship Programs, there is a significant portion of LAB sales are made by businesses that are not aligned with an Approved Stewardship Program for LABs. A very preliminary estimate of non-Stewarded sales is 15% and the LABs are believed to be sold in:

- Vehicles, motorcycles, off-road equipment (e.g., skidoos etc);
- UPS Systems for computers, telecoms, etc;
- Large Industrial Motive and Stationary Batteries shipped directly from the USA.

1.3 Interaction with Other Programs

Interstate Battery System of America (IBSA) has a competing Stewardship Program in Manitoba and British Columbia. The CBA has reached out to IBSA to work cooperatively on the collection of LABs in remote communities as well as share consolidated data so that the two stewardship programs can calculate an overall collection rate for LABs on a Province by Province basis.

The Rechargeable Battery Recycling Corporation (RBRC) operates the Call2Recycle Stewardship Program in Canada. The Call2Recycle Stewardship Program focuses on smaller batteries including small Sealed Lead-Acid Batteries used in mobility scooters, fire emergency devices, emergency exit signs and small UPS back-up batteries for computers. Typically the LABs in the Call2Recycle program are 5kg or less. For more information about the Call2Recycle Stewardship Program in Canada go to www.call2recycle.ca. The CBA has established a positive working relationship with Call2Recycle and the two programs will work collaboratively where appropriate to provide consumers with a

comprehensive recycling program for batteries and accurate collection estimates for LABs in Canada.

Finally, the CBA has initiated discussions with the Electronic Products Recycling Association to discuss how to manage the batteries contained in the larger UPS systems (UPS = Uninterrupted Power Systems) sold by non-CBA members.

2.0 Collection System and Accessibility

To meet the requirements of the Stewardship Regulations in Manitoba and BC, the CBA identified a number of Return Collection Facilities (RCF) where the public and industry can drop off end-of-life LABs at no cost. Typically the public will have LABs from vehicles or small motive or stationary applications. The RCF within the CBA will ensure that the LABs dropped at these facilities will be stored, transported and recycled to Federal and Provincial standards.

2.1 Return Collection Facilities for Public

The list of RCFs for the public is included in Appendix 2. The following table summarizes the number of RCFs for the Public on a Province by Province basis.

Province	Return Collection Facilities For SLI* Batteries		
	2011 (Expected)	2011 (Actual)	2012 (Projected)
British Columbia	150	117	175
Alberta	NA	13	50
Saskatchewan	NA	6	30
Manitoba	No Targets Set	67	100
Ontario	NA	23	125
Quebec	NA	10	100
New Brunswick	NA	4	50
Nova Scotia	NA	1	50
Prince Edward Island	NA	0	5
Newfoundland & Labrador	NA	1	25
North	NA	0	TBD
Totals		242	710

*SLI=Starting, Lighting and Ignition

The additional RCF in 2012 will be at retail locations for the public as well as some special arrangements for the collection of LABs in remote locations.

2.2 Return Collection Facilities for Motive and Stationary Batteries

Because the motive and stationary LABs can be very large, the CBA committed to providing warehouse operations for the collection for these industrial LABs. A list of the RCFs for Industrial LABs is listed in Appendix 3. In 2011, the CBA identified 20 locations in British Columbia and 5 in Manitoba for the large industrial LABs as part of the Approved Stewardship Plans in those provinces.

Province	Return Collection Facilities For Motive and Stationary Batteries		
	2011 (Expected)	2011 (Actual)	2012 (Projected)
British Columbia	10	20	20
Alberta	NA	13	13
Saskatchewan	NA	5	5
Manitoba	TBD	5	5
Ontario	NA	19	20
Quebec	NA	10	10
New Brunswick	NA	4	4
Nova Scotia	NA	1	1
Prince Edward Island	NA	0	0
Newfoundland & Labrador	NA	1	1
North	NA	0	TBD
Total		78	79

The long-term goal of the CBA is to have a RCF for SLI batteries within 30 minutes of households in urban areas. Because motive and stationary batteries are much heavier and for the most part they are exclusively used in industrial applications, there are a fewer number of RCFs that can handle their weight and storage requirements.

The public are encouraged to find the closest RCF for all Provinces using the web-based locator system at www.recyclemybattery.ca. Commercial users of motive and stationary batteries are encouraged to contact the CBA supplier listed in Appendix 3 or on www.recyclemybattery.ca to ensure storage, packing and transportation requirements under the Transportation of Dangerous Goods for these large LABs are met.

3.0 Collection Rate

The Collection Rate for the CBA was calculated on the weight of LABs recovered in the Province divided by the weight of LABs sold in the Province. No adjustments for life cycle times or sales growth of LABs were made to the Collection Rate.

The annual growth rate of LABs for vehicles and stationary type batteries was estimated to be 1.4% and 6% respectively. The high growth rate for stationary batteries coupled with their long life cycle (up to 20 years) will need to be addressed in the CBA statistics in future years. The relatively short life cycle for vehicle batteries (5 years) coupled with a slower growth rate will have less impact on the overall collection statistics.

3.1 Province-By-Province

3.1.1 Manitoba

The 2011 sales and collection rates for CBA members in Manitoba is summarized in the table below. The Collection Rate of 143% in Manitoba is skewed by the presence of several large “scrap” recyclers in Winnipeg. These recyclers collect LABs from across the prairies and western Ontario and consolidate the product in Winnipeg for sale to CBA members.

Year	Lab Sales	LABs Recovered	Collection Rate
2011	5,220,000kg	7,479,000kg	143%

The CBA has contacted the large recyclers of LABs in Winnipeg to obtain data on their collection network so that the recovered LABs can be allocated to the Provinces that they were collected. It is hoped that the recyclers will share their collection data (on a confidential basis) to the CBA so that the collection rates for Manitoba are verifiable and more accurate.

3.1.2 British Columbia

The sales and collection volumes in British Columbia summarized in the tables below.

Year	CBA LAB Sales	CBA LABs Recovered	Collection Rate
2011	15,592,000kg	12,575,000kg	80.6%

The Collection Rate of 80.7% by CBA Members is slightly above the first year target in BC of 80% in BC's Approved Stewardship Plan. This collection rate is based only on the sales and collection volumes reported by CBA Members.

Year	CBA & IBSA* LAB Sales	CBA & IBSA* LAB Recovery	Collection Rate
2011	17,316,000kg	16,055,000kg	93%

* IBSA = Interstate Battery System of America

The combined Collection Rate for the Stewardship Programs operated by the CBA and IBSA was higher at 93%.

See Section 3.2 for a more detailed discussion the estimation of the overall Collection Rate.

3.1.3 Other Provinces

Sales and Collection Data were collected for other Provinces in 2011; however, the data for other Provinces were not published because the information has not been verified to eliminate errors. As noted in Section 3.1.2, the market for end-of-life LABs is very competitive and complicated because of the inherent value of lead. Consequently the CBA must spend significant time researching the fate of LABs in a Province.

A breakdown of collection rates for each Province will be reported in 2012.

3.2 Other Sales and Recoveries

3.2.1 Other Stewardship Programs

There are several other programs and potential stewards that sell and/or recover LABs in Canada. A brief summary of the CBA's interaction with those programs is summarized in this section.

Rechargeable Battery Recycling Corporation (RBRC):

The CBA has been coordinating with RBRC and the two programs should be seen as complimentary by providing a comprehensive program for small and large batteries of all makes of consumer batteries.

The CBA and RBRC will continue to collaborate in areas of mutual interest.

Electronic Products Recycling Association British Columbia

The CBA has begun discussion with EPRABC ensure that the large stationary batteries used for computer UPS systems are captured under an Approved Stewardship Plan and the batteries stewarded appropriately at end-of-life.

Interstate Battery System of America:

Interstate Battery System of America (IBSA) has a competing Stewardship Program for LABs in Manitoba and BC. The CBA received IBSA's data for British Columbia and those numbers were integrated into the 2011 Annual Report and the data is summarized in Section 3.1.2.

The data from IBSA's Stewardship Program is important to calculate the overall collection rate for LABs plus prevent any "double counting" of sales or collection information.

Note that in 2011 CBA members sold approximately 1,193,000 kg of end-of-life LABs to IBSA in British Columbia. The end-of-life LABs were included in the CBA's collection rates because the CBA member recovered the battery from the end-user. No sale of end-of-life LABs to Interstate were reported to the CBA in Manitoba in 2011.

3.2.2 Unaccounted Sales Data

The CBA undertook a very preliminary estimate of the unaccounted LAB sales in Manitoba and British Columbia. Initial findings suggest that the volume of unaccounted LABs are in the order of 875,000 and 3,500,000kg in Manitoba and BC respectively or 17% of the sales for each Province.

The largest component of unaccounted sales included LABs contained in products or large industrial batteries. The products would include:

- Vehicles, motorcycles, off-road equipment (e.g., skidoos);
- UPS Systems for computers;
- Large stationary and motive batteries imported from USA

3.3.3 Unaccounted Collection:

The largest component of unaccounted LAB collection is from independent battery recyclers that collect end-of-life LABs and sell directly to the smelters or export to the USA.

The CBA was able to obtain the 2011 smelter and export data for British Columbia only and those results indicate that the

independent recyclers account for about 5.2 M kg of LAB collection in BC – or about 25% of all LABs collected in BC.

The CBA could not do a similar calculation for Manitoba because of the CBA has not received the data from smelters in Eastern Canada at this time. The CBA has reached out to the smelters in Eastern Canada for data in 2012.

3.3 Overall Estimated Collection Rate:

The overall estimated collection rate based on the above estimates of unaccounted sales and collection for British Columbia is 102%.

It is important to emphasize that this is a very preliminary estimate and the estimate will improve as more information is researched by the CBA. Also note that these estimates do not try to calculate growth rates of products and their projected product life. These factors would result in an increase in the overall estimated Collection Rate. However, the process of estimating unaccounted sales and collection was very useful and will be expanded to other Provinces in 2012.

In time, the data will become more robust and the Overall Collection Rates for LABs on a Province by Province basis will be accurate and verifiable.

4.0 Pollution Prevention Hierarchy

4.1 Product Design and Material Content

The recycling of Lead-Acid Batteries (LABs) is relatively straight forward because the product design is simple and all LABs are formulated on the same basic design and chemistry.

There are three basic components to a LAB – metals (lead and lead tetraoxide mixed with antimony or calcium to provide structural support for the lead complex); the electrolyte as sulphuric acid and plastic that forms the casing and the separators between the cathode and anode.

By weight, approximately 60% of the LAB will be metal and the electrolyte will be about 25% and the plastic about 15%. Note that the chemistry of the electrolyte changes dramatically over the life of the battery. New and fully charged LABs will contain concentrated Sulphuric Acid; however, at the end-of-life and fully discharged the LAB contains very dilute sulphuric acid that can have a pH be between 2 or 3.

The shipment and recycling of LABs is done by commercial transport and LABs are normally shipped “wet” (containing sulphuric acid). Packaging will include the pallet, cardboard and plastic wrap. No estimates are available at present on the proportions of packaging and the percentage of overall shipping weight in 2012.

4.2 Reuse of Recovered Lead-Acid Batteries

Reuse statistics are not reported to the CBA because:

- Reusable batteries will be reconditioned by the recycler and sold at a higher premium.

Consequently, there are strong market forces that provide an incentive for the recyclers to recondition and sell used batteries. The automotive recycling sector is a good example – LABs are recovered from end-of-life vehicles, tested and sold for \$25 to \$35 to the public.

LABs that cannot be reconditioned will be sold to a battery recycler for approximately \$10.

- Industrial batteries are typically complex interconnection of heavy battery cells. A typical motive battery can have 30 individual cells and each battery cell can weigh up to 50kg. Cells for stationary batteries can also weigh up to 50kg and a single battery can contain hundreds of cells.

When industrial batteries are recovered, each cell is assessed and any viable cells are refurbished and reassembled in a used industrial battery.

Again, the economics of a refurbished industrial battery favour the refurbishment of industrial cells and the sale of used motive and stationary batteries.

4.3 Fate of Recycled Lead-Acid Batteries

LABs that cannot be refurbished are transported to smelters for recycling. In Manitoba, the recovered LABs will be shipped to smelters in Ontario, Quebec and to the USA. In British Columbia, the majority of the recovered LABs will be shipped to smelters in BC and the USA.

At the smelter, the LABs are broken and the three materials. The fate of materials is summarized in the following table.

Material	Description	Fate
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Lead and Lead Products	99% of Lead is recovered during the smelting process and sold as a commodity	Recycled and sold as Commodity
	1% of Lead contained in dross – a waste from the smelting process	Private Landfill
	Antimony and Calcium are used to provide strength within the lead plates	TBD
Electrolyte	100% of Sulphuric Acid Sold is recovered and sold as an input to Ammonium Sulphate fertilizer production	Recycled and sold as a commodity or neutralized for disposal
Plastics	The primary Plastic in a battery is the Polyurethane Case that provides structure to the cell or battery	Recycled and sold as a commodity
	Within each battery, Plastic Separators are used to Isolate the Positive and Negative plates in a cell	TBD

4.4 **Material Diversion**

Based on the fate of materials the end-of-life LABs collected by CBA members achieved the following diversion rates using the Pollution Prevention Hierarchy.

Note that these numbers are preliminary estimates only and additional information will be obtained in 2012 and subject to the Non-Financial Audit.

Product	Material	Per Cent Recycled	Recycled (kg)	Energy Collection (kg)	Landfilled (kg)
Metals	Pb & Pb Alloys	99%	7,500,000kg	0kg	0kg
	Other Metals*	TBD	TBD	0kg	TBD
	Dross	1%	TBD	0kg	75,000kg
Metals Totals		100%	7,500,000kg	0kg	75,000kg
Plastic*	Casing*	TBD	1,900,000kg (estimate)	TBD	TBD
	Separators*	TBD	TBD	TBD	TBD

Plastic Totals		TBD			
Electrolyte*	Sulphuric Acid*	TBD	3,100,000kg (estimate)	TBD	TBD
Shipping Materials*	Wood Pallets*	TBD	TBD	TBD	TBD
	Cardboard*	TBD	TBD	TBD	TBD
	Plastic Wrap*	TBD	TBD	TBD	TBD
Shipping Material Totals*		TBD	TBD	TBD	TBD
Grand Totals			12,500,000		75,000

* Not Estimated in 2011

Based on the preliminary data collected in 2011, approximately 96.8% of the material recovered in the CBA's Stewardship Program is recycled. The data collected in 2012 will provide a much clearer and comprehensive explanation of the Material Diversion from LABs.

4.5 Waste Characterization Studies

The Canadian Battery Association will participate in the Characterization of Municipal Landfill streams to identify the quantity and type of LABs being discarded in to landfill.

The CBA has participated with other Stewards and Stakeholders in British Columbia to develop the Waste Characterization Tool to identify stewarded products in the municipal waste stream.

The CBA will participate in the Waste Characterization Studies to determine the effectiveness at diverting LABs from landfills. The Waste Characterization Studies in BC are likely to be conducted in the fall of 2011; however, the exact dates and locations of the studies have not been determined at this time.

5.0 Consumer Awareness

The CBA has a unique stewardship program in that most of its "consumers" are not the public but retail businesses and industry. Traditionally, consumer awareness is thought to be the "awareness of the public"; however, the CBA feels that decisions to recycle LABs occurs that the retail and industrial level and that there are very few members of the public that "do-it-yourself" and change the LAB in their vehicle.

The focus of the CBA Consumer Awareness in 2011 is summarized below.

5.1 Websites

The websites www.canadianbatteryassociation.ca and www.recyclemybattery.ca were established in 2011. These websites are the main portal for the public, industry and agencies such as Green Manitoba or the Recycling Council of BC to direct the public to the closest Return Collection Facility.

5.2 Recycling Agencies

Establish financial support for the Recycling Council of BC (RCBC) and Green Manitoba to be the primary point of contact in the event that the public have questions regarding the recycling of LABs.

In British Columbia, the CBA has financially supported the RCBC Hotline and Recyclepedia to promote the recycling of LABs.

In Manitoba, the CBA partnered with Green Manitoba for similar services.

5.3 Decal for Every CBA Battery

The CBA developed a common brand that will promote the recycling of LABs. The digital copy of decal will be provided to CBA members and they will begin putting the decals on LABs in 2012.



6.0 Program Performance

This section will summarize the accomplishments in 2011, compare of the approved plan's performance for the year with the performance requirements and targets in the regulations and the approved plan and set priorities for 2012.

6.1 Accomplishments in 2011

There are a significant number of administrative activities that must be completed at the start of the Stewardship Program. The CBA has shifted to a registration as a Not-For-Profit Society under Part 2 of the Canada Corporations Act.

In addition, the CBA has reached out to Manufacturers, Wholesalers and Retailers of LABs and the CBA estimates that 15% of all LAB sales are by Stewards that are not members of an Approved Stewardship Program.

The CBA was successful in establishing Return Collection Facilities for both the public and industrial batteries. In 2011, 242 Return Collection Facilities were established at retail locations across Canada for the public and published on the www.recyclemybattery.ca website. 78 of the Return Collection Facilities were warehouse operations that can recover industrial batteries. See Section 2 for a detailed summary of the Return Collection Facilities on a Province-by-Province basis.

As expected, the collection rate for LABs is very high because of three key factors:

- LABs are, for the most part, a product within a product (e.g., battery within a vehicle) and management of end-of-life LABs is primarily at commercial businesses (e.g., repair shops);
- LABs have a significant commodity value at the end-of-life with an estimated economic value of \$250,000,000 per year in Canada;
- There is a significant independent recycling infrastructure that recovers the LABs from the commercial and industrial operations.

These three factors combine to produce overall collection rates exceeding 100% even when growth rates for LABs are not factored into the algorithms. The contribution of CBA members to the overall collection rate for LABs is 80.7% in BC and 143% in Manitoba.

The primary communication tools for the public, industry and agencies were the CBA website www.recyclemybattery.ca and partnerships with Green Manitoba and the Recycling Council of British Columbia. The website combined with the communication networks of the two agencies provided the basic portal to the public and industry.

To track customer satisfaction, the CBA will integrate into the consumer awareness program an estimate of community and partner satisfaction, number and nature of complaints, number and nature of service disruptions.

6.2 Comparison to Stewardship Plan Targets

2011 represents first year of program and in Manitoba 9 months and BC 6 months. 2012 represents the first full year of operation for the CBA in those provinces.

Performance Measures	2011 Targets and Results			
	2011 Stewardship Plan Target	2011 Actual – British Columbia	2011 Actual – Manitoba	2012 Stewardship Target
Awareness	Conduct Baseline Consumer Awareness Survey	Postponed to First Full Year of Stewardship Plan	Postponed to First Full Year of Stewardship Plan	Complete First Consumer Awareness Survey
	Distribute minimum of 5,000 pamphlets per year to consumers	Postponed to First Full Year of Stewardship Plan	Postponed to First Full Year of Stewardship Plan	Circulate Pamphlet Details to CBA Members for Circulation in Both Official Languages
	Establish website for Consumer Information	www.recyclemybattery.ca established and operational	www.recyclemybattery.ca established and operational	Maintain Websites with Current Information
	Develop Standardized Recycling Labels for LABs sold in Canada	CBA Recycling Logo Developed	CBA Recycling Logo Developed	Integrate Logo into CBA Member Decals
	Support Public Hotlines	Recycling Council of BC	Green Manitoba	Review, Evaluate and Maintain
	Contact 25 Local Governments / yr Basis to assess the effectiveness of the outreach programs.	Postponed to First Full Year of Stewardship Plan	Postponed to First Full Year of Stewardship Plan	Contact 25 Regional Districts in BC Contact 10 Local Governments in Manitoba
Accessibility	150 Return Collection Facilities (RCFs) by end of 2011 in BC. No Target in Manitoba	117 by end of 2011	67 by end of 2011	BC: 175; Manitoba: 100; See Section 2 for Other Provinces

	30 Minute Travel Time for Public in Urban Areas	Not Calculated Because Identification of Return Collection Facilities not Completed	Not Calculated Because Identification of Return Collection Facilities not Completed	To be Completed in 2012 once Return Collection Facilities Finalized
	10 Return Collection Facilities (RCF) for Industrial Battery Collection in BC in First Year	Identified 20 RCFs for Industrial Battery Collection	Identified 5 RCFs for Industrial Battery Collection	BC: 20 RCF; Manitoba: 5RCF; See Section 2 for Industrial RCFs for Other Provinces
	Remote Locations	N/A	N/A	Pilot Project in Bella Bella, British Columbia Coordinate with Green Manitoba
	Contact 10 Companies in BC that Use Industrial Motive and Stationary Batteries in Remote Areas. No Target for Manitoba	Postponed to First Full Year of Stewardship Plan	Postponed to First Full Year of Stewardship Plan	Contact 10 Companies in each Province to Promote Collection In Remote Areas
Collection	9,735,000kg Collection Target in BC No Target in Manitoba	12,575,000kg	7,479,000kg	13,253,000kg in BC 4,437,000kg in Manitoba
	80% Collection Rate	80.7% Collection Rate	143% Collection Rate	85% Collection Rate
	Determine Fate of Product Collected in First Year of Program	Ongoing	Ongoing	Fate of Product Collected To Be Reported in 2012 Annual Report
Generation, Storage and Transportation	Establish Certified Battery Facility Program for Warehouse Operations Within 2 Years	Identify Legal Requirements with BC Ministry of Environment	No Discussions with Manitoba Conservation and Water Stewardship	To Be Completed by July 2013

	Inspections of CBA Member Facilities within 18 Months. To Be Completed by end of 2012	N/A in 2011	N/A in 2011	To Be Completed in 2012
	Initiate Training and Education Program for Safe Storage and Transportation of Lead-Acid Batteries	N/A in 2011	N/A in 2011	To Be Completed in 2012
	Ensure Collection Depots, Storage Facilities and Transporters Following CBA Guidelines	N/A in 2011	N/A in 2011	To Be Started in 2013

6.3 Priorities for 2012

6.3.1 Awareness:

The CBA understands the importance of consumer awareness to ensure adequate Collection Rates. Traditionally Stewardship Programs focus on the public because the majority of Stewardship Programs collect end-of-life products from the public. Initial indicators are that the majority of the reuse and recycling decisions for LABs are made by business.

The businesses that meets the definition of “consumer” includes retailers that install new batteries in the vehicles for the public and industrial operations that need motive and stationary batteries to conduct business. There are some “do-it-yourself” members of the public that change LABs in their vehicles but these are generally a very small segment of the population.

The Consumer Awareness priorities in 2012 are to:

- enhance the communication materials available to Green Manitoba. The CBA may not continue its relationship with the Recycling Council of BC because RCBC promotes the recycling of LABs outside of the CBA’s Stewardship Plan;
- undertake a consumer awareness survey in BC similar to the 2008 Ipsos-Reid survey completed by the BC Ministry of Environment. The “consumer” that the CBA will focus on includes retailers and industry that are directly involved in the recycling of LABs.
- meet users of industrial batteries to ensure they understand the storage, transportation and recycling requirements for LABs;
- provide the text (in both Official Languages) for a pamphlet that CBA members can integrate into their warranty, advertising and communication materials with their customers.
- Maintain the CBA’s key recycling website: www.recyclemybattery.ca
- The CBA will contact the majority of the Regional Districts in BC and local governments in Manitoba to

assess the effectiveness of the outreach programs. The results of the assessment will be used to modify the communication materials as necessary.

6.3.2 Accessibility:

Expand number of Return Collection Facilities (RCF) at retail locations that provide Public access. The CBA plans to expand the number of retail locations for the public to over 700 across Canada. Approximately 175 and 100 RCFs will be located in BC and Manitoba respectively.

The CBA had 78 RCFs for industrial batteries in 2011 and no change is expected in 2012.

6.3.3 Collection:

The CBA needs to expand CBA Membership to brandowners that import LABs into Manitoba and BC in products (e.g., vehicles) to reduce unaccounted sales.

Integrate data from smelters and large recyclers to better account for recoveries on a Province-by-Province basis;

Obtain more details on Fate of Materials in Primary and Secondary Smelters.

6.3.4 Generation, Storage and Transportation:

The CBA will be developing an Education and Training Program for each Province on the safe collection, storage and transportation of LABs. The Education and Training Program will be available to CBA members, the Return Collection Facilities for both vehicle and industrial LABs and recyclers that collect, store and transport LABs.

In British Columbia, an additional 2012 priority will be to obtain a Section 51 Exemption from Hazardous Waste Regulation to ensure the warehouse Return Collection Facilities are in compliance and are able to store adequate quantities of LABs prior to transportation to smelters.

6.3.5 Management

The final priority for the CBA is to expand the program to other Provinces. Priorities include New Brunswick, Alberta and Ontario.

7.0 Financial and Non-Financial Review

7.1 Financial

The results of the CBA's Financial Review are summarized in Appendix 4. The CBA has changed its fiscal year end to December 31 during the Federal Incorporation under Part 2 of the Canada Corporations Act.

7.2 Non-Financial Review

The Non-Financial Review was conducted by Marcus Barthrop, CA. The summary of the Non-Financial Review will be summarized in Appendix 5. The 2011 Non-Financial Review was delayed because the CBA attempted to undertake the new Non-Financial Audit proposed by the BC Ministry of Environment. The 2011 Annual Report will be amended once the Non-Financial Review is completed.

7.3 Reporting Changes for 2012

There are three changes to the reporting in 2012. The first was to change the volumes reported by CBA members. Starting in 2012, the CBA members will report sales and recovery based on shipping weights. The shipping weight will include the shipping materials and the CBA will make adjustments where necessary. The shipping weights are a better measure as the volumes are not calculated and the shipping documents provide the verification for the Auditor.

The second change will be to measure the weight of the shipping materials as a per cent of the total shipment. This will allow the CBA to correct for the shipping weights for LABs as well as determine the volume of shipping materials for inclusion in the reporting of Fate of Materials.

The third recommendation was to collect better information on the Fate of Materials from the Primary and Secondary smelters.

Appendix 1: Signatories To CBA's Stewardship Program

Signatories with National Operations

- Battery Direct Inc., 10550 - 42 St. SE, Calgary, Alberta
- Canadian Tire Corporation,
- C&D Technologies Inc, 6665 Millcreek Drive, Unit 3, Mississauga, Ontario
- Costco Wholesale Canada, 415 West Hunt Club Road, Ottawa, Ontario
- Crown Battery of Canada Ltd, 7430 Pacific Circle, Mississauga, Ontario
- Deeley Harley-Davidson® Canada
- EnerSys Canada Ltd, 61 Parr Boulevard, Bolton, Ontario
- Exide Technologies / GNB Power Systems, 6950 Creditview Rd, Mississauga, Ontario
- Federated CO-OP
- General Motors of Canada Limited, 1908 Colonel Sam Drive, Oshawa, Ontario
- Johnson Controls, 5757 North Green Bay Avenue, Milwaukee, Wisconsin
- Kal Tire
- Magnacharge Battery Corp., 1279 Derwent Way, Delta, British Columbia
- NAPA
- Piston Ring
- Power Battery Sales Ltd dba East Penn Canada, 165 Harwood Ave. N., Ajax, Ontario
- Walmart Canada

Signatories with British Columbia Operations

- Edmonds Batteries Ltd., 101 – 20131 Industrial Avenue, Langley
- Infinity Trading Company Ltd., 102 – 6249 – 205th Street, Langley
- OEM Battery Systems Ltd., 10 – 20075 92A Avenue, Langley
- Phil's Batteries and More Inc., 114 – 12332 Pattullo Place, Surrey
- Polar Battery Vancouver Ltd., 1258 Boundary Road, Burnaby
- RME Energy Ltd, 155 – 21331 Gordon Way, Richmond
- Sota Battery Canada Ltd., 1137 – 11871 Horseshow Way, Richmond
- The Battery Doctors, 1972 Windsor Road, Kelowna
- Vernon Battery Ltd., 4313 25th Avenue, Vernon

Signatories with Manitoba Operations

- Prairie Battery, 1280 Border Street, Winnipeg
- The Battery Man, 1390 St James Street, Winnipeg