

CBA



Canadian Battery Association
Representing the Industry Since 1970

Annual Report to the Director

2015 Calendar Year

Submitted to: Christina MacDonald,
Green Manitoba Eco Services
Winnipeg, Manitoba.

Prepared by: Colin McKean, MSc, RPBio, Executive Director
Canadian Battery Association
Suite 1570-5140 Yonge Street,
Toronto, M2N 6L7
250-216-3664



June 1, 2016

Contents

EXECUTIVE SUMMARY 2

PROGRAM OUTLINE 4

PUBLIC EDUCATION MATERIALS AND STRATEGIES..... 5

COLLECTION SYSTEM AND FACILITIES 5

PRODUCT ENVIRONMENTAL IMPACT REDUCTION, REUSABILITY AND RECYCLABILITY 6

POLLUTION PREVENTION AND 4R’S HIERARCHY 6

PRODUCT SOLD AND COLLECTED AND RECOVERY RATE 7

APPENDIX 1: 2015 FINANCIAL AUDIT RESULTS..... 9

EXECUTIVE SUMMARY

During 2015, the CBA and Interstate Battery Systems of America merged their Stewardship Programs and the results for both Stewardship Programs are summarized in this Annual Report. In addition, the CBA welcomed Urbanmine Inc. of Winnipeg into the program. The inclusion of recycling data from Urbanmine Inc. provides greater clarity on the recovery side of the stewardship program for lead-acid batteries.

The table below summarizes the Canadian Battery Association's (CBA) program performance in 2015 as per Manitoba's Household Hazardous Material and Prescribed Material Stewardship Regulation Annual reporting requirements.

Products within plan	Lead-Acid Batteries (LABs)
Program website	www.canadianbatteryassociation.ca and www.recyclemybattery.ca
Topic	Summary
Public Education Materials and Strategies	<ul style="list-style-type: none"> • Funding of Green Manitoba Recycling Hotline and website search tool for internet http://greenmanitoba.ca/your-nearest-depot/; • Operation of the CBA's website to identify Return Collection Facilities for consumer and industrial lead-acid batteries (LABs) – see www.recyclemybattery.ca; • Memorandum of Understanding with Call2Recycle that will provide a common consumer message for the recycling of all types of batteries.
Collection System and Facilities	<ul style="list-style-type: none"> • 88 Return Collection Facilities for Consumers; • 7 Return warehouses for Commercial LABs
Product Environmental Impact Reduction, Reusability and Recyclability	<ul style="list-style-type: none"> • Product Environmental Impact Reduction: <ul style="list-style-type: none"> ○ CBA has developed and implemented a program for the <i>Management of Recyclable Lead-Acid Batteries - Collection, Storage and Shipping in Canada</i> to ensure that LABs are collected, stored and transported safely and in compliance with Federal and Provincial regulations. The program provides Operational, Contingency and Closure plans for the warehouses operated by CBA members as well as a summary of all Federal and Provincial legal requirements. • Reusability: <ul style="list-style-type: none"> ○ Up to 15% of automotive LABs can be refurbished and resold as a used LAB; ○ Typically 100% of the electrolyte from LABs recycled is reused as an input in another production process. • Recyclability: <ul style="list-style-type: none"> ○ 99% of lead is recovered in the smelting process; ○ Approximately 75% of the polypropylene plastic is recycled. The remaining polypropylene and 100% of the acrylic plastic used for stationary batteries is burned in the smelter for energy recovery and creation of an anoxic environment necessary for the smelting process;

Pollution Prevention and 4R's Hierarchy	<ul style="list-style-type: none"> • LABs recovered by CBA members are: <ul style="list-style-type: none"> ○ Sorted and evaluated for its potential for reuse; ○ All of the LABs recovered in Manitoba by CBA members were transported to one of 5 smelters in North America for recycling. The smelters are: <ul style="list-style-type: none"> ▪ Tonolli Canada, Mississauga, Ontario ▪ Gopher Resources, Eagan, Minnesota, USA ▪ Exide Technologies, Muncie, Indiana, USA ▪ Exide Technologies, Canon Hollow, Missouri, USA ▪ Johnson Controls, USA
Recovery Rate	<ul style="list-style-type: none"> • SLI Lead-Acid Batteries (i.e., Automotive): <ul style="list-style-type: none"> ○ Sales: 8,326,131 kg ○ Recovery: 8,745,751 kg ○ Recovery Rate: 105 % • Motive Lead-Acid Batteries <ul style="list-style-type: none"> ○ Sales: 452,000 kg ○ Recovery: 392,000 kg ○ Recovery Rate: 87 % • Stationary Lead-Acid Batteries <ul style="list-style-type: none"> ○ Sales: 145,000 kg ○ Recovery: 0 kg ○ Recovery Rate: 0% • Combined Sales and Recovery for Lead-Acid Batteries <ul style="list-style-type: none"> ○ Sales: 8,922,000 kg ○ Recovery: 9,138,000 kg ○ Recovery Rate: 102.4%
Financial Statements	CBA does not charge a visible eco-fee or have a deposit-refund type system. The Audited Financial Statements are attached in Appendix 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. Since its inception, the CBA has worked on a variety of issues and now one of the Association's focuses is on the establishment of a National Stewardship Program for end-of-life Lead-Acid Batteries (LABs).

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

The most important aspect of the CBA's National Stewardship Program is that the end-of-life LABs have a positive value at end-of-life because of the value of lead as a commodity. Because of the value of the lead, there is a well-developed private sector market and recycling infrastructure across Canada that recovers and recycles more than \$150,000,000 of lead-acid batteries per year.

Membership

The signatories to the CBA's Stewardship Program in Manitoba are summarized on the CBA's website <http://canadianbatteryassociation.ca/index.php/members>. The Manufacturers and National Distributors that are signatories to the CBA's stewardship plan have assumed the stewardship obligations on behalf of the thousands of wholesalers and retailers of their products.

Stewarded Products

The CBA program in Manitoba focuses on automotive or SLI lead-acid batteries (LAB). The Starting, Lighting and Ignition (SLI) batteries are the most common LAB sold in Canada representing 85% of all LAB sales. Motive and stationary batteries are used in commercial applications such as forklifts and UPS systems for emergency electronic and lighting applications make up the remaining 15% of LABs sold in Manitoba.

Collection Approach

There are three important factors that influence how LABs are recovered and recycled. First and foremost, LABs have a value at the end-of-life due the positive value of the lead creating a strong incentive to return the LAB to a recycler. Secondly, most distributors have a "Core Charge" encouraging retailers to return the used LABs to CBA distributors. Thirdly, many CBA members have contracts with smelters that require a constant supply of recyclable LABs. As such, the CBA's collection of LABs utilizes a 'reverse distribution' system where distributors drop off new batteries at repair and service facilities and pick up the used batteries for refurbishment or recycling.

PUBLIC EDUCATION MATERIALS AND STRATEGIES

The CBA utilizes three public education strategies. The first strategy is to fund Green Manitoba and Eco Services (GMES) to manage a “call centre” for the public to call and get information about recycling LABs.

The second strategy is to have online websites that will direct the public to one of the CBA’s Return Collection Facilities. Currently there are two websites for LABs with this capability. The first website is operated by GMES (<http://greenmanitoba.ca/your-nearest-depot/>) and the second website (www.recyclemybattery.ca) is operated by the CBA. The CBA website received 1154 visits in 2015.

The third strategy is for CBA members to reach out to their retailers and mechanical repair shops that replace LABs in automobiles for the public. Lead-acid batteries are different than most “consumer” products because at end-of-life, the batteries are removed by a licensed technician rather than used or consumed in a household.

In summary, the low volume of phone calls from the public; the high volume of interactions via the websites; and, the high recovery rate for LABs indicates that the strategy of focusing on the internet and the reverse-distribution network with Retailers and Mechanical Repair shops for LABs is an appropriate Stewardship strategy for lead-acid batteries.

COLLECTION SYSTEM AND FACILITIES

The CBA members use a reverse-distribution system to drop off new batteries and pick up used batteries from the retail or commercial locations. Note that CBA members are fully responsible for organizing the collection logistics with retail and commercial customers and the CBA never “owns” the recovered LABs.

Consumers that have used LABs at their home are directed to return LABs to any one of the 88 retail locations in Manitoba. Commercial operations are encouraged to contact their distributor and have the industrial batteries returned to a warehouse operated by the CBA. All return collection facilities and warehouses have the capacity to store and transport LABs to all Federal and Provincial requirements for hazardous waste and dangerous goods.

The 88 Consumer and 7 Industrial Return Collection Facilities (RCFs) are listed on www.recyclemybattery.ca. The CBA has added 4 new consumer RCFs and 2 new Industrial RCFs in 2015.

PRODUCT ENVIRONMENTAL IMPACT REDUCTION, REUSABILITY AND RECYCLABILITY

Because the recovery rate of automotive LABs in Manitoba is virtually 100%, one of the main functions of the CBA is to ensure that new, used and recyclable LABs are collected, stored and transported to all Federal and Provincial regulations for dangerous goods and hazardous waste.

In 2015, the CBA began implementation of the **Management of Recyclable Lead-Acid Batteries - Collection, Storage and Shipping in Canada**. The binder of materials includes an Operational Plan, Contingency Plan and Closure Plan and has been distributed to each of the CBA member's locations.

The CBA's goal is to ensure that LABs are safely collected, stored and transported so that environmental contamination, worker safety and community health are not impacted by lead-acid batteries.

POLLUTION PREVENTION AND 4R'S HIERARCHY

The recovered LABs collected by CBA members are considered a commodity with a positive value at end-of-life and the LABs are bought and sold in a competitive market.

The LABs recovered in Manitoba were sent to one of five smelters in Canada and the USA which complies with the requirements of the Basel Convention regarding the export of hazardous waste. All 5 smelters receiving LABs from Manitoba have valid permits and licenses from the appropriate jurisdiction.

The smelters are:

- Tonolli Canada, Mississauga, Ontario
- Gopher Resources, Eagan, Minnesota, USA
- Exide Technologies, Muncie, Indiana, USA
- Exide Technologies, Canon Hollow, Missouri, USA
- Johnson Controls, USA

All the smelters are considered secondary smelters that specialize in the recycling of lead from lead-acid batteries. The fate of the components from a lead-acid battery is summarized below.

Material	Description	Fate
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	Private Landfill

	contained in dross – a waste from the smelting process	
	Antimony and Calcium are used to provide strength within the lead plates	Remain as an alloy of the lead after smelting.
Electrolytes	100% of Sulphuric Acid is recovered and sold as an input to another business – eg Ammonium Sulphate fertilizer production.	Recycled and sold as a commodity.
Plastics	<p>The Polypropylene Case that provides structure to the battery.</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 Polypropylene is recycled and used to make new “black” battery casings.</p> <p>Acrylic casings are not recyclable and are burned for energy recovery at the smelters.</p> <p>The Plastic Separators are burned at the smelters for energy recovery and creating an oxygen free environment during the smelting process.</p>

PRODUCT SOLD AND COLLECTED AND RECOVERY RATE

The members of the CBA (including sales of Interstate Battery Systems of America) account for virtually 100% of the automotive lead-acid batteries sold in Manitoba. Unaccounted sales are LABs embedded in new products such as heavy duty truck, tractors, motor cycles, lawn mowers etc and that volume of batteries is considered low and less than 5% of sales.

2015 Lead-Acid Sales Data for Manitoba

	CBA Members (kg)
Starting, Lighting, Ignition (Automotive)	8,326,000
Motive (e.g., forklift)	452,000
Stationary (e.g., UPS)	145,000
Totals	8,923,000

CBA members recovered 9,137,950 kg of automotive lead-acid batteries in 2015 for an overall recovery rate of automotive batteries of 102.5%. The 2015 recovery rate includes batteries recovered by Interstate Battery Systems of America.

2015 Lead-Acid Recovery Data for Manitoba

	CBA Members (kg)
Starting, Lighting, Ignition (SLI)	8,746,000
Motive (e.g., forklift)	392,000
Stationary (e.g., UPS)	0
Totals	9,138,000

Since 2013, the CBA has undertaken a non-financial audit of the sales and recovery data reported in its Annual Reports. The auditor stated that the results presented in the CBA's Annual Reports are fairly stated.

APPENDIX 1: 2015 FINANCIAL AUDIT RESULTS