



BRITISH COLUMBIA LAMPS AND LIGHTING EQUIPMENT STEWARDSHIP PROGRAM (LIGHTRECYCLE) 2016 ANNUAL REPORT

For submission to:
Director, *Extended Producer
Responsibility Programs*
PO Box 9341, STN PROV GOVT
Victoria, BC V8W 9M1

Submitted By:
Mannie Cheung,
Vice-President, Operations
Product Care Association of Canada
105 W. 3rd Ave
Vancouver, BC, V5Y 1E6

Contents

1	Executive Summary.....	2
2	Program Outline.....	5
3	Public Education Materials and Strategies	5
4	Collection System.....	8
4.1	Collection Sites.....	9
4.2	Large Volume Collections.....	11
4.3	Collection Events.....	11
5	Product Environmental Impact Reduction, Reusability and Recyclability	13
5.1	GHG Emissions	13
6	Pollution Prevention Hierarchy and Product / Component Management	14
7	Product Sold, Product Collected and Recovery Rate	17
7.1	Products Sold	17
7.2	Products Collected	17
7.3	Capture Rates.....	20
8	Summary of Revenues and Expenditures	21
9	Plan Performance.....	22
	Appendix A - Advertising and Communication Materials.....	23
	Appendix B - List of Contracted Collection Sites.....	26
	Appendix C - Audited Financial Statement	37
	Appendix D - 2016 Third Party Assurance Statement for Non-Financial Information.....	44

1 Executive Summary

This annual report has been prepared by Product Care Association of Canada (“PCA”) based on the requirements set in the BC Lamps and Lighting Equipment Stewardship Plan dated March 9, 2012 and approved by the BC Ministry of Environment on April 23, 2012 (“Program Plan”), and pursuant to the requirements of the Recycling Regulation B.C. Reg. 449/2004 (“Regulation”).

From July 1, 2010 to July 1, 2012, PCA’s British Columbia Lamps and Lighting Equipment Stewardship Program (“Program” or “LightRecycle”) included residential-use fluorescent lamps only. On July 1, 2012, the Program expanded to include “all electronic or electrical lighting equipment, parts and bulbs” used in residential and non-residential applications, pursuant to the requirements of the Regulation.¹ This report covers the period of January 1 to December 31, 2016.

Lamps, lighting fixtures and ballasts used in residential and non-residential applications are covered under PCA’s Program Plan. These products are broken down into thirteen Product Categories as listed in Table 1 below.

Table 1: Program Product Categories and Website

Product Categories	<ol style="list-style-type: none">1. Fluorescent Tubes measuring ≤ 2 feet2. Fluorescent Tubes measuring > 2 feet and ≤ 4 feet3. Fluorescent Tubes measuring > 4 feet4. Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps5. Light Emitting Diodes (LED)6. High Intensity Discharge (HID) and Other7. Incandescent / Halogen8. Miniature Bulb Package9. Designated Small Fixtures / Decorative Light Strings10. Fixture Category A11. Fixture Category B12. Large Outdoor Fixtures13. Ballasts/Transformers (not integrated into lamps or fixtures)
Program Website	<p>The BC LightRecycle website is www.lightrecycle.ca.</p> <p>The Product Care Association’s website is productcare.org.</p>

A complete list of products accepted and not accepted by the Program is available in the Program’s Product Guide on the LightRecycle website: <http://www.lightrecycle.ca/member-and-seller-support-centre/member-resources/>.

¹ Recycling Regulation B.C. Reg. 449/2004 Part 4, Schedule 3, Section 2 (1) (e).


The Program's regulatory reporting requirements and key performance targets for 2016 are summarized in Table 2 and Table 3 below.

Table 2: Regulatory Reporting Requirements

Regulation Provision	Topic	Summary
Part 2, section 8(2)(a)	Public Education Materials and Strategies	<ul style="list-style-type: none"> • Paid advertising, media & partnerships • Community events & collateral • Point of sale and point of return materials • PCA and Program website • PCA toll-free number and RCBC Hotline & Recyclepedia
Part 2, section 8(2)(b)	Collection System and Facilities	<p>The Program's collection system had 442 collection sites. Additional collection services included:</p> <ul style="list-style-type: none"> • Direct pickup service for PCB containing ballasts • Direct pickup service from Large Volume Generators of lamps and pre-crushed lamps • 16 collection events
Part 2, section 8(2)(c)	Product Environmental Impact Reduction, Reusability and Recyclability	<p>Producers are working to reduce the environmental impact of lighting products through innovative product design and technology. Life-cycle management is also playing an important role in reducing the environmental impact of lighting products. The proliferation of LEDs (which do not contain mercury) has resulted in fewer mercury-containing products entering the market.</p>
Part 2, section 8(2)(d)	Pollution Prevention Hierarchy and Product / Component Management	<ul style="list-style-type: none"> • Lamps were broken down into component parts (glass, metal, mercury, phosphor powder) and recovered/recycled/safely landfilled when necessary: <ul style="list-style-type: none"> - Glass was used in manufacturing processes and/or used as cullet - Metal was recycled and used in manufacturing processes - Phosphor powder was stabilized then securely landfilled. - Mercury was stabilized then securely landfilled. • Residential-use fixtures were broken down into component parts for recovery / recycling. • Commercial fixtures and non-PCB ballasts were collected and managed through the existing market driven scrap metal recycling system. • PCB ballasts were collected and managed as hazardous waste and sent for incineration at licensed/permitted facilities.

Regulation Provision	Topic	Summary
Part 2, section 8(2)(e)	Product Sold and Collected and Recovery Rate	<ul style="list-style-type: none"> Program members reported selling 34,930,035 units of program product. In 2016, the Program collected an estimated: <ul style="list-style-type: none"> 6,260,826 units of lamps 550 tonnes of fixtures from residential collection sites 36,014 kilograms of PCB ballasts 12,678 kilograms of crushed lamps
Part 2, section 8(2)(e.1)		See Table 10 for estimated collection volumes by regional district.
Part 2, section 8(2)(f)	Summary of Revenues and Expenses	<ul style="list-style-type: none"> The Program is funded by fees remitted by members on the sale of new program products sold in or into British Columbia. An independent financial audit for the reporting period is appended to the report (see Appendix C).

Table 3: 2016 Key Performance Targets

2016 Key Performance Targets			
Regulation, Part 2 section 8(2)(g)			
2016 Priority Stewardship Plan Targets		2016 Performance	Strategies for Improvement
Capture Rate: Fluorescent Tubes	Target: 34-62%	42%	N/A
Capture Rate: CFLs	Target: 36-62%	51%	N/A
HID, UV, Neon lamps (Units)	132,862	220,655	N/A
Residential Fixtures (tonnes) ²	188 – 210	550 tonnes	N/A
Consumer Awareness	55% (by end of 2017)	49% (as of 2015)	The program is identifying key markets and developing strategies to target improvement for each market respectively.
 Accessibility Targets: The program conducted an accessibility study in 2016 describing accessibility levels December 31, 2016. The study determined the program was accessible to 99.29% of the population for			

² The residential fixtures target was converted and rounded from kgs to tonnes to match the data available from Program processors

commercial lamps, 99.65% for residential lamps, 98.07% of the population for residential fixtures, and 95.89% of the population for commercial fixture and non PCB ballasts depots.			
Commercial Lamps	95%	Target Exceeded	Yes
Residential Fixtures	95%	Target Exceeded	Yes
Commercial Fixtures and Non- PCB Ballasts	95%	Target Exceeded	Yes

2 Program Outline

PCA is a federally incorporated, not-for-profit product stewardship association formed in response to stewardship regulations and is governed by a multi-sector industry board of directors.

In 2016, the Program operated in accordance with PCA's Program Plan pursuant to the requirements of the Regulation.

Between January 1, 2016, and Dec 31, 2016, the Program captured end-of-life lamps and lighting equipment products from all sectors (residential, institutional, commercial and industrial) and diverted them from the landfill.

3 Public Education Materials and Strategies

In 2016, PCA engaged in extensive communication efforts to inform British Columbians about the Program. The following list outlines the Program's public education materials and strategies for 2016:

- Paid advertising, media & partnerships
- Community events & collateral
- Point of sale and point of return materials
- Company and program website
- PCA toll-free number and RCBC hotline & recyclepedia

Details of the initiatives undertaken by the LightRecycle Program in 2016 are provided below. See Appendix A for select examples of Program materials and advertising.

Paid Advertising, Media & Partnerships

- LightRecycle ran two province-wide campaigns in British Columbia with top network Global TV. One campaign ran for 26 consecutive weeks from November 2015 through May 2016 airing 30 second spots that featured local talent voicing community "infomercial" PSAs aimed at educating viewers about special waste recycling. The second campaign ran for 12 consecutive weeks from September 2016 through December 2016 airing 15 second spots. In the second

campaign, special focus was placed on airing ads in Vancouver, Kelowna, the areas in and surrounding Prince George and Kamloops, as well as the areas in and surrounding Terrace and Kitimat. This campaign featured traditional commercial advertising that drove consumers to the Program website. In total, over 2,500 spots of 15 and 30 second duration aired in 2016.

- LightRecycle pursued a significant, full-year radio advertising campaign on Newcap Radio station 295.3 FM. The campaign included brand sells (driving listeners to the website and delivering key messages about the Program), event promotion (supporting LightRecycle community event activities), contesting (digital and on-air contests with grand prizes available to those who engaged with LightRecycle key messaging) and digital take-overs (LightRecycle took over the radio station's homepage).
- LightRecycle advertised with industry trade publication Electrical Line Magazine via 6 X ½ page full-colour advertisements running every 2 months throughout 2016 (January, March, May, July, September and November). Electrical Line Magazine is a bi-monthly electrical trade publication with a qualified national circulation in excess of 19,000 that reaches industries (sawmills, pulp mills, mining, petroleum), building trades (industrial, commercial, and residential electrical contractors), consulting engineers, architects, and government bodies.
- LightRecycle ran full page print ads through Business in Vancouver, an industry-specific publisher. One series ran in the May edition of *Office Space*, a BOMA BC publication with a 42,000-strong readership. The second series ran in an issue of the sustainability business magazine *Green Space*, which has a targeted distribution of 12,500.
- Multi-lingual advertising: ReGeneration, with inclusion of LightRecycle program info, advertised on Fairchild Radio (Cantonese and Mandarin) in the spring and fall, and Spice Radio (Hindi, Punjabi and English), all year long, targeting BC's largest ESL populations and regions.
- Digital advertising took place with B2B marketing specialist Multiview, via a targeted campaign that used extensive SEM advertising with specific focus on lighting industry professionals, contractors, relampers, and building managers. Both static banners and animated images were displayed on relevant websites.
- LightRecycle was a corporate sponsor of national electrical trade organization, ElectroFed. In addition to branding on ElectroFed collateral materials and at ElectroFed events and conferences, LightRecycle also received full page advertisements in ElectroFed's national magazine, *InfoElectro*. Collectively, this had a 30,000+ marketing reach.
- The Program pursued a Western Canadian targeted digital campaign via YP Group. The campaign syndicated Facebook posts, targeted digital display ads, and smart digital display ads (re-serving impressions to pre-qualified audiences).
- LightRecycle ran 12 week long spring and fall campaigns with LAMAR Transit. These advertisements were multi-panel (see Appendix A) covering 16 stations along the Expo, Millennium, and Canada Skytrain lines in the GVRD. Together, they generated 92 million gross impressions.
- In July and September of 2016, the Program pursued elevator TV screen advertising in Vancouver, Burnaby, Richmond, and the Tri-cities through IHN Media. 15 second long advertisements played across 167 screens in 16 buildings, generating 1,346,688 impressions.

- Through Del Communications, the Program advertised through a web banner ad and a full page print ad that ran in the 2016 British Columbia Electrical Association (BCEA) membership directory. This targeted electrical industry professionals who may be Large Volume Generators.
- In December 2016, LightRecycle advertised in various transit shelters in Burnaby, New Westminster, and Langley through Pattison Outdoor Advertising. Five 48" x 68" ads ran over a period of 4 weeks, with each individual ad promoting its closest LightRecycle drop-off location.

Community Events & Collateral

- LightRecycle exhibited at BUILDEX Vancouver in February 2016. This two day-long trade show and conference attracted over 40,000 industry professionals who work in the construction, property management, interior design, renovation, and architecture industries.
- The Program also exhibited at BUILDEX Express in November 2016; a specialized one day trade show and conference also targeted towards industry professionals.
- LightRecycle also collected lighting products at Party for the Planet in April 2016. The Program contributed to a \$15,000 sponsorship for this event that included brand visibility within the following platforms: related newspaper ads, 40 radio spots, event flyers, programs, on-site signage, and the event's Light Recycling Zone, which was hosted by the Program.
- Event collateral, such as a branded tent, tablecloth, pop-up banners and other materials, were utilized to ensure the Program had a strong visual presence at the events listed above as well as 77 other Regeneration events promoting all PCA programs including LightRecycle. Additionally, branded prize and participatory, trivia-based games were employed at all events to ensure audience engagement and program information retention.

Point of Sale and Point of Return Materials

- Program posters, rack cards, and signage for both retailer and collection site audiences were replenished upon request, free of charge. A dedicated online re-order form for these materials is hosted on the program website, LightRecycle.ca.

Dedicated Program Website

- The Program's official website, www.lightrecycle.ca, remained a popular resource for all individuals and groups interacting with the Program. The site continues to provide:
 - A geography-based collection site finder
 - Collection site hours of operations
 - Program accepted product lists, fully revamped to be visually-oriented and easier to navigate
 - Dedicated website sections for consumers, program members and service partners
 - Information for the industrial, commercial and institutional market segment, including large volume generator product management options
 - Contact information for key Program staff
 - Program FAQs and annual reports

In 2016, there were 46,990 unique visitors to the Program website—an increase of 5.05% from 2015.

PCA Toll-free Number and RCBC Resources

- PCA operated a toll-free number (1-888-772-9772) to respond to consumer inquiries.
- The Program continued to participate in the Recycling Council of British Columbia (RCBC) recycling hotline service (1 800 667 4321 or 604 RECYCLE). Consumers were able to contact RCBC operators during business hours and obtain information about return options for Program Products.

Information about LightRecycle was also provided on the [RCBC website](#), in the [RCBC Recyclepedia](#), and on the RCBC App, which received a combined total of 8,229 inquiries.

4 Collection System

The BC LightRecycle Program provides a free and convenient collection system for all consumers of Program Products. PCA does not directly own or manage collection sites, but has contracts with them based on the services they provide (see Section 4.1 for descriptions of collection sites services). These sites include retailers, recycling organizations (both non-profit and for profit), local government recycling centers or transfer stations and other associations or businesses interested in participating in the Program.

The collection system accepts lamps, ballasts and fixtures from residential, institutional, commercial and industrial sectors. Products accepted in the LightRecycle program, or “Program Products,” will be collected by contracted sites and are outlined in Table 4 below. A complete list of products accepted and not accepted by the Program is available in the Program’s Product Guide on the LightRecycle website: <http://www.lightrecycle.ca/member-and-seller-support-centre/member-resources/>.

Table 4: Summary of Program Products

Summary of Program Products
Whole Lamps: <ul style="list-style-type: none">• Fluorescent, induction and UV tubes of all lengths and shapes• Compact fluorescent lights (CFL) and screw-in induction lamps• Light emitting diodes (LED)• High intensity discharge lamps (HID) of all types• Special purpose lamps• Incandescent lamps• Halogen lamps• Miniature lamps
Pre-Crushed Lamps

Fixtures:

- Small light fixtures and light strings
- Residential light fixtures
- Commercial light fixtures
- Industrial light fixtures
- Large outdoor fixtures

Ballasts and Transformers:

- PCB Containing
- Non-PCB Containing

4.1 Collection Sites

A collection site is a physical location where consumers can drop off Program Products. Collection sites can offer one or more collection services based on various factors. Services offered by collection sites are generally advertised to the public. In some cases, collection sites are not advertised where the location does not collect from the general public. LightRecycle enters into separate contracts with collection sites for each collection service offered and as a result, there is no one-to-one relationship between the number of sites and the number of services offered. The seven different collection services offered through the Program are listed in Table 5.

Table 5: LightRecycle Collection Service Types

Type of Service	Description
Advertised Residential Lamps	Collection sites accepting residential volumes of lamps (up to 16 units)
Advertised Residential Fixtures	Collection sites accepting residential volumes of fixtures
Advertised All Sectors Lamps (Commercial and Residential)	Collection sites accepting commercial volumes of lamps (more than 16 units)
Advertised Commercial Fixtures and Non-PCB Ballasts	Collection sites accepting commercial volumes of fixtures & Non-PCB Ballasts
Unadvertised Residential Fixtures	Collection sites accepting residential volumes of fixtures from specific sources only
Unadvertised Commercial Lamps	Collection sites accepting commercial volumes of lamps from specific sources only
Unadvertised Consolidators	Collection sites consolidating volumes of Program Products into larger quantities from specific sources only

The Program's system included 442 contracted collection sites, with 6 sites added in 2016 and 3 sites removed, representing a net increase of 3 sites from 2015. See Appendix B for a full list of collection sites by location and

Table 6 for a list with sites that were added and removed in 2016.

Table 6: Collections Sites Added/Removed in 2016

Depot Name	Depot Location	Change from 2015
East Hastings Bottle Depot	Vancouver	Opened in 2016
Unadvertised	Vancouver	Opened in 2016
White Rock Return It Depot	White Rock	Opened in 2016
Davie Village Home Hardware	Vancouver	Opened in 2016
Unadvertised	Richmond	Opened in 2016 ³
Cook St. Castle	Victoria	Opened in 2016
Gescan Trail	Trail	Closed in 2016
Norbert Salvage	Bridal Falls	Closed in 2016 ⁴
Rona 61280 (Vancouver)	Vancouver	Closed in 2016

Table 7 provides a list of contracted collection sites by Regional District.

Table 7: Contracted Collection Sites by Regional District⁵

Regional District	# of Collection Sites
Alberni-Clayquot	5
Bulkley-Nechako	10
Capital Regional District	44
Cariboo	10
Central Coast	3
Central Kootenay	11
Central Okanagan	16
Columbia Shushwap	6
Comox Valley	7
Cowichan Valley	13
East Kootenay	8
Fraser Valley	24
Fraser-Fort George	6
Kitimat Stikine	6
Kootenay Boundary	2
Metro Vancouver	151
Mt Waddington	9
Nanaimo Regional District	17
North Okanagan	12
Northern Rockies	1
Okanagan Similkameen	16

³ This location actually opened in 2012, but was not listed until 2016.

⁴ Technically closed in 2015, but site only reported in 2016.

⁵ Allocation of some collection sites to regional districts was adjusted in 2016 to better reflect their geographic location.

Regional District	# of Collection Sites
Peace River	9
Powell River	4
Skeena-Queen Charlotte	3
Sointula	0
Squamish Lillooet	11
Strathcona	9
Sunshine Coast	8
Thompson Nicola	21
Total	442

4.2 Large Volume Collections

In addition to collection sites, the Program provided direct pick-up services for large volume generators (LVGs). LVGs are organizations/companies that generate large enough quantities of Program Products at their own site or at offsite locations that would over burden any one collection site. The Program provided this service free of charge for specified minimum quantities.

The following Program Products are covered under this service:

- Whole lamps
- Drums of pre-crushed lamps
- PCB containing ballasts

4.3 Collection Events

The Program also partners with local governments and not-for-profit organizations in holding collection events to provide temporary collection services for Program Products. Table 8 lists the dates and locations of the 16 collection events in 2016 that the Program participated in.

Table 8: 2016 Collection Events

Date	Location
23-Apr-16	Cache Creek
14-May-16	Revelstoke
14-May-16	District of Mission
15-May-16	Golden
28-May-16	Sparwood
28-May-16	Radium
29-May-16	Kimberley
11-Jun-16	Kamloops
10-Sep-16	Sicamous
17-Sep-16	Creston

Date	Location
18-Sep-16	Castlegar
24-Sep-16	Golden
24-Sep-16	Salmon
1-Oct-16	Nakusp
1-Oct-16	Chilliwack
15,16-Oct-16	Township of Langley

5 Product Environmental Impact Reduction, Reusability and Recyclability

Lighting product producers continue working to reduce the environmental impact of lighting products through innovative product design and technology. For example, new design has resulted in the development of smaller diameter fluorescent tubes now readily available in the marketplace and prevalent in new construction and renovations. These products can provide the same or more light with fewer material resources. The amount of mercury contained within fluorescent lights has also been decreasing. Through innovative technology, manufacturers have decreased the amount of mercury in fluorescent lamps by over 80% since 1990.

Life cycle management is also playing an important role in reducing the environmental impact of lighting products. For example, producers are focusing their attention on increasing product energy efficiency. This has resulted in a substantial increase in the lifespan of fluorescent lights in the last decade, reducing the cumulative environmental impact associated with these products.

The advancement of LED lighting technology is also having a significant impact on the lighting market as a whole. Manufacturers are focusing most of their efforts in this area and no longer spending research energy on expanding the CFL product line. Acceptance of LED technologies is increasing as prices decrease. In fact, the acceptance and adaptation to LED technology has been much more rapid and widespread than most industry experts would have forecasted three years ago. Due to the significantly longer lifespan of LED lights, there is a decrease in sales expected for other traditional lighting technologies, such as halogen, incandescent and fluorescent lights. The shift to more energy efficient and longer lasting lighting technology is clear. This change will result in a positive environmental impact as fewer lights, including those that contain mercury, will require disposal. These trends will only become visible to the Program as the market transitions to the new technology and these new technologies start reaching end-of-life.

5.1 GHG Emissions

The estimated greenhouse gas (GHG) impact of the recycling of lighting products was calculated using a GHG emission inventory tool developed specifically for LightRecycle by a third party based on nationally and internationally-recognized reference protocols and standards. Furthermore, due to limited available information from downstream processors and the numerous assumptions that had to be made to determine the GHG impact, the final GHG emission numbers are accurate to only one significant digit. The GHG emissions for 2016 were estimated based on these calculations, to be 5000 tonnes of equivalent carbon dioxide (CO₂e). This value is based on 4 tonnes of CO₂e generated per tonne of material managed.

6 Pollution Prevention Hierarchy and Product / Component Management

The objective of the Program is to minimize the improper disposal of Program Product by providing an effective collection program and ensuring that the collected materials are either recycled or disposed of in an environmentally responsible manner. The Program strives to manage collected materials as high on the pollution prevention hierarchy⁶ as possible, where economically feasible and viable. The application of the pollution prevention hierarchy and the management of each product varies by Program Product depending on options available and economic feasibility.

The Program maintains an established system for managing Program Products. After collection, Program Products are transported to the Program's primary processors. These processors include three for processing whole lamps, two for fixtures, one for crushed lamps and one for PCB containing ballasts. At the processors, Program Products are broken down into their respective component materials and either processed on site or sent to a downstream processor for further processing. Information about how material was managed by the Program's primary processors was based on information provided to PCA by the Program's primary processors.

Lamp processors are required to conform to the BC LightRecycle Lamp Processor Standard, which defines the minimum requirements to become an approved processor. The Standard sets out environmental, occupational health and safety, and material handling rules to ensure materials are handled appropriately.

Lamps

Whole lamps were processed and broken down into various components under a controlled environment. As reported by the Program's processors, the component parts were recycled or disposed of as follows:

- Metal was sent to various downstream metal sites for recovery and recycling.
- Glass was sent to various concrete manufacturing companies for use in concrete manufacturing or as an aggregate, and to a glass recycling company to become cullet.
- Phosphor powder and mercury were stabilized, then securely landfilled.

Crushed Lamps

Crushed lamps were sent to a smelter that operates a thermal treatment process for recycling. During the smelting process:

- Metal was converted into ferrous granules and glass was crushed, then used as a commodity in cement manufacturing.
- Phosphor powder and mercury were stabilized, then securely landfilled.

⁶ The pollution prevention hierarchy is explained on pages 12 and 13 of the BC Recycling Regulation Guide available here: http://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/recycle_reg_guide2012.pdf

Residential Fixtures

Residential fixtures contain materials similar to small appliances (e.g., metal, glass, plastics, etc.). As a result, the Program partnered with the Canadian Electrical Stewardship Association (CESA) stewardship program to collect residential fixtures along with small appliances and power tools at contracted collection sites that also serve as CESA depots. They were shipped to two independent processors where they were comingled with other electronics and broken down into their respective components.

Commercial Fixtures and Non-PCB Ballasts

Commercial fixtures and non-PCB ballasts were collected and managed outside the Program through the existing market-driven scrap metal recycling system. Given the value of the metal commodity, the Program assumes that the material is recycled, but some non-metal material would need to be disposed of. Since it is a market-driven system, the Program has no ability to verify or report on the volume and portion of the material recycled and or disposed of through this system.

PCB Ballasts

PCB ballasts were collected and managed as hazardous waste and incinerated at high temperature in a PCB licensed incinerator. PCBs are regulated from transportation to disposal by the BC Ministry of the Environment and equivalent agencies.

Table 9 provides a consolidated overview of the processing pathways and final disposition of materials derived from Program Products.

Table 9: Material Processing Pathways

Material	Sub-Component	Processing Pathway	Final Disposition
Lamps (all technologies)	Phosphor Powder	Primary processor Sends phosphor powder containing mercury through transfer for stabilization and final disposition.	Phosphor powder was landfilled.
	Mercury	See discussion under Phosphor Powder above.	Mercury was landfilled.
	Metal	Primary processors sent all metals to various downstream metal recyclers.	Metals were sold as a commodity into the scrap metal market.
	Glass	Primary processors sent to various concrete manufacturers or glass recyclers.	Used as an aggregate in concrete or as cullet.
Crushed Lamps	Metal, and Glass	Primary processors managed all materials to final disposition.	Used as a commodity in the manufacturing of cement.
	Mercury and Phosphor Powder	Primary processor managed all materials to final disposition.	Phosphor powder and mercury were landfilled.

Material	Sub-Component	Processing Pathway	Final Disposition
Residential Fixtures	Ferrous Steel	Managed through the (CESA) collection and recycling system.	Consolidate/Shred/Sort/Process
	Plastics		Sort/Separate/Grind/Shred/Extrude/Pelletize/Granulate
	Aluminum		Consolidate/Shred
	Wire and Cables and String lights		Sort/Smelt
	Copper		Consolidate/Shred/Smelt
	Glass		Wash and grind/Crush
	Circuit Boards		Smelt
	Refuse		Landfill
	Rechargeable and Non Rechargeable Batteries		Consolidate
	Paper Based Materials		Recycle
Commercial Fixtures and Non-PCB Ballasts	NA	Managed through the existing market driven scrap metal recycling system.	
PCB Ballasts	NA	Hazardous Waste Management Company sent to PCB licensed incinerator.	Incineration.

7 Product Sold, Product Collected and Recovery Rate

7.1 Products Sold

In 2016, members of the BC LightRecycle Program reported 34,930,035 units sold of LightRecycle Program Products in BC. Table 10 shows the number of units reported sold by Product Category in 2016

Units Reported Sold by Product Category in 2016

Table 10: Units Reported Sold by Product Category in 2016

Product Category	Units Reported Sold
1. Fluorescent Tubes measuring \leq 2 feet	84,729
2. Fluorescent Tubes measuring $>$ 2 feet and \leq 4 feet	2,953,077
3. Fluorescent Tubes measuring $>$ 4 feet	258,908
4. Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps	3,214,489
5. Light Emitting Diodes (LED)	7,226,167
6. High Intensity Discharge (HID) and Other	504,588
7. Incandescent / Halogen	10,430,236
8. Miniature Bulb Package	525,094
9. Designated Small Fixtures/Decorative Light Strings	4,790,326
10. Fixture Category A	4,237,352
11. Fixture Category B	115,135
12. Large Outdoor Fixtures	33,396
13. Ballasts/Transformers (not integrated into lamps or fixtures)	375,001
Total	34,859,868.00

7.2 Products Collected

In 2016, the BC LightRecycle Program collected approximately 6,412,871 units of lamps, 550 tonnes⁷ of fixtures through residential collections, 37,223 kg⁸ of PCB ballasts and 12,678 kg of crushed lamps. Table 11 provides a summary of the collection data. Collection quantities for the different Program Products are based on annual reports and/or estimated based on quantities processed by the Program's

⁷ Due to the comingling of collections and processing and the complexity of the recycling system, it is not possible for the Program to be able to specifically identify the proportion of materials attributed to LightRecycle and the Program has limited ability to verify accuracy of the reported information to a precise degree of certainty.

⁸ This weight includes the weight of the drum.

processors between January 1 and December 31, 2016, as reported by the Program's processors. The reported quantities may include Program Products received in the 2015 fiscal year but processed in the 2016 fiscal year and may exclude units collected in the 2016 fiscal year that were not processed as of December 31, 2016.

Table 11: Estimated Quantity of Products Collected in 2016

Program Product	Estimated Quantity Collected
Whole Lamps	6,260,826 units
Residential Fixtures	550 tonnes
PCB Containing Ballasts	36,014 kg
Crushed Lamps	12,678 kg

Table 12 presents a breakdown of the estimated number of units of each lamp Product Category collected by the Program in 2016. Targets for HID and other and residential fixtures in 2016 (132,862 units and 188-210 tonnes respectively) were exceeded.

Table 12: Whole Lamp Units Collected by Product Category

Lamp Product Category	Units Collected
1. Fluorescent Tubes (All sizes and shapes) ⁹	2,468,080
2. Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps	1,127,552
3. Light Emitting Diodes (LED)	43,020
4. High Intensity Discharge (HID) and Other ¹⁰	220,655
5. Incandescent / Halogen ¹¹	2,401,519
Total Units Collected	6,260,826

Table 13 sets out the estimated number of lamp Program Product units collected by individual regional districts. The estimated quantities were calculated by multiplying an average of units per box type (see Table 14) by total boxes received by type based on the total boxes and lamps received and reported by the lamp Program processors.

Table 13: Estimated Units of Lamps Collected by Regional District in 2016

⁹ This number includes: 0-2', 2-4', 4-8', and U and O shaped tubes.

¹⁰ This number includes: Sodium lamps, HPS lamps (High Pressure Sodium), Metal Halide lamps, Mercury Vapour lamps, Induction tubes, UVC lamps and tubes, and Neon and Poly-coated tubes. Neon and poly-coated tubes are reported from the processor in length of feet. The length is then divided by 4 and rounded to nearest whole number to obtain reported units.

¹¹ This number includes projector bulbs and miniature bulbs.

Regional District	Estimate of Lamp Units
Alberni Clayoquot	11,919
Bulkley Nechako	6,040
Capital Regional District	234,942
Cariboo	32,571
Central Coast	-
Central Kootenay	17,572
Central Okanagan	187,318
Columbia Shuswap	36,070
Comox Valley	30,192
Cowichan Valley	71,604
East Kootenay	23,899
Fraser Fort George	29,028
Fraser Valley	259,592
Kitimat Stikine	14,432
Kootenay Boundary	9,492
Metro Vancouver	2,603,009
Mt. Waddington	8,512
Nanaimo Regional District	139,620
North Okanagan	68,986
Northern Rockies	887
Okanagan Similkameen	30,881
Peace River	11,976
Powell River Regional District	15,876
Skeena-Queen Charlotte	3,094
Squamish Lillooet	42,990
Strathcona	10,562
Sunshine Coast	27,126
Thompson Nicola	89,875
Total	4,018,065

Table 14: Average Units per Box Type 2016

Box Type	Average Units per box
Residential CFL and mixed bulbs	168
Residential four foot tubes	26
Residential eight foot tubes	14
Commercial CFL and mixed bulbs	550

Commercial four foot tubes-gaylord	750
Commercial four foot tubes-plywood	300
Commercial eight foot tubes	35

Due to the variability in the number of Program units actually collected within a box, the total number of units by regional district only represents an estimate of collected volumes and does not necessarily reflect the actual number of units collected by regional district.

Commercial fixtures and non-PCB ballasts were collected and managed outside the program through the existing market driven scrap metal recycling system.

Table 15 provides a summary of the targets and the Program's performance. All 2016 collection targets were exceeded by the Program.

Table 15: Collection Rate Targets and Performance

Collection Rate Targets	2016 Target	2016 Collections	Program's Performance
HID, UV, Neon lamps (Units)	132,862	220,655	N/A
Residential Fixtures (tonnes) ¹²	188 – 210	550 tonnes	N/A

7.3 Capture Rates

The Program Plan sets capture rate targets for fluorescent tubes and CFLs rather than recovery rates. The capture rate compares the quantity of products collected in a year to the quantity of products estimated to be “available for collection” in that year.

The methodology used to determine the units “available for collection” for fluorescent tubes and CFLs (as provided in Table 16) applied the best available data as of 2012 when the Program Plan was developed and is subject to change.

Table 16: Capture Rates – Fluorescent Tubes and CFLs

Product	Units Available to Collect	Units Collected	Capture Rate Target	Actual Capture Rate
Fluorescent Tubes	5,850,715	2,468,080	34-62%	42%
CFLs	2,231,365	1,127,552	36-62%	51%

¹² The residential fixtures target was converted and rounded from kgs to tonnes to match the data available from Program processors

8 Summary of Revenues and Expenditures

The Program is funded by members based on environmental handling fees (EHFs) applied to the sale of new program products in or into British Columbia. The fee may be passed on by the member to their customers, either as a visible fee or by incorporating the cost directly into the price of the product.

In 2016, all fees were used for Program purposes; directly funding the promotion, collection, transportation and recycling of collected products. Table 17 provides a list of the EHF rates charged per unit for Program product categories in 2016.

Table 17: EHF Rate Schedule

Product Category	Fee Category	EHF in 2016
Lamps	1. Fluorescent/Induction/UV Tubes measuring ≤ 2 feet	\$0.20
	2. Fluorescent/Induction/UV Tubes measuring > 2 feet and ≤ 4 feet	\$0.40
	3. Fluorescent/Induction/UV Tubes measuring > 4 feet	\$0.80
	4. Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps	\$0.15
	5. Light Emitting Diodes (LED)	\$0.15
	6. High Intensity Discharge (HID) and Other	\$1.10
	7. Incandescent / Halogen	\$0.05
	8. Miniature Bulb Package	\$0.10
Fixtures	9. Designated Small Fixtures / Decorative Light Strings	\$0.15
	10. Fixture Category A	\$0.15
	11. Fixture Category B	\$0.15
	12. Large Outdoor Fixtures	\$0.15
Ballasts	13. Ballasts/Transformers (not integrated into lamps or fixtures)	\$0.15

9 Plan Performance

2016 Key Performance Targets			
Regulation, Part 2 section 8(2)(g)			
2016 Priority Stewardship Plan Targets		2016 Performance	Strategies for Improvement
Capture Rate: Fluorescent Tubes	Target: 34-62%	42%	N/A
Capture Rate: CFLs	Target: 36-62%	51%	N/A
HID, UV, Neon lamps (Units)	132,862	220,655	N/A
Residential Fixtures (tonnes) ¹³	188 – 210	550 tonnes	N/A
Consumer Awareness	55% (by end of 2017)	49% (as of 2015)	The program is identifying key markets and developing strategies to target improvement for each market respectively.
2016 Accessibility Targets: The program conducted an accessibility study in 2016 describing accessibility levels as of December 31, 2016. The study determined the program was accessible to 99.29% of the population for commercial lamps, 99.65% for residential lamps, 98.07% of the population for residential fixtures, and 95.89% of the population for commercial fixture and non PCB ballasts depots.			
Commercial Lamps	95%	Target Exceeded	Yes
Residential Fixtures	95%	Target Exceeded	Yes
Commercial Fixtures and Non- PCB Ballasts	95%	Target Exceeded	Yes

¹³ The residential fixtures target was converted and rounded from kgs to tonnes to match the data available from Program processors

Appendix A - Advertising and Communication Materials

Del Communications, Print Ad



**Do you have
large quantities
of lights for
recycling?**

LightRecycle is a FREE, first-of-its-kind recycling program for lights, lamps, fixtures, and ballasts. Drop them off at a designated collection site for no charge, or call 1-888-811-6234 about our FREE large volume pick-up service.

 **LightRecycle.ca**

Multiview Advertisement, Web Ad

**Do you generate large
volumes of waste
lighting products?**

Take this short survey and
you could win a **\$100**
Tim Horton's gift card!



LAMAR Transit Ad, Double Panel, Fall Campaign



BUILDEX Vancouver – Event set-up



Appendix B - List of Contracted Collection Sites

#	Depot Name	City	Regional District
1.	7 Mile Landfill and Recycling Center	Port McNeil	Mt. Waddington
2.	Abbotsford Bottle Depot	Abbotsford	Fraser Valley
3.	Abbotsford Community Services Recycling	Abbotsford	Fraser Valley
4.	Abbotsford Transfer Station	Abbotsford	Fraser Valley
5.	ABC Recycling - Burnaby	Burnaby	Metro Vancouver
6.	ABC Recycling - Campbell River	Campbell River	Strathcona
7.	ABC Recycling - Fort St. John	Fort St. John	Peace River
8.	ABC Recycling - Kelowna	Kelowna	Central Okanagan
9.	ABC Recycling - Prince George	Prince George	Fraser Fort George
10.	ABC Recycling - Surrey	Surrey	Metro Vancouver
11.	ABC Recycling - Terrace	Terrace	Kitimat Stikine
12.	Action Steel Sales	Penticton	Okanagan Similkameen
13.	Agassiz Bottle Depot	Agassiz	Fraser Valley
14.	Aim Lighting & Electric	Delta	Metro Vancouver
15.	Albertson's Home Center	Parksville	Nanaimo Regional District
16.	Aldergrove Bottle Depot	Aldergrove	Metro Vancouver
17.	Allied Salvage & Metals	Richmond	Metro Vancouver
18.	Allied Scrap Metal Squamish	Squamish	Squamish Lillooet
19.	Alpine Disposal & Recycling	Victoria	Capital Regional District
20.	Applecross Home Hardware	Nanaimo	Nanaimo Regional District
21.	Armstrong Bottle Depot	Armstrong	North Okanagan
22.	Asset Investment Recovery	Victoria	Capital Regional District
23.	Augusta Recyclers	Powell River	Powell River Regional District
24.	Bay Street Castle	Victoria	Capital Regional District
25.	Bella Bella Eco-Depot	Bella Bella	Central Coast
26.	Bella Coola Recycling Depot	Hagensborg	Central Coast
27.	Bill's Bottle Depot	Salmon Arm	Columbia Shuswap
28.	Bings Creek Solid Waste	Duncan	Cowichan Valley
29.	Blight's Home Hardware	Vancouver	Metro Vancouver
30.	Border Town Recycling Group	Stewart	Kitimat Stikine
31.	Bottle Depot - Glanford	Saanich	Capital Regional District
32.	Bottle Depot - Queens	Victoria	Capital Regional District
33.	Boucherie Bottle Depot & Self Storage	West Kelowna	Central Okanagan
34.	Brentwood Auto & Metal Retailers	Saanichton	Capital Regional District
35.	Bridgeview Return-It Bottle Depot	Surrey	Metro Vancouver
36.	Bulkley Valley Bottle Depot	Smithers	Bulkley Nechako
37.	Burgess Plumbing Heating & Electrical	Williams Lake	Cariboo
38.	Burns Lake Home Hardware	Burns Lake	Bulkley Nechako

39.	Burns Lake Recycling Return-it Depot	Burns Lake	Bulkley Nechako
40.	Burnside Home Hardware	Victoria	Capital Regional District
41.	Campbell Mountain Sanitary Landfill	Penticton	Okanagan Similkameen
42.	Campbell River Waste Management Centre	Campbell River	Strathcona
43.	Canadian Tire #351 Penticton	Penticton	Okanagan Similkameen
44.	Canadian Tire #355 Kamloops	Kamloops	Thompson Nicola
45.	Canadian Tire #362 Nanaimo	Nanaimo	Nanaimo Regional District
46.	Canadian Tire #368 Victoria	Victoria	Capital Regional District
47.	Canadian Tire #389 Vancouver Cambie	Vancouver	Metro Vancouver
48.	Canadian Tire #433 Chilliwack	Chilliwack	Fraser Valley
49.	Canadian Tire #434 Abbotsford	Abbotsford	Fraser Valley
50.	Canadian Tire #437 Campbell River	Campbell River	Strathcona
51.	Canadian Tire #438 Williams Lake	Williams Lake	Cariboo
52.	Canadian Tire #443 Surrey	Surrey	Metro Vancouver
53.	Canadian Tire #480 Powell River	Powell River	Powell River Regional District
54.	Canadian Tire #487 Quesnel	Quesnel	Cariboo
55.	Canadian Tire #488 Port Alberni	Port Alberni	Alberni Clayoquot
56.	Canadian Tire #489 Surrey	Surrey	Metro Vancouver
57.	Canadian Tire #601 North Vancouver	North Vancouver	Metro Vancouver
58.	Canadian Tire #603 Burnaby	Burnaby	Metro Vancouver
59.	Canadian Tire #604 Vancouver	Vancouver	Metro Vancouver
60.	Canadian Tire #608 Coquitlam	Coquitlam	Metro Vancouver
61.	Canadian Tire #609 Port Coquitlam	Port Coquitlam	Metro Vancouver
62.	Canadian Tire #610 Richmond	Richmond	Metro Vancouver
63.	Canadian Tire #636 Sechelt	Sechelt	Sunshine Coast
64.	Canadian Tire #678 Surrey	Surrey	Metro Vancouver
65.	Capital Salvage	Vancouver	Metro Vancouver
66.	Carney's Waste Systems	Squamish	Squamish Lillooet
67.	Ccon Steel	Abbotsford	Fraser Valley
68.	Central Builders' Supply Prince George	Prince George	Fraser Fort George
69.	Central Hardware	Enderby	North Okanagan
70.	Central Saanich Home Hardware	Saanichton	Capital Regional District
71.	Century Home Hardware	100 Mile House	Cariboo
72.	Chase Home Hardware Building Centre	Chase	Thompson Nicola
73.	Chasers Bottle Depot	Vernon	North Okanagan
74.	Chetwynd Home Hardware	Chetwynd	Peace River
75.	Chetwynd Recycling & Bottle Depot	Chetwynd	Peace River
76.	Chilliwack Bottle Depot	Chilliwack	Fraser Valley
77.	Clearwater Eco Depot	Clearwater	Thompson Nicola
78.	CM Recycling	Quesnel	Cariboo
79.	Collingwood Bottle Exchange	Burnaby	Metro Vancouver
80.	Columbia Bottle Depot - Dease	Kelowna	Central Okanagan

81.	Columbia Bottle Depot - Kirschner	Kelowna	Central Okanagan
82.	Columbia Bottle Depot - St. Paul	Kelowna	Central Okanagan
83.	Columbia Recycle	Kimberly	East Kootenay
84.	Comox Valley Auto + Metal Recyclers	Courtenay	Comox Valley
85.	Comox Valley Waste Management Centre	Cumberland	Comox Valley
86.	Cook St. Castle Building Centre	Coquitlam	Metro Vancouver
87.	Coquitlam Return-It Depot	Coquitlam	Metro Vancouver
88.	Cormorant Island recycling Facility	Alert Bay	Mt. Waddington
89.	Cortes Island Waste Management Centre	Cortes Island	Strathcona
90.	Courtenay Return-It Depot	Courtenay	Comox Valley
91.	Cranbrook Bottle Depot	Cranbrook	East Kootenay
92.	D.C. Campbell Recycling Dawson Creek	Dawson Creek	Peace River
93.	Davis Trading & Supply	Vancouver	Metro Vancouver
94.	Davie Village Home Hardware	Vancouver	Metro Vancouver
95.	District of Oak Bay	Oak Bay	Capital Regional District
96.	District of Tumbler Ridge	Tumbler Ridge	Peace River
97.	DL's Recycling Centre	Saanichton	Capital Regional District
98.	Do Your Part Recycling	Terrace	Kitimat Stikine
99.	Dolly's Home Hardware	Qualicum Beach	Nanaimo Regional District
100.	Duncan Home Hardware Building Centre	Duncan	Cowichan Valley
101.	Dunlop's Home Hardware Building Centre	Port Hardy	Mt. Waddington
102.	East Hastings Bottle Depot	Vancouver	Metro Vancouver
103.	Eco-Depot Recycling Centre	Fort St. John	Peace River
104.	Edmonds Recycling	Langley	Metro Vancouver
105.	Edmonds Return-It Depot	Burnaby	Metro Vancouver
106.	Enderby Return-it Recycling Depot	Enderby	North Okanagan
107.	Ernie's Used Auto Parts	Castlegar	Central Kootenay
108.	Fernie Bottle Depot	Fernie	East Kootenay
109.	Fernie Home Building Center	Fernie	East Kootenay
110.	Fisher Road Recycling	Cobble Hill	Cowichan Valley
111.	Fleetwood Bottle Return Depot	Surrey	Metro Vancouver
112.	Fraser Lake Bottle Depot	Fraser Lake	Bulkley Nechako
113.	Fraser Valley Metal Exchange	Maple Ridge	Metro Vancouver
114.	Fraser Valley Return-It	Langley	Metro Vancouver
115.	Gabriola Island Recycling	Gabriola Island	Nanaimo Regional District
116.	Galiano Island Recycling Resources	Galiano Island	Capital Regional District
117.	Galiano Trading	Galiano Island	Capital Regional District
118.	Gandy's Home Hardware	Vancouver	Metro Vancouver
119.	General Grant's North Shore Bottle Depot	Kamloops	Thompson Nicola
120.	General Grant's Sahali	Kamloops	Thompson Nicola
121.	Gibsons Building Supplies	Gibsons	Sunshine Coast
122.	Gibsons Recycling Depot	Gibsons	Sunshine Coast
123.	Go Green Bottle Depot	Vancouver	Metro Vancouver

124.	Gold Trail Recycling	100 mile House	Cariboo
125.	Grand Forks Bottle Depot	Grand Forks	Kootenay Boundary
126.	Grand Forks Home Hardware	Grand Forks	Kootenay Boundary
127.	Guildford Bottle Depot	Surrey	Metro Vancouver
128.	Haney Bottle Depot	Maple Ridge	Metro Vancouver
129.	Haney Builders Supplies	Maple Ridge	Metro Vancouver
130.	Happy Stan's Recycling	Port Coquitlam	Metro Vancouver
131.	Hartland Landfill Recycling Depot	Victoria	Capital Regional District
132.	Hazelton Bottle Depot	New Hazelton	Kitimat Stikine
133.	Hewer Home Hardware	Vancouver	Metro Vancouver
134.	High Point Electric	Surrey	Metro Vancouver
135.	Highway 4 Auto Salvage	Coombs	Bulkley Nechako
136.	Hipperson Home Hardware	Nelson	Central Kootenay
137.	Home Building Centre - Salmon Arm	Salmon Arm	Columbia Shuswap
138.	Home Building Centre - Vernon	Vernon	North Okanagan
139.	Home Hardware - Cranbrook	Cranbrook	East Kootenay
140.	Home Hardware - Penticton	Penticton	Okanagan Similkameen
141.	Home Hardware - Princeton	Princeton	Okanagan Similkameen
142.	Home Hardware - Revelstoke	Revelstoke	Columbia Shuswap
143.	Home Hardware - Sidney	Sidney	Capital Regional District
144.	Home Hardware - Williams Lake	Williams Lake	Cariboo
145.	Home Hardware - Courtenay	Courtenay	Comox Valley
146.	Home Hardware Building Centre - Merritt	Merritt	Thompson Nicola
147.	Hope Bottle Depot	Hope	Fraser Valley
148.	Hornby Island Waste Management Centre	Hornby Island	Comox Valley
149.	Houston Bottle Depot	Houston	Bulkley Nechako
150.	Interior Freight and Bottle Depot	Vernon	North Okanagan
151.	Invermere Home Hardware	Invermere	East Kootenay
152.	Ironwood Bottle Depot	Richmond	Metro Vancouver
153.	Island Return It - Campbell River	Campbell River	Strathcona
154.	Island Return It - Duncan	Duncan	Cowichan Valley
155.	Island Return It - Esquimalt	Esquimalt	Capital Regional District
156.	Island Return It - Sidney	Sidney	Capital Regional District
157.	Island Return It - South Cowichan	Cobble Hill	Cowichan Valley
158.	Island Solid Waste Management - Port Clements	Port Clements	Skeena-Queen Charlotte
159.	Island Solid Waste Management - Queen Charlotte	Queen Charlotte	Skeena-Queen Charlotte
160.	J&C Bottle Depot	Penticton	Okanagan Similkameen
161.	Junction Bottle Depot	Ladysmith	Cowichan Valley
162.	Kamloops Home Hardware	Kamloops	Thompson Nicola
163.	Kaslo Building Supplies	Kaslo	Central Kootenay

164.	Keremeos Sanitary Landfill	Keremeos	Okanagan Similkameen
165.	Kerrisdale Lumber	Vancouver	Metro Vancouver
166.	Kitchener Bottle Depot	Burnaby	Metro Vancouver
167.	Knox Mountain Metals	Kelowna	Central Okanagan
168.	KUTE Kitimat Recycling Depot	Kitimat	Kitimat Stikine
169.	Ladner Bottle Depot	Delta	Metro Vancouver
170.	Ladner Village Hardware	Ladner	Metro Vancouver
171.	Lake Cowichan Home Hardware	Lake Cowichan	Cowichan Valley
172.	Langley Bottle Depot	Langley	Metro Vancouver
173.	Lee's Bottle Depot	Burnaby	Metro Vancouver
174.	Lillooet Landfill	Lillooet	Squamish Lillooet
175.	Logan Lake Bottle Depot	Logan Lake	Thompson Nicola
176.	London Drugs #02	Vancouver	Metro Vancouver
177.	London Drugs #03	New Westminster	Metro Vancouver
178.	London Drugs #04	Vancouver	Metro Vancouver
179.	London Drugs #05	North Vancouver	Metro Vancouver
180.	London Drugs #06	Burnaby	Metro Vancouver
181.	London Drugs #07	Vancouver	Metro Vancouver
182.	London Drugs #08	Surrey	Metro Vancouver
183.	London Drugs #09	Surrey	Metro Vancouver
184.	London Drugs #10	Vancouver	Metro Vancouver
185.	London Drugs #11	Richmond	Metro Vancouver
186.	London Drugs #12	Kelowna	Central Okanagan
187.	London Drugs #14	Victoria	Capital Regional District
188.	London Drugs #15	Coquitlam	Metro Vancouver
189.	London Drugs #16	Abbotsford	Fraser Valley
190.	London Drugs #17	Delta	Metro Vancouver
191.	London Drugs #18	Langley	Metro Vancouver
192.	London Drugs #19	Vancouver	Metro Vancouver
193.	London Drugs #25	Burnaby	Metro Vancouver
194.	London Drugs #28	Vancouver	Metro Vancouver
195.	London Drugs #29	Victoria	Capital Regional District
196.	London Drugs #35	Kamloops	Thompson Nicola
197.	London Drugs #36	Nanaimo	Nanaimo Regional District
198.	London Drugs #37	Delta	Metro Vancouver
199.	London Drugs #39	Vernon	North Okanagan
200.	London Drugs #41	Chilliwack	Fraser Valley
201.	London Drugs #42	White Rock	Metro Vancouver
202.	London Drugs #44	West Vancouver	Metro Vancouver
203.	London Drugs #46	Victoria	Capital Regional District
204.	London Drugs #47	Maple Ridge	Metro Vancouver
205.	London Drugs #50	Vancouver	Metro Vancouver
206.	London Drugs #51	Prince George	Fraser Fort George

207.	London Drugs #52	Richmond	Metro Vancouver
208.	London Drugs #53	Vancouver	Metro Vancouver
209.	London Drugs #54	Victoria	Capital Regional District
210.	London Drugs #55	Mission	Fraser Valley
211.	London Drugs #56	Burnaby	Metro Vancouver
212.	London Drugs #61	Gibsons	Sunshine Coast
213.	London Drugs #67	Courtenay	Comox Valley
214.	London Drugs #70	Penticton	Okanagan Similkameen
215.	London Drugs #71	Burnaby	Metro Vancouver
216.	London Drugs #72	Nanaimo	Nanaimo Regional District
217.	London Drugs #73	Campbell River	Strathcona
218.	London Drugs #74	Vancouver	Metro Vancouver
219.	London Drugs #75	Surrey	Metro Vancouver
220.	London Drugs #76	Westbank	Central Okanagan
221.	London Drugs #77	Duncan	Cowichan Valley
222.	London Drugs #78	Vancouver	Metro Vancouver
223.	London Drugs #80	Squamish	Squamish Lillooet
224.	London Drugs #81	Surrey	Metro Vancouver
225.	London Drugs #82	Vancouver	Metro Vancouver
226.	London Drugs #85	Abbotsford	Fraser Valley
227.	Lone Butte Supply	100 Mile House	Cariboo
228.	Lorne Street Bottle Depot	Kamloops	Thompson Nicola
229.	Lougheed Return-It Depot	Coquitlam	Metro Vancouver
230.	Louis Creek Eco-Depot	Louis Creek	Thompson Nicola
231.	Lower Nicola Eco-Depot	Merritt	Thompson Nicola
232.	Macleods True Value Hardware	Fort St. James	Bulkley Nechako
233.	Mac's Traders	Langley	Metro Vancouver
234.	Maple Ridge Bottle Depot	Maple Ridge	Metro Vancouver
235.	Maple Ridge Lighting	Maple Ridge	Metro Vancouver
236.	Mayne Island Building Center	Mayne Island	Capital Regional District
237.	Meade Creek Recycling Drop-off Depot	Lake Cowichan	Cowichan Valley
238.	Merritt Return-It Depot	Merritt	Thompson Nicola
239.	Metrotown Bottle Return It Center	Burnaby	Metro Vancouver
240.	Mission Flats Landfill	Kamloops	Thompson Nicola
241.	Mission Recycling	Mission	Fraser Valley
242.	Mission Recycling Centre & Bottle Depot	Mission	Fraser Valley
243.	Mouatt's Home Hardware	Salt Spring Island	Capital Regional District
244.	MountainHigh Lighting	Castlegar	Central Kootenay
245.	Nak'azdli Recycling Depot	Fort St. James	Bulkley Nechako
246.	Nanaimo Recycling Exchange Society	Nanaimo	Nanaimo Regional District
247.	Nelson Home Hardware Building Centre	Nelson	Central Kootenay
248.	Nelson Leafs Recycling Centre	Nelson	Central Kootenay
249.	New & Nearly New	Kimberly	East Kootenay

250.	New Life Furniture and Recycling	Creston	Central Kootenay
251.	New Westminster Recycle Depot	New Westminster	Metro Vancouver
252.	Newton Bottle Depot	Surrey	Metro Vancouver
253.	North Shore Bottle Depot	North Vancouver	Metro Vancouver
254.	North Vancouver Bottle & Return-It Depot	North Vancouver	Metro Vancouver
255.	North Vancouver Transfer Station	North Vancouver	Metro Vancouver
256.	Oak Bay Home Hardware	Victoria	Capital Regional District
257.	OK Bottle Depot	Richmond	Metro Vancouver
258.	Okanagan Falls Landfill	Okanagan Falls	Okanagan Similkameen
259.	Oliver Sanitary Landfill	Oliver	Okanagan Similkameen
260.	Osoyoos Bottle Depot	Osoyoos	Okanagan Similkameen
261.	Osoyoos Home Hardware	Osoyoos	Okanagan Similkameen
262.	Panorama Village Return-It Depot	Surrey	Metro Vancouver
263.	Parksville Bottle & Recycling Depot	Parksville	Nanaimo Regional District
264.	Parksville Home Building Centre	Parksville	Nanaimo Regional District
265.	Parksville Home Hardware	Parksville	Nanaimo Regional District
266.	Parsons Scrap Metals	Surrey	Metro Vancouver
267.	Pearson's Home Hardware	North Vancouver	Metro Vancouver
268.	Peerless Road Recycling	Ladysmith	Cowichan Valley
269.	Pemberton Recycling Centre	Pemberton	Squamish Lillooet
270.	Pender Island Home Building Centre	Pender Island	Capital Regional District
271.	Pender Island Recycling Society	Pender Island	Capital Regional District
272.	PG Recycling	Prince George	Fraser Fort George
273.	Pitt Meadows Bottle & Return-It Depot	Pitt Meadows	Metro Vancouver
274.	Planet Earth Recycling	Westbank	Central Okanagan
275.	Port McNeil Recycling Depot	Port McNeil	Mt. Waddington
276.	Port Moody One-Stop Market & Bottle Depot	Port Moody	Metro Vancouver
277.	Powell Street Return-it Bottle Depot	Vancouver	Metro Vancouver
278.	Powerhouse Recycled Auto & Truck Parts	Cumberland	Comox Valley
279.	Puds Auto Wrecking & Towing	Osoyoos	Okanagan Similkameen
280.	Quality Glass	Ashcroft	Thompson Nicola
281.	Queensborough Landing Return-It	New Westminster	Metro Vancouver
282.	R Home Supply Centre	Dawson Creek	Peace River
283.	R&T Bottle Depot	Abbotsford	Fraser Valley
284.	Refuse Resource Recovery	Victoria	Capital Regional District
285.	Regional Recycling - Abbotsford	Abbotsford	Fraser Valley
286.	Regional Recycling - Burnaby	Burnaby	Metro Vancouver
287.	Regional Recycling - Cloverdale	Surrey	Metro Vancouver
288.	Regional Recycling - Hayes	Nanaimo	Nanaimo Regional District
289.	Regional Recycling – Old Victoria	Nanaimo	Nanaimo Regional District
290.	Regional Recycling - Prince Rupert	Prince Rupert	Skeena-Queen Charlotte

291.	Regional Recycling - Richmond	Richmond	Metro Vancouver
292.	Regional Recycling - Vancouver	Vancouver	Metro Vancouver
293.	Regional Recycling - Whistler	Whistler	Squamish Lillooet
294.	Revelstoke Bottle Depot	Revelstoke	Columbia Shuswap
295.	Richmond Recycling Depot	Richmond	Metro Vancouver
296.	Ridge Meadows Recycling Society	Maple Ridge	Metro Vancouver
297.	Rona Abbotsford #61220	Abbotsford	Fraser Valley
298.	Rona Alert Bay #1215	Alert Bay	Mt. Waddington
299.	Rona Burnaby #61270	Burnaby	Metro Vancouver
300.	Rona Chilliwack #61390	Chilliwack	Fraser Valley
301.	Rona Clearwater #06410	Clearwater	Thompson Nicola
302.	Rona Cobble Hill #61040	Cobble Hill	Cowichan Valley
303.	Rona Coquitlam #61260	Coquitlam	Metro Vancouver
304.	Rona Coquitlam #61290	Coquitlam	Metro Vancouver
305.	Rona Delta #12422	Delta	Metro Vancouver
306.	Rona Hope #61350	Hope	Fraser Valley
307.	Rona Kamloops #61310	Kamloops	Thompson Nicola
308.	Rona Kelowna #61700	Kelowna	Central Okanagan
309.	Rona Langley #61810	Langley	Metro Vancouver
310.	Rona Madeira Park #9551 & #61420	Madeira Park	Sunshine Coast
311.	Rona Maple Ridge #61190	Maple Ridge	Metro Vancouver
312.	Rona Nanaimo #61030	Nanaimo	Nanaimo Regional District
313.	Rona New Westminster #6158	New Westminster	Metro Vancouver
314.	Rona North Vancouver #61740	North Vancouver	Metro Vancouver
315.	Rona North Vancouver #8140	North Vancouver	Metro Vancouver
316.	Rona Pemberton Valley Hardware #08522	Pemberton	Squamish Lillooet
317.	Rona Penticton #61480	Penticton	Okanagan Similkameen
318.	Rona Port McNeil #1195	Port McNeil	Mt. Waddington
319.	Rona Powell River #2791	Powell River	Powell River Regional District
320.	Rona Quesnel #61320	Quesnel	Cariboo
321.	Rona Richmond #8040	Richmond	Metro Vancouver
322.	Rona Squamish #61450	Squamish	Squamish Lillooet
323.	Rona Surrey #61240	Surrey	Metro Vancouver
324.	Rona Surrey #61720	Surrey	Metro Vancouver
325.	Rona Surrey-Newton #61250	Surrey	Metro Vancouver
326.	Rona Vancouver #61760	Vancouver	Metro Vancouver
327.	Rona Vanderhoof #11690	Vanderhoof	Bulkley Nechako
328.	Rona Vernon #61300	Vernon	North Okanagan
329.	Rona Victoria #61710	Victoria	Capital Regional District
330.	Rona Whistler #61460	Whistler	Squamish Lillooet
331.	Rona Williams Lake #61340	Williams Lake	Cariboo
332.	Ross Bay Home Hardware	Victoria	Capital Regional District

333.	Rypac Metal Recycling	Surrey	Metro Vancouver
334.	Salish Soils	Sechelt	Sunshine Coast
335.	Salt Spring Island Recycling Depot	Salt Spring Island	Capital Regional District
336.	Salvation Army - Brentwood Thrift Store	Brentwood	Capital Regional District
337.	Salvation Army - E 12th Ave Thrift Store	Vancouver	Metro Vancouver
338.	Salvation Army - Hillside Thrift Store	Victoria	Capital Regional District
339.	Salvation Army - Langley Thrift Store	Langley	Metro Vancouver
340.	Salvation Army - Mill Bay Thrift Store	Mill Bay	Cowichan Valley
341.	Salvation Army - North Vancouver Thrift Store	North Vancouver	Metro Vancouver
342.	Salvation Army - Port Coquitlam Thrift Store	Port Coquitlam	Metro Vancouver
343.	Salvation Army - Prince George	Prince George	Fraser Fort George
344.	Salvation Army - Sooke Thrift Store	Sooke	Capital Regional District
345.	Salvation Army - View Royal Thrift Store	View Royal	Capital Regional District
346.	Sandy's Auto Parts	Langford	Capital Regional District
347.	Sapperton Return-It Depot	New Westminster	Metro Vancouver
348.	Sardis Bottle Depot	Chilliwack	Fraser Valley
349.	Schnitzer Steel Pacific - Campbell River	Duncan	Strathcona
350.	Schnitzer Steel Pacific - Cassidy	Cassidy	Nanaimo Regional District
351.	Schnitzer Steel Pacific - Duncan	Duncan	Cowichan Valley
352.	Schnitzer Steel Pacific - Victoria	Victoria	Capital Regional District
353.	Scotch Creek Bottle Depot	Scotch Creek	Columbia Shuswap
354.	Scotch Creek Home Building Center	Scotch Creek	Columbia Shuswap
355.	Scott Road Bottle Depot	Surrey	Metro Vancouver
356.	Scrap King Autowrecking & Towing	Salmo	Central Kootenay
357.	Sechelt P/U Recyclers	Sechelt	Sunshine Coast
358.	Semiahmoo Bottle Depot	Surrey	Metro Vancouver
359.	Shepherds Home Hardware	Armstrong	North Okanagan
360.	Simpson Home Hardware	West Vancouver	Metro Vancouver
361.	Skyway Distributors	Cranbrook	East Kootenay
362.	Smithers Home Hardware	Smithers	Bulkley Nechako
363.	Smithers Lumber Yard	Smithers	Bulkley Nechako
364.	Smokey Creek Salvage	South Slocan	Central Kootenay
365.	Sointula Recycling Depot	Sointula	Mt. Waddington
366.	Sooke Home Hardware	Sooke	Capital Regional District
367.	South Thompson Recycling	Pritchard	Thompson Nicola
368.	South Vancouver Bottle Depot	Vancouver	Metro Vancouver
369.	Southridge Building Supplies	Surrey	Metro Vancouver
370.	Steveston Return-It Depot	Richmond	Metro Vancouver
371.	Summerland Landfill	Summerland	Central Okanagan
372.	Sun Coast Waste Eco Depot	Port Alberni	Alberni Clayoquot
373.	Sun Dial Lighting Vernon	Vernon	North Okanagan

374.	Sunset Coast Bottle Depot	Powell River	Powell River Regional District
375.	Surrey Central Return-It	Surrey	Metro Vancouver
376.	Surrey Transfer Station	Surrey	Metro Vancouver
377.	T-2 Market Oliver	Oliver	Okanagan Similkameen
378.	Terrace Bottle Depot	Terrace	Kitimat Stikine
379.	The Battery Doctors	Kelowna	Central Okanagan
380.	The Hut Bottle Depot	Princeton	Okanagan Similkameen
381.	The Lampost	Kamloops	Thompson Nicola
382.	The Re-Use-It Centre Whistler	Whistler	Squamish Lillooet
383.	Thorsen Creek Recycling Depot	Bella Coola	Central Coast
384.	Tofino Co-op Hardware	Tofino	Alberni Clayoquot
385.	Trail Bay Hardware #51784	Sechelt	Sunshine Coast
386.	Trail Bottle Depot	Trail	Kootenay Boundary
387.	Tri Port Recycling	Port Hardy	Mt. Waddington
388.	Tsawwassen Home Building Centre	Delta	Metro Vancouver
389.	Tsawwassen Return it Center - D&G	Delta	Metro Vancouver
390.	Ucluelet Bottle Depot	Ucluelet	Alberni Clayoquot
391.	Unadvertised	Chilliwack	Fraser Valley
392.	Unadvertised	Kelowna	Central Okanagan
393.	Unadvertised	Langford	Capital Regional District
394.	Unadvertised	Maple Ridge	Metro Vancouver
395.	Unadvertised	Nanaimo	Nanaimo Regional District
396.	Unadvertised	Saanich	Capital Regional District
397.	Unadvertised	Surrey	Metro Vancouver
398.	Unadvertised	Vancouver	Metro Vancouver
399.	Unadvertised	Victoria	Capital Regional District
400.	Unadvertised	Delta	Metro Vancouver
401.	Unadvertised	Victoria	Capital Regional District
402.	Unadvertised	North Vancouver	Metro Vancouver
403.	Unadvertised	Abbotsford	Fraser Valley
404.	Unadvertised	Kelowna	Central Okanagan
405.	Unadvertised	Burnaby	Metro Vancouver
406.	Unadvertised	Delta	Metro Vancouver
407.	Unadvertised	New Westminster	Metro Vancouver
408.	Unadvertised	Burnaby	Metro Vancouver
409.	Unadvertised	Coquitlam	Metro Vancouver
410.	Unadvertised	Surrey	Metro Vancouver
411.	Unadvertised	Victoria	Capital Regional District
412.	Unadvertised	Langley	Metro Vancouver
413.	Unadvertised	Coquitlam	Metro Vancouver
414.	Unadvertised	Winlaw	Central Kootenay
415.	Unadvertised	Burnaby	Metro Vancouver
416.	Unadvertised	Burnaby	Metro Vancouver

417.	Unadvertised	Dawson Creek	Peace River
418.	Unadvertised	Fort St. John	Peace River
419.	Unadvertised	Vancouver	Metro Vancouver
420.	Unadvertised	Richmond	Metro Vancouver
421.	Urban Impact Recycling	Richmond	Metro Vancouver
422.	Valemount Recycling Center	Valemount	Fraser Fort George
423.	Vancouver Central Return-It Depot	Vancouver	Metro Vancouver
424.	Vancouver West Bottle Depot	Vancouver	Metro Vancouver
425.	Venture Bottle Depot - Lumby	Lumby	North Okanagan
426.	Venture Training Vernon	Vernon	North Okanagan
427.	Village of Gold River	Gold River	Strathcona
428.	Village of New Denver	New Denver	Central Kootenay
429.	Walnut Grove Bottle Depot	Langley	Metro Vancouver
430.	Wastech Services	Coquitlam	Metro Vancouver
431.	Wells Gray Home Hardware	Clearwater	Thompson Nicola
432.	West Coast Metal Recycling	Langley	Metro Vancouver
433.	Westbank Home Hardware	Westbank	Central Okanagan
434.	Westcoast Hardware	Port Alberni	Alberni Clayoquot
435.	Whistler Home Hardware	Whistler	Squamish Lillooet
436.	White Rock Return It Depot	White Rock	Metro Vancouver
437.	Wide Sky Disposal	Fort Nelson	Northern Rockies
438.	Willow Point Bottle Depot	Campbell River	Strathcona
439.	Willowbrook Recycling Depot	Langley	Metro Vancouver
440.	Wilway Lumber	Abbotsford	Fraser Valley
441.	Winfield Return It Centre	Lake Country	Central Okanagan
442.	Woss Recycling Depot	Woss	Mt. Waddington

Appendix C - Audited Financial Statement

**PRODUCT CARE ASSOCIATION
BC LIGHTRECYCLE PROGRAM**

STATEMENT OF REVENUES AND EXPENSES

31 DECEMBER 2016



ROLFE, BENSON LLP
CHARTERED PROFESSIONAL ACCOUNTANTS

**PRODUCT CARE ASSOCIATION
BC LIGHTRECYCLE PROGRAM
Statement of Revenues and Expenses
For the year ended 31 December 2016**

Contents

Independent Auditors' Report	
Statement of Revenues and Expenses	4
Notes to the Statement of Revenues and Expenses	5





ROLFE, BENSON LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

1500 – 1090 West Georgia Street
Vancouver, B.C. V6E 3V7
Tel: 604-684-1101 Fax: 604-684-7937
E-mail: admin@rolfebenson.com

INDEPENDENT AUDITORS' REPORT

To: BC Ministry of Environment,

As required the British Columbia Environmental Management Act, Recycling Regulation 8(2)(f)(ii), we have audited the Statement of Revenues and Expenses of the BC LightRecycle Program (the "Statement") as reported by Product Care Association for the year ended 31 December 2016 and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Statement

Management is responsible for the preparation of the Statement in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of the Statement that is free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the Statement based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Statement is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Statement. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the Statement, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of the Statement in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the Statement.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



ROLFE, BENSON LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

INDEPENDENT AUDITORS' REPORT - continued

Opinion

In our opinion, the Statement presents fairly, in all material respects, the revenues and expenses of the BC LightRecycle Program as reported by Product Care Association for the year ended 31 December 2016 in accordance with Canadian accounting standards for not-for-profit organizations.

Restriction on Distribution

This report is prepared on the direction of Product Care Association's management and the BC Ministry of Environment. As a result, the report may not be suitable for another purpose. Our report is intended solely for Product Care Association's management and the BC Ministry of Environment and should not be distributed to other parties.

Rolfe, Benson LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

Vancouver, Canada
10 April 2017

**PRODUCT CARE ASSOCIATION
BC LIGHTRECYCLE PROGRAM**
Statement of Revenues and Expenses
For the year ended 31 December 2016

	2016
Revenues	<u>\$ 5,667,698</u>
Program expenses	
Processing	2,836,014
Collection	639,658
Administration (Note 2(c))	524,280
Communications	360,999
Transportation	<u>312,431</u>
	<u>4,673,382</u>
Excess of revenues over expenses for the year	<u>\$ 994,316</u>

The accompanying notes are an integral part of this statement of revenues and expenses.



**PRODUCT CARE ASSOCIATION
BC LIGHTRECYCLE PROGRAM**
Notes to the Statement of Revenues and Expenses
For the year ended 31 December 2016

1. Basis of Presentation

The Statement of Revenues and Expenses (the "Statement") only includes the revenues and expenses of the BC LightRecycle Program (the "Program"), a segment of the operations of Product Care Association (the "Association").

2. Summary of Significant Accounting Policies

The Statement is prepared in accordance with Canadian accounting standards for not-for-profit organizations. The significant policies are detailed as follows:

(a) Revenue Recognition

Environmental handling fees ("EHF") are received from members of the BC LightRecycle Program. The Association recognizes these fees as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured. EHF revenues are recognized as individual members report and remit them as required by applicable provincial environmental legislation.

(b) Use of Estimates

The preparation of financial statements in accordance with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amounts of revenues and expenses and disclosure of contingencies included in the statement. Accounts subject to significant estimates include revenue accruals, expense accruals and overhead allocation. Actual results could differ from those estimates.

(c) General and Administrative Expenses - Overhead Allocation

A portion of the total general and administrative expenses of the Association, net of expense recoveries, has been allocated to this Program. The allocation of general and administrative expenses to this Program is determined using the percentage of program specific operating expenses as compared to total operating expenses for all the Association's programs. Included in administration expense is \$295,549 of overhead expense which has been allocated to the Program.

Appendix D - 2016 Third Party Assurance Statement for Non-Financial Information

**PRODUCT CARE ASSOCIATION OF CANADA
BC LAMPS AND LIGHTING
EQUIPMENT STEWARDSHIP PROGRAM**

**INDEPENDENT REASONABLE
ASSURANCE REPORT**

31 DECEMBER 2016



ROLFE, BENSON LLP
CHARTERED PROFESSIONAL ACCOUNTANTS



1500 – 1090 West Georgia Street
Vancouver, B.C. V6E 3V7
Tel: 604-684-1101 Fax: 604-684-7937
E-mail: admin@rolfebenson.com

INDEPENDENT REASONABLE ASSURANCE REPORT

To Directors of
Product Care Association of Canada,

We have been engaged by Product Care Association of Canada (the "Association") to perform a reasonable assurance engagement in respect of the following information (the "Selected Information"), detailed in Appendix 1, and also included within the Association's Annual Report for the BC Lamps and Lighting Equipment Stewardship ("LightRecycle") Program to the Ministry of Environment for the year ended 31 December 2016:

- Section 4.1 Collection Sites and Appendix B - the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of BC Regulation 449/2004 (the "Recycling Regulation");
- Section 6 Pollution Prevention Hierarchy and Product/Component Management - the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- Section 7.2 Products Collected - the description of how total amounts of the producer's product collected has been calculated in accordance with Section 8(2)(e) of the Recycling Regulation; and
- Section 9 Plan Performance – the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.

Our reasonable assurance engagement does not constitute a legal determination on the Association's compliance with Sections 8(2)(b), (d) and (e) of the Recycling Regulation.

Responsibilities

Preparation and fair presentation of the Selected Information in accordance with the evaluation criteria as listed in Appendix 1 is the responsibility of the Association's management. Management is also responsible for such internal control as management determines is necessary to enable the preparation of the Selected Information such that it is free from material misstatement. Furthermore management is responsible for preparation of suitable evaluation criteria in accordance with the Guide to Third Party Assurance Requirements for Non-Financial Information in Annual Reports – 2016 Reporting Year dated March 2017 as specified by the Director under section 8(2)(h) of the Recycling Regulation of the Province of British Columbia. The Ministry of Environment has granted the Association certain exemptions from these guidelines.

Our responsibility is to express an opinion on the Selected Information based on the procedures we have performed and the evidence we have obtained.



Evaluation Criteria

The evaluation criteria presented in Appendix 1 are an integral part of the Selected Information and address the relevance, completeness, reliability, neutrality and understandability of the Selected Information.

Scope of the Assurance Procedures

We carried out our reasonable assurance engagement in accordance with the International Standard on Assurance Engagements 3000 (ISAE 3000) published by the International Federation of Accountants. This Standard requires that we comply with independence requirements and plan and perform the engagement to obtain reasonable assurance about whether the Selected Information is free of material misstatement.

A reasonable assurance engagement includes examining, on a test basis, evidence supporting the amounts and disclosures within the Selected Information. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement in the Selected Information due to omissions, misrepresentations and errors. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the Selected Information in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the entity's internal control. A reasonable assurance engagement also includes assessing the evaluation criteria used and significant estimates made by management, as well as evaluating the overall presentation of the Selected Information. The main elements of our work were:

- Gain an understanding of the data collection, monitoring and reporting processes through inquiries of management;
- Testing the processes, documents and records on a sample basis;
- Re-calculating quantitative data on a sample basis as it pertains to the Selected Information;
- Ensuring the Selected Information is presented consistently in the Annual Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Inherent Limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the Selected Information and the methods used for determining and calculating such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments. Furthermore, the nature and methods used to determine such information, as well the evaluation criteria and the precision thereof, may change over time. It is important to read our report in the context of evaluation criteria.



Conclusion

In our opinion, the Selected Information within Product Care Association of Canada's Annual Report for the BC Lamps and Lighting Equipment Stewardship Program for the year ended 31 December 2016 presents fairly, in all material respects, in accordance with the evaluation criteria listed in Appendix 1:

- the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation;
- the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- the description of how total amounts of the producer's product collected has been calculated in accordance with Section 8(2)(e) of the Recycling Regulation; and
- the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.

Emphasis of Matter

Without qualifying our opinion, the following should be noted regarding the information in the Annual Report:

1. The Association does not present a recovery rate in the Annual Report. As such, the total amount of producer's products sold as presented on Table 10 - Units Reported Sold by Product Category in 2016 on page 17 of the Annual Report has not been included in the Selected Information in accordance with the Guide to Third Party Assurance Requirements for Non-Financial Information in Annual Reports - 2016 Reporting Year dated March 2017 as issued by the British Columbia Ministry of Environment.
2. As noted in the Responsibilities section of the audit report, the Association is required to prepare suitable evaluation criteria in accordance with the Guide to Third Party Assurance Requirements for Non-Financial Information in Annual Reports - 2016 Reporting Year dated March 2017. For the 2016 reporting year, the Ministry of Environment has granted the Association an exemption from adopting the definition of reuse, recycling, material and energy recovery, landfill, final disposition and primary service provider as defined in SPE-890-15 - A Guideline for Accountable Management of End-of-life Materials.
3. Section 9 Plan Performance of the Annual Report contains performance targets for capture rates which is not included in the scope of our reasonable assurance engagement for Section 8(2)(e) of the Recycling Regulation, and as such, this is not included in the Selected Information.



ROLFE, BENSON LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

Other Matter

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

Rolfe, Benson LLP

CHARTERED PROFESSIONAL ACCOUNTANTS

Vancouver, Canada
28 June 2017

Appendix 1

Evaluation Criteria

Collection facilities

Specific disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per Annual Report	Reference
“A collection site is a physical location where consumers can drop off Program Products. Collection sites can offer one or more collection services based on various factors. Services offered by collection sites are generally advertised to the public. In some cases, collection sites are not advertised where the location does not collect from the general public. LightRecycle enters into separate contracts with collection sites for each collection service offered and as a result, there is no one-to-one relationship between the number of sites and the number of services offered.”	Section 4.1 Collection Sites - on page 9
<p>“The Program’s system included 442 contracted collection sites, with 6 sites added in 2016 and 3 sites removed, representing a net increase of 3 sites from 2015.”</p> <p>“This location (unadvertised, Richmond) actually opened in 2012, but was not listed until 2016.”</p> <p>“Technically closed in 2015, but site (Norbert Salvage, Bridal Falls) only reported in 2016.”</p>	Section 4.1 Collection Sites - on page 9 and footnotes 3 and 4 on page 10 and Appendix B - List of Contracted Collection Sites on pages 26-36

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:

- “Collection facilities” are depots that have a signed contract with the Association for the collection of program materials during the reporting period: 1 January – 31 December 2016, a physical location that is available to collect program materials, and the staff of the facility has an adequate understanding of the program.
- The Association maintains a listing of all collection facilities for the program, including the location of the collection facility, the total of which agrees to the number of collection facilities as disclosed in the Annual Report.
- Large volume generators (LVG’s) and collection events are excluded from the number of collection facilities.
- The change in number of collection facilities is calculated by comparing the current number of collection facilities, a sum of all the collection facilities that have a signed contract within a given reporting year and those that closed within the same reporting year, to the number of collection facilities reported in the prior reporting year.



Pollution Prevention Hierarchy

Specific disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per Annual Report	Reference
<p>"After collection, Program Products are transported to the Program's primary processors. These processors include three for processing whole lamps, two for fixtures, one for crushed lamps and one for PCB containing ballasts. At the processors, Program Products are broken down into their respective component materials and either processed on site or sent to a downstream processor for further processing. Information about how material was managed by the Program's primary processors was based on information provided to PCA by the Program's primary processors."</p>	Section 6 Pollution Prevention Hierarchy and Product/Component Management - on page 14
<p>Material: Lamps Sub-Component: Phosphor Powder End fate: Phosphor powder was landfilled.</p> <p>Sub-Component: Mercury End fate: Mercury was landfilled.</p> <p>Sub-Component: Metal End fate: Metals were sold as a commodity into the scrap metal market.</p> <p>Sub-Component: Glass End fate: Used as an aggregate in concrete or as cullet.</p>	Section 6 Pollution Prevention Hierarchy and Product/Component Management - Table 9: Material Processing Pathways on page 15
<p>Material: Crushed Lamps Sub-Component: Metal and Glass End fate: Used as a commodity in the manufacturing of cement.</p> <p>Sub-Component: Mercury and Phosphor Powder End fate: Landfilled</p>	Section 6 Pollution Prevention Hierarchy and Product/Component Management - Table 9: Material Processing Pathways on page 15
<p>Material: Residential Fixtures "Residential fixtures contain materials similar to small appliances (e.g., metal, glass, plastics, etc.). As a result, the Program partnered with the Canadian Electrical Stewardship Association (CESA) stewardship program to collect residential fixtures along with small appliances and power tools at contracted collection sites that also serve as CESA depots. They were shipped to two independent processors where they were comingled with other electronics and broken down into their respective components."</p> <p>Sub-Component: Ferrous Steel</p>	<p>Section 6 Pollution Prevention Hierarchy and Product/Component Management on page 15</p> <p>Section 6 Pollution Prevention Hierarchy and</p>



<p>End fate: Consolidate/Shred/Sort/Process</p> <p>Sub-Component: Plastics End fate: Sort/Separate/Grind/Shred/Extrude/Pelletize/Granulate</p> <p>Sub-Component: Aluminum End fate: Consolidate/Shred</p> <p>Sub-Component: Wire and Cables and String lights End fate: Sort/Smelt</p> <p>Sub-Component: Copper End fate: Consolidate/Shred/Smelt</p> <p>Sub-Component: Glass End fate: Wash and grind/Crush</p> <p>Sub-Component: Circuit Boards End fate: Smelt</p> <p>Sub-Component: Refuse End fate: Landfill</p> <p>Sub-Component: Rechargeable and Non Rechargeable Batteries End fate: Consolidate</p> <p>Sub-Component: Paper Based Materials End fate: Recycle</p>	<p>Product/Component Management - Table 9: Material Processing Pathways on page 16</p>
<p>Material: Commercial Fixtures and Non-PCB Ballasts "Commercial fixtures and non-PCB ballasts were collected and managed outside the Program through the existing market driven scrap metal recycling system. Given the value of the metal commodity, the Program assumes that the material is recycled, but some non-metal material would need to be disposed of. Since it is a market driven system, the Program has no ability to verify or report on the volume and portion of the material recycled and or disposed of through this system."</p> <p>Sub-Component: NA End fate: Managed through the existing scrap metal recycling system</p>	<p>Section 6 Pollution Prevention Hierarchy and Product/Component Management on page 15</p> <p>Section 6 Pollution Prevention Hierarchy and Product/Component Management - Table 9: Material Processing Pathways on page 16</p>
<p>Material: PCB Ballasts "PCB ballasts were collected and managed as hazardous waste and incinerated at a high temperature in a PCB licensed incinerator. PCBs are regulated</p>	<p>Section 6 Pollution Prevention Hierarchy and Product/Component Management on page 15</p>



from transportation to disposal by the BC Ministry of the Environment and equivalent agencies.”	
Sub-Component: NA End fate: Incineration	Section 6 Pollution Prevention Hierarchy and Product/Component Management - Table 9: Material Processing Pathways on page 16

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

- The Association maintains a listing of all products shipped to the primary processor which is supported by shipping documents or processor invoices.
- The primary processor provides an invoice indicating the amount of product processed and in some cases a certificate of processing/reclamation.
- The primary processor provides information on product management in an annual questionnaire or an annual report to the Association. Questionnaire responses were received from all processors used by the program (excluding the processors of residential fixtures).
- The primary processors for residential fixtures have been approved by the Recycler Qualification Office (“RQO”) and the final disposition reported in the Annual Report agrees to the audit report issued by the RQO.
- Shipments of hazardous waste generated from the processing of lamps flow through a multi-step processing environment. Shipments to the primary processor are supported by a bill of lading that does not include information on the expected disposition of these products by the secondary processor. Shipments from the primary processor to the secondary processor are supported by the applicable government manifest which includes co-mingled materials from other sources and information on the expected disposition as completed by the consignee after receiving the shipment.
- Shipments of hazardous waste generated from crushed lamps and PCB ballasts are tracked on a hazardous waste manifest indicating the expected disposition.
- The Association performs periodic site inspections of the processors’ facilities (excluding the processors of residential fixtures). Site inspection criteria have been developed to confirm the responses in the questionnaire provided by these primary processors. Site inspections are to be performed on a rotating 3 year schedule. Three of the four processors have been inspected by the Association during 2015 or 2016.

Product collected

Specific disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per Annual Report	Reference
“Collection quantities for the different Program Products are based on annual reports and/or estimated based on quantities processed by the Program’s processors between January 1 and December 31, 2016, as reported by the Program’s processors. The reported quantities may include Program Products received in the 2015 fiscal year but processed in the 2016 fiscal year and may exclude units collected in the 2016 fiscal year that were not processed as of December 31, 2016.”	Section 7.2 Products Collected on pages 17 and 18



<p>Product collected Whole Lamps – 6,260,826 units</p> <p>Residential Fixtures – 550 tonnes</p> <p>PCB Containing Ballasts – 36,014 kg</p> <p>Crushed Lamps – 12,678 kg</p> <p>“Due to the comingling of collections and processing (residential fixtures) and the complexity of the recycling system, it is not possible for the Program to be able to specifically identify the proportion of materials attributed to LightRecycle and the Program has limited ability to verify accuracy of the reported information to a precise degree of certainty.”</p> <p>“This weight (PCB ballasts) includes the weight of the drum.”</p>	<p>Section 7.2 Products Collected - Table 11: Estimated Quantity of Products Collected in 2016 on page 18 and footnotes 7 and 8 on page 17</p>
<p>Product Collected – Lamps Fluorescent Tubes (All sizes and shapes) – 2,468,080 units</p> <p>Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps – 1,127,552 units</p> <p>Light Emitting Diodes (LED) – 43,020 units</p> <p>High Intensity Discharge (HID) and Other – 220,655 units</p> <p>Incandescent / Halogen – 2,401,519 units</p> <p>“This number (fluorescent tubes) includes: 0-2’, 2-4’, 4-8’, and U and O shaped tubes.”</p> <p>“This number (high intensity discharge and other) includes: Sodium lamps, HPS lamps (High Pressure Sodium), Metal Halide lamps, Mercury Vapour lamps, Induction tubes, UVC lamps and tubes, and Neon and Poly-coated tubes. Neon and poly-coated tubes are reported from the processor in length of feet. The length is then divided by 4 and rounded to nearest whole number to obtain reported units.”</p> <p>“This number (incandescent/halogen) includes projector bulbs and miniature bulbs.”</p>	<p>Section 7.2 Products Collected - Table 12: Whole Lamp Units Collected by Product Category on page 18 and footnotes 9, 10 and 11 on page 18</p>



The following evaluation criteria were applied to the assessment of the description of how total amounts of the producer's product sold and collected has been calculated in accordance with Section 8(2)(e) of the Recycling Regulation:

Product Collected

- The Association maintains a listing of product collected by product category for the fiscal year which agrees to the amounts disclosed in the Annual Report.
- Each shipment of product collected is supported by documentation provided by the processor which indicates the total units collected and the type of program materials collected.
- Residential fixtures are co-mingled with other end of life electronic materials during collection. The processors perform periodic sampling activities to determine the estimated percentage of program materials belonging to the program. The weights of residential fixtures related to the program are calculated by multiplying the total weight of co-mingled materials by the estimated percentage of LightRecycle program materials.

Performance targets

Specific disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per Annual Report	Reference
Collection Rate Targets	
Target: HID, UV, Neon lamps (units collected)	Section 9 Plan Performance on page 22
2016 Assertion – Target Exceeded	
Target: Residential Fixtures (tonnes collected)	Section 9 Plan Performance on page 22
2016 Assertion – Target Exceeded	

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

- All stewardship plan targets relating to Section 8(2)(b), (d) and (e) of the Recycling Regulation have been identified and reported on by management in the Annual Report.
- The description of progress against targets to date is supported by records of progress maintained by the Association.