

2019 Prince Edward Island Lamps Recycling Program Annual Report

June 12th, 2020

Submitted to:

Prince Edward Island Department of Environment, Water and Climate Change

Submitted by:

Product Care Association of Canada



productcare.org

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1. About Product Care Association

Product Care Association of Canada (“Product Care”) 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. Product Care manages paint, household hazardous waste, smoke and CO alarms and other lamp industry stewardship programs in various provinces in Canada. In 2019, Product Care celebrated 25th years of recycling expertise.

Product Care has an approved lamp product stewardship plan with the Prince Edward Island Department of Environment, Water and Climate Change under the Materials Recycling Regulations (“Regulation”) of the Environmental Protection Act. The PEI Lamp Recycling Program (“Program”) began in April 2015. On November 18, 2019, the Product Care Program Plan was renewed for another 5 year period.

Product Care’s members are the “brand owners” (manufacturers, distributors, first sellers and retailers) obligated by the Regulation. The Program is open to any brand owner to join.

Product Care operates lamp product stewardship programs in three other provinces: British Columbia (BC), Manitoba (MB) and Quebec (QC – branded as RecycFluo).

Product Care also operates the Paint Recycling Stewardship Program in Prince Edward Island.

1.1. Report Period

This report covers the reporting period from January 1, 2019 to December 31, 2019.

1.2. Program Summary

The Program offers collection sites, free of charge, throughout the province where consumers and businesses can bring unwanted/burned out lamps. Most collection sites are operated by Island Waste Management Corporation (IWMC) under contract to Product Care. In addition to the IWMC collection sites, a retailer, Home Hardware, in Charlottetown, is also a collection site under the Program. Residents and businesses can return any type of whole lamps to any of the six IWMC collection sites. The Home Hardware store only accepts lamps from the residential sector.

Product Care supplies collection sites with standard recyclable collection boxes and metal drums for collection of debris from broken lamps. A hauler contracted by the Program collects the filled boxes from the collection sites and delivers collection supplies to the collection sites. The full collection containers are shipped to a processor for recycling.

Additional elements of the Program managed by Product Care include revenue management, communications and administration.

An Environmental Handling Fees (EHF) is applied to each regulated lamp product sold into the province, providing funding to manage the Program (see Appendix 1). There were no changes to the fee rates in 2019.

1.3. Accepted Products

The Program is designed to collect and manage end-of-life intact (whole) lamps. The Program includes the following common categories of lamps, whether they are marketed for residential, industrial or commercial purposes. This list is subject to change by Product Care.

- Fluorescent Tubes – Fluorescent tubes come in different lengths (4 feet, 8 feet, etc.), diameters (T5, T8 and T12) and light output. The majority of tubes are straight, but some may be curved or shaped.
- Compact Fluorescent Lamps (CFLs) – Fluorescent bulbs that are typically similar in size and are intended to replace an incandescent (traditional) light bulb, including pin-type sockets, covered CFLs and various output wattages.
- High Intensity Discharge Lamps (HID), non-mercury and mercury containing lamps – Including mercury vapor, metal halide, high- or low-pressure sodium and UV lamps.
- Incandescent and Halogen lamps – Filament lamps of all shapes, sizes and wattages.
- Light Emitting Diode (LED) lamps – Solid-state lamps used for specialty purposes and conventional lighting applications.
- Miniature Bulb Package – Miniature bulbs are small or very small bulbs. They can be LED, incandescent, halogen or neon and are typically designed and sold as replacement bulbs.

Lamp products can be sold as replacement lamps or integrated into a product intended to illuminate an area (such as a fixture, a flashlight, etc.). When sold integrated into such a product, the lamp portion of the product must be designed to be able to be removed from that product by the end user to be recycled. Lamps that are sold integrated into products that meet this requirement are included in the Program.

The Program is designed to collect and manage whole lamps and not crushed lamps. A limited amount of incidental breakage of lamps is accepted by the Program, provided the broken lamps are packaged in accordance with the requirements of the Program.

The Program includes lamp products manufactured by existing brand owners as well as orphan products (those that are no longer in production or which the manufacturer is no longer producing) if their function was the same as products accepted in the Program.

1.4. Non-Program Material

Non-program materials are products other than the lamp products listed above. Minimization of non-program material is achieved through a comprehensive program of public education, signage, and collection facility staff training. Non-program material includes, but is not limited to, the following:

- All types of fixtures
- Ballasts
- Any other lighting products (Products containing lights with a primary purpose that is not to illuminate or assist in the illumination of space (e.g., germicidal lamps).
- Lamps integrated into products that are not intended for removal/replacement by end users. Due to technological modifications, this exclusion may be subject to review.

2. Brand Owner Sales Information

Program members reported the sales of program products in PEI from January 1 to December 31, 2019, for a total of 444,415 units as shown below in Table 1.

Table 1: Total Units Sold by Category

	Fluorescent tubes	Compact Fluorescent Lights (CFL)	LED	HID and Other	Incandescent/ Halogen	Mini bulbs package	Total
Units	44,258	17,312	192,806	2,530	164,566	22,943	444,415

3. Collection

The following section provides the total amount of lamps collected in PEI, as well as the location of collection sites.

3.1. Total Amount of Lamps Collected

Table 2 shows the total number of lamp units by category that were collected and processed by the Program.

Table 2: Total Units of Lamps Collected in 2019

	Fluorescent tubes	Compact Fluorescent Lights (CFL)	LED	HID and Other	Incandescent/ Halogen	Mini bulbs package	Total
Units	62,244	14,028	2,631	2,362	17,692	506	99,463

3.2. Collection Sites

As of December 31, 2019, seven collection sites participated in the Program: six collection sites operated and managed by IWMC and one retail location. Table 3 lists all collection sites and appendix 2 presents the online tool for residents to find their closest collection site - <https://www.productcare.org/recycling-locator/>.

Table 3: 2019 PEI Lamp Collection Sites

Collection Sites	Address	City
GreenIsle	8 Superior Crescent	Charlottetown
Brockton	2202 Dock Road Route # 150	Brockton
New London	10142 Route #6	New London
Murray River	378 Cape Bear Road Route #18	Murray River
Dingwells Mills	100 Selkirk Road Route #309	Dingwells Mills
EPWMF	29786 Route #2	Wellington Center
Home Hardware	115 St Peters Rd.	Charlottetown

4. Processing

4.1. Lamps Processed

All lamps collected through the Program were sent to Quebec for processing. In 2019, a total 99,463 whole lamps were recycled. All lamps collected were processed. The Program's processor is required to conform to Product Care's Processor Standards.

4.2. Disposal Method Descriptions

The following sections describe each method the Program used to reuse, recycle, or otherwise treat or dispose of lamp products.

Reuse

The Program is designed to manage end-of-life lamp products that no longer work and cannot be reused. Consequently, no lamps collected through the Program were reused.

Recycling

Collected Program Products were broken down into their component parts in a controlled environment. The resulting glass, ceramic and metal components were recovered as commodities. The metal components (including electronics, which are miniature ballasts integrated in the base of some compact fluorescent lamps) were sent to smelters. Glass and ceramics were sent to a glass recycler to be used for sand blasting.

Secure Landfill

During the separation of the components, the mercury and the phosphor powder were collected in drums. The contents of the drums are sent to a waste management company in Quebec where they are encapsulated into a concrete-like material and securely landfilled. Although the mercury can be removed from the phosphor powder by retort, the market for recycled mercury has been greatly reduced in the last few years due to regulatory restrictions. These restrictions include a US ban on mercury exports, which has limited the availability of recycling options for mercury.

4.3. Design for Environment

Lighting product brand owners continue working to reduce the environmental impact of lighting products through innovative product design and technology. New design and technology has addressed environmental concerns by reducing material use, increasing lamp life, increasing energy efficiency and increasing recycling rates. For example, efforts in this area have 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, such as a decrease in the amount of glass used in the products. The amount of mercury contained within fluorescent lights has also been decreasing with most lamps now containing less than 5mg of mercury, representing an 80% to 90% reduction.

Life cycle management is also playing an important role in reducing the environmental impact of lighting products. For example, brand owners 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, with some lamps now having a life of more than 30,000 hours, reducing the cumulative environmental impact associated with these products.

The advancement of LED lighting technology is 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 some years ago.

Due to the significantly longer lifespan of LED lights, sales have decreased for other traditional lighting technologies, such as halogen, incandescent and fluorescent lights. A review of lamp sales trends from the past 3 years reveals declining sales in all lamp categories, with the exception of LED lamp categories. According to members of Product Care's Light Recycling Advisory Committee, it can be expected that declining sales trends will continue for mercury containing lamps. In particular, sales of CFLs have experienced a decline at a faster rate than anticipated. The Advisory Committee foresees that CFLs will likely be eliminated from the market within the next 3 to 4 years. Furthermore, it is anticipated that fluorescent tubes will follow CFLs and likely be eliminated from the market in the next 5 to 10 years. As older lighting technologies are eliminated from the market, the Advisory Committee expects that they will be replaced by LED lamp technologies. LEDs contain no mercury and have an even longer life of about 15,000 – 20,000 hours. Most CFLs, in comparison, only have an average life of 10,000 hours. It is expected that we will also see more and more integration of LEDs into fixtures.

The shift to more energy efficient and longer lasting lighting technology is clear. Most LED lamps are more than 50% more efficient than CFL lamps, reducing electricity use and reducing pollution from power generation.¹ These changes all help to decrease the impact on the environment, with longer life lamps helping to reduce waste, make lamps less hazardous and reducing the size of lamps thereby reducing the amount of materials required to manufacture them and minimizing waste.

5. Communication and Education

In 2019, Product Care implemented a number of different methods to raise consumer awareness of the lights recycling program in Prince Edward Island. The following section provides details regarding communication and public education program plan commitments in 2019.

5.1. Program Awareness

During Fall 2019, an online survey was conducted among adult Prince Edward Island residents. The survey revealed that 50% of residents are aware that they can recycle household lights in the province—an increase of 18 percentage points over 2015 awareness (32%)

5.2. Website

In January 2019, the regeneration.ca website was replaced with the new Product Care website: productcare.org. The new website reflects a refreshed, consolidated brand focused on an improved user experience for consumers, industry and members. The Product Care website and the Prince Edward Island lights recycling program dedicated page offer the following content:

- “Find a Recycling Location” tool (a searchable map displaying collection sites and drop-off events)
- Collection site hours of operations
- Accepted and not accepted products
- The environmental benefits of light recycling
- Description of the method for recycling lighting products
- Program member support section with news and updates
- Consumer videos showing the product management approach for lights
- Other information (e.g., a description of the lights program, annual reports)

¹ Personal Communication with representative of GE.

An estimated 527,307 unique visitors accessed ProductCare.org during the 2019 calendar year. The Prince Edward Island section (including sub-sections for accepted products and fee information) received 2,581 total page views. In addition, there were a total of 827 unique visits to the "Find a Recycling Location" tool from consumers in Prince Edward Island.

5.3. Program Hotline

Product Care continued to operate a toll-free "hotline" for consumers to obtain information about the Program.

5.4. Partnerships

Product Care continued to contract with Island Waste Management Corporation (IWMC) to promote the Program in the province throughout the year by implementing the following tactics:

1. **Waste Watch News:** Newsletters were distributed to Island residences (including seasonal dwellings and apartment units) in June and December through Canada Post. These newsletters were available in English and French and contained a summarized sorting guide, including information on lighting products and recycling. A total of 65,000 newsletters were distributed each time.
2. **Interactive Sorting Guide:** The IWMC website provided a webpage with information on specific products, including steps for sorting recyclables into the correct stream and an interactive sorting guide. The page also includes a direct link to the Program's website for a complete list of accepted and excluded products. Hard copies of the sorting guide were made available in English, French, Mandarin, and Arabic. They were also produced in poster size for display at businesses, community organizations and multi-family dwellings. The sorting guide was also made available to new residents.
3. **Business Customers:** Business Guides helped the industry, commercial and institutional sectors manage waste. IWMC included Sorting Guides when distributing the Business Participant Guide. Sorting information for the business sector was also obtainable from IWMC's website.
4. **Hazardous Waste Project:** IWMC partnered with a local watershed association to co-deliver a presentation including light recycling information at a community course. The partnership also included surveys to assess recycling awareness in different communities and holding one-on-one meetings with local businesses and farmers about their waste disposal practices.

5. **Customer Service Inquiries:** In addition to the Program hotline operated by Product Care, IWMC's Customer Service Centre operated a toll-free line where consumers could call in to request more information regarding the disposal of various recyclables, including lights. IWMC receives an average of 50,000 calls every year.
6. **Corporate Annual Report:** Information on light recycling was highlighted in IWMC's Annual Report. This report was tabled in the Legislature, and the most current report made available on the IWMC website.
7. **Newspaper columns:** In 2019, four newspaper columns provided details on light recycling in *The Journal Pioneer* and *The Guardian*.
8. **Sorting Game:** A bilingual sorting game included a light bulb icon on its Special Disposal panel (see Appendix). This game was widely used by audiences of every age (day care, schools, community college, English as a Second Language sessions, and community groups). The game was used at community events, when doing presentations, and lent out to organizations wanting to enhance the waste knowledge of their membership. IWMC has five sets of the game and uses this tool approximately 80 times per year (potential reach of 2,000 people).
9. **Presentations & Tours:** IWMC was invited to make presentations at conferences, learning institutions, disposal facility tours, and to visitors at their collection sites. In almost every case, the presentation included a sorting component. IWMC explained how its stewardship programs operate as part of Waste Watch and showed slides to capture the highlights of each program.
10. **Website Links:** A link to productcare.org was available through IWMC's website.

5.5. Digital Advertising

All digital campaigns (excluding tactic targeted blog posts and organic social media posts via Product Care Recycling Facebook, Instagram, and Twitter feeds) reached the entire province.

1. **Google Search Advertising Campaign:** January to December, 2019

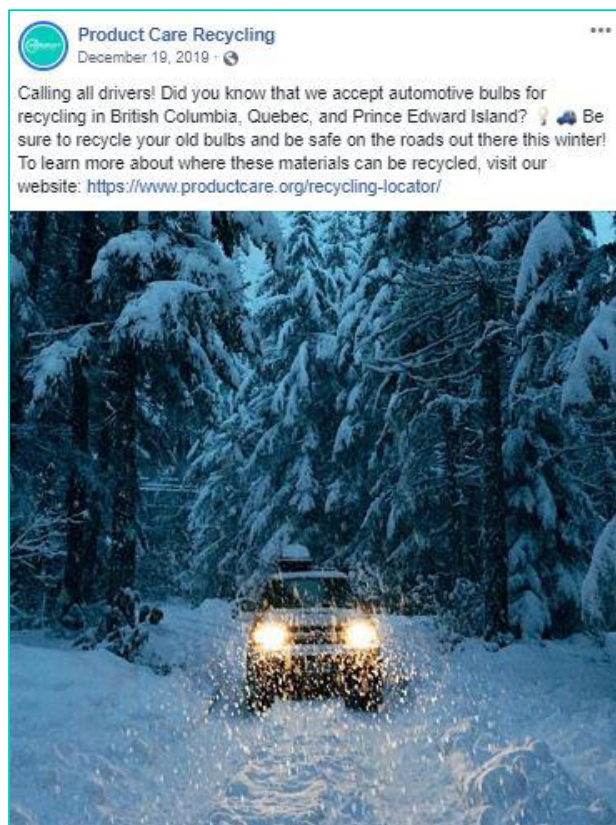
A search advertising campaign served lights ads to provincial residents based on an extensive list of keyword searches relevant to the Program. Prince Edward Island's ads collectively generated 152 impressions.

Recycle Your Old Light Bulbs | Find a Recycling Location

Ad www.productcare.org/recycling

Keep light bulbs out of landfills - recycle them! Find your nearest recycling location. Our recycling locations are free to use and accept many kinds of light bulbs.

Neighborhoods: Charlottetown, New London, Dingwell Mills, Brockton, Wellington, Sherwood



2. **Facebook Content Strategy:** Content focused on lights recycling, special waste and the recycling community in general.

3. **Targeted blog posts:** Blog posts were targeted at relevant audience members including, but not limited to, homeowners, female heads of households, and environmentally-inclined individuals. Topics included specific information on lights recycling, “do it yourself” (“DIY”) content, renovation tips, and sustainability best practices. All posts included a call-to-action to find a recycling location or interact with the brand on social media. Collectively, these posts received 45,548 views.



See appendix 2 for more examples advertising activities.

5.6. Point of Sale (PoS) and Point of Return (PoR) Materials

In 2019, Product Care distributed both PoS and PoR materials as requested by retailers and collection sites. General program awareness posters were made available for reorder through the online order form.



11. Financial Information

The following is a summary of the Program's finances for the 2019 reporting year.

2019 Revenue and Expenses	(\$'000s)
Total Revenue	68
Total Operating Expenses	82
Program Operation	62
Program Administration	10
Education, Public Awareness	5
Regulatory	5
Surplus/Deficit from Operations	(-14)
Cumulative Surplus (Reserve)	63

Appendix 1 – PEI’s 2019 Light Recycle Environmental Handling Fee Rates

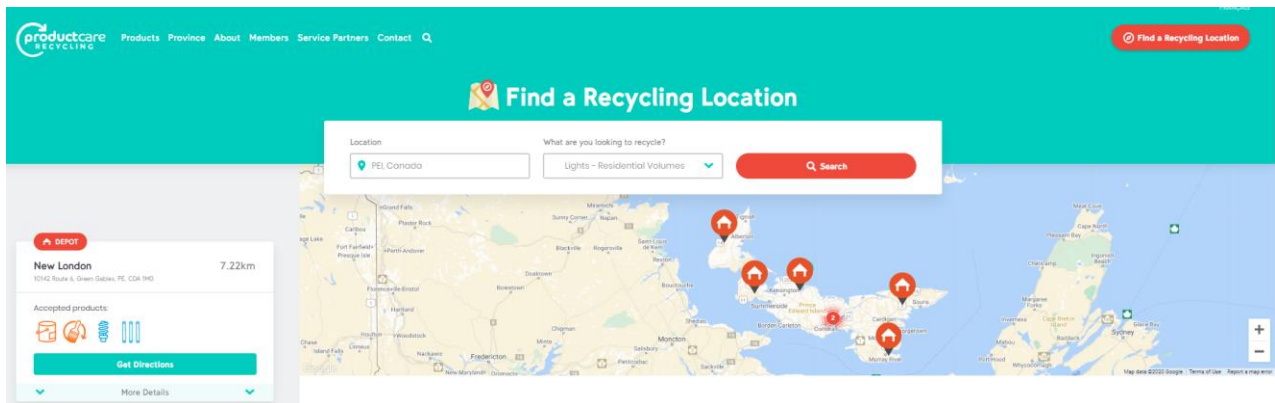
Accepted Lamp Products	2015 Rates ¹
Fluorescent Tubes measuring ≤ 2 feet	\$0.30
Fluorescent Tubes measuring > 2 feet and ≤ 4 feet	\$0.50
Fluorescent Tubes measuring > 4 feet	\$1.00
Compact Fluorescent Lights (CFL)/Screw-in induction lamps	\$0.20
Light Emitting Diodes (LED)	\$0.15
High Intensity Discharge (HID), Special purpose and Other	\$1.10
Incandescent / Halogen	\$0.05
Miniature Bulb Package	\$0.10

¹ No fee changes since 2015

Appendix 2 – Communications Materials

“Find a Recycling Location” Tool

Below is a snapshot of the “Find a Recycling Location” tool that can be found at productcare.org.



IWMC Sorting Guide

SPECIAL DISPOSAL		NEVER COLLECTED AT ANY TIME!!	
ITEM	DESCRIPTION	FREE Disposal Options for HOMEOWNERS	Disposal Options for BUSINESSES (some items require a disposal fee)
Cell Phones	Any type	Visit recycleit4electronics.ca/pe or www.recyclemycell.ca for drop-off locations or take to a WWDC.	Visit recycleit4electronics.ca/pe or www.recyclemycell.ca for drop-off locations. Accepted FREE at WWDCs.
Household Hazardous Waste (HHW)	• fuel (gasoline, kerosene, etc.) • pesticides, herbicides, insecticides • aerosol cans (with contents) • cosmetics & personal care products • flame with mercury • pet medications	WWDC - Must be in sealed original container. Jerry cans (or other containers) used for transporting must be left behind with contents.	Businesses must dispose of hazardous material through a hazardous waste carrier. (Search "Chemical" on Interactive Sorting Guide at www.hmc-pe.ca for list of carriers.)
Ink Cartridges	Laser or ink-jet	Accepted at most electronic retailers or WWDC.	Search online for "ink cartridge recycling" or accepted at most electronic retailers.
Large Bulky Furniture	Material longer than 4 ft. or heavier than 50 lb such as sofas, tables, china cabinets, mattresses, patio furniture, etc.	WWDC	WWDC - Waste disposal fee will apply.
Propane Tanks	30 lb. or less: Over 30 lb.: Cylinders:	Propane tank exchange location or WWDC. Propane dealer. WWDC	Propane tank exchange location. Propane dealer. WWDC (disposal fee applies).
Tires	MUST be removed from rims	WWDC (disposal fee applies to tires with rims)	Return to place of purchase or WWDC (tires without rims are FREE; disposal fee applies to tires with rims)
White Goods	Appliances (stoves, washers, dishwashers, hot water tanks, etc.)	WWDC	WWDC - FREE
Automotive Lead Acid Batteries	Any size	Accepted at place of purchase, scrap metal dealers or at WWDC.	Visit www.canadianbatteryassociation.ca for drop-off locations. Also accepted FREE at WWDC.
Batteries	Rechargeable and non-rechargeable batteries (i.e. AAA, AA, C, D, button type, lithium, etc.)	Visit www.call2recycle.ca for packaging directions and drop-off locations. Also accepted FREE at WWDCs.	Visit www.call2recycle.ca for packaging directions and drop-off locations. Also accepted FREE at WWDCs.
Electronics	Cell phones & mobile devices, televisions, audio systems, computers & peripherals, home theatres, cameras, e-books, modems, storage drives, video game systems, GPS, microwave ovens, etc.	Visit recycleit4electronics.ca/pe for drop-off locations or take to a WWDC - FREE (call in advance for more than 25 items)	Visit recycleit4electronics.ca/pe for drop-off locations or take to a WWDC - FREE (call in advance for more than 25 items)
Light Bulbs	All lights that can be removed from fixture, i.e. LEDs, halogens, Fluorescent (CFLs, linear, u-tubes, etc.), high intensity bulbs, incandescents	Visit www.productcare.org for drop-off locations or take to WWDC	See www.productcare.org for locations or WWDC - FREE (call in advance for more than 16 bulbs)
Medications	Prescriptions, over-the-counter drugs (pain & cold medications, etc.), natural health products (vitamins & mineral supplements, etc.)	Participating pharmacies (see www.healthsteward.ca)	Hazardous waste carrier (search "Chemical" on Interactive Sorting Guide at www.hmc-pe.ca for list of carriers.)
Motor Oil/Automotive Antifreeze	Oil fluids, containers, & oil filters; automotive antifreeze fluids and containers; aerosol containers for propelled lubricant and brake cleaner (quantities & container sizes less than 50L)	Return to a collection facility (see www.uoma-atlantic.com) or to a WWDC.	Return to a collection facility (see www.uoma-atlantic.com) or WWDC - FREE
Needles / Syringes	Needles, syringes, needle tips, lancets, insulin pens, and other sharps	Pick up free sharps container at participating pharmacies (www.healthsteward.ca). When container is full, return to pharmacy for disposal.	See www.hmc-pe.ca (Interactive Sorting Guide) for options.
Paint Products	Paints, stains, etc. AND empty paint containers	Visit www.productcare.org for drop-off locations or take to WWDC	FREE at WWDCs. Visit www.productcare.org for limits, guidelines & additional drop-off locations.

IWMC Sorting Game



Social Media Assets –Product Care 25th Anniversary Lights Program

