LightRecycle Washington
2022 Annual Report

For submission to:

Washington State Department of Ecology
Solid Waste Management Program
Attn: Megan Warfield, Lindsey Ladd

Submitted by:

Mark Kurschner, President
PCA Product Stewardship Inc.
P.O. Box 30811
Seattle, WA 98103

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1 Executive Summary

The Washington State Mercury-Containing Lights Product Stewardship Program, called LightRecycle Washington (the "Program" or "LRW"), began on January 1, 2015, for the collection and recycling of mercury-containing lights sold at retail.

Pursuant to WAC 173-910-430, each stewardship organization must submit an annual report to the department describing the results of implementing the stewardship organization's plan for the prior calendar year. In addition, WAC 173-910-430(2) states that starting in 2023, the Program is required to provide an analysis that includes:

1. The percent of total sales of lights sold at retail to covered entities in Washington that mercury-containing lights constitute,
2. The estimated number of mercury-containing lights in use by covered entities in the state,
3. The projected number of unwanted mercury-containing lights to be recycled in future years.

The results of this analysis are presented in Appendix G.

Washington State residents and businesses can recycle up to 10 mercury-containing lights per day for free, by dropping them off at authorized collection sites throughout the State. Collection sites are required in every county and every city of 10,000 or more people. LRW continues to meet this requirement through its established collection network of over 200 registered sites, and by holding collection events in areas where no permanent collection site exists. Collectors include retailers, municipal waste facilities, and residential curbside collection.

Collected lights are transported to the Program processor (recycler) using ground transport, where they are recycled as Universal Waste. Recovered mercury is retorted, then reused or stored, and is managed by the processor in compliance with applicable local, state, and federal laws. Recycling mercury-containing lights protects the environment and human health by reducing the release of mercury into the environment and by recovering recyclables, such as metals and glass.

The total amount of program mercury containing lamps collected in 2022 was 478,031 lbs., estimated to be 976,926 units. This volume represents approximately 77.2% of the annual collection target of 1,265,787 units, as committed to in the Program Plan Update submitted on December 23, 2021 and approved by the Department of Ecology on January 10, 2022.

The program did not achieve its annual collection goal due to several contributing factors. Primarily, the decline in units sold exceeded our projections, driven by a faster-than-anticipated decrease in mercury-containing light sales. This swift market transition, combined with the program's maturity, led to reduced collection volumes, making it increasingly challenging to meet our established targets.
In light of these shifts in market dynamics and consumer behavior, we are actively reevaluating our strategies year by year. It is evident that, despite our best efforts, collection numbers will continue to decline at a faster rate than initially forecasted when these targets were set. Our commitment remains steadfast in ensuring the safe and responsible collection and disposal of mercury-containing lamps, and we are fully dedicated to making necessary adjustments to align our goals with the evolving lighting industry landscape.

The Program is funded through an Environmental Handling Charge (EHC) added to the purchase price of each mercury-containing light sold at retail in or into Washington State. The current EHC is $0.95 per unit for all program types. The Program is administered by PCA Product Stewardship Inc. (PCA), a 501(c)(3) non-profit organization.

2 Program Description

The Program has been developed pursuant to the provisions of Chapter 70A.505 of the Revised Code of Washington (Chapter 70A.505 RCW) "Mercury-containing lights-proper disposal" (the "Law"). This Plan complies with the requirements of the "Rule" prescribed in (Chapter 173-910 Washington Administrative Code (Chapter 173-910 WAC) where there is no conflict with the requirements of Chapter 70.275 RCW.

The Law requires that the Program be funded through an EHC added to the purchase price of each mercury-containing light sold at retail in or into Washington State as of the program start date, January 1, 2015. The EHC was $0.25 per unit for all program product types from the start of the program until June 30, 2017. On July 1, 2017, the EHC was increased to $0.50 per unit for all program product types. On February 1, 2018, the EHC was increased to $0.95 per unit for all program types. Each change in EHC was approved by the Department of Ecology.

Every Producer of mercury-containing lights sold in or into Washington State for retail sale must participate in a product stewardship program for those products. Participation in LRW is open to all Producers.

A network of collection sites has been established throughout Washington State that includes retailers, municipal waste facilities, and collection events. Washington State residents and businesses can recycle up to 10 mercury-containing lights per day for free,

by dropping them off at authorized collection sites throughout the State and at collection events.

Collected lights are transported to the Program processor (recycler) using ground transport, where they are recycled as Universal Waste. Recovered mercury is retorted, then reused or stored, and is managed by the processor in compliance with applicable local, state, and federal laws.

LRW is administered by PCA, a 501(c)(3) non-profit product stewardship organization incorporated in Oregon and registered in Washington.

3 Participating Producers

PCA Product Stewardship Inc. (PCA) has been designated as the Stewardship Organization for LRW. PCA administers the Program on behalf of all participating Producers who sell mercury-containing lamps in or into Washington State.

The participating Producers in LRW are listed in Appendix A, along with their contact information and the associated brands they sell.

The total number of mercury-containing lights sold at retail in or into the state by participating Producers in 2022, as reported by Program Producers and remitting retailers, is provided in Table 1 below, by product category.

Table 1: Mercury-lights Sold at Retail in WA in 2022

Product Category	2022 Units Sold
Compact Fluorescent Lamps (CFL)	180,227
Fluorescent Tubes (All lengths and Shapes)	421,185
High Intensity Discharge (HID)	19,818
Total	621,230

The total number of mercury-containing lights sold at retail in or into the state by participating Producers in 2022 was 621,230, representing a 27% decline from the 2021 sales figure of 850,586. This continuous decrease in sales is attributed mainly to the transition to other lighting technologies, such as Light Emitting Diodes (LEDs), and is especially prominent in the CFL category.

4 Program Goals

As outlined in the Program Plan Update dated December 23, 2021, the program used the average of the collected units from 2019 and 2020 (as reported in the 2019 and 2020 LightRecycle Washington Annual Reports respectively), as a baseline to establish collection targets. Table 2 below outlines the collection targets from 2021-2025.

Table 2: 2020-2025 Collection Targets

Targets	2019-2020 Averaged	2021	2022	2023	2024	Jan-Jun 2025[1]
Units Collected	1,216,635	1,240,967	1,265,787	1,278,444	1,291,229	645,614
Annual Collection Increase		2%	2%	1%	1%	0%

The amount of materials collected at registered collection sites and received by the Program processor in 2022 was 482,051 lbs. This weight includes any non-program materials that may have entered the collection system.

Upon receipt at the processor, each shipment is weighed. Weights are recorded separately for fluorescent tubes and mixed lamps, which are comprised of CFLs, HIDs and curved fluorescent tubes. Mixed lamps are sampled to determine the split of Program materials for those types. Weights of individual lamps were used to derive the number of units collected.

The total amount of program materials collected in 2022 was estimated at 478,031 lbs., which converts to 976,926 units, representing approximately 77.2% of the annual collection target of 1,265,787 units. A breakdown of the materials collected in 2022 is provided in Table 3 and the graphic below:

[1] The program sunset date is July 1, 2025, and as such, the collection target for the year 2025 is half of the estimated annual volume.

Table 3: Program Materials Collected and Processed in 2022

Lamp Type	Weight Collected (lbs.)	Weight per Unit (lbs.)[2]	Units Collected
Fluorescent Tubes - 4' Straight	306,512	0.5	613,024
Fluorescent Tubes - 8' Straight	101,626	1	101,626
Fluorescent Tubes - Curved Shapes	10,700	0.25	42,800
CFLs (Compact Fluorescent Lamps)	54,004	0.25	216,017
HIDs (High Intensity Discharge)	5,188	1.5	3,459
Total[3]	478,031		976,926
2022 Annual Target			1,265,787
Percentage of Goal			**77.2%**

5 Collection System

Collection Sites

By law, collection sites are required in every county and every city of 10,000 or more people. LRW met this requirement by establishing a collection network of registered sites that collected all program products and held collection events in areas where no permanent collection site could be placed or advertising the location of near-by collection sites.

At the end of 2022, LRW had a total of 282 registered collection sites, including:

- 188 sites that accept all program products
- 66 sites that accept CFLs only
- 28 additional sites that are unadvertised, that accept all program products

Only collection sites that are advertised and accept all program products meet the collection site requirements in the law. See Appendix C for a complete list of advertised collection sites by city and county.

[2] Conversion rates used are outlined in the 2021 Program Plan Update, as approved by the Department of Ecology.
[3] Total does not add up due to rounding.

Unadvertised sites include:

- Sites that accumulate lights, but do not collect lights directly from residents or do not want to promote the collection of lights.
- Curbside collectors whose facilities are not suitable for public drop-off of lights for recycling.

Mercury-containing lights were collected at events that were held around the state that were either initiated or supported by the Program:

- King County Wastemobile
  - 12 locations, 63 days
- King County, SeaTac
  - Tyee High School, May 7, 2022
- King County, SeaTac
  - Tyee High School, October 22, 2022
- Spokane County, Airway Heights
  - Sunset Park, October 24, 2022
- Spokane County, Liberty Lake
  - STCU Administrative Offices, November 4, 2022

Curbside Collectors

Two waste haulers that have curbside collection programs for mercury-containing lights are registered as LRW collectors. The names of the waste haulers and location of their corporate headquarters are:

- Recology/CleanScapes, Issaquah, WA
- Clean Earth, Kent, WA

6 Processor

Name and Contact Information

EcoLights Northwest, LLC ("EcoLights")
Contact: Alex Domingo
7021 South 220th Street,
Kent, Washington 98032
Phone: 206.388.5330

Total Mercury-containing Lights Processed

LRW collected 478,031 lbs. of program mercury-containing lights, all of which were processed by EcoLights.

Description of Processing Methods

Fluorescent Tubes: Fluorescent tubes are fed into a machine utilizing a controlled environment where the tubes are mechanically crushed and separated into the following components:

- Glass cullet
- Aluminum end caps
- Mercury phosphor powder

The glass cullet is sent to a Washington aggregate company for use in the manufacture of concrete. The aluminum endcaps are sold in Washington or Oregon as scrap metal, and the mercury phosphor powder is shipped to an EPA regulated and approved mercury retort company in Indiana, where the mercury is removed from the powder and made available for future use in new products or processes such as the manufacture of fluorescent lamps. The clean phosphor powder is shipped for recovery of rare earth elements contained in the powder.

CFLs: Compact Fluorescent Lamps are fed into a separate processing machine designed to separate the glass from the CFL base, and capture the mercury, in a controlled environment. The glass portion is then fed into a straight tube processing machine, where the glass is treated in the same way as fluorescent tubes. The bases are sent to a Washington or Oregon recycling company for scrap metal recovery.

HIDs: High Intensity Discharge lamps are dismantled by hand or by machine. The outer glass envelope is removed, crushed, and sent with other lamp glass to an aggregate company for use in concrete, the metal frame is sent to metal recyclers, and the mercury bearing glass ampules are sent to the same mercury retort company, but to a different location (Arizona) for recovery of the mercury for use in new products or processes.

Other: Other types of lamps (U-tubes, circular, neon tubes, etc.) are processed in EcoLights straight tube recycling equipment, with components separated in the same manner into commodities to allow for further recycling.

Environmental Health and Safety

EcoLights maintains a certified ISO 14401 Environmental Health and Safety Management System and employs a full time Environmental Manager and Health & Safety Manager.

EcoLights processing equipment is equipped with pleated filters, HEPA filters, and sulfur impregnated carbon beds to capture dust and mercury vapor before the process air is returned to the processing room. The lamp processing room is also equipped with

additional ventilation equipment designed to capture fugitive mercury that operates 24 hours per day. The building is not vented to the outside environment.

All technicians working in the lamp processing room are equipped with full face respirators designed to capture mercury and protect the employees. They also are equipped with personal protective equipment, including coveralls, steel toed boots, gloves and hairnets to minimize exposure to any fugitive mercury in the processing room. All technicians undergo urine testing at hire to establish a baseline and every 6 months to ensure safe levels are maintained.

Transportation

Transportation is completed by these two methods:

1. Direct Dispatch – Collection sites contact EcoLights directly and pick-ups are scheduled to be completed by EcoLights or their parent company, Total Reclaim, or a third-party hauler.
2. FedEx – Box kits are sent out and returned via Fed-ex.

Compliance Audit Report

EcoLights Northwest provided PCA, in 2022, a Triennial Compliance Audit Report completed by a qualified third party, which satisfies the requirements of WAC 173-910-430 (9) (c) A See Appendix E.

EcoLights has not received any financial penalties, regulatory orders, or violations regarding the processing of lamps over the last three years.

7 Education and Outreach

Promotion and Outreach

The following are education and outreach activities undertaken by the Program in 2022:

- The program website (www.lightrecycle.org) attracted 22,088 unique users and 22,413 visits to the recycling locator tool.
- 15% of website traffic came through referrals from other websites with 34% of all referrals coming from the Department of Ecology's website.
- Collection sites and retailers were sent printed marketing materials on request.
- The following printed marketing materials were available:
    - Information cards (5" x 8") were provided to retailers, local governments, and others upon request
    - Collection site posters were provided upon request

- Printed marketing materials could be ordered by phone, email, or through the website and are provided at no charge

Digital Advertising

A Google Search campaign was activated starting November 2022, as well as Facebook Event campaigns geotargeted to increase traffic to collection events, together achieving more than 20,000 impressions and 325 clicks.

Format	Description	Duration	Impressions	Clicks
Facebook Events Ads	Ads optimized to showcase the main features of an event to get attendees	Oct-Nov	18,937	95
Google Search	Text ads shown on Google & other search engines	Nov-Dec	1,160	230

Examples of marketing materials and advertisements used by the Program in 2022 are provided in Appendix D.

Assessment of Effectiveness

Advertising was designed primarily to create awareness of the program, drive the audience to the website and specifically to the collection site finder. However, the effectiveness of LRW outreach efforts cannot be gauged solely by the amount of website traffic or materials collected. Other factors such as the cumulative impact of advertising and outreach efforts in previous years can impact collection volumes. The long lifespan of program products also means that program use does not necessarily immediately follow a gain in program awareness.

8 Financial Report

The Program is funded through an EHC added to the purchase price of each mercury containing light sold at retail in or into Washington State. The EHC was $0.25 per unit for all program product types from the start of the program until June 30, 2017. Due to declining sales volumes of mercury lights, particularly CFLs, the EHC was increased and approved by Department of Ecology to $0.50 per unit on July 2, 2017, and further increased to $0.95 on February 1, 2018.

A breakdown of the revenue generated by the Program in 2022, as well as expenses for Program operations, communications, and administration is provided in Table 4.

Table 4 Program Financial Summary for 2022

Program Revenue	$612,695.60
Retailer Offset	($5,864.60)
Total Revenue	**$606,831**
Program Expenses	$670,753
Other Expenses	
Communications	$3,133
Administration	$106,760
Regulatory	$9,500
Total Other Expenses	$119,393
Total Expenses	**$790,147**
Change in Net Assets	**$(183,316)**
Net Assets, beginning of year	**$1,812,627**
Net Assets, end of year	**$1,629,311**

Appendix A: Participating Producers and Brands

The following table lists the Producers who participated in LightRecycle Washington during 2022.

Table 5: List of Participating Producers in 2022

	Company Name and Website	Phone	Address
1	Ace Hardware Corporation www.acehardware.com	630-990-6600	2200 Kensington Court Oak Brook, IL 60523
2	Coleman Cable Inc. www.colemancable.com	800-323-9355	1530 Shields Drive Waukegan, IL 60085
3	Dolan Northwest LLC www.seattlelighting.com	503-972-5234	222 2nd Avenue Ext. South Seattle, WA 98134
4	Elong International USA Inc. (representing Do it Best Corp) www.elonginternational.com	972-247-7996	2425 McIver Lane #150 Carrollton, TX 75006
5	Feit Electric Company, Inc. www.feit.com	562-463- 2852	4901 Gregg Rd. Pico Rivera, CA 90660
6	General Electric Lighting www.gelighting.com	216-266-9729	1975 Noble Rd East Cleveland, OH 44112
7	Good Earth Lighting Inc. www.goodearthlighting.com	800-291-8838	1400 East Business Center Drive, Ste. 108 Mount Prospect, IL 60056
8	Halco Lighting Tech (HLT) www.halcolighting.com	770-242-3906	2940 Pacific Dr. Norcross, GA 30071
9	Hawthorne Hydroponics LLC www.hawthorne-gardening.com www.sunlightsupply.com	360-883-8846	3204 NW 38th Circle Vancouver, WA 98660
10	LEDVANCE Corp www.ledvance.com	978-570-3000	200 Ballardvale Street Wilmington, MA 01887
11	Orgill, Inc. www.orgill.com	901-754-8850	4100 S Houston Levee Rd. Collierville, TN 38017
12	OttLite Technologies, Inc www.ottlite.com	800-842-8848	220 W 7th Ave, Suite 100 Tampa FL 33602
13	Philips Lighting North America Corporation www.usa.philips.com	202-962-8567	200 Franklin Square Somerset, NJ 08873
14	Satco Products, Inc. www.satco.com	631-243-2022	110 Heartland Blvd. Brentwood, NY 11717
15	Sunshine Lighting Company www.sunshinelighting.com	718-768-7000	744 Clinton Street Brooklyn, NY 11231
16	Technical Consumer Products Inc. www.tcpi.com	800-324-1496	325 Campus Drive Aurora, OH 44202

	Company Name and Website	Phone	Address
17	Ushio America, Inc. www.ushio.com	714-236-8600	5440 Cerritos Avenue Cypress, CA 90630
18	Venture Lighting International, Inc. www.venturelighting.com	800-451-2606	32000 Aurora Road - Suite A Solon, Ohio 44139
19	Villa Lighting Supply, Inc. www.villalighting.com	314-531-2600	2929 Chouteau Ave. Saint Louis, MO 63103
20	Westinghouse Lighting Corporation www.westinghouselighting.com	215-671-2000	12401 McNulty Road Philadelphia, PA 19154

The following brands were sold by producers who participated in LightRecycle Washington during 2022:

1. ACE
2. Advance
3. AgroLED
4. ATR
5. Bulbrite
6. Candela
7. CBC
8. Cooper Lighting
9. EYE Hortilux
10. Feit Electric
11. Fulham
12. Galaxy
13. Gavita
14. GE
15. GE Lighting
16. Good Earth Lighting
17. Green Creative
18. Halco
19. Hygrade
20. Keystone
21. LEDVance LLC
22. LEDVance LTD
23. Luxx
24. Maxlite
25. Norman
26. Ottlite
27. ParPro
28. Philips
29. Satco
30. Southwire
31. Southwire Company
32. Spectralux
33. Sun Blaster
34. Sun Blaze
35. Sunlite
36. Sun System Ballast
37. Sylvania
38. TCP
39. Ultra Sun
40. Ushio
41. Venture Lighting
42. Westinghouse
43. Westpointe

Appendix B: Collection and Processing Verification

The following letter from EcoLights confirms the amount of materials collected and processed by LightRecycle Washington during 2022.

7021 South 220th Street
Kent, WA 98032
T 206.343.7443
F 206.343.7445
ECOLIGHTS.COM

February 24, 2023

LightRecycle Washington Program
PCA Product Stewardship Inc.

RE: 2022 Processing Volume

Dear LightRecycle Washington:

This letter is to acknowledge that Ecolights Northwest, LLC picked up or received the following volume of used fluorescent lamps and other materials from collection sites under the LightRecycle Washington program during 2022:

- Total program material weight: 482,051pounds

This volume includes some non-program materials, such as incandescent lamps in program containers.

Additional back-up documentation of these volumes is available.

We look forward to continuing to provide innovative lamp recycling services to PCA Product Stewardship Inc. and the residents and small businesses of Washington during the coming year.

If you have any questions, please contact me at 206-388-5200.

Sincerely,

Bobby Farris
CEO
EcoLights Northwest, LLC

Appendix C: Registered Collection Sites

The following tables list the registered LightRecycle Washington collection sites who participated in the Program during 2022. Please note, unadvertised sites have not been listed, to maintain confidentiality for those sites who wish to remain unadvertised.

Table 6: Registered Collection Sites who accept all Program Products:

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
1	Othello Ace Hardware	420 E Main Street	Othello	WA	99344	Adams	382
2	Asotin County Regional Landfill	2901 6th Avenue	Clarkston	WA	99403	Asotin	432
3	Ace Hardware and Sporting Goods on Keene Road	103 Keene Road	Richland	WA	99352	Benton	297
4	Batteries Plus Bulbs	321 North Columbia Center Blvd.	Kennewick	WA	99336	Benton	1247
5	Goodwill - West Richland	4034 W Van Giesen St. Suite B	West Richland	WA	99352	Benton	0
6	Grigg's Department Store Ace Hardware	1415 George Washington Way	Richland	WA	99354	Benton	2768
7	Kennewick Ace Hardware and Sporting Goods	2831 W Kennewick Ave.	Kennewick	WA	99336	Benton	2052
8	Patnode's True Value	600 9th St.	Benton City	WA	99320	Benton	0
9	Riders True Value	117 E Winew Country Rd.	Grandview	WA	98930	Benton	30

[5] Total mercury-containing lights collected, by weight in pounds, received from each collector.

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
10	Lake Chelan Lighting Center	917 E Woodin Ave	Chelan	WA	98816	Chelan	1334
11	Stan's Merry Mart	733 S. Wenatchee Ave.	Wenatchee	WA	98801	Chelan	3532
12	Around Again	22 Gilbert Rd.	Sequim	WA	98382	Clallam	2225
13	Central Transfer and Recycling	11034 NE 117th Avenue	Vancouver	WA	98662	Clark	19710
14	Hi-School Ace Hardware	1605 W. Main Street	Battle Ground	WA	98604	Clark	1501
15	Hi-School Ace Hardware	13009 NE Hwy. 99	Vancouver	WA	98686	Clark	125
16	Mt. Pleasant Transfer Facility	1111 MT. Pleasant Rd.	Washougal	WA	98671	Clark	163
17	Washougal Transfer Station	4020 S Grant Street	Washougal	WA	98671	Clark	3467
18	West Van Materials Recovery Center	6601 NW Old Lower River Road	Vancouver	WA	98660	Clark	7160
19	Columbia County Transfer Station	501 S Cottonwood Street	Dayton	WA	99328	Columbia	0
20	Bredfield's True Value Hardware	102 Cowlitz St West	Castle Rock	WA	98611	Cowlitz	359
21	Woodland Ace Hardware	1325 Lewis River Rd	Woodland	WA	98674	Cowlitz	783
22	City of Bridgeport	1007 Fairview Ave.	Bridgeport	WA	98813	Douglas	0
23	Rock Island Community Recycling Center	23 S Garden Ave.	Rock Island	WA	98850	Douglas	0
24	Town of Mansfield	Railroad	Mansfield	WA	98830	Douglas	0
25	Town of Waterville Community Recycling Center	720 N. Chelan Ave.	Waterville	WA	98858	Douglas	144

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
26	Ferry County Public Works - Solid Waste Div.	584 Torboy Dump Road	Republic	WA	99166	Ferry	0
27	Grigg's Department Store Ace Hardware	801 W Columbia St	Pasco	WA	99301	Franklin	1427
28	Garfield County Public Works	19th and Arlington	Pomeroy	WA	99347	Garfield	320
29	Marty's True Value Hardware	205 E First Street	Mattawa	WA	99349	Grant	274
30	Skaug Brothers Ace Hardware	944 W Third Ave.	Moses Lake	WA	98837	Grant	0
31	LeMay's Central Transfer Station	4201 Olympic Highway	Aberdeen	WA	98520	Grays Harbor	4343
32	Bayview Solid Waste Dropbox and Recycle Park	5790 S. Kramer Road	Langley	WA	98260	Island	0
33	Camano Island Transfer Station	75 E. Camano Hill Road	Camano Island	WA	98282	Island	0
34	Camano Plaza Ace	370 NE Camano Drive Ste #1	Camano Island	WA	98282	Island	0
35	Coupeville Solid Waste Complex	20018 State Highway 20	Coupeville	WA	98239	Island	8580
36	Freeland Ace Hardware	1609 E. Main St.	Freeland	WA	98249	Island	0
37	North Whidbey Solid Waste Dropbox and Recycle Park	3151 Oak Harbor Road	Oak Harbor	WA	98277	Island	0
38	Oak Harbor Ace Hardware	150 SE Pioneer Way	Oak Harbor	WA	98277	Island	74
39	Jefferson County Disposal Site Quilcene	295312 Highway 101	Quilcene	WA	98376	Jefferson	0

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
40	Jefferson County Household Hazardous Waste Collection Facility	282 10th St., Bldg 19	Port Townsend	WA	98368	Jefferson	0
41	Jefferson County Recycle Center	325 County Landfill Road	Port Townsend	WA	98368	Jefferson	7992
42	Bartell Drugs	23028 100th Ave W.	Edmonds	WA	98020-5080	King	0
43	Bartell Drugs	6939 Coal Creek Pkwy S.E.	Newcastle	WA	98059-3137	King	0
44	Bartell Drugs	7370 170th Ave NE	Redmond	WA	98052-4457	King	993
45	Bartell Drugs	526 228th Ave. N.E.	Sammamish	WA	98074-7226	King	0
46	Batteries Plus Bulbs	12816 SE 38th St.	Bellevue	WA	98006	King	1247
47	Batteries Plus Bulbs	14917 NE 20th St.	Bellevue	WA	98007	King	1247
48	Batteries Plus Bulbs	536 NE Northgate Way	Seattle	WA	98125	King	14415
49	Batteries Plus Bulbs	17065 Southcenter Parkway	Tukwila	WA	98188	King	312
50	Bow Lake Recycling and Transfer Station	18800 Orillia Road S	Tukwila	WA	98188	King	8096
51	City of Covington	16720 SE 271st St.	Covington	WA	98042	King	0
52	City of Lake Forest Park	17425 Ballinger Way NE	Lake Forest Park	WA	98155	King	473
53	Crown Hill Tweedy and Popp Hardware	9000 Holman Rd. NW	Seattle	WA	98117	King	682
54	City of Snoqualmie	38624 SE River Street	Snoqualmie	WA	98065	King	0
55	Enumclaw Recycling and Transfer Station	1650 Battersby Ave E	Enumclaw	WA	98022	King	6171
56	Factoria Household Hazardous Waste Drop Off Site	13800 SE 32nd St.	Bellevue	WA	98005	King	15903

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
57	Fairwood Ace Hardware	14100 SE Petrovitsky Road	Renton	WA	98058	King	1038
58	Hero Ace Hardware	1915 4th Ave	Seattle	WA	98101	King	153
59	Highlands Ace Hardware	4601 NE Sunset Blvd	Renton	WA	98059	King	0
60	Island Home Center & Lumber	17633 97th Pl SW	Vashon	WA	98070	King	30
61	Johnsons Home and Garden	26625 Maple Valley Black Diamond Rd.	Maple Valley	WA	98038	King	1632
62	Junction True Value Hardware	4747 44th Ave S.W.	Seattle	WA	98116	King	1446
63	Lake City Tweedy & Popp Hardware	3040 NE 127th St.	Seattle	WA	98125	King	445
64	Madison Park Hardware	1837 42nd Avenue East	Seattle	WA	98112	King	431
65	Maple Leaf Ace Hardware	9000 Roosevelt Way NE	Seattle	WA	98115	King	1635
66	McLendon Hardware	23662 104th Ave. SE	Kent	WA	98031	King	2179
67	McLendon Hardware	440 Rainier Ave. S	Renton	WA	98057	King	2963
68	McLendon Hardware	10210 16th Ave. SW	White Center	WA	98146	King	1474
69	McLendon Hardware	17705 130th Ave. NE	Woodinville	WA	98072	King	4630
70	Mercer Island True Value Hardware	7707 SE 27th St. Suite 110	Mercer Island	WA	98040	King	498
71	North Bend Ace Hardware	330 Main Ave. S	North Bend	WA	98045	King	148
72	North Seattle Household Hazardous Waste Collection Facility	12550 Stone Avenue North	Seattle	WA	98133	King	13459
73	Northshore Ace Hardware	35419 21ST Ave. S.W.	Federal Way	WA	98023	King	1563
74	Northshore Senior Center	10201 E Riverside Dr.	Bothell	WA	98011	King	337
75	Pacific Supply	1417 12th	Seattle	WA	98122	King	563

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
76	Recology CleanScapes	317 NW Gilman Road #22	Issaquah	WA	98027	King	1619
77	Recology CleanScapes	15235 Aurora Ave N. #102	Shorline	WA	98133-4416	King	842
78	Recology CleanScapes Burien Retail Store	16200 1st. S.	Burien	WA	98166	King	2285
79	Recology CleanScapes Retail Store	22833 Bothell-Everett Hwy, #111	Bothell	WA	98021	King	1486
80	Seattle Home Builders Center	1110 W Nickerson St.	Seattle	WA	98119	King	654
81	Second Use Building Materials	3223 6th Ave S	Seattle	WA	98134	King	2150
82	Shoreline Recycling and Transfer Station	2300 N 165th Street	Shoreline	WA	98133	King	9674
83	South Seattle Household Hazardous Waste Collection Facility	8100 2nd Avenue South	Seattle	WA	98108	King	8659
84	Stoneway Hardware and Supply	4318 Stone Way N.	Seattle	WA	98103	King	561
85	Stoneway Hardware Ballard	4910 15th Ave NW	Seattle	WA	98107	King	1581
86	Total Reclaim	7021 S 220th St	Kent	WA	98032	King	0
87	Town Center Hardware	6613 132 AVE N.E.	Kirkland	WA	98033	King	0
88	Town Center Hardware	17171 Bothell Way NE	Lake Forest Park	WA	98155	King	0
89	Vashon Recycling and Transfer Station	18900 Westside Hwy SW	Vashon	WA	98070	King	1581
90	Wallingford Tweedy & Popp Hardware	1815 N 45th St. Ste. 112	Seattle	WA	98103	King	240

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
91	Bainbridge Island Ace Hardware	635 High School Road NE	Bainbridge Island	WA	98110	Kitsap	2709
92	Household Hazardous Waste Collection Facility	5551 SW Imperial Way	Bremerton	WA	98312	Kitsap	12354
93	Scott McLendon's Hardware	1692 Mile Hill Dr.	Port Orchard	WA	98366	Kitsap	3325
94	Swain's General Store	602 E 1st St	Port Angeles	WA	98362	Kitsap	1641
95	Thurman Supply	1807 East Front Street	Port Angeles	WA	98362	Kitsap	3110
96	HopeSource	700 E. Mountain View, Suite 501	Ellensburg	WA	98926	Kittitas	0
97	Stans Merry Mart	310 North Pearl Street	Ellensburg	WA	98926	Kittitas	0
98	Allyns Building Center	517 N Mill St.	Goldendale	WA	98620	Klickitat	0
99	BZ Corners Transfer Station	5 Firtee Rd	Husum	WA	98623	Klickitat	0
100	Dallesport Transfer Station	126 Tidyman Rd	Dallesport	WA	98617	Klickitat	0
101	Goldendale Transfer Station	1205 W Broadway St.	Goldendale	WA	98920	Klickitat	0
102	Lewis County Solid Waste	1411 So Tower Ave.	Centralia	WA	98531	Lewis	6806
103	Mason County Landfill	501 Eells Hill Rd	Shelton	WA	98584	Mason	3417
104	Scott McLendon's Hardware	51 NE State Route 300	Belfair	WA	98528	Mason	1965
105	Ellisforde Transfer Station	65 Swanson Mill Rd.	Oroville	WA	98844	Okanogan	0
106	Lee Frank Mercantile	324 S. Whitcomb Ave.	Tonasket	WA	98855	Okanogan	88
107	Methow Recycles	12 Twisp Airport Road	Okanogan	WA	98856	Okanogan	515
108	Okanogan County Central Landfill	241 North B&O Rd.	Okanogan	WA	98840	Okanogan	0

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
109	Pacific County Household Hazardous Waste Facility	318 N Second St.	Long Beach	WA	98631	Pacific	514
110	Ace Hardware	4816 Pt. Fosdick Dr. NW	Gig Harbor	WA	98335	Pierce	2948
111	Bartell Drugs	2700 Bridgeport Wy W Suite D	University Place	WA	98466-4600	Pierce	0
112	Batteries Plus Bulbs	31830 Pacific Hwy S	Federal Way	WA	98003	Pierce	1559
113	Batteries Plus Bulbs	10210 123rd St. Ct. E	Puyallup	WA	98374	Pierce	623
114	Batteries Plus Bulbs	4027 Tacoma Mall Blvd.	Tacoma	WA	98409	Pierce	3429
115	Dupont Ace Hardware	1585A McNeil St.	Dupont	WA	98327	Pierce	0
116	Crescent Lighting	3214 20th Street East	Fife	WA	98424	Pierce	57
117	Graham Ace Hardware	9807 224th St. E Suite 108	Graham	WA	98338	Pierce	0
118	JBLM DPW Environmental Operations	Bldg. 1210 Mann Ave. Box 339500 MS #17	Joint Base Lewis McChord	WA	98433	Pierce	8688
119	Lakewood Ace Hardware	8123 Steilacoom Blvd. SW	Lakewood	WA	98498	Pierce	485
120	McLendon Hardware	11307 Canyon Rd. E	Puyallup	WA	98373	Pierce	2296
121	McLendon Hardware	1111 Fryer Ave.	Sumner	WA	98390	Pierce	3212
122	McLendon Hardware	1015 N. Pearl Street	Tacoma	WA	98406	Pierce	2544
123	Ace Hardware of Friday Harbor	340 Argyle Avenue	Friday Harbor	WA	98250	San Juan	1831
124	CT Recycling	6739 Roche Harbor Road	Friday Harbor	WA	98250	San Juan	0
125	Lopez Solid Waste	2449 Fisherman Bay Road	Lopez Island	WA	98261	San Juan	542
126	The Exchange/Orcas Recycling Services	3398 Orcas Road	Eastsound	WA	98245	San Juan	1172
127	Ace Hardware of Anacortes	1720 "Q" Avenue	Anacortes	WA	98221	Skagit	1370
128	Chuckanut Lighting	938 Fountain St.	Burlington	WA	98233	Skagit	461

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
129	City Recycling Center	315 Sterling Street	Sedro-Woolley	WA	98284	Skagit	3251
130	Ekrem Hardware Do-It Center	237 E. Fairhaven Ave.	Burlington	WA	98233	Skagit	670
131	Kaptein's Ace Hardware	1420 Riverside Dr.	Mount Vernon	WA	98273	Skagit	767
132	Skagit County Household Hazardous Waste Facility	14104 Ovenell Rd	Mount Vernon	WA	98273	Skagit	6259
133	Columbia Hardware	24 NE 2nd St	Stevenson	WA	98648	Skamania	0
134	J & L Farm & Home	961 Wind River Road	Carson	WA	98610	Skamania	0
135	Stevenson Transfer Facility	1332 Ryan Allen Rd.	Stevenson	WA	98648	Skamania	2991
136	Underwood Transfer Facility	1402 Little Buck Creek Rd.	Underwood	WA	98650	Skamania	0
137	Ace Hardware	303 91st Ave NE	Lake Stevens	WA	98258	Snohomish	797
138	Ace Hardware of Evergreen Way	4835 Evergreen Way	Everett	WA	98203	Snohomish	383
139	Ace Hardware of Silver Lake	11014 19th Avenue SE Ste. 100	Everett	WA	98208	Snohomish	327
140	Airport Road Recycling & Transfer Station	10700 Minuteman Dr.	Everett	WA	98204	Snohomish	0
141	Bartell Drugs	6602 64th Street NE	Marysville	WA	98270-4834	Snohomish	0
142	Batteries Plus Bulbs	909 SE Everett Mall Way	Everett	WA	98208	Snohomish	3518
143	Batteries Plus Bulbs	4028 196th St. SW	Lynnwood	WA	98036	Snohomish	1133
144	Batteries Plus Bulbs	4008 172nd St NE, Suite D	Arlington	WA	98223	Snohomish	1203
145	Cedar Plaza Ace Hardware	22803 44th Ave. West Suite D-2	Mountlake Terrace	WA	98043	Snohomish	0
146	City of Mill Creek	15728 Main Street	Mill Creek	WA	98012	Snohomish	195
147	City of Monroe	City Hall at City of Monroe	Monroe	WA	98272	Snohomish	0

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
148	Darrington Hardware & Supply	1220 SR 530 NE	Darrington	WA	98241	Snohomish	103
149	Dubuque Road Neighborhood Recycling & Disposal Center	19619 Dubuque Road	Snohomish	WA	98290	Snohomish	0
150	Edmonds Hardware and Paint	201 5th Ave. S Suite 206	Edmonds	WA	98020	Snohomish	0
151	Granite Falls Neighborhood Recycling & Disposal Center	7526 Menzel Lake Road	Granite Falls	WA	98252	Snohomish	0
152	Homegrown Hydros	1241 State Ave, #102	Marysville	WA	98270-4834	Snohomish	266
153	Household Hazardous Waste Drop-off Station	3434 McDougall Ave.	Everett	WA	98201	Snohomish	77073
154	Mukilteo Ace Hardware	12680 Mukilteo Speedway	Mukilteo	WA	98275	Snohomish	624
155	North County Recycling & Transfer Station	19600 63rd Ave. NE	Arlington	WA	98223	Snohomish	0
156	Southwest Recycling & Transfer Station	21311 61st Place West	Mountlake Terrace	WA	98043	Snohomish	0
157	Stanwood Ace Hardware	26477 72nd Ave NW	Stanwood	WA	98292	Snohomish	22
158	Sultan Neighborhood Recycling & Disposal Center	33014 Cascade View Drive	Sultan	WA	98294	Snohomish	0
159	Ace Hardware and Paint	906 S. Monroe	Spokane	WA	99204	Spokane	471
160	Batteries Plus Bulbs	11101 East Sprague	Spokane	WA	99206	Spokane	2675
161	Batteries Plus Bulbs	7704 North Division Suite C	Spokane	WA	99208	Spokane	2675
162	City of Cheney Recycling Center	100 Anderson Road	Cheney	WA	99004	Spokane	0

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
163	Deer Park Ace Hardware	141 West H Street	Deer Park	WA	99006	Spokane	415
164	South Hill Ace Hardware	4416 S. Regal St.	Spokane	WA	99223	Spokane	1064
165	Spokane Valley Ace Hardware	15405 E. Sprauge Ave	Spokane Valley	WA	99037	Spokane	200
166	Sunshine Disposal and Recycling	2405 N. University Rd.	Spokane Valley	WA	99206	Spokane	6367
167	Wandermere Ace Hardware	12908 N. Hwy. 395	Spokane	WA	99218	Spokane	399
168	Waste Connections of Spokane	22123 N. Elk-Chattaroy Road	Colbert	WA	99005	Spokane	6295
169	Waste Connections of Spokane	3941 North Sullivan Road	Spokane Valley	WA	99216	Spokane	7743
170	Colville Hardware Do It Center	984 S. Main St.	Colville	WA	99114	Stevens	2721
171	Sety's Ace Hardware	301 E. Main	Chewelah	WA	99109	Stevens	360
172	Batteries Plus Bulbs	2905 Capital Mall Dr. SW	Olympia	WA	98502	Thurston	935
173	Lincoln Creek Lumber/Ace Hardware	2421 93rd Ave SW	Tumwater	WA	98512	Thurston	1143
174	Olympia Ace Hardware	400 Cooper Point Road	Olympia	WA	98502	Thurston	482
175	Thurston County Hazohouse	2420 Hogum Bay Rd NE	Lacey	WA	98516	Thurston	20639
176	Batteries Plus Bulbs	632 South 9th Ave.	Walla Walla	WA	99362	Walla Walla	5304
177	Sudbury Regional Landfill, City of Walla Walla	414 Landfill Rd.	Walla Walla	WA	99362	Walla Walla	1733
178	Ace Hardware	1736 Front Street	Lynden	WA	98264	Whatcom	0
179	Ferndale Ace Hardware	5715 4th Ave.	Ferndale	WA	98248	Whatcom	953

	Collection Site Name	Street	City	State	ZIP Code	County	Total Collected (lbs)[5]
180	Pacific Building Center - True Value Hardware	2677 Bell Road	Blaine	WA	98230	Whatcom	449
181	WFC Blaine Ace Hardware	1733 H Street Suite 700	Blaine	WA	98230	Whatcom	0
182	WFC Fairhaven True Value	3125 Old Fairhaven Parkway	Bellingham	WA	98225	Whatcom	0
183	WFC Fairway True Value	119 17th St.	Lynden	WA	98264	Whatcom	0
184	Whatcom County Disposal of Toxics Facility	3505 Airport Drive	Bellingham	WA	98226	Whatcom	12184
185	Pullman Disposal Service	135 NW Harold Dr.	Pullman	WA	99163	Whitman	877
186	Whitman County Public Works Solid Waste Facility	252 Landfill Road	Pullman	WA	99163	Whitman	1032
187	Batteries Plus Bulbs	1731 S 1st St.	Yakima	WA	98901	Yakima	1559
188	City of Sunnyside	818 East Edison	Sunnyside	WA	98944	Yakima	0

Table 7: Registered Collection Sites who accept CFLs only:

	Collection Site Name	Street	City	State	ZIP Code	County
1	Clark Public Utilities - Electric Center	1200 Fort Vancouver Way	Vancouver	WA	98663	Clark
2	Clark Public Utilities - Operations Office	8600 NE 117 Ave.	Vancouver	WA	98662	Clark
3	Bartell Drugs	3902 "A" St. S.E.	Auburn	WA	98002-8610	King
4	Bartell Drugs	10116 NE 8th Street	Bellevue	WA	98004-4148	King
5	Bartell Drugs	11919 NE 8th St.	Bellevue	WA	98005-3023	King
6	Bartell Drugs	3620 Factoria Blvd. SE	Bellevue	WA	98006-6128	King
7	Bartell Drugs	653 156th Ave NE	Bellevue	WA	98007-4823	King
8	Bartell Drugs	18001 Bothell-Everett Hwy, Suite 101	Bothell	WA	98012-1660	King
9	Bartell Drugs	22833 Bothell-Everett Hwy	Bothell	WA	98021-9385	King
10	Bartell Drugs	14901 4th Ave SW, Suite 100	Burien	WA	98166-1906	King
11	Bartell Drugs	21615 Pacific Hwy S.	Des Moines	WA	98198-7703	King
12	Bartell Drugs	27055 Pacific Hwy S.	Des Moines	WA	98198-9250	King
13	Bartell Drugs	5700 East Lake Sammamish Pkwy SE	Issaquah	WA	98029-8914	King
14	Bartell Drugs	12946 SE Kent-Kangley Rd.	Kent	WA	98030-7940	King
15	Bartell Drugs	10625 N.E. 68th	Kirkland	WA	98033-7054	King
16	Bartell Drugs	14130 Juanita Dr. N.E Ste. 107	Kirkland	WA	98034-0127	King
17	Bartell Drugs	14442 124th Ave. N.E.	Kirkland	WA	98034-4801	King
18	Bartell Drugs	6619 132nd Ave. N.E.	Kirkland	WA	98033-8627	King
19	Kirkland City Hall	123 5th Ave	Kirkland	WA	98033	King
20	Bartell Drugs	2518 196th St SW	Lynnwood	WA	98036	King

	Collection Site Name	Street	City	State	ZIP Code	County
21	Bartell Drugs	22117 SE 237th St.	Maple Valley	WA	98038-8533	King
22	Bartell Drugs	248 Bendigo Boulevard South	North Bend	WA	98045	King
23	Bartell Drugs	8862 161st Ave NE, Suite 102	Redmond	WA	98052-7553	King
24	Bartell Drugs	17254 140th Ave SE	Renton	WA	98058-7014	King
25	Bartell Drugs	4700 NE 4th Street	Renton	WA	98059-4800	King
26	Bartell Drugs	2222 32nd Ave. W.	Seattle	WA	98199-4044	King
27	Bartell Drugs	910 Fourth Ave	Seattle	WA	98164-1000	King
28	Bartell Drugs	100 N 85th St.	Seattle	WA	98103-3602	King
29	Bartell Drugs	1001 Mercer Street	Seattle	WA	98109-4234	King
30	Bartell Drugs	1101 Madison St.	Seattle	WA	98104-1306	King
31	Bartell Drugs	1404 Third Ave.	Seattle	WA	98101-2106	King
32	Bartell Drugs	1407 Broadway Ave.	Seattle	WA	98122-3854	King
33	Bartell Drugs	1500 NW Market Street, Suite 101	Seattle	WA	98107-5211	King
34	Bartell Drugs	1628 Fifth Avenue	Seattle	WA	98101-1606	King
35	Bartell Drugs	1820 N 45th St.	Seattle	WA	98103-6803	King
36	Bartell Drugs	1929 Queen Anne Ave. N	Seattle	WA	98109-2549	King
37	Bartell Drugs	2345 Rainier Ave. South	Seattle	WA	98144-5348	King
38	Bartell Drugs	2345-42nd Avenue SW	Seattle	WA	98116-2513	King
39	Bartell Drugs	2700 NE University Village St.	Seattle	WA	98105-5016	King
40	Bartell Drugs	3018 NE 125th Street	Seattle	WA	98125-4424	King
41	Bartell Drugs	4344 University Way N.E.	Seattle	WA	98105-5809	King
42	Bartell Drugs	4706 42nd Ave. S.W.	Seattle	WA	98116-4500	King

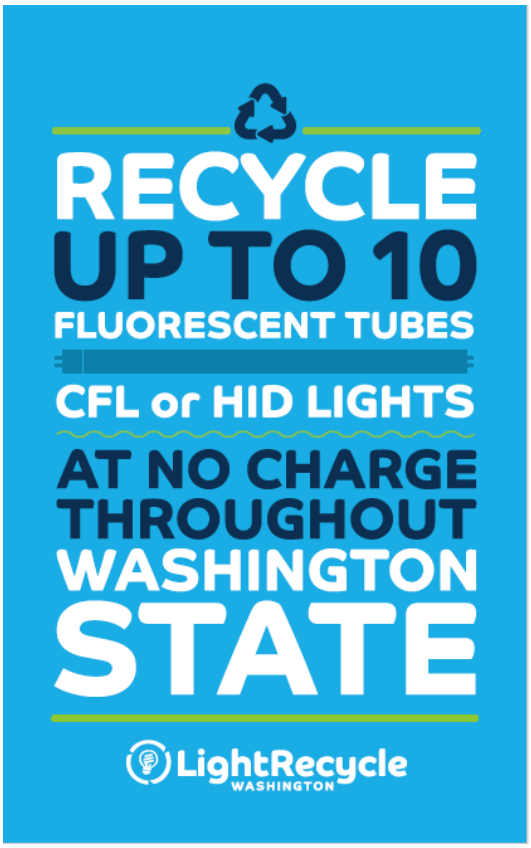
	Collection Site Name	Street	City	State	ZIP Code	County
43	Bartell Drugs	600 First Ave. N.	Seattle	WA	98109-4001	King
44	Bartell Drugs	6401 12th Ave NE	Seattle	WA	98115-6754	King
45	Bartell Drugs	9600 15th Ave. S.W.	Seattle	WA	98106-2820	King
46	Seattle City Light	1300 N. 97th St.	Seattle	WA	98103	King
47	Seattle City Light	3613 4th Ave. S.	Seattle	WA	98134	King
48	Bartell Drugs	400 S Jackson St Ste 300	Seattle	WA	98104	King
49	Bartell Drugs	5625 22nd AVE NW	Seattle	WA	98107	King
50	Bartell Drugs	18420 Aurora Ave N	Shoreline	WA	98133-4416	King
51	Bartell Drugs	14277 Pacific Hwy. S.	Tukwila	WA	98168-4124	King
52	Bartell Drugs	5500 Olympic Drive	Gig Harbor	WA	98335-1487	Pierce
53	Bartell Drugs	3601 6th Ave S	Tacoma	WA	98406-5405	Pierce
54	Orcas Power and Light Cooperative	183 Mt. Baker Rd.	Eastsound	WA	98245	San Juan
55	Orcas Power and Light Cooperative	1034 Guard St.	Friday Harbor	WA	98250	San Juan
56	Bartell Drugs	11020 19th Ave. S.E.	Everett	WA	98208-5155	Snohomish
57	Bartell Drugs	1825 Broadway	Everett	WA	98201-2348	Snohomish
58	Bartell Drugs	5006 132nd ST SE Building A	Everett	WA	98208-9517	Snohomish
59	Bartell Drugs	621 SR9 N.E.	Lake Stevens	WA	98258-8525	Snohomish
60	Bartell Drugs	17633 Highway 99	Lynnwood	WA	98037-3627	Snohomish
61	Bartell Drugs	3625 148th St., SW, Suite B	Lynnwood	WA	98087-5522	Snohomish
62	Bartell Drugs	22803 44th Ave. W.	Mountlake Terrace	WA	98043-5032	Snohomish
63	Bartell Drugs	1115 13th St.	Snohomish	WA	98290-2012	Snohomish
64	Bartell Drugs	7205 267th St. NW	Stanwood	WA	98292-6237	Snohomish
65	Everett Community College	2000 Tower Street	Everett	WA	98201	Snohomish

	Collection Site Name	Street	City	State	ZIP Code	County
66	Bellingham Ace Hardware	356 36th St.	Bellingham	WA	98225	Whatcom

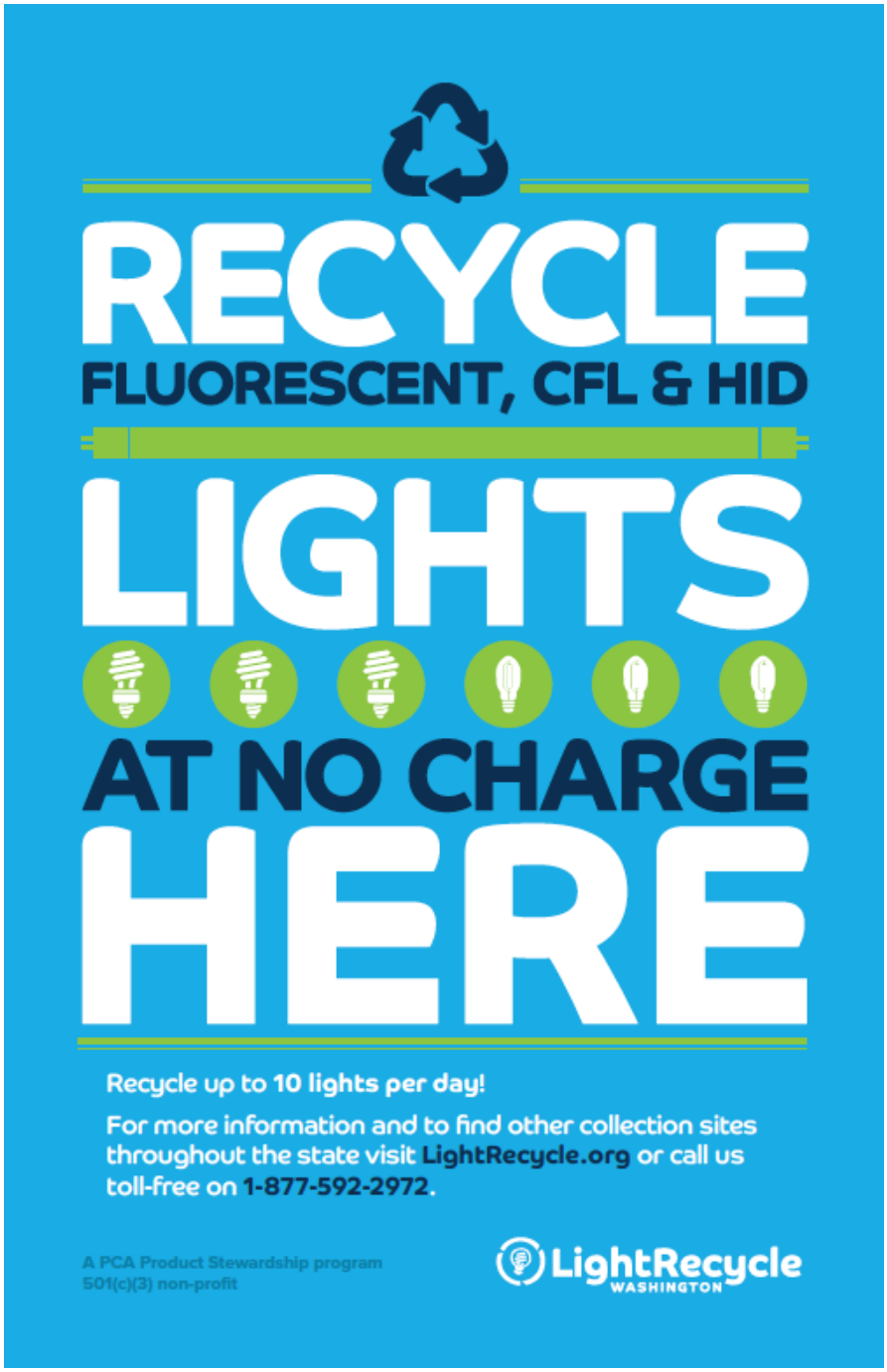
Appendix D: Advertising and Promotional Materials

The following images are examples of the advertising and promotional materials used by LightRecycle Washington in 2022.

Information Card, 5” x 8”



Collection Site Posters, 11” x 17”



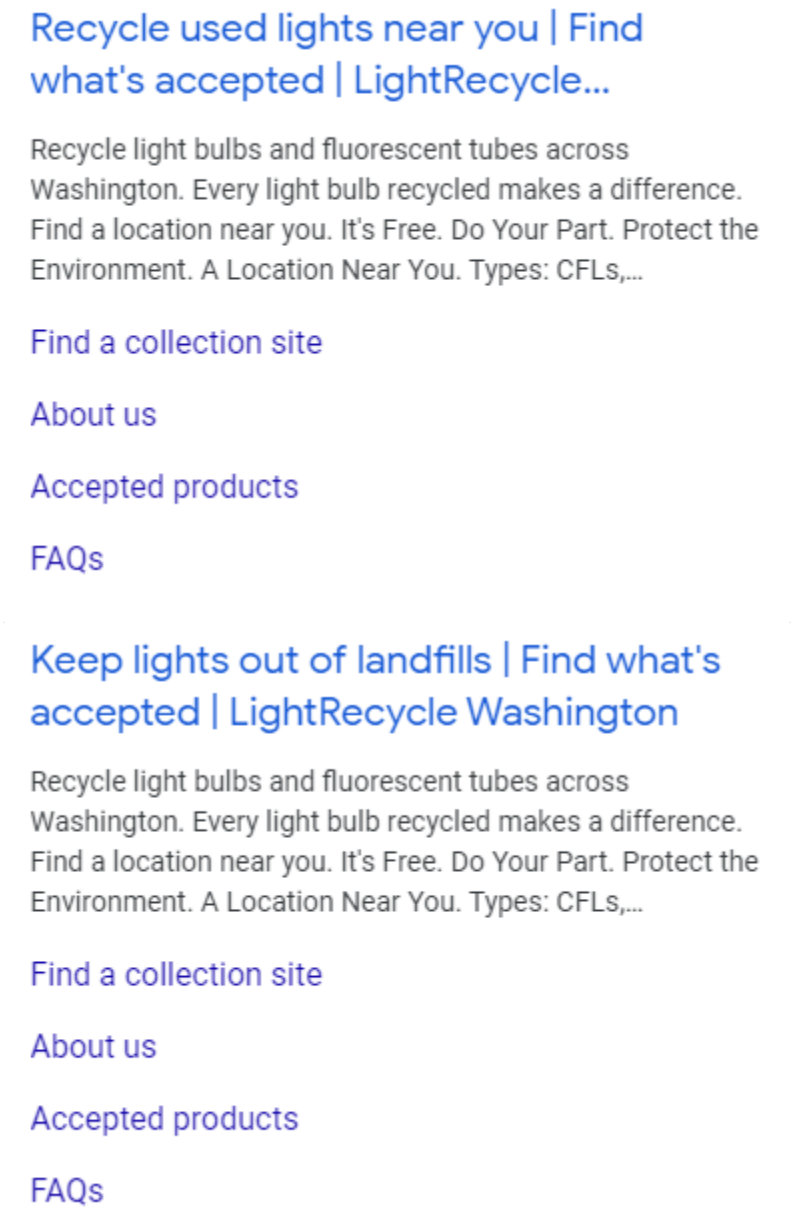
Newspaper Advertisements (exact dimensions vary)


Recycle your lights for free in Washington State!
It's never been easier to recycle fluorescent lights and CFLs. You can drop off up to 10 lights per day for free at:
1
Washougal Transfer Station
4020 S Grant Street
Washougal, WA
2
Mt. Pleasant Transfer Facility
1111 MT. Pleasant Rd.
Washougal, WA
lightrecycle.org
LightRecycle
WASHINGTON


Recycle lights for free
in Washington State!
It's never been easier to recycle fluorescent lights and CFLs. You can drop off up to 10 lights per day for free at:
Longview Ace Hardware
600 Triangle Mall
Longview, WA
lightrecycle.org
LightRecycle
WASHINGTON

Digital Advertising

Google Search



Old light bulbs? Recycle them | Find a recycling location | LightRecycle...

Drop off your old bulbs and tubes for free. Go to our website to see what's accepted. Every light bulb recycled makes a difference. Find a location near you. It's Free. Do Your Part. Protect the Environment. A Location Near You....

Find a collection site

About us

Accepted products

FAQs

Lights Recycling near you | Find a recycling location | LightRecycle...

Not sure what to do with burnt out light bulbs and tubes? Recycle them. Every light bulb recycled makes a difference. Find a location near you. It's Free. Do Your Part. Protect the Environment. A Location Near You. Types:...

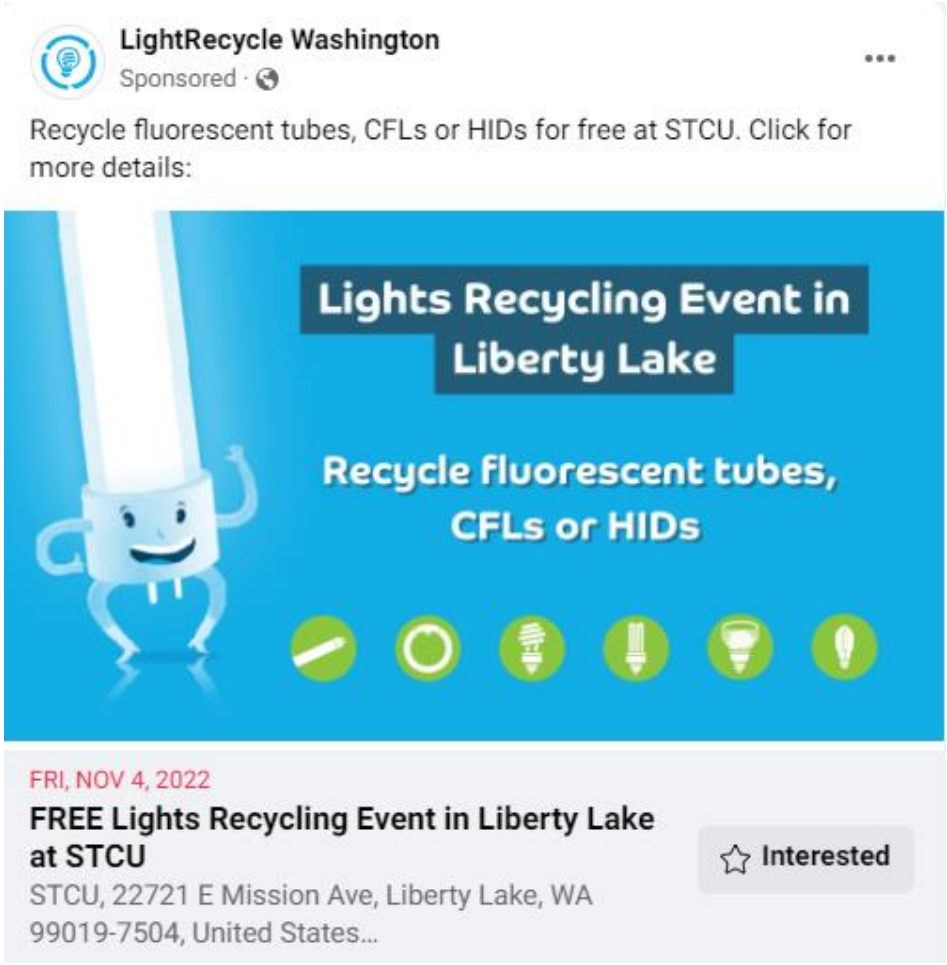
Find a collection site

About us

Accepted products

FAQs

Facebook Event Ads



LightRecycle Washington
Sponsored ·

Recycle fluorescent tubes, CFLs or HIDs for free at Sunset Park. Click for more details:

MON, OCT 24, 2022

Lights Recycling Event in Airway Heights

Sunset Park, Parking Lot

15 people interested

☆ Interested

Appendix E: Processor Compliance Audit

The following is the 2022 compliance audit report of the Programs processor Ecolights Northwest, LLC conducted by Greeneye Partners, LLC, on December 21, 2022.

GREENEYE PARTNERS

ISO 14001
Internal Audit Report

Company Name	EcoLights Northwest, LLC
Company Address	1915 S. Corgiat Drive, Seattle, WA
Company Contact Person	Jesse McCullough
Company Telephone	206-343-7443
Email	ehs@totalreclaim.com

Audit Type	ISO 14001 Internal Audit	Audit Dates	December 21st, 2022

Executive Summary of Audit Results
An internal audit of the EcoLights Northwest LLC facility located at 1915 S. Corgiat Drive, Seattle, WA was performed on December 21st, 2022. The purpose of the audit was to evaluate the Environmental, Health and Safety Management System and its conformance to the ISO 14001 standard. The audit was conducted by James Rod Gonzalez, ISO14001 Internal Auditor. The audit of the internal audit was performed by Kelley Keogh EH&S and ISO 14001 internal auditor. Findings are listed at the end of the report and in the applicable sections. • 0 Non-conformance's have been identified. • 9 Areas of Concern have been identified which could lead to non-conformances if not addressed. • 8 Opportunities for Improvement have been identified. I would like to thank Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) and the entire EcoLights staff for their cooperation and hospitality during this audit.

Audit Scope, Plan and Summary						
Audit Dates	December 21st, 2022					
Audit Plan	See attached					
Number of Non conformances		Major	0	Minor	2	
Standard the EHSMS was audited against in order to determine conformance to						
1)	ISO 14001:2015	4)				
2)		5)				
3)		6)				
Audit Team Leader, Contact Information						
James Rod Gonzalez Greeneye Partners 15845 Eastbend Way Apple Valley, MN 55124 (209) 986-0191						
Scope of Environmental, Health and Safety Management System that is to be audited.						
Universal Waste Lamp Recycling and the Consolidation of Universal Waste Batteries and Mercury Containing Equipment						
Distribution of the Audit Report						
Jesse McCullough - jesse@TotalReclaim.com - EcoLights						

Audit Report	NC, AOC OFI
Process/Area Audited: **Context of the Organization** Standard Clauses: ISO 14001 4.1, 4.2, 4.3, 4.4 Context of the Organization Documents and Records Reviewed: EHSMS Manual, 4.1.1-P Planning Procedure 1.1, 4.1.2 Risks and Opportunities Matrix 1.1, 4.2.1-F Interested Party Analysis 1.1, 4.4.2 PDCA Cycle of EHSMS Diagram, 4.4.1 Process Flow Diagram 1.1 Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The EcoLights facility at 1915 S. Corgiat Drive, Seattle, WA is approx. 35,000 square feet. The facility currently has 11 fulltime employees operating in one shift, from 7am to 3:30pm five days per week. The Risks and Opportunities Matrix highlights current risks and opportunities with actions to be taken, person responsible and priority. Risks and opportunities are current to important issues. Current Risks include: • Lamp processing equipment malfunction • Public perception of environmental responsibility/performance	

Current Opportunities include: • Demonstrate strong EHS performance to Interested Parties • Maintain recycling contract with Washington state The Interested Party Analysis includes US EPA, OSHA, DOT, Washington State Labor & Industries, WA State Ecology, Puget Sound Clean Air, Seattle and King Public Health, City of WA, NGO's, Downstream Vendors, Landlord, Suppliers, Contractors, Employees, Customers, Visitors, Communities and Owners. The scope of the EHSMS is **Universal Waste Lamp Recycling and the Consolidation of Universal Waste Batteries and Mercury Containing Equipment.** The Process Flow Diagram gives a detailed description of processes from Receiving to Shipping.	
Process/Area Audited: **Leadership and Commitment, Resources, Organizational Roles, Responsibilities and Authorities** <u>Standard Clauses</u> ISO 14001 5.1 Leadership and Commitment, 5.3 Organizational roles, 7.1 Resources Documents and Records Reviewed: EHSMS Manual, 5.1.1 Responsibility Matrix, 5.1.2 Organizational Chart, 7.1.1 Resource Plan Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** Top management has committed resources to the EHS management system. Discussion with the top management team and the auditor included resource planning, product and process timing and actualization, customer requirements and the flow of downstream material to EOL vendors. Reviewed the Responsibility Matrix, which shows the roles and responsibilities specifically for the CEO, EHS Management Rep, Operations, Manager and Employees. The Organizational Chart is broken down from the EcoLights facility and parent company of Total reclaim. Roles, responsibilities, and authorities have been defined and documented in the EHSMS Manual, the Organization Chart, EcoLights procedures and are communicated to those affected individuals. Resource Plan documents different tasks with target completion and actual completion dates. Resources identified include internal auditor, ISO auditor, Jerome meter and EHS team staffing. The CEO has designated Jesse McCullough as the EHS Management Representative. Interviewed employees have a clear understanding of their roles and responsibilities.	
Process/Area Audited: **Environmental Policy** <u>Standard Clauses:</u> ISO 14001 5.2 Environmental Policy	

Documents and Records Reviewed: EHSMS Manual, EH&S Policy Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The EHS Policy is signed by the CEO and is posted at the entrance of the facility and posted on the company website. Employees receive training on the policy during new hire training.	
Process/Area Audited: **Environmental Aspects** <u>Standard Clauses</u> ISO 14001 6.1.2 Environmental Aspects Documents and Records Reviewed: 6.1.2.1 Environmental Aspects Identification Procedure, 6.1.2.2 EH&S Aspects and Hazards List, 6.1.2.1-P Environmental Aspects Identification Procedure Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The EHS Management Rep identifies and categorizes aspects using the EH&S Aspect and Hazards List. Aspects and hazards were reviewed by process area and given a 1 to 5 ranking for likelihood and 1 to 5 for consequence – these are multiplied to get the total rating and if it is 20 or greater or if it is a legal requirement, it is considered significant. Significant Environmental Aspects include: 1. Lamp Machine Operations The EH&S Aspect and Hazards List includes the operational control and monitoring record for each significant aspect.	
Process/Area Audited: **Compliance Obligations** <u>Standard Clauses</u> ISO 14001 6.1.3 Compliance Obligations Documents and Records Reviewed: 6.1.3.1 Compliance Obligations Procedure, 6.1.3.2 Compliance Obligations Summary List, Outlook Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The EHS Management Rep is responsible for identifying and keeping track of compliance obligations. Reviewed the Compliance Obligations Summary List, which includes requirements	

for hazardous and universal waste, transport, health and safety, data security and voluntary requirements, and OECD requirements. Facility is a large quantity generator of universal waste. Annual ID Form was submitted in 2021 documenting batteries and mercury containing equipment that was handled throughout the facility. The facility is a destination for universal waste. The facility does not directly import or export any material. The facility does not import any e-waste. Reviewed the Import Export Requirements Summary List, which shows the exports downstream. Annual compliance needs are handled using Outlook calendar which lists all requirements throughout the year with scheduled dates.	
Process/Area Audited: **Environmental Objectives and Planning to Achieve Them** <u>Standard Clauses</u> ISO 14001 6.2 Environmental objectives and planning to achieve them Documents and Records Reviewed: EHSMS Manual, 6.2.1.1 Objectives Program Form Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The 2022 Objective: Minimize employee exposure to mercury vapor and particulate matter. The objective is planned to be met by shop vacs and minimize sweeping, additional training, and monitoring. Objectives are reviewed two times per year. Reviewed Management Review record dated 07/12/22 which was the last review of objectives during Management Review Meeting. **OFI-06 Objectives are currently a combined sheet with sister group and should be made into two separate sheets.**	**OFI-06**
Process/Area Audited: **Competence and Awareness** <u>Standard Clause</u> ISO 14001 7.2, 7.3 Competence and Awareness Documents and Records Reviewed: Competence and Awareness Procedure, Training and Competency Record, Visitor and Contractor Sign-In Log, Visitor & Contractor EHS Requirements Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Partially Conforms** Reviewed hazard communication training conducted on 04/15/22, 10 employees were in attendance.	**AOC-01** **AOC-02** **AOC-03** **AOC-04** **AOC-05**

Reviewed LOTO/PPE training dated 12/01/21, 6 employees were in attendance. The facility conducts monthly OSHA Trainings. The facility has a robust training program in place for OSHA requirements. Visitors and contractors are signing in and out at the front desk where they are required to read and agree to the Visitor & Contractor EHS Requirements flyer. Auditor witnessed this during the virtual walkthrough. **AOC-01 Forklift driver was not wearing seatbelt.** **AOC-02 Wheel chocks were not in place for box truck at dock which had just recently been off-loaded.** **AOC-03 Dock ramp showed evidence of damage and should be considered for repair or replacement.** **AOC-04 Dock door to compactor was fully open and there was no fall protection (chain) across the elevated dock.** **AOC-05 Compactor controls are located on the outside of the dock door and use a key to lock out. Site should develop plan to assure key is pulled from the controls when dock door is closed.**	
Process/Area Audited: **Communication** <u>Standard Clause</u> ISO 14001 7.4 Communication Documents and Records Reviewed: 7.4.1 Communication Procedure, 7.4.3.1 External Communication Log Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** Internal communication includes verbal, on the job trainings, postings on bulletin boards and group trainings. External communication is through the www.ecolights.com website, emails, and phone calls. EcoLights handles external communication through the External Communication Log. Reviewed External Communication log dated 12/06/2022 regarding Hg in condensate. Reviewed the Visitor and Contractor EHS Requirements flyer. Contractors and visitors must sign it and agree to follow it prior to entering the facility. **OFI-01 EcoLights should consider adding an attestation to the sign in log that Visitors and Contractors have reviewed the Visitor and Contractor Policy.**	**OFI-01**
Process/Area Audited: **Documentation Information** <u>Standard Clause</u> ISO 14001 7.5 Documented Information	

Documents and Records Reviewed: 7.5.1 Documented Information Procedure, 7.5.2 Master List of Documents, 7.5.3 Records Management Table Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The EHS Mgmt. Rep is responsible for document control and manages changes through the Master List of Documents. EHSMS documents are controlled with the document name, revision, and effective date in the footer. Records are controlled according to the Documented Information Procedure. Records are listed on the Records Management Table. Records are kept for three years, except for H&S records which are kept for 30 years after employment. All requested records were available unless otherwise noted.	
Process/Area Audited: **Operational Control** <u>Standard Clause</u> ISO 14001 8.1 Operational Planning and Control Documents and Records Reviewed: 8.1-1 Receiving Procedure, 8.2-3 Material Storage and Shipping Procedure, Operational Control – Environmental, Health and Safety Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** Reviewed the Receiving Procedure and Material Storage and Shipping Procedure. **AOC-06 Outfeed of the baler where the strapping occurs is not guarded. Site should consider some physical guard.** **AOC-07 On elevated platform to infeed to baler employees would be responsible for breaking jams/bridges using a rake. There is a sign that instructs employees to not lean over the edge of the hopper. Site should consider adding an emergency stop cable across the mouth of hopper.** **AOC-08 Site should risk assess opportunities to assure that operator does not touch hot surfaces of sealer and shrink wrapper.** **AOC-09 Outfeed of shrink wrapper should be guarded on the return portion of the conveyor.** **OFI-07 Site should consider Industrial Hygiene sampling for VOCs from the heat shrink machine.** **OFI-08 Site should consider adding metals (Hg in particular) sampling to the Industrial Hygiene program.** **OFI-09 Site should consider the use of an Oil/Water separator for the condensate from the compressors to reduce waste generation**	**AOC-06** **AOC-07** **AOC-08** **AOC-09** **OFI-07** **OFI-08** **OFI-09**
Process/Area Audited: **Emergency Preparedness and Response** <u>Standard Clause</u> ISO 14001 8.2 Emergency Preparedness and Response	**OFI-02** **OFI-03** **OFI-04**

Documents and Records Reviewed: Health and Safety Manual, EHS Aspects and Hazards List, EHS Committee Meeting Agenda Form, Weekly Facility Inspection Form, Emergency Contact List, Facility Map, Incident Report Form, Incident Report Log, Emergency Preparedness and Response Procedure Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: Conforms Health and safety programs are documented in the Health and Safety Manual, which includes programs for fourteen programs including Emergency Action Plan, Ergonomic Program, Forklifts, Housekeeping, Injury and Illness Prevention Program, Hazard Communication and Safety Committees. Reviewed Hazard Communication training records on 04/15/22. All employees receive emergency training upon hire. Employees were trained on what to do in case of an emergency and where the evacuation meeting point was and where to go in case of severe weather. Reviewed the Emergency Procedures. Reviewed the Facility Map, which includes the location of the fire extinguishers. During the virtual walkthrough observed the presence of fire extinguishers, lighted exit signs, eye wash stations and first aid kits. Reviewed the Housekeeping Procedure in the Health and Safety Manual. Reviewed the Weekly Facility Inspection Checklist record dated 12/14/22. Housekeeping at the facility needed some attention. Safety committee meetings are planned monthly reviewed Safety Meeting notes from 05/13/22. Observed labor law posters, OSHA 300A form, emergency contact list, directions to urgent care, and SDS Binder. Reviewed the 2022 OSHA 300A log which had 0 injuries or illnesses recorded. The Emergency Action Plan is in the health and safety manual. All employees receive Emergency Action Plan training at new hire. Facility maps were posted throughout the building, which included the fire extinguishers, first aid, exit routes, spill kit and SDS binder. Reviewed the emergency response for a spill record on 06/02/22 which evaluated procedures to address all possible spills for the entire company. **OFI-02 Site should consider adding smoke detectors to the breakroom near microwaves.** **OFI-03 Site should add housekeeping to the Environmental Inspection Checklist** **OFI-04 Baler control panel was quite dusty, and the gauges were unreadable with one broken. Dust on working surfaces can lead to dust transfer to employee.**	
Process/Area Audited: **Monitoring, Measurement and Evaluation of Compliance** <u>Standard Clause</u> ISO 14001 9.1 Monitoring, Measurement, Analysis, 9.1.2 Evaluation of Compliance Documents and Records Reviewed: 9.1.1 Monitoring, Measurement and Continual Improvement Procedure, 9.1.2 Evaluation of Compliance Procedure	**OFI-05**

Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** Monitoring and measurements for each significant aspect are listed on the EH&S Aspects and Hazards List. Reviewed the scale calibration record completed 12/23/22. Calibration was performed by Cheyenne Scale Company. Reviewed the EcoLights Daily Forklift Inspection records for their 2 lifts from November 2022. When issues arise, they are immediately brought to the managers attention for resolution. EH&S Incidents are recorded on the Incident Form. Auditor reviewed an incident report form record dated 12/15/22 for an electrical shock due to broken on/off switch. Objectives are reviewed at least two times per year. Reviewed Management Review records dated 07/12/22 where they reviewed objectives. Compliance evaluations are conducted every year. An evaluation of compliance audit was conducted alongside this internal audit. **OFI-05 Suggest that the site revise their Forklift Inspection form to provide for comments for each week and to provide space to identify how comments were addressed at the time. Unless they chose to generate incident reports for every comment.**	
Process/Area Audited: **Internal Audit Reviewed by Kelley Keogh** <u>Standard Clause</u> ISO 14001 9.2 Internal Audit Documents and Records Reviewed: 9.2.1 Internal Audit Procedure Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** The internal audit process is planned and implemented. EcoLights has elected to use third party internal auditors. A full internal audit was conducted December 21st, 2022, and records maintained. All areas of the standards were included in the internal audit plan and report. Audit was conducted by ISO 14001 trained internal auditor. Certificate is attached to the internal audit report.	
Process/Area Audited: **Management Review and Continual Improvement** <u>Standard Clause</u> ISO 14001 9.3 Management Review, 10.3 Continual Improvement	

Documents and Records Reviewed: 9.3.1 Management Review Meeting Agenda & Minutes, Monitoring, 9.1.1 Measurement and Continual Improvement Procedure Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** Management review meetings are planned for after the internal audit and then twice a year. Reviewed the Management Review Meeting Agenda & Minutes form, which includes all required input elements and a place to record all required outputs. Management Review Meeting was last completed 07/12/22 where progress on objectives was reviewed and where actionable items were identified and implemented.	
Process/Area Audited: **Nonconformity, and Corrective Action** <u>Standard Clause</u> ISO 14001 10.2 Nonconformity and Corrective Action Documents and Records Reviewed: 10.2.1 Incident Investigation, Nonconformity, and Corrective Action Procedure, Corrective Action Report, Corrective Action Log, Incident Report Form, Incident Report Log Interviewees/ Participants: Jesse McCullough (Operations Compliance Manager), Arnold Diep (EHS Specialist), Tom Dyer (EHS Manager) Results: **Conforms** Reviewed an incident report form record dated 09/06/22 for a magnehelic gauge issue, and 08/30/22 for an elevated Hg vapor level. Corrective Actions are logged on Incident Report Forms and Incident Report Log. Reviewed corrective action for a finding from the previous Internal Audit dated 11/17/21. **Reviewed findings from previous Internal and Surveillance Audits and found all NC's addressed and resolved.**	

SUMMARY OF FINDINGS

Non-conformances

No non-conformances

Areas of Concern

AOC-01 Forklift driver was not wearing seatbelt
AOC-02 Wheel chocks were not in place for box truck at dock which had just recently been off-loaded.
AOC-03 Dock Ramp showed evidence of damage and should be considered for repair or replacement.
AOC-04 Dock door to compactor was fully open and there was no fall protection (chain) across the elevated dock.
AOC-05 Compactor controls are located on the outside of the dock door and use a key to lock out. Site should develop plan to assure key is pulled from the controls when dock door is closed.
AOC-06 Outfeed of the baler where the strapping occurs is not guarded. Site should consider some physical guard.
AOC-07 On elevated platform to infeed to baler employees would be responsible for breaking jams/bridges using a rake. There is a sign that instructs employees to not lean over the edge of the hopper. Site should consider adding an emergency stop cable across the mouth of hopper.
AOC-08 Site should risk assess opportunities to assure that operator does not touch hot surfaces of sealer and shrink wrapper.
AOC-09 Outfeed of shrink wrapper should be guarded on the return portion of the conveyor.

Opportunities for Improvement

OFI-01 EcoLights should consider adding an attestation to the sign in log that Visitors and Contractors have reviewed the Visitor and Contractor Policy.
OFI-02 Site should consider adding smoke detectors to the breakroom around the microwaves.
OFI-03 Site should add housekeeping to the Environmental Inspection Checklist
OFI-04 Baler control panel was quite dusty, and the gauges were unreadable with one broken. Dust on working surfaces can lead to dust transfer to employee.
OFI-05 Suggest that the site revise their Forklift Inspection form to provide for comments for each week and to provide space to identify how comments were addressed at the time. Unless they chose to generate incident reports for every comment.
OFI-06 Objectives are currently a combined sheet with sister group and should be made into two separate sheets.
OFI-07 Site should consider Industrial Hygiene sampling for VOCs from the heat shrink machine.
OFI-08 Site should consider adding metals (Hg in particular) sampling to the Industrial Hygiene program.
OFI-09 Site should consider the use of an Oil/Water separator for the condensate from the compressors to reduce waste generation

EcoLights Facility ISO 14001 Internal Audit Schedule December 21st, 2022	
December 21, 2022	
Time	**Processes to be Audited**
8:00am - noon	**General Requirements, Leadership, Environmental Policy** ISO 14001 4. 0 Context of the Organization, 5.0 Leadership ISO 14001 5.2 Environmental Policy
	Leadership and Commitment, Resources, Roles, Responsibilities and Authorities ISO 14001 5.1 Leadership and Commitment ISO 14001 5.3 Organizational roles, responsibilities, and authorities, 7.1 Resources
	Planning ISO 14001 6.1, 6.1.1 & 6.1.4 Actions to Address Risks and Opportunities and Planning Action
	Environmental Aspects ISO 14001 6.1.2 Environmental Aspects
	Compliance Obligations ISO 14001 6.1.3 Compliance Obligations
	Objectives, Targets and Programs ISO 14001 6.2 Environmental objectives and planning to achieve them
	Competence, Training and Awareness ISO 14001 7.2, 7.3 Competence and Awareness
	Communication ISO 140017.4 Communication
Lunch	
1:00pm – 5:00pm	**Documented Information** ISO 14001 7.5 Documented Information
	Operational Control – Receiving, Sorting, Bulb Processing ISO 14001 8.1 Operational Planning and Control ISO 14001 8.2 Emergency Preparedness and Response
	Performance Evaluation and Evaluation of Compliance ISO 4001 9.1 Monitoring, Measurement, Analysis and Evaluation ISO 14001 9.1.2 Evaluation of Compliance
	Nonconformity, Control of Non-Conforming Product, Incident Investigation, Corrective Action ISO 14001 10.2 Nonconformity and Corrective Action
	Management Review and Improvement ISO 14001 9.3 Management Review ISO 14001 10.1 Improvement - General 10.3 Continual Improvement

To be completed off-site after internal audit	**Internal Audit Process** ISO 14001 9.2 Internal Audit

Certificate of Training

ISO14001:2015 Internal Auditor

James Gonzalez

This document certifies that the above noted person has attended ISO-14001 Internal Auditor Training.

Presented by Greeneye Partners on 10-18-22.

Greeneye Partners

GREENEYE
PARTNERS

Certificate of Completion

This is to certify that

Kelley Keogh

has successfully completed the ISO 14001:2015 Internal Auditor Training Course

Nicole Delich

Nicole Delich, Partner

October 7th 2016

Date of Issue

Appendix F: Third Party Financial Audit Report

The following report is the third-party financial audit report for LightRecycle Washington revenue and expenses during 2022, and was conducted by Moss Adams LLP, certified public accountants.

Report of Independent Auditors
and Financial Statements

PCA Product Stewardship, Inc.

December 31, 2022

MOSSADAMS

Table of Contents

MOSSADAMS

Report of Independent Auditors

The Board of Directors
PCA Product Stewardship, Inc.

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of PCA Product Stewardship, Inc., which comprise the statement of financial position as of December 31, 2022, and the related statements of activities, functional expenses, and cash flows for the year then ended, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of PCA Product Stewardship, Inc. as of December 31, 2022, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of PCA Product Stewardship, Inc. and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about PCA Product Stewardship Inc.'s ability to continue as a going concern within one year after the date that the financial statements are available to be issued.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 PCA Product Stewardship Inc.'s internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about PCA Product Stewardship Inc.'s ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control–related matters that we identified during the audit.

Moss Adams LLP

Portland, Oregon
April 18, 2023

Financial Statements

PCA Product Stewardship, Inc.
Statement of Financial Position
December 31, 2022

ASSETS

Cash and cash equivalents	$ 3,529,947
Accounts receivable	60,100
Prepaid expenses	2,852
Total assets	$ 3,592,899

LIABILITIES AND NET ASSETS

LIABILITIES	
Accounts payable	$ 965,863
Total liabilities	965,863
NET ASSETS	
Without donor restrictions	2,627,036
Total net assets	2,627,036
Total liabilities and net assets	$ 3,592,899

See accompanying notes.

PCA Product Stewardship, Inc.
Statement of Activities
Year Ended December 31, 2022

PROGRAM REVENUE	$ 2,606,831
EXPENSES	
Program services	1,572,852
Supporting services	219,571
Total expenses	1,792,423
CHANGE IN NET ASSETS	814,408
NET ASSETS, beginning of year	1,812,628
NET ASSETS, end of year	$ 2,627,036

See accompanying notes.

PCA Product Stewardship, Inc.
Statement of Functional Expenses
Year Ended December 31, 2022

	Program Services			Supporting Services	
	Lightbulb Recycling	Thermostats	Total Program Expenses	General and Administrative Expenses	Total Expenses
EXPENSES					
Professional fees	$ 2,461	$ 722,942	$ 725,403	$ 14,091	$ 739,494
Processing	362,243	-	362,243	-	362,243
Transportation	220,906	-	220,906	-	220,906
Management fee	-	-	-	205,480	205,480
Advertising and promotion	380	143,832	144,212	-	144,212
Supplies and maintenance	87,603	-	87,603	-	87,603
IT services	13,853	-	13,853	-	13,853
Regulatory compliance	9,499	-	9,499	-	9,499
Insurance	5,813	-	5,813	-	5,813
Dues, licenses, and fees	2,842	-	2,842	-	2,842
Miscellaneous	478	-	478	-	478
Total expenses	$ 706,078	$ 866,774	$ 1,572,852	$ 219,571	$ 1,792,423

See accompanying notes.

PCA Product Stewardship, Inc.
Statement of Cash Flows
Year Ended December 31, 2022

CASH FLOWS FROM OPERATING ACTIVITIES	
Change in net assets	$ 814,408
Adjustments to reconcile change in net assets to net cash from operating activities:	
Change in cash and cash equivalents due to:	
Accounts receivable	(66,273)
Prepaid expenses	7,591
Accounts payable	874,411
Net cash from operating activities	1,630,137
CHANGE IN CASH AND CASH EQUIVALENTS	1,630,137
CASH AND CASH EQUIVALENTS, beginning of year	1,899,810
CASH AND CASH EQUIVALENTS, end of year	$ 3,529,947

See accompanying notes.

Note 1 – Organization

PCA Product Stewardship, Inc. (the Organization or PCAPSI), is a non-profit 501(c)(3) organization that formed in 2010 in the state of Oregon. The Organization's mission is to (a) operate environmentally sound and cost-effective product stewardship programs which include the collection, transportation, and processing of post-consumer products for end-of-product-life management; (b) assist in the development and implementation of strategies to reduce the generation of post-consumer household waste; and (c) engage in any other lawful related purpose. To advance such purposes, the Organization may also: (d) promote the reuse of post-consumer products, and (e) educate consumers about collection opportunities for post-consumer products and promote waste prevention, reuse, and recycling.

The Organization is controlled by Product Care Association of Canada, a Canadian-based not-for-profit corporation with similar organizational goals. See further discussion of related-party transactions in Note 4.

In January 2015, the Organization implemented an industry sponsored product stewardship program for light bulbs containing mercury in the state of Washington.

During 2016, the sunset date for the industry sponsored product stewardship program for light bulbs containing mercury in the state of Washington was extended to July 1, 2025. After July 1, 2025, the stewardship law and program will undergo a sunset review by the Joint Legislative Audit and Review Committee.

During 2022, the Organization implemented an industry sponsored product stewardship program for thermostats containing mercury in the state of California through July 1, 2028.

Note 2 – Summary of Significant Accounting Policies

Basis of accounting – The accompanying financial statements have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.

Basis of presentation – Net assets, revenues, gains, and losses are classified based on the existence or absence of donor or grantor-imposed restrictions. Accordingly, net assets and changes therein are classified and reported as follows:

- **Net assets without donor restrictions** – Net assets available for use in general operations and not subject to donor-imposed stipulations.

- **Net assets with donor restrictions** – Net assets subject to donor-imposed stipulations that may or will be met, either by actions of the Organization and/or the passage of time. When a restriction is met, net assets with donor restrictions are reclassified to net assets without donor restrictions and reported in the statement of activities as net assets released from restrictions. There were no net assets with donor restrictions as of December 31, 2022.

Cash and cash equivalents – For purposes of financial statement classification, PCAPSI considers all unrestricted, highly-liquid investments with an initial maturity of three months or less to be cash and cash equivalents.

Accounts receivable – Accounts receivable as of December 31, 2022 is comprised of amounts due from members related to the prior month's light bulb recycling as these amounts are contractually due to PCAPSI. Management has concluded the accounts receivable balance is collectible and there is no need for an allowance for doubtful accounts. Furthermore, the Organization has not written off any such amounts during the year ended December 31, 2022.

Expense allocation – The costs of providing various programs and supporting services have been summarized on a functional basis in the statement of functional expenses. Accordingly, certain costs have been allocated among the programs and supporting services based on the relative benefit attributed to each of the programs and supporting services.

Advertising – PCAPSI expenses advertising costs as incurred. Advertising costs include activities to create or stimulate a desire to use services that are provided without charge. Advertising expense totaled $144,212 for the year ended December 31, 2022.

Income taxes – PCAPSI is exempt from federal and state income taxes under Section 501(c)(3) of the Internal Revenue Code and is further classified as a public charity under Section 509(a)(2) and not as a private foundation. No provision for income taxes is made in the accompanying financial statements, as the Organization has no activities subject to unrelated business income tax.

PCAPSI recognizes the tax benefit from uncertain tax positions only if it is more likely than not that the tax positions will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. PCAPSI recognizes interest and penalties related to income tax matters, if any, in general and administrative expense. PCAPSI had no uncertain tax positions as of December 31, 2022.

PCAPSI had no unrecognized tax benefits as of December 31, 2022. No interest and penalties were accrued for the year ended December 31, 2022. PCAPSI files an exempt organization return in the U.S. federal jurisdiction.

Use of estimates – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires that management make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Revenue recognition – To determine revenue recognition for the arrangements the Organization determines are within the scope of Accounting Standards Update ("ASU") No. 2014-09, the Organization performs the following five steps: (1) identify the contract(s) with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract and (5) recognize revenue when (or as) the entity satisfies a performance obligation.

Program revenue representing revenues related to the Mercury Containing Lights Product Stewardship Program is recognized when participants report and remit the Environmental Handling Charges (EHCs) related to the sale of mercury-containing light bulbs as required by applicable provincial environmental legislation. Participants report and remit EHCs by the end of the month following the period the designated program mercury-containing light bulbs were sold by participants as required by the program's EHCs policy. There are no ongoing performance obligations the Organization must provide in order to recognize revenue; the Organization's performance obligations occur during the collection and processing of bulbs. There is no financing component. Therefore, revenue is recognized appropriately in the year the report is submitted, providing collection is reasonably assured.

Program revenue representing revenues related to the Thermostat Recycling Stewardship Program is recognized in accordance with the Agreement between Thermostat Recycling Corporation ("TRC") and PCAPSI. The program revenue is recorded ratably throughout the year as the program operates and as expenses are incurred. There are no ongoing performance obligations other than continuing to run the program and each year's payment received represents revenue for the year the services are performed.

Recently adopted standards – In February 2016, the Financial Accounting Standards Board ("FASB") issued Leases (Topic 842) ("ASU 2016-02"), whereby a lessee will be required to recognize for all leases at the commencement date a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged. A modified retrospective transition approach for leases existing at, or entered into after, the beginning of the period of adoption. The modified retrospective approach would not require any transition accounting for leases that expired before the period of adoption. ASU 2016-02 is effective for the Organization's annual periods beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022.

Upon management's assessment, the impact of applying Topic 842 was deemed to be immaterial and no right-of-use asset or lease liabilities were recorded at January 1, 2022, or during the year ended December 31, 2022.

Subsequent events – Subsequent events are events or transactions that occur after the statement of financial position date but before the financial statements are available to be issued. PCAPSI recognizes in the financial statements the effects of all subsequent events that provide additional evidence about conditions that existed at the date of the statement of financial position, including the estimates inherent in the process of preparing the financial statements. PCAPSI's financial statements do not recognize subsequent events that provide evidence about conditions that did not exist at the date of the statement of financial position but arose after the statement of financial position date and before the financial statements are available to be issued.

PCAPSI has evaluated subsequent events through April 18, 2023, which is the date the financial statements were available to be issued.

Note 3 – Liquidity and Availability

Financial assets available for general expenditure, that is, without donor or other restrictions limiting their use, within one year of the statement of financial position date, comprise the following for the year ended December 31, 2022:

Cash and cash equivalents	$ 3,529,947
Accounts receivable	60,100
	$ 3,590,047

The Organization's cash flows have minimal seasonal variations during the year. The Organization typically maintains cash on hand equal to 3–6 months of operating expenses.

Note 4 – Related Party Transactions

PCAPSI is a wholly owned subsidiary of Product Care Association (PCA), a Canadian based company. PCA carries out similar operations in Canada and provides PCAPSI managerial services, such as maintaining financial books and records, creating financial reports, and other administrative duties for the Organization to carry out their mission. Fees paid to PCA totaled $205,480 for the year ended December 31, 2022. Fees outstanding at December 31, 2022 were $21,909 and are included in accounts payable on the statement of financial position.

Note 5 – Concentrations

Concentrations of program operations – The Organization's program activities are concentrated in the state of Washington and state of California and could be impacted by legislative changes in their respective states.

Concentrations of credit risk – PCAPSI's cash and cash equivalents may subject them to concentrations of credit risk, and noninterest-bearing cash balances may exceed federally insured limits. The Organization has not experienced any losses in such accounts to date.

As of December 31, 2022, the Organization's cash and cash equivalents was maintained with one financial institution in the United States, and the current deposits are in excess of federally insured limits. On March 10, 2023, Silicon Valley Bank was closed by the California Department of Financial Protection and Innovation, which appointed the FDIC as receiver. If the financial institution with whom the Organization does business were to be placed into receivership, the Organization may be unable to access the cash they have on deposit with such institutions. If the Organization is unable to access their cash and cash equivalents as needed, their financial position and ability to operate the business could be adversely affected.

Appendix G: LightRecycle Washington WAC 173-910-430 (2) Analysis

The following report fulfills the requirements outlined in WAC 173-910-430 (2) for the Washington State Mercury-Containing Lights Product Stewardship Program, LightRecycle Washington (LRW).

LightRecycle Washington
WAC 173-910-430 (2) Analysis

For submission to:

Washington State Department of Ecology
Solid Waste Management Program
Attn: Megan Warfield, Lindsey Ladd

Submitted by:

PCA Product Stewardship Inc.
P.O. Box 30811
Seattle, WA 98103

LightRecycle Washington
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Introduction

The Washington (WA) State Mercury-Containing Lights Product Stewardship Program, called LightRecycle Washington (the "Program" or "LRW"), began on January 1, 2015, for the collection and recycling of mercury-containing lights sold at retail. Pursuant to WAC 173-910-430, each stewardship organization must submit an annual report to the department describing the results of implementing the stewardship organization's plan for the prior calendar year. In addition, WAC 173-910-430(2) states that starting in 2023, the Program is required to provide an analysis that includes:

- The percent of total sales of lights sold at retail to covered entities in Washington that mercury-containing lights constitute,
- The estimated number of mercury-containing lights in use by covered entities in the state,
- The projected number of unwanted mercury-containing lights to be recycled in future years.

In agreement with the Department of Ecology, the Program agreed to submit these updated reporting requirements by October 20th, 2023.

This report shows the results and compliance with the specified requirements and provides a comprehensive overview of the findings.

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Requirements: *WAC 173-910-430 (2)*

WAC173-910-430(2) mandates that, starting in 2023, stewardship organizations are required to include an analysis in their annual reports of the percent of total sales of lights sold at retail to covered entities in Washington that mercury-containing lights constitute, the estimated number of mercury-containing lights in use by covered entities in the state, and the projected number of unwanted mercury-containing lights to be recycled in future years. To facilitate this analysis, the Program has structured the requirements into three key elements:

1. The percent of total sales of lights sold at retail to covered entities in Washington that mercury-containing lights constitute,
2. The estimated number of mercury-containing lights in use by covered entities in the state,
3. The projected number of unwanted mercury-containing lights to be recycled in future years.

RCW 70A.505.020 (3) defines "Covered entities" as:

a) A ***household generator*** or other person who purchases mercury-containing lights at retail and delivers no more than ten mercury-containing lights to registered collectors for a product stewardship program on any given day; and
b) A ***household generator*** or other person who purchases mercury-containing lights at retail and utilizes a registered residential curbside collection program or a mail-back program for collection of mercury-containing lights and discards no more than fifteen mercury-containing lights into those programs on any given day.

The ensuing sections provide the outcomes of the analysis done for each of the required elements.

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Analysis 1 – The percent of total sales of lights sold at retail to covered entities in Washington that mercury-containing lights constitute.

Comprehensive data for light bulb sales in Washington State is currently unavailable. In the absence of state-specific sales figures, we employed an estimation method based on national data and population growth trends.

According to the US Energy Information Association, approximately 1.1 billion light bulbs were sold across the United States in 2020, encompassing all bulb types such as incandescent, fluorescent, LED, and more.

For our analysis, we derived the figure of 3.3 light bulbs sold per person in 2020 by dividing the total number of light bulbs sold nationally (1.1 billion) by the population of the United States (331,449,281). This calculation served as the basis for our estimation. We then applied this national average to the population of Washington State in 2020 (7,705,281), resulting in an estimate of approximately 26 million light bulbs sold within the state during the same year.

While this report uses the statistic of 3.3 light bulbs sold per person in 2020, it's important to note that lamp purchases from the ICI sector, typically made through electrical distributors, often involve significant quantities, ranging from tens to thousands of units. These large-scale purchases constitute a substantial portion of the overall purchases.

Table 1 illustrates this calculation, showcasing the population figures and the derived average of 3.3 light bulbs sold per person in 2020.

	Population (2020)	Total Light bulbs sold (2020)	Light bulbs sold per person (2020)
USA Total	331,449,281	1.1 billion	3.3
WA state only	7,705,281	25,427,427	3.3

Table 1: Comparison of National Sales Data and Estimated Washington State Sales Data for 2020

In terms of market share, the 2020 data from the US Energy Information Administration revealed three primary sectors for light sales in the USA: residential (13%), industrial (39%), and commercial (48%). The WA state regulation defines “Covered Entity” as a ***household generator*** or other person who purchases mercury-containing lights at retail. However, within the context of the LRW program, a notable consideration arises: a small portion of commercial sector sales could be attributed to retail channels, potentially classifying them as covered entities. Consequently, our analysis considers two distinct perspectives:

Firstly, for Method 1, it employs a broad range, spanning from 13% (representing residential households) to 61% (encompassing both household and the entire commercial sector).

Secondly, for Method 2, we have drawn insights from the industry and considered the current understanding of the sector. This perspective suggests that it is more relevant to emphasize that Covered Entities in Washington State primarily belong to the household sector, accounting for only the estimated 13%, with a relatively small representation in the commercial sector, which is no more than 10% of the total 48% attributed to commercial sales. Based on these insights, we can calculate that 10% of the 48% of commercial sales translates to 3% of the total sales. Using this information, we define a narrower focus and a more contextually meaningful approach for our second method, resulting in a range of 13-16%.

Based on this, LightRecycle Washington uses the results of Method 2, noting that Covered Entities, as defined in Washington State, are primarily individuals from households who recycle mercury-containing lamps with a "retail" origin. These lamps are traditionally sold through major national chain home improvement retailers, neighborhood hardware stores, grocery stores, and online retail platforms. These channels are chosen by consumers (i.e., the covered entities) due to their convenience, being located near other consumer retail establishments where household goods are purchased.

In contrast, commercial and industrial (ICI) lighting markets, serving commercial and industrial spaces, operate independently from household-focused lighting markets. ICI lighting sales predominantly occur through electrical distributors or direct transactions between manufacturers and end-users, with linear fluorescent lamps being the most common for ICI applications.

There are notable distinctions between electrical distributors and consumer retail outlets:

- Electrical distributors do not charge an Environmental Handling Charge and are thus out of the program's scope.
- Their customers include commercial and industrial property owners, developers, educational institutions, and medical facilities.
- Electrical distributors are typically located in areas less frequented by consumers for lamp purchases.
- Many electrical distributors exclusively sell to trade professionals and do not cater to covered entities seeking lamps for household use.
- Mercury-containing lamps for C&I applications are often shipped in bulk cartons, lacking individual packaging suitable for household transportation.

In summary, even though our analysis provides the two methods for the calculations of the results, we recommend using the results of the estimated sales of all types of light bulbs to Covered Entities in Washington State within the range of 13%-16% to account for the small portion of the commercial sector that can potentially be included as a covered entity.

WA Total bulbs sold	~26,000,000
Method 1: Covered entities represent the range 13% - 61% of the market share in WA State	
WA bulbs sold to covered entities	3,380.000 – 15,860,000 units sold to Covered Entities
Method 2: Covered entities represent 13% - 16% of the market share in WA State	
WA bulbs sold to covered entities	3,380.000 – 4,160,000 units sold to Covered Entities

Table 2: Total Sales of lights (bulbs) to Covered Entities (households + commercial) in 2020

The data used in this analysis is from 2020. To project sales for 2021, 2022, and 2023, we applied Compound Annual Growth Rate (CAGR) calculations. Market research, supported by industry insights, indicates an approximate 1.5% CAGR for the overall light sales market and about 5% for the residential market for the period from 2020 to 2026 (Source: Statistica and other sources). These studies and industry input took into account factors such as the impact of the COVID-19 pandemic, the transition to LED lighting, market saturation in mature markets, and current inflation when projecting the CAGR for light bulb sales in the coming years.

Considering the two methods and the actual sales of mercury-containing lights, we conducted calculations to determine the percentage of sales that mercury-containing lights represent in Washington State. The findings are presented in Table 4.

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Analysis: Lights sold at retail to covered entities in Washington State (units)				
Using: 13% Residential Market Share				
	2020	**2021**	**2022**	**2023**
Total Lights sold (CAGR 1.5%)	26,000,000	26,390,000	26,785,850	27,187,638
Sold to Covered Entities: Residential (13% market share)				
Household - All lights (CAGR 5%)	3,380,000	3,549,000	3,726,450	3,912,773
Mercury Containing Actual Lights sales	1,378,044	893,751	621,230	434,861
% of sales that Mercury Containing lights represent	**41%**	**25%**	**17%**	**11%**
Method 1: Range 13% (residential) to 61% (13% residential + 48% commercial)				
	2020	**2021**	**2022**	**2023**
Total Lights sold (CAGR 1.5%)	26,000,000	26,390,000	26,785,850	27,187,638
Sold to Covered Entities: Commercial (48% market share)				
Commercial (48%) - All lights (CAGR 1.5%)	12,480,000	12,674,688	12,872,413	13,073,223
Mercury Containing Actual Lights sales	1,378,044	893,751	621,230	434,861
% of sales that Mercury Containing lights represent using both residential+commercial (61%) market share	9%	6%	4%	3%
% range of sales that mercury containing lights represent in Washington State	**9-41%**	**6-25%**	**4-17%**	**2-11%**
Method 2: Range 13% (residential) to 16% (~10% of the 48% commercial)				
	2020	**2021**	**2022**	**2023**
Total Lights sold (CAGR 1.5%)	26,000,000	26,390,000	26,785,850	27,187,638
Sold to Covered Entities: Commercial (3% market share)				
Commercial (3%) - All lights (CAGR 1.5%)	780,000	791,700	803,576	815,629
Mercury Containing Lights sales	1,378,044	893,751	621,230	434,861
% of sales that Mercury Containing lights represent using both residential+portion of commercial (16%) market share	33%	21%	14%	9%
% range of sales that mercury containing lights represent in Washington State	**33-41%**	**21-25%**	**14-17%**	**9-11%**

Table 4: Percent of sales that mercury containing lights represent in WA state

In conclusion, based on the data and calculations, and since mercury-containing lights represent only a small portion of the ICI lamps sold to covered entities, mercury-containing lights are estimated to constitute 9-11% of total sales of lights sold at retail to covered entities in Washington State as of 2023.

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Analysis 2 – The estimated number of mercury-containing lights in use by covered entities in the state.

All mercury-containing lights that have been sold in Washington State can be categorized into four groups:

1. **In use** – Lights that are currently being used and are affected by the lifespan of the bulbs. According to the US EPA, mercury lights have a lifespan of 4-8 years. They are made of glass arc tubes and other delicate elements and are more prone to damage or shattering compared to LED lights.
2. **Recycled** – Lights that have already been captured by the LRW program.
3. **Spent (not recycled)** – lights that have reached the end of their useful life and have not been recycled. These lights may be landfilled, broken, or waiting to be recycled. It is estimated that 30-40% of used (spent) lights ultimately end up in landfills and are therefore categorized as "not recycled," as reported by the US EPA and the US Energy Information Administration.
4. **Stored** – Lights that are kept in storage and are yet to be used or sold.

To estimate the number of mercury-containing lights currently in use by covered entities in the state, we have employed two methods. The first method takes into account the product's lifespan and end-of-life management statistics, considering the four categories mentioned above. The second method utilizes household lightbulb usage data from the USA.

In this analysis, we will combine both methods to estimate the current number of mercury-containing lights in use by covered entities in Washington State.

Method 1 - Using Lifespan and End-of-Life Management Statistics

In this method, we aim to estimate the number of mercury-containing lights in use by covered entities in Washington State by considering the lifespan of the product and end-of-life management statistics. Mercury lights typically have a lifespan ranging from 4 to 8 years. During the initial years, a higher percentage of lights are in active use, reflecting their early purchase and installation. However, as these lights approach the end of their lifespan, which typically ranges from 4 to 8 years, there is a more noticeable decrease in the percentage in use. This decline becomes more pronounced in the fourth year (2020) and subsequent years as the lifespan of the bulbs becomes a determining factor.

To create a comprehensive distribution of how these lights behave over a period of 9 years, we have developed the following table that illustrates the percentage of lights sold versus the percentage in use over the specified years:

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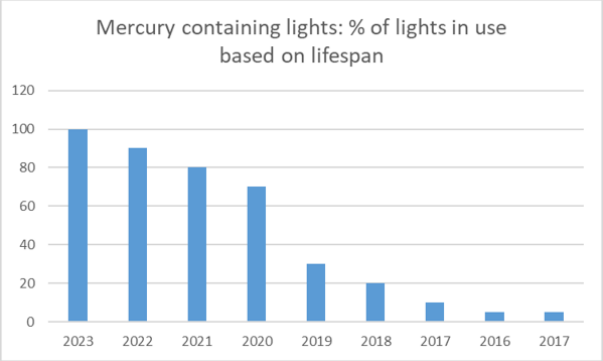

Lifespan 4-8 years % sold vs in use		
	% sold	% in use today
2023	100	100
2022	100	90
2021	100	80
2020	100	70
2019	100	30
2018	100	20
2017	100	10
2016	100	5
2017	100	5

Table 5: Distribution of the lifespan of mercury-containing lights.

If we apply the lifespan distribution methodology to calculate similar distributions for the other 3 end of life categories (spent, stored, collected), we obtain a distribution figure (Figure 1) that portrays the destiny of each light sold, revealing the proportions that remain in use, are in storage, have been collected by the program and have not been recycled. This visual representation serves as a tool for understanding the factors influencing the calculation of the number of mercury-containing lights in use by Covered Entities in Washington state.

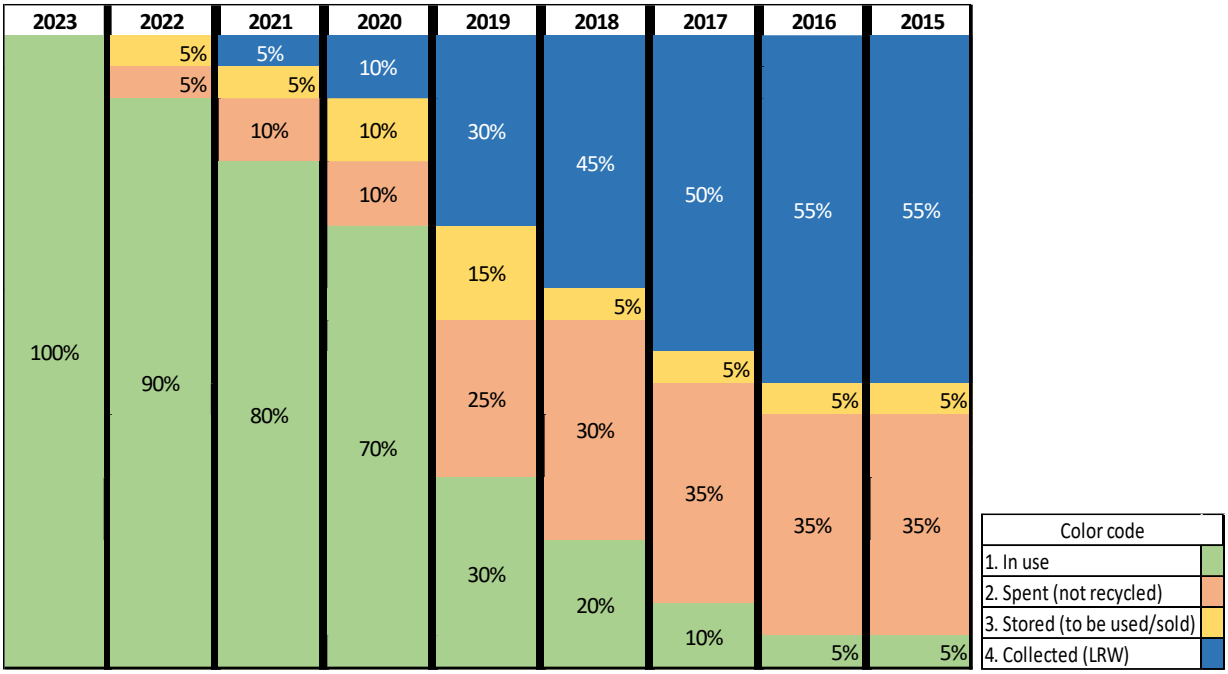

Figure 1: Distribution of status of mercury-containing lights sold in WA state.

To estimate the number of mercury-containing lights in use by Covered Entities in Washington State, we've considered several crucial factors, including sales and collections data spanning from 2015 to 2023 and the distribution of lifespan for these lights. By applying this distribution to actual sales figures over the period, we have arrived at our results, as illustrated in Table 6.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Sales	8,388,850	5,473,032	2,988,636	1,834,705	1,633,640	1,378,044	893,751	621,230	434861	23,646,749
Collections	988,449	1,181,616	1,317,790	1,271,304	1,343,229	1,092,317	1,240,967	1,265,787	1,291,229	10,992,688
Difference	7,400,401	4,291,416	1,670,846	563,401	290,411	285,727	(347,216)	(644,557)	(856,368)	12,654,061
Lifespan distribution	5%	5%	10%	20%	30%	70%	80%	90%	100%	
Estimated In use	**419,443**	**273,652**	**298,864**	**366,941**	**490,092**	**964,631**	**715,001**	**559,107**	**434,861**	**4,522,590**

Table 6. Estimated number of mercury-containing lights in use in WA State.

Based on the findings of this analysis (method 1), as of May 2023, an estimated 4,522,590 mercury-containing lights are currently in use by covered entities throughout Washington State.

Method 2 - Using Household Data and Usage Statistics

In the second approach, we utilize household lightbulb use data as provided by the US Energy Information Administration. Leveraging this information in conjunction with census data, we can extrapolate the number of lightbulbs in use within Washington State in 2020. The estimates generated from this method serve as a validation point, allowing us to cross-verify the findings derived from Method 1. This dual-method approach ensures results robustly quantity the number of lightbulbs currently in use in the state.

To arrive at our estimates, we begin by considering the household data provided by the US Energy Information Administration, which indicates that an average American household has approximately 40-50 lightbulbs in socket (as of 2020). This data serves as a direct representation of the number of lights currently in use by covered entities. We then combine this information with census data to derive estimates specifically for Washington State in 2020.

According to census data for 2020, there were a total of 129 million households in the United States. Applying the 40-50 lightbulbs per household figure to this data yields an estimated range of 5.1-6.4 billion lightbulbs actively in use across the USA.

Extending this calculation to Washington State, which had a population of approximately 7.739 million and a total of 2,937,000 households, we arrive at an estimated range of 117 to 146 million lightbulbs in use (all types) within the state. These estimations are presented in Table 7, providing a detailed breakdown of the number of lightbulbs in use based on household data from the US Energy Information Administration (EIA).

	Population	Number of Households	Average number of bulbs per household	Number of bulbs in use
US	331,000,000	129,000,000	40-50	5.160-6.450 billion
WA	7,739,000	2,937,000	40-50	117.48-146 million

Table 7: Estimated Number of Lightbulbs (all types) in Use in Washington State - Using Household Data (EIA)

The next step was to identify how many of the estimated 117-146 million lightbulbs in active use were, in fact, mercury-containing lights. To achieve this, historical data and behavioral trends related to lightbulb usage within households across the United States were explored.

Recent data reveals a significant shift in lightbulb preferences, with LED bulbs now the top choice among both residents and contractors. This changing preference has resulted in a reduced use of mercury-containing lightbulbs, as depicted in Figure 2. This shift, supported by industry insights, indicates a substantial transformation driven by economic and environmental considerations. Based on our forecast, considering this declining trend and industry insights, it is anticipated that by 2023, mercury lightbulbs will make up only about 2% of the total lighting in use throughout the United States.

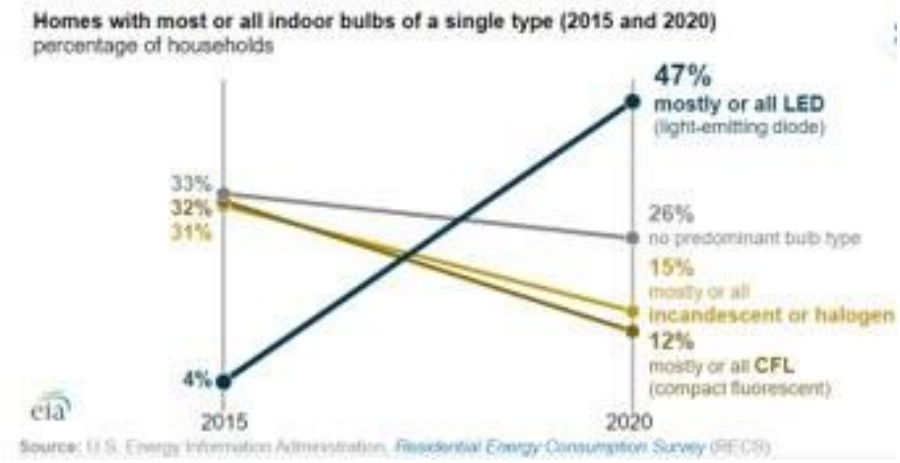

Figure 2: Trends in Lightbulb usage in USA by type of light.

The estimation for mercury-containing lightbulbs in use involved the incorporation of observed trends and household data.

To estimate the number of mercury-containing lights currently in use, we begin by examining sales and collections statistics, as outlined in Table 6. This data reveals that 23.6 million lights were sold, and 11 million lights were collected by the program since 2015. Assuming that all lights that were sold and not collected are in use (100% working), we arrive at an estimate of 12.6 million mercury-containing lights currently in use by covered entities. This figure, when compared to the estimated range of 117-146 million lightbulbs in use (comprising all types of lights), represents approximately 8.6% of the total lights in circulation. This serves as the upper limit of our calculation, assuming all unsold lights are operational and in use.

However, taking into consideration the trend depicted in Figure 2 and insights from industry, it's expected that by 2023, the usage of mercury-containing lightbulbs will account for only a minimal percentage, specifically around 2% among all lights in use. When applying this 2%, it is **estimated that 2,920,000 mercury-containing lights are in use by covered entities in Washington State as of 2023.**

Calculation Method	Percentage of Mercury-Containing Lights in Use (Total: 117-146 million lightbulbs in use)	Number of Mercury-Containing Lights in Use
Upper Limit	8.6%	12,600,000
Trend-based	2.0%	2,920,000

Table 8: Estimation of Mercury containing lights in use.

Estimation of Mercury-Containing Lights in Use

The results from both Method 1 and Method 2 align closely, reinforcing the reliability of our findings.

As of 2023, there are an estimated 2.9 to 4.5 million mercury-containing lights in use by covered entities in Washington State

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Analysis 3 – The projected number of unwanted mercury-containing lights to be recycled in future years

To perform this projection, we consider the four categories of how mercury-containing lights sold in Washington State can be classified as described before:

1. **Currently in use**: Estimated to be 2,9-4.5 million, averaging: 3.7 million bulbs in use.
2. **Recycled**: Lights that have already been captured by the LRW program, estimated to be 55% of all mercury containing lights sold.
3. **Spent (not recycled):** 30-40% of all lights will end up not being recycled.
4. **Stored:** Lights that are kept in storage and are yet to be used or sold.

Based on our previous analysis and available data, in 2023:

- Lights not collected 2015-2023: 12,654,061 (see table 6)
- Lights sold in 2023: 463,923 with a yearly minimum decreasing trend of 35% as seen based on data and industry insight.
- Lights currently in use: 3,700,000 an average of the estimated results in analysis 2.
- Estimated annual attrition (16.67% of lights in use): 833,500 for 2023
- Difference between not collected (~12.6 million) and in use (~5 million): 7,654,061
- Percentage to be recycled (55% of 7,654,061): 4,209,734
- Estimated units to be collected/recycled: 1.25 million per year, increasing yearly, but not as expected because of slippage from the ICI sector.

The formula for Estimated Annual Attrition:

Estimated Annual Attrition = (Number of Lights in Use at the Beginning of the Year) x (Attrition Rate)

The attrition rate is calculated based on the assumption that mercury-containing lights have a typical lifespan of 4-8 years. To calculate an average attrition rate within this range:

- The lowest end of the lifespan range (4 years) corresponds to lights that have a 1/4 chance of failing each year (100% divided by 4 years).
- The highest end of the lifespan range (8 years) corresponds to lights that have a 1/8 chance of failing each year (100% divided by 8 years).

Taking the midpoint of this range (6 years) would yield an attrition rate of approximately 16.67% (100% divided by 6 years).

We use these assumptions based on research and industry feedback to derive our results. Table 9 illustrates the projected number of mercury-containing lights available for recycling in the upcoming years, considering factors such as sales trends, annual attrition rates, and recycling rates. The calculations consider the initial pool of lights still in use and not collected (column d), yearly sales, lights in use, and the attrition of lights reaching the end of their lifespan each year.

Year	Lights Sold	In Use (Beginning of Year) (a)	Spent based on attrition rate (16%) (b)	In Use (End of Year) (a-b)	To Be Recycled (55% of Spent (b))	To Be Collected/Recycled per year (c)	To Be Recycled from All-time (d)	**To Be Recycled (End of Year) (b+d-c)**
2024	349,442	4,049,442	675,042	3,374,400	371,273	1,250,000	4,477,031	**3,450,197**
2025	227,137	3,374,400	562,512	2,811,887	309,382	1,250,000	3,598,304	**2,608,900**
2026	147,639	2,811,887	468,742	2,343,146	257,808	1,100,000	2,657,685	**1,815,493**
2027	95,965	2,343,146	390,602	1,952,543	214,831	1,000,000	1,815,493	**1,030,325**
2028	62,378	1,952,543	325,489	1,627,054	179,019	1,000,000	1,030,325	**209,344**

Table 9: Projected Number of Unwanted Mercury-Containing Lights to be recycled at end of year (2024-2028)

Using the results of this analysis, we have found that the projected number of mercury-containing lights to be recycled in forthcoming years is summarized in Table 10 as follows:

Year	Lights (units)to be recycled
2023	4,477,031
2024	3,450,197
2025	2,608,900
2026	1,815,493
2027	1,030,325
2028	209,344

Table 10: Projected Number of Unwanted Mercury-Containing Lights To Be Recycled (2023-2028)