

2023 Status Report on Connecticut's State-wide Consumer Electronics Recycling Program



**Over 188 Million Pounds of Unwanted Electronics Recycled,
75 Recycling Jobs Created, and
Over \$8.5 Million Dollars Saved by Municipalities!**

Pursuant to Section 22a-639(a)&(b) of the Connecticut General Statutes (“CGS”), the [Connecticut Department of Energy and Environmental Protection](#) (“DEEP”) presents its status report (“report”) on Connecticut’s state-wide electronics recycling program (“program”).

Lead

This report is required to:

- evaluate the effectiveness of the program;
- provide information about any national program which substantially meets or exceeds the requirements of Connecticut’s program, if applicable; and
- set forth DEEP’s plan and actions to achieve its on-going program implementation goals.

Program Summary:

Connecticut’s electronics recycling law ([CGS Section 22a-629 thru Section 22a-640](#)) is one of 26 state laws requiring electronics manufacturers to pay for the recycling of their products based on an Extended Producer Responsibility (“EPR”) model. In Connecticut, the electronics manufacturers share the cost of the collection, transportation and recycling of Covered Electronic Devices (“CEDs”) which means computers, computer monitors, printers, and televisions sold to consumers. This program has no direct cost to consumers or municipalities. Recyclers are approved by DEEP to ensure responsible recycling practices are being used. Recyclers bill the recycling cost to manufacturers according to prices approved by DEEP. Towns are responsible to provide for the convenient and accessible collection of CEDs for their residents. Most towns have chosen to use an existing transfer station or regional waste collection as their collection points, while other towns use special collection events, or designate specific businesses as a drop off location. This report documents the continuing success of the EPR framework for electronics recycling in Connecticut.

Since February 2011, Connecticut’s electronics recycling program has transformed the collection and recycling of unwanted CEDs. The result is thousands of tons annually of unwanted electronics getting recycled into new products, creating new jobs, keeping toxic materials out of the environment, and to date over \$8.4 million dollars saved in avoided disposal fees by Connecticut’s municipalities. The manufacturers that make the products are financing the system that recycles them. Connecticut was the fourth of 26 states to have an electronics recycling program financed by electronics manufacturers.



Connecticut’s electronic recycling program and other EPR programs (paint, mattresses, etc.) will continue to play an important role in achieving the state’s diversion goal of 60% by 2024 as established by P.A. 14-94 (codified in CGS Section 22a-241(a)) and the [Comprehensive Materials Management Strategy](#) adopted in July, 2016). EPR reduces costs for municipalities, ensures materials are recycled instead of disposed, and creates jobs. EPR also incentivizes manufacturers to both reduce the use of toxic materials in products, and to manufacture their products for recyclability so that the products can be more easily and completely recycled.

The State Fiscal Year (“SFY”) 2023 data analyzed by DEEP was derived from the semi-annual reports required to be submitted by the four (4) [Approved Covered Electronics Recyclers \(“CERs”\)](#), and supplemental information and data from registered manufacturers of CEDs. Census population data was used to determine the state-wide pound per capita rates for unwanted electronics collected under the program.

Program Successes (by the Numbers):

- In SFY 2023, over 7.4 million pounds of CEDs were collected by CERs, yielding a state per capita rate of 2.06 lbs/capita (6.36% decrease¹ from SFY 2022).
- In SFY 2023, CERs reported the following electronic waste components were recycled.
 - CRT glass containing lead – 1.91 million lbs. (estimated over 130,500 lbs. of lead recycled) (8.55% decrease from SFY 2022)
 - LCD/LED screen – 2.04 million lbs. (382.4% increase from SFY 2022)
 - Scrap metal – 1.5 million lbs. (42.61% decrease from SFY 2022)
 - Plastics – 617,300 lbs. (24.38% decrease from SFY 2022)
 - Circuit boards – 165,000 lbs. (58.97% decrease from SFY 2022)
 - Mercury containing materials – 2,800 lbs. (77.48% decrease from SFY 2022)
 - Glycol – 21 lbs. (57.14% decrease from SFY 2022)
 - Batteries – 30,800 lbs. (655.41% increase from SFY 2022)
- Electronics manufacturers reported 958,169 pounds of CEDs collected for recycling (3.50% increase from SFY 2022) under established private programs. Under such private programs, manufacturers generally partner with recyclers or retail stores of their choice to collect and recycle their own products. With one additional private program, electronics manufacturers have established 14 total private programs available to CT residents. In general, private programs increase convenience by establishing additional collection opportunities for Connecticut residents including retailer drop off points such as Best Buy, Verizon, and Goodwill, or through mail-back programs.

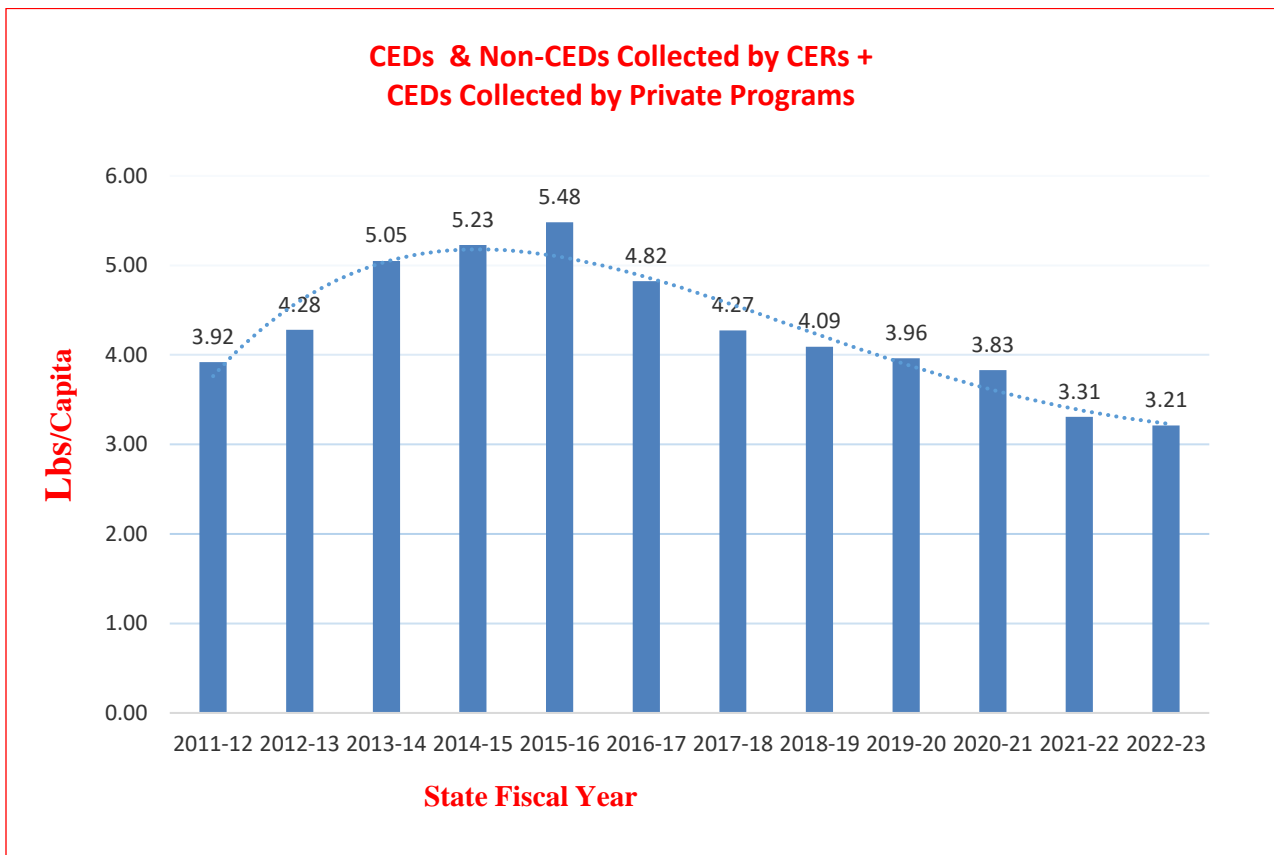


¹ The weight of CEDs collected peaked in SFY 2016. See “decline of CRTs and light-weighting” discussion under Program Challenges / Next Steps Section.

- With 7.4 million pounds of CEDs collected by CERs in SFY 2023, it is estimated that manufacturers paid \$3.2 million dollars to CERs collectively based on their national market share or return share data and the average price per pound of \$0.43375. This price includes recycling, transportation, and storage of CEDs being collected.

Since Program Inception (SFY 2011-2023):

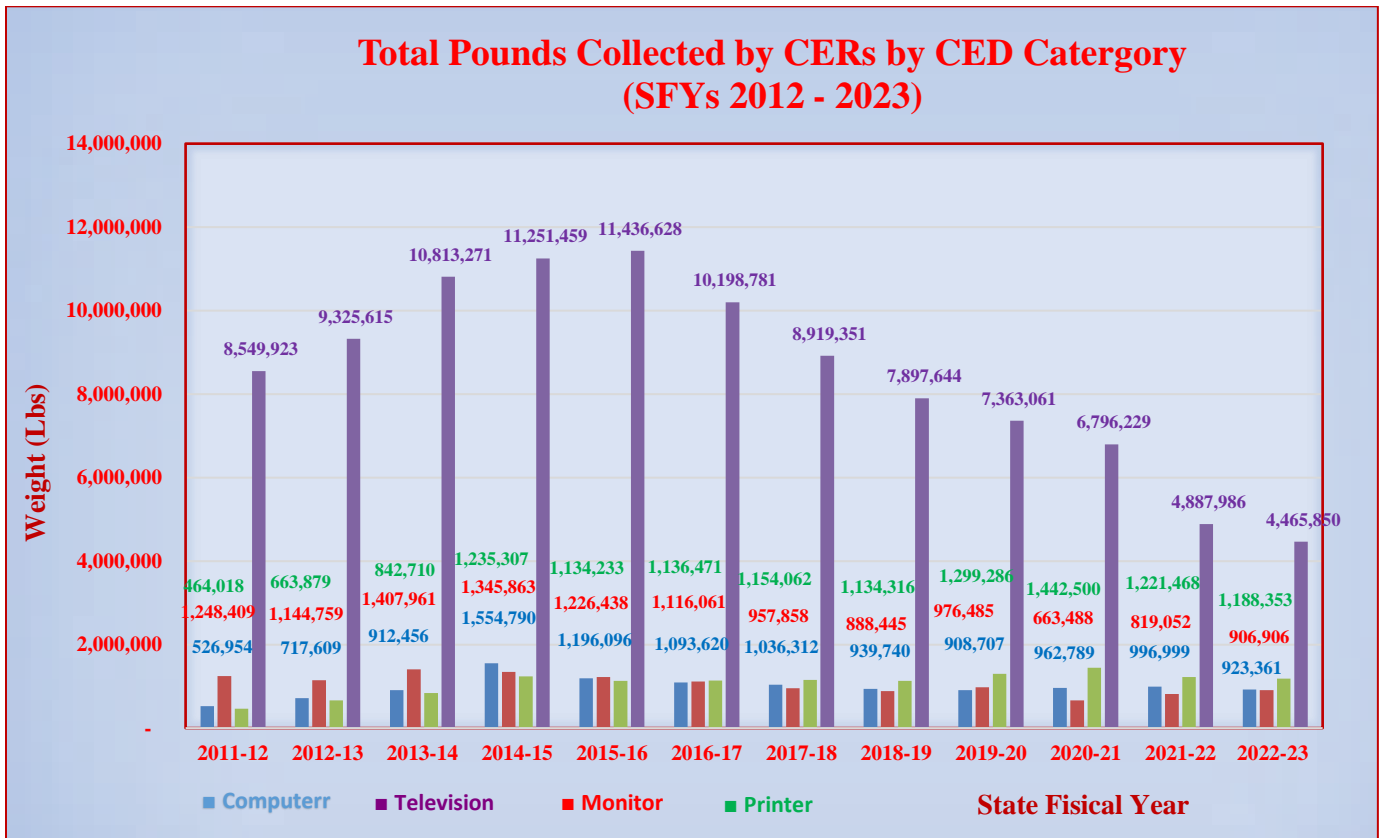
- Over 188 million pounds of unwanted electronics have been collected. The breakdown is as follows:
 - 141.9 million pounds of CEDs collected by CERs;
 - 12.7 million pounds of CEDs collected by electronics manufacturers’ private programs; and
 - 33.9 million pounds of other unwanted electronics (Non-CEDs such as computer keyboards, VCRs, DVD players, etc.) collected by CERs.



- The total weight of CEDs reported collected by CERs and electronics manufacturers in private programs and all other non-CEDs reported by CERs in SFY 2023 exceeds 11.6 million pounds, which equates to a state per capita rate of 3.21 lbs/capita. See the trend depicted in Table 1 above.
- Televisions accounted for the majority of the weight of CEDs with an average of 59.67% of the reported weight collected. Printers were the next highest product category with 15.88% of the

reported weight collected. The remaining weight was computers (12.34%) and monitors (12.12%). See Table 2 for total pounds collected cumulatively by CED category.

- Table 2, shown on the next page, depicts a decrease in total weight of CEDs collected by CERs since 2016. This decrease is mostly driven by the change in display technology from the older, heavier, cathode ray tube (“CRT”) type of television and monitor, to the newer, lighter flat-screen technology. CRTs comprise less than 50% of the televisions and monitors collected. The decrease in CED weight collected is also being driven by “lightweighting” of new electronics in general. That is, smaller, lighter, and more portable devices of all kinds.



- Since the last report in 2022, the total number of jobs did not change. Two jobs were created outside of Connecticut and jobs were reduced by 2 in Connecticut. Of the 75 direct and indirect jobs, 53 of these jobs are in Connecticut, and another 22 jobs are located in northeastern states.
- Over \$8.5 million dollars have been saved by Connecticut’s municipalities in avoided disposal fees by diverting unwanted electronics. In SFY 2023, municipalities collectively saved over \$611,000 in avoided disposal costs.

Program Benefits (On-going):

Less waste in the trash since program implementation in 2011. Waste characterization studies have shown that electronics disposed in the trash dropped by 76%² after Connecticut started its E-Waste EPR Program. This results in less waste burned at waste-to-energy facilities or landfilled.

² According to data from Connecticut’s Waste Characterization Studies conducted in 2010 and 2015.

No fees for consumers and no recycling/disposal costs for municipalities. Before the Connecticut's E-Waste EPR Program, consumers often were charged a fee for recycling with limited availability to recycle. For residential electronics thrown in the trash, most Connecticut municipalities would be charged for collection and disposal [up to \$105 per ton in 2023]. Some towns and regions collected waste electronics separately for recycling, but had to pay for those services from their own funds. Now manufacturers pay the cost for 100% of the electronics collected for recycling from residents.

Convenience and Accessibility. Before Connecticut's program, limited collection locations existed. There are now over 165 approved collection locations statewide that form a convenient and accessible collection network. Current coverage includes 150 municipal transfer stations, most of which are open year-round, and 15 regional collection locations. Other approved collection locations include some thrift stores like "Savers" and "Red, White and Blue" and approved businesses specializing in electronics collection and recycling (Green Monster e-Cycling LTD of West Hartford and Take 2 Inc. of Waterbury). Electronics manufacturers have also established private collection programs for their CED products.



Program Challenges (Next Steps):

While DEEP considers Connecticut's program to be effective, DEEP recognizes that there may be opportunities to improve this program. DEEP plans to seek input from various stakeholders on the challenges outlined below.

- Evaluate increasing recycling rates by expanding the scope of collection by including schools (K-12), municipal CEDs, colleges and universities, small businesses and non-profits. Such expansion would be consistent with numerous other states' EPR programs;
- Identify program efficiencies/improvements to reduce program costs by going to a market share billing approach for computers, monitors and printers like most other state programs have done. A market share approach is already in place for billing televisions in Connecticut; and
- Assess the development of new program measures like consumer awareness, carbon footprint and greenhouse gas emissions avoided as a result of Connecticut's program;

a. Program Measures / Goals

- Connecticut's program collected CEDs at a rate of 2.06 pounds per capita in SFY 2023. This rate does not meet DEEP's state-wide goal³ of 4.0 pounds per capita, due to the trend of fewer CRTs collected and product light-weighting. DEEP continues to assess the suitability of a per capita measure, and whether to add or replace a new measure such as consumer awareness.

³ In 2007, DEEP set a convenience and accessibility goal of 4.0 lbs./capita on a state-wide basis on an expectation that each town/region meet that goal.

b. Outreach and Education

- Despite collection locations in each town and various retailers, an informal survey by DEEP showed that only 55% of residents are unaware of Connecticut’s program (per 2016 informal survey by DEEP). DEEP will continue look for ways to increase awareness and participation.

c. Policy and Coordination

- DEEP continues to evaluate whether certain electronic devices may be considered to meet the law’s definition of a CED, including certain hand held devices, game consoles, external data storage devices, satellite or cable boxes, virtual reality handsets and certain printers, including 3-D printers that may also print on paper.

- DEEP continues to work with [Northeast Recycling Council](#) (NERC) and [Electronics Recycling Coordination Clearinghouse](#) (ERCC) to:

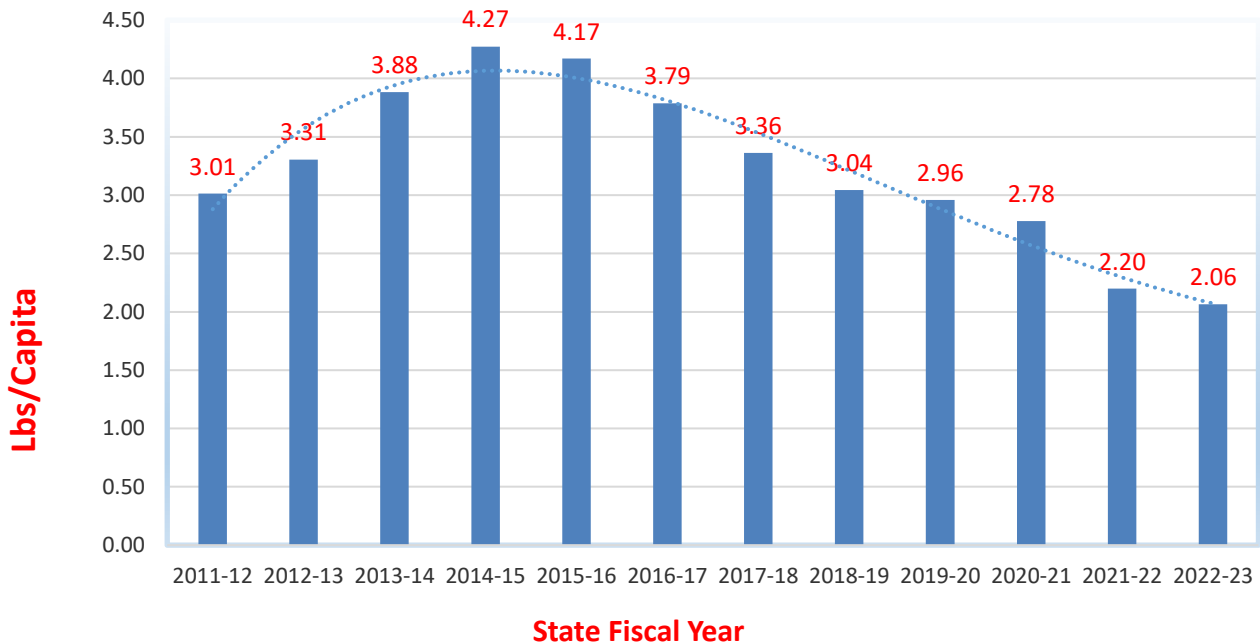


- seek market share data directly from manufacturers to reduce administrative costs and facilitate assignment of national market share to manufacturer covered by Connecticut’s program; and



- assist manufacturers to register in Connecticut using [ERCC’s online e-cycle registration system](#). This system is more cost effective and a solution for electronic registration submissions. This year, DEEP allowed the submission of electronic registrations by manufacturers using the NERC/ERCC system. 66 of a total of 74 manufacturers submitted electronic submissions to-date (89% rate).

Table 1 - CEDs Collected lbs/Capita (From CERs Reports)



d. Compliance Assurance

- CRT glass recycling options are declining and becoming more expensive. This is an international problem, and the main reason why most private programs no longer accept CRT devices. Recyclers are under pressure to store more of this glass to reduce costs. DEEP created an electronic, monthly CRT glass report to track the movement of CRT glass. Since 2016, CERs report monthly to DEEP the total quantity of CRT glass stored on site. In one instance, the monthly CRT glass reports indicated that a CER was storing a large amount of CRT devices. DEEP worked with the CER to reduce the amount stored and avert a problem.
- Improved accessibility to recycling drop-off points is an on-going need. While each town has an approved collection plan, some towns have reported very little CEDs collected, and DEEP continues to receive feedback from residents that options for drop-off of CEDs are limited.
- In addition to a comprehensive selection process of approving CERs and their partners, a major program goal has been to verify that materials are going to the approved, responsible recycling destinations. DEEP reviews the accuracy of reported data by CERs including mass balance accounting of billable weight. DEEP may audit CER destination facility records, as it did in 2012, and/or contract with an independent 3rd party for to audit CER facilities, as DEEP did in 2015.
- Manufacturers may audit CERs and seek records from CERs and their downstream partners for CED shipments to verify collection, billing and recycling data. DEEP will work with manufacturers and CERs to facilitate successful audits and findings. To-date, one manufacturer has audited at least one of the CERs.



e. Federal/Interstate Program Coordination

While there is no federal electronics recycling program in place at this time, DEEP continues to engage in interstate collaboration to harmonize Connecticut's program with other states to help streamline, reduce costs and improve the recycling infrastructure/ system.

RECYCLE
Your E-Waste



*For information on how/where to
recycle your unwanted*

**TVs, Computers,
Monitors, &
Printers**

*go to the CT DEEP's website at
www.ct.gov/deep/e-waste
or call toll free 1.888.424.4193*



Conclusion

Based on the findings and assessment detailed in this report, DEEP concludes Connecticut's program is working effectively and is well positioned to continue to protect public health and the environment by diverting CEDs into recycling markets, creating green jobs and saving municipalities a substantial cost of disposal for CEDs in accordance with CGS Sections 22a-639(a)&(b).