



Indiana E-Cycle 2023 Report

Indiana Department of Environmental Management

November 1, 2023

Executive Summary

Indiana's Electronic Waste (E-Waste) Law (IC 13-20.5) has assisted in the recycling of over 375 million pounds of electronics while expanding electronic collection access for Indiana residents. E-waste continues to be one of the fastest growing waste streams worldwide. Indiana is currently one of 25 states (including the District of Columbia) with e-waste legislation and plays an important role in managing the numerous challenges presented by the significant volumes of e-waste generated each year in the United States.

This report will examine the last thirteen years of the program as well as provide the required annual information mandated by the Indiana legislature. For example, highlighting Program Year 13 (PY13), year 2022, manufacturers collectively funded the recycling of 19,858,696 pounds of covered electronic devices (CEDs). The vast majority of the weight recycled as part of the program continues to be collected from metropolitan counties in the state, as opposed to non-metropolitan counties.

An analysis of the past thirteen years of the Indiana E-Cycle Program reveals that each year manufacturers collectively met their recycling obligation after the inclusion of recycling credits. To date, a total of 242,291,151 pounds of CEDs (actual pounds without incentives) from Hoosier households, small businesses, and public schools were recycled on behalf of manufacturers to fulfill program recycling obligations. Households, small businesses, and public schools in Indiana are known as covered entities. While baseline data on e-waste recycling rates prior to the passage of the Indiana E-Waste Law is not available, the Indiana Department of Environmental

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Management (IDEM) is confident that more e-waste has been recycled in the state since the implementation of the law than would have been recycled otherwise.

Since the implementation of the Indiana e-waste law, the nature of electronics being sold and purchased have changed significantly. Due to the increase of smaller and lighter electronic devices, the total weight-based recycling obligations for manufacturers has largely been declining since the program's inception. Demand, however, for the collection and recycling of e-waste in the state has not decreased, and the cost to collect this material is becoming more difficult for e-waste collectors. Collection of cathode ray tube devices are especially burdensome, as dwindling markets and lower commodity prices have increased cost for recyclers, which ultimately get passed down to collectors.

Introduction

The Indiana E-Waste Law created an extended producer responsibility (EPR) program, known as Indiana E-Cycle, under which manufacturers of video display devices (VDDs) are required to collect and recycle e-waste from covered entities (households, small businesses, and public schools) in Indiana. The law requires that manufacturers of VDDs that offer their products for sale to Indiana households annually register with and report to IDEM. Each year these manufacturers are required to collect and recycle 60 percent, by weight, of the VDDs they sold to Indiana households during the previous twelve months. They can collect and recycle a broader range of products of any brand, known as CEDs, to fulfill their obligation.

All collectors and recyclers that collect and recycle CEDs on behalf of a registered manufacturer must also register with and report to IDEM annually. If collectors and recyclers do not register with the program, CEDs collected and recycled cannot be credited toward a manufacturer's recycling obligation.

The law also contains a disposal prohibition, which, as of January 1, 2011, prohibits covered entities from disposing of CEDs with trash that is intended for disposal at a landfill or for disposal by burning or incineration.

Covered Electronic Devices (CEDs):

- VDDs (televisions or computer monitors, including laptops, netbooks, notebooks, tablets, and e-readers, that contain a cathode ray tube or flat panel screen with a screen size that is greater than four inches measured diagonally)
- Computers (e.g., computer towers)
- Fax machines
- Peripherals including keyboards, external hard drives, printers, and mice
- An all-in-one printer/copier/scanner or a projector can be considered a peripheral provided that item is designed to be used exclusively with a computer
- DVD players (including gaming systems that are able to play DVDs)
- Video cassette recorders
- Digital photo frames
- Digital media players
- MP3 players
- Camcorders/Cameras
- DVR devices
- Portable GPS navigation systems

Program Successes

Since 2009, Indiana households, schools, and small businesses have recycled over 375 million pounds of electronics. More electronic waste collection options are now available to citizens as well, which allows for better access to recycle unwanted electronic items. As shown in **Figure 4** on page seven, electronic waste collection sites can now be found at 87 of Indiana's 92 counties.

The vast majority of manufacturers, recyclers, and collectors continue to comply with Indiana's E-Waste Law, and the program has taken actions to ensure a level playing field for all program participants. During the previous year, several small manufacturers registered with the Indiana E-Cycle for the first time, thanks in part to compliance efforts by the department and electronics retailers. The program has also increased its efforts through educational outreach and compliance measures to ensure collectors and recyclers are properly handling electronics.

Legislative Requirements

This report fulfills the requirements contained in IC 13-20.5-7-4. IDEM must submit a report concerning the implementation of the Indiana E-Waste Law to the general assembly, the governor, the Interim Study Committee on Environmental Affairs, and the Indiana Recycling Market Development Board before November 1.

Required content includes:

- A summary of information in the annual reports submitted by manufacturers and recyclers.
- Information regarding the total weight of CEDs recycled.
- The various collection programs used by manufacturers to collect CEDs.
- Information regarding CEDs that are being collected by persons other than registered manufacturers, collectors, and recyclers.
- Information about CEDs, if any, being disposed of in landfills in Indiana.
- A description of enforcement actions under the Indiana E-Waste Law.

Recycler: an individual or public or private entity that accepts CEDs from covered entities and collectors for the purpose of recycling.

Household: occupants of a dwelling located in Indiana who use a VDD at the dwelling primarily for personal use or home office use.

Small Business: a business that satisfies all of the following:

- The business is independently owned and operated.
- The principal office of the business is located in Indiana.
- The business satisfies either of the following:
 - Has less than 100 employees and average annual gross receipts is under \$10,000,000.

Public School: a K-12 public school or charter school.

Program Participation

Registration is required for manufacturers that offer VDDs (televisions, computer monitors, laptops, netbooks, notebooks, tablet computers, and e-readers) for sale to Indiana households. While the number of registered manufacturers and brands remained relatively unchanged from PY12, the companies that are registered has varied as new manufacturers enter the market, other manufacturers exit the market, and mergers and acquisitions occur. As shown in **Figure 1**, a total of 63 manufacturers registered with the Indiana E-Cycle Program for PY13. These 63 manufacturers accounted for 89 different brands of devices that are being sold to Indiana households. PY13 marks the fewest manufacturers and brands that have registered with the program since its inception. The decrease can be attributed to several manufacturers ceasing both operations and sales of VDDs within the past year.

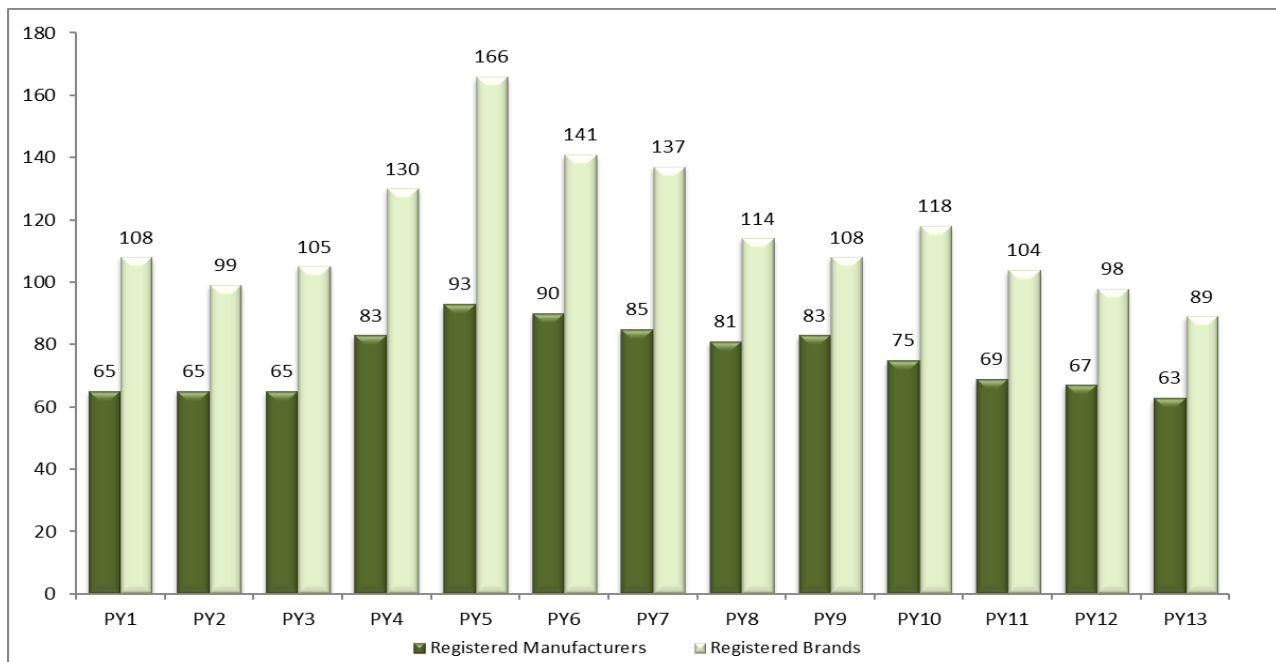
Previous Program Results

Find earlier Indiana E-Cycle annual reports and program results at: <https://www.in.gov/idem/recycle/2428.htm>

IDEM routinely conducts research to determine which companies selling VDDs to Indiana households have failed to register with the program. These manufacturers are contacted and informed of the registration requirement and are provided with instructions on how to register with the program.

Manufacturers that have sold more than 100 units of VDDs to Indiana households during the previous year are required to pay a \$5,000 registration fee for the first program year they register and a \$2,500 registration fee each year thereafter for which their sales were above the 100 unit threshold.

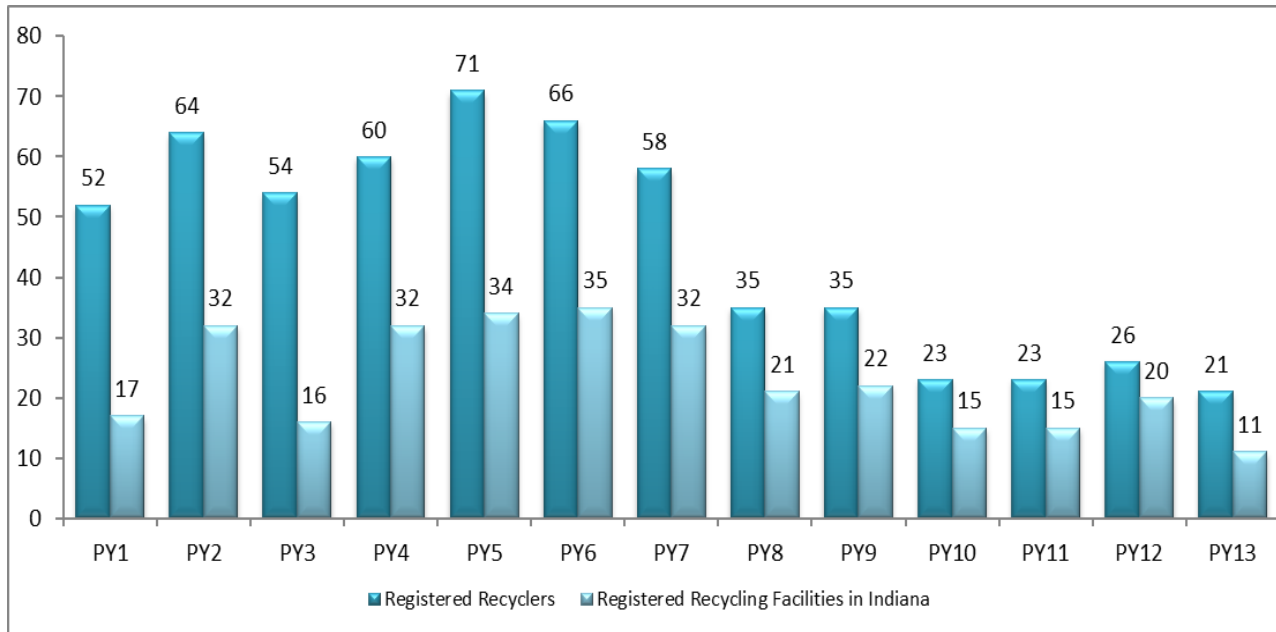
Figure 1: Registered Manufacturers and Brands



All recyclers recycling CEDs from covered entities in Indiana must be registered with the Indiana E-Cycle Program. The term recycler includes any recycling program (in Indiana or elsewhere) in which CEDs are recycled from covered entities (households, small

businesses, and public schools). For each program year, the majority of registered recyclers have also been registered collectors. For PY13, of the 21 registered recyclers, 11 of them are located in Indiana. The decrease in the number of registered recycler facilities in years past is likely due to better quality assurance and understanding of which facilities need to register with the program. Through outreach and research, it had become apparent that several recycler facilities had incorrectly been registering with the program.

Figure 2: Registered Recyclers and Registered Recycling Facilities in Indiana



All collectors collecting CEDs from Indiana covered entities must be registered with the Indiana E-Cycle Program.

Collectors can

include local units of government, solid waste management districts, curbside collection programs, manufacturer mail back programs, and any other collection program (in Indiana or elsewhere) in which CEDs are collected from covered entities (households, small businesses, and public schools in Indiana). As shown in **Figure 3**, the number of registered collectors for PY13 increased from PY12. Collectors are not allowed to perform any dismantling of CEDs. Dismantling of CEDs requires registration as a recycler. Most registered recyclers are also registered as collectors; however, most collectors are not also recyclers.

Collector: a public or private entity that:

- receives CEDs from covered entities and arranges for the delivery of the CEDs to a recycler; or,
- collects CEDs directly from covered entities, including curbside collection.

Figure 3: Registered Collectors



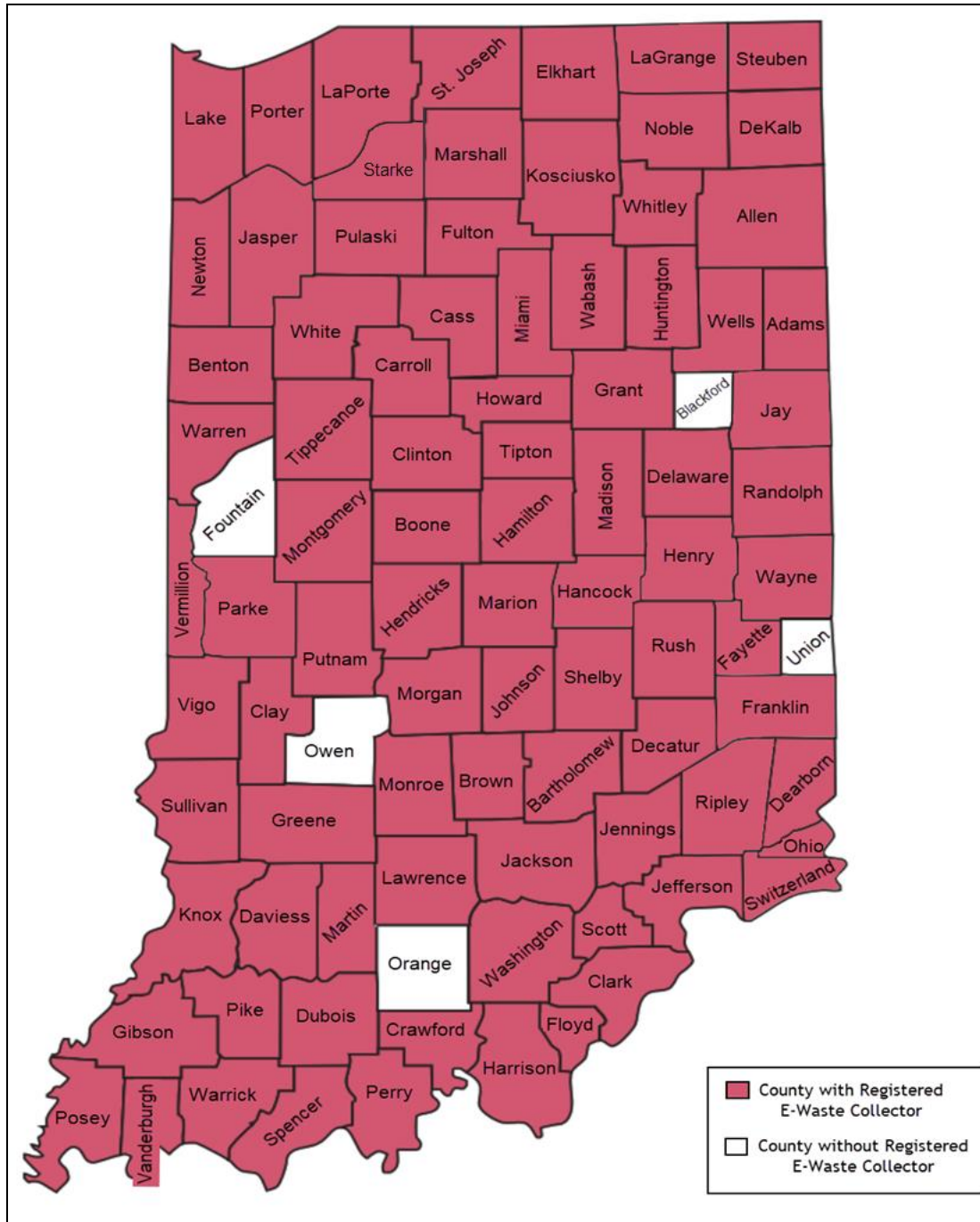
Figure 4 below displays counties with and without an e-waste collection site. Registered collectors and their collection sites include local governments, electronics retailers, other for-profit businesses and non-profits. In PY13, there were registered e-waste collection sites in 87 of Indiana’s 92 counties. These collection sites include all registered permanent collection locations in the state and some, but not most, temporary and special collection events.

Indiana residents benefited from having a large number of collectors scattered throughout the state. This has allowed for more options to residents when it comes to recycling their unwanted electronic devices. One example that demonstrates this benefit is the Lake County Solid Waste Management District. This district offers citizens residing in the county with eight different electronic waste collection sites that are scattered throughout the county. Many of Indiana’s solid waste management districts offer electronics recycling programs for residents in their area and are knowledgeable about local electronics recycling options.

Aside from permanent electronic collection sites, citizens have also had the benefit of being able to participate in one day electronic collection events, which are often hosted throughout the state. These events are often hosted by county Solid Waste Management Districts.

Indiana’s program will continue to focus on assisting counties with the collection of e-waste. A special emphasis will be placed on the five counties that do not have an e-waste collection site.

Figure 4: Indiana Counties with Registered Collection Sites for PY13



[Manufacturer and Recycler Annual Report Summaries \(Including Total Weight of CEDs Recycled\)](#)

Manufacturers of VDDs (televisions, computer monitors, laptops, netbooks, notebooks, tablet computers, and e-readers that contain a cathode ray tube or flat panel screen with a screen size that is greater than four inches measured diagonally) are responsible for collecting and recycling or arranging for the collection and recycling of 60 percent, by weight, of the VDDs they manufacture and sell to Indiana households. Manufacturers are able to count the recycling of a variety of CEDs from covered entities toward their

recycling obligation.

A 50 percent incentive is earned for collecting CEDs from non-metropolitan counties in the state and a 10 percent incentive is earned for recycling CEDs at a registered facility in Indiana. These incentives can be combined; for example, each pound of CED collected from a non-metropolitan county and recycled at an in-state recycling facility is counted as 1.6 pounds recycled. Manufacturers can only utilize collectors and recyclers that are registered with the Indiana E-Cycle Program to fulfill their recycling obligation. This includes collectors and recyclers located outside of Indiana as well as manufacturer mail back programs. **Figures 5, 6, and 7** show how many pounds of CEDs were recycled by manufacturers registered in PY13 and the previous program years in which annual reports were submitted.

Figure 5: Covered Electronic Devices Recycled by Registered Manufacturers (lbs)

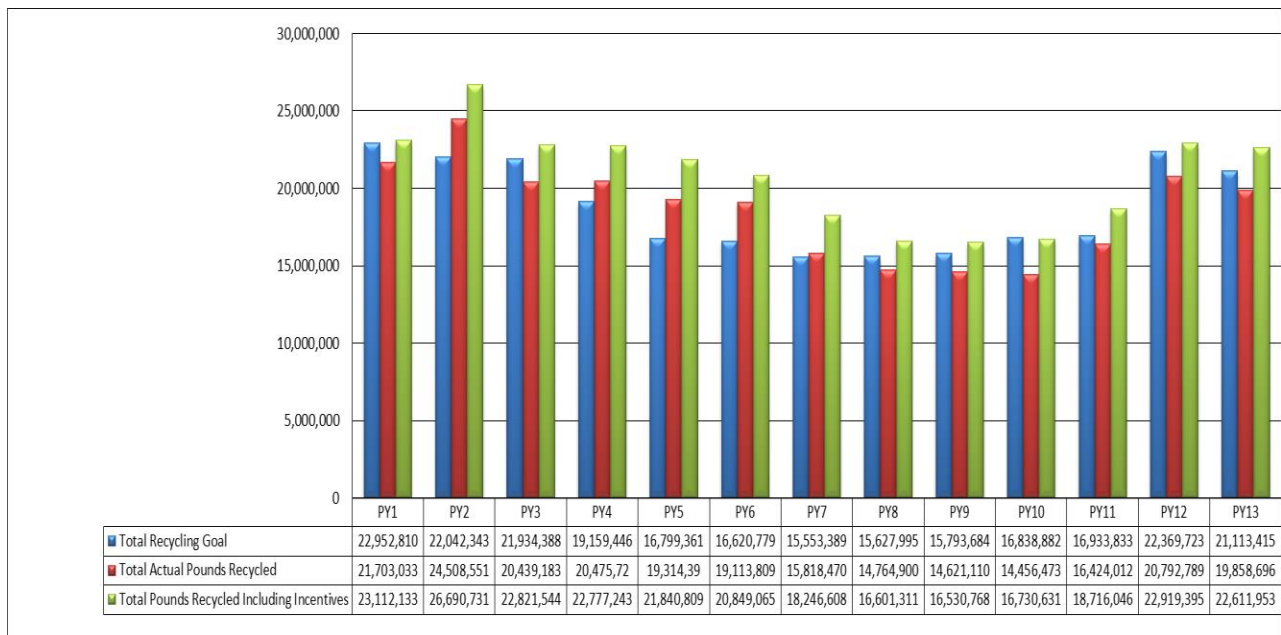


Figure 6: Covered Electronic Devices Recycled by Registered Manufacturers: Details (lbs)

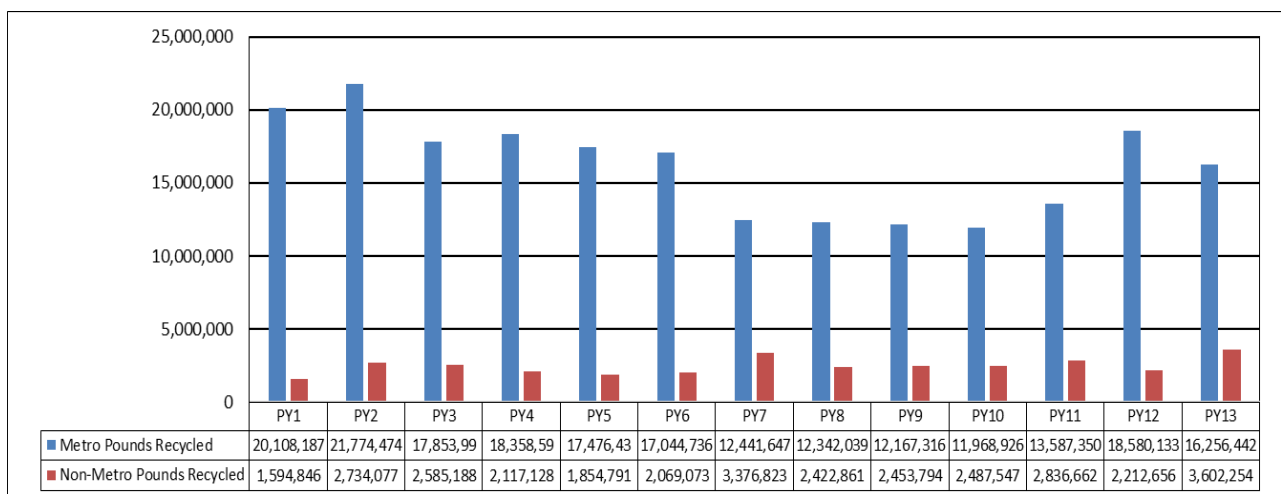
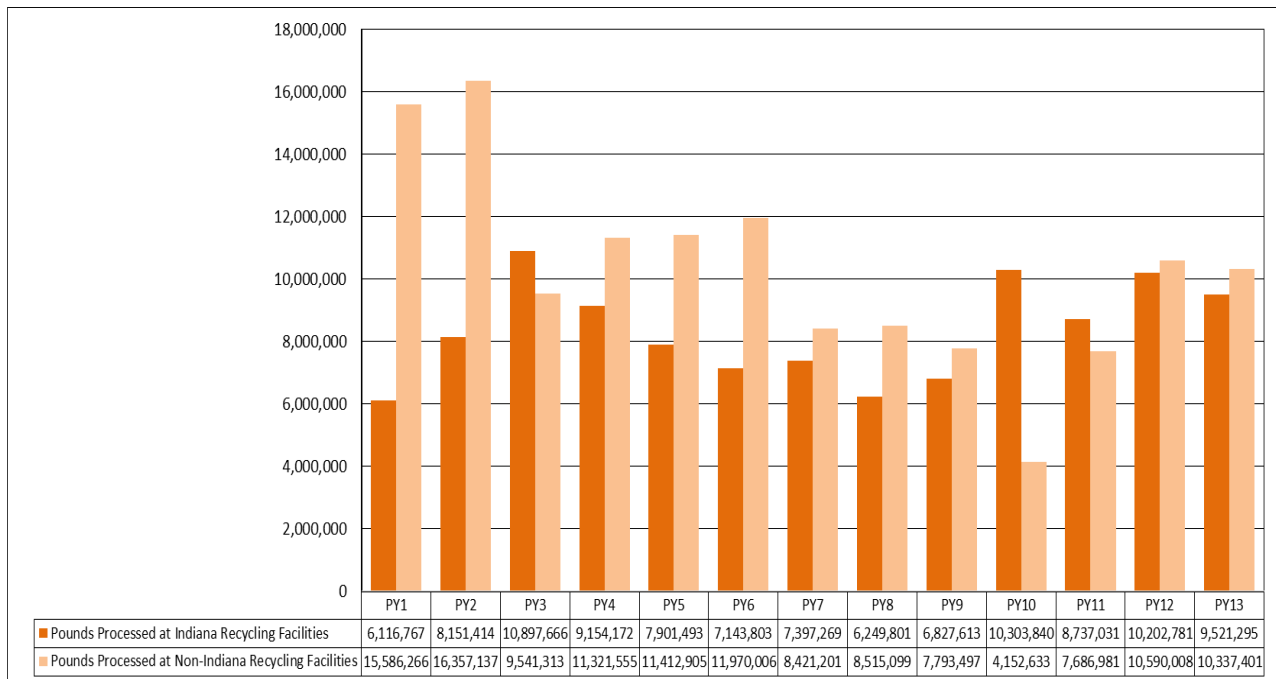


Figure 7: Covered Electronic Devices Recycled by Registered Manufacturers: Details (lbs)



Figures 8, 9, and 10 show how many pounds of CEDs were recycled by recyclers registered in PY13 and the previous program years in which annual reports were submitted. There continues to be more e-waste being recycled than what registered manufacturers are responsible for recycling. For PY13, there was a slight decrease in actual pounds recycled by registered recyclers.

Figure 8: Covered Electronic Devices Recycled by Registered Recyclers (lbs)

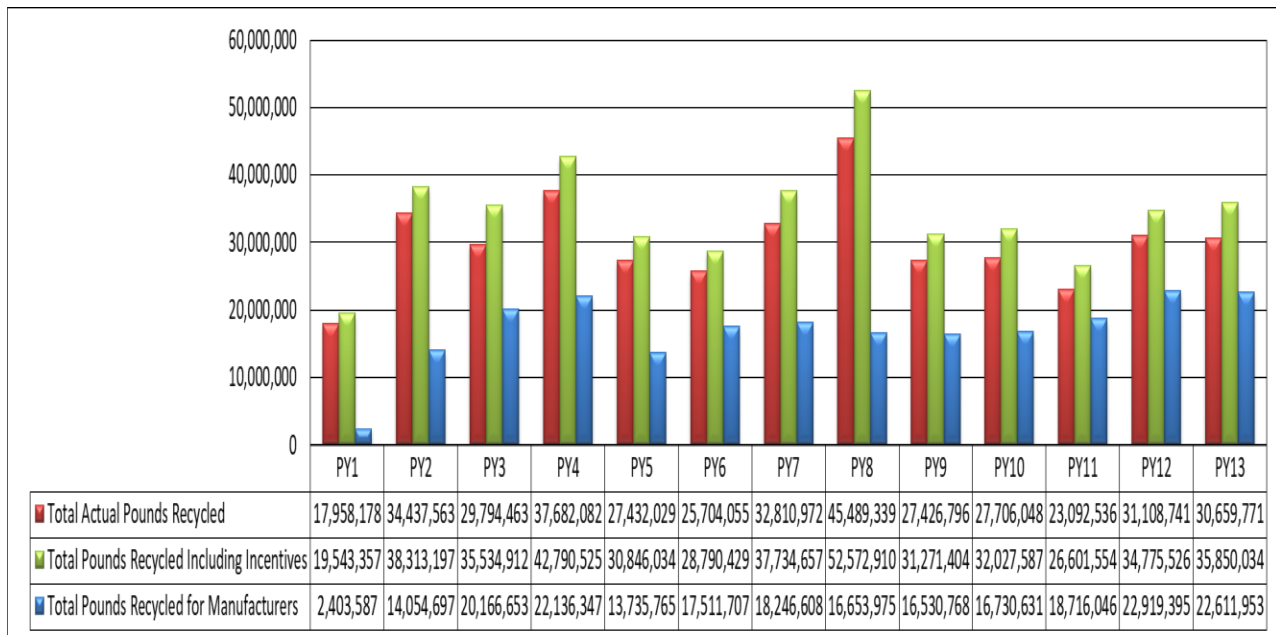


Figure 9: Covered Electronic Devices Recycled by Registered Recyclers: Details (lbs)

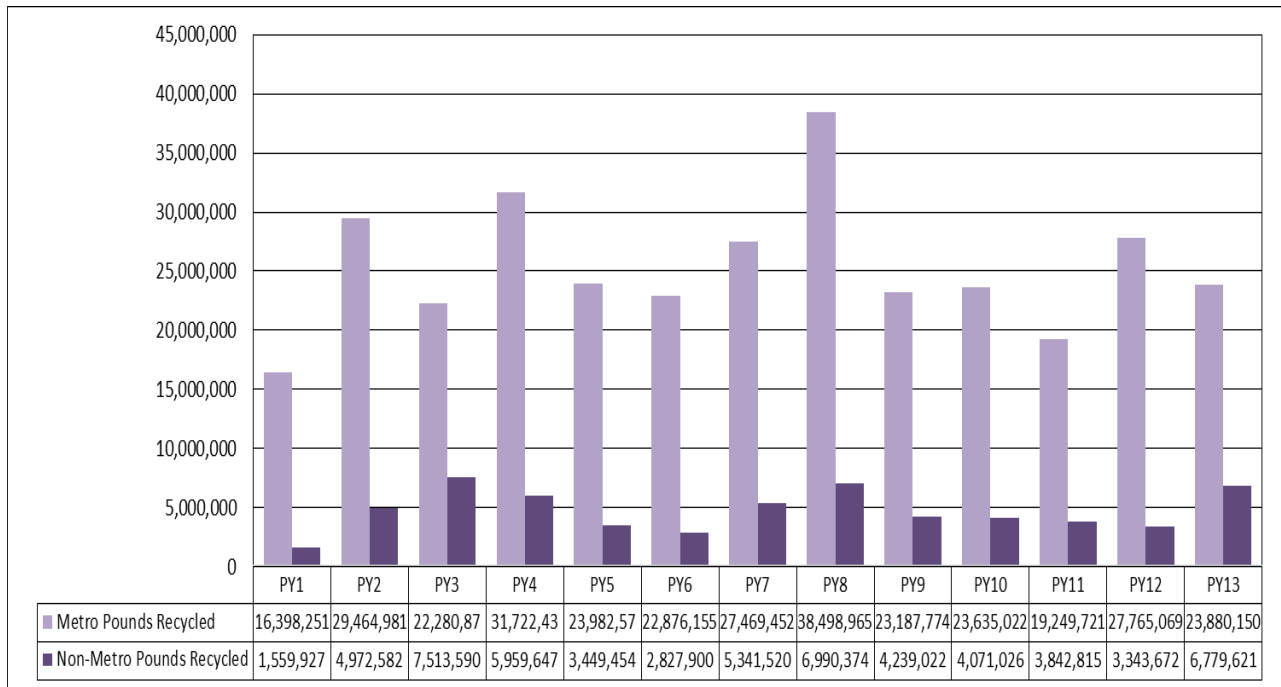
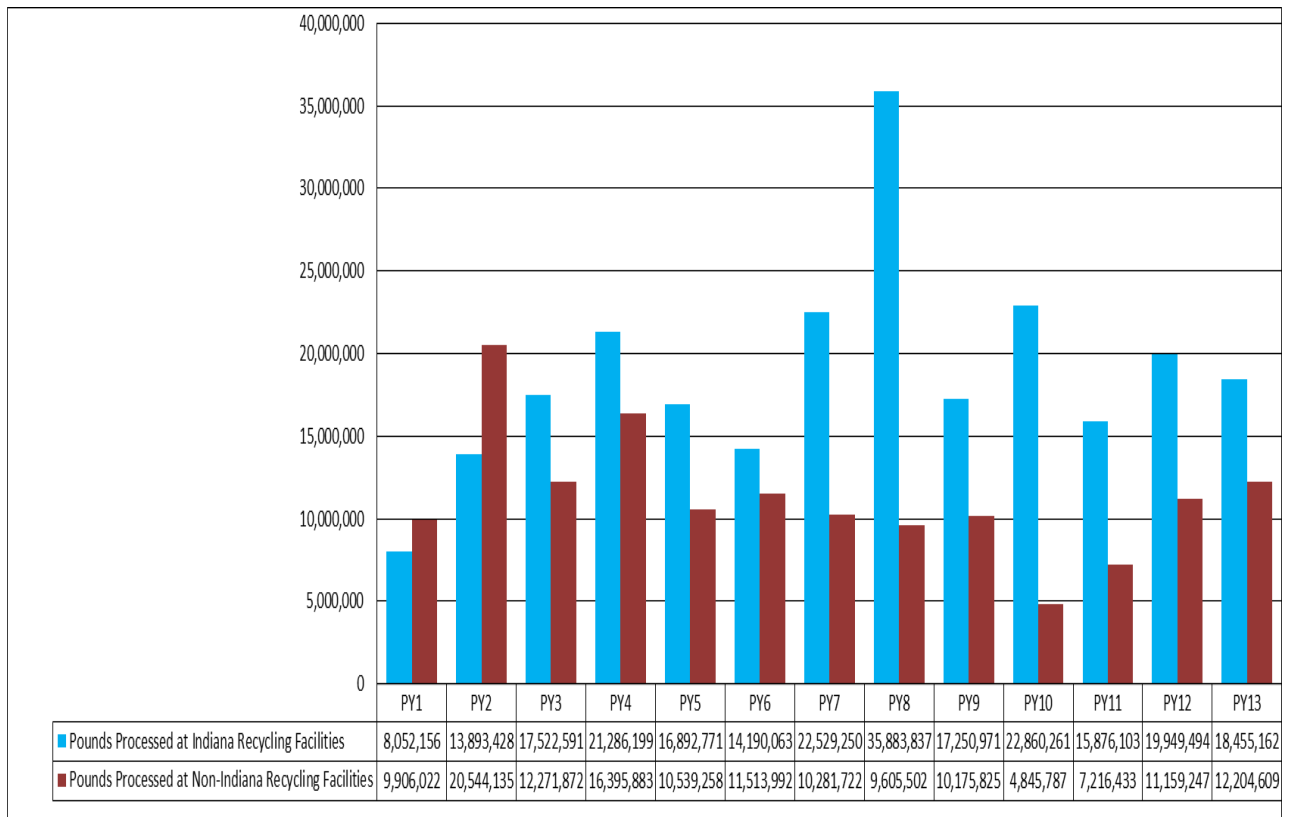


Figure 10: Covered Electronic Devices Recycled by Registered Recyclers: Details (lbs)



Based on the reporting trends, the demand for CED recycling in Indiana will continue to exceed the amount of CEDs that manufacturers are responsible for recycling given that new VDDs are becoming lighter than older CEDs. In addition, the list of items that meet the definition of CED is more extensive than the list of items that are defined as VDDs. Lastly, manufacturers' recycling obligations are based solely on their sales of VDDs to households, while CEDs collected to meet their recycling obligations can come from households, small businesses, and public schools.

The results of Indiana E-Cycle in terms of pounds of e-waste recycled by manufacturer per resident are as follows:

| | <u>Lbs/Capita (Actual Pounds)</u> | <u>Lbs/Capita (Including Incentives)</u> |
|-------------|---|--|
| PY1 | 3.35 | 3.56 |
| PY2 | 3.78 | 4.12 |
| PY3 | 3.13 | 3.49 |
| PY4 | 3.12 | 3.47 |
| PY5 | 2.93 | 3.31 |
| PY6 | 2.89 | 3.15 |
| PY7 | 2.38 | 2.75 |
| PY8 | 2.21 | 2.49 |
| PY9 | 2.18 | 2.47 |
| PY10 | 2.15 | 2.49 |
| PY11 | 2.42 | 2.86 |
| PY12 | 3.16 | 3.47 |
| PY13 | 2.91 | 3.31 |

If a manufacturer exceeds their recycling obligation, 25 percent of the excess pounds are converted to recycling credits that can be used by the manufacturer in any of the three immediately following program years or sold to another manufacturer. Manufacturer credit details are as follows:

| | <u>Credits Earned</u> | <u>Credits Bought/Sold</u> | <u>Credits Used</u> | <u>Credits Expired</u> | <u>Credits Retained</u> | <u>Manufacturers Holding Credits</u> |
|-------------|-----------------------|----------------------------|---------------------|------------------------|-------------------------|--------------------------------------|
| PY1 | 1,074,733 | 0 | n/a | n/a | 1,074,733 | 18 |
| PY2 | 1,623,705 | 0 | 19,253 | n/a | 2,653,837 | 23 |
| PY3 | 555,630 | 0 | 116,758 | n/a | 3,090,762 | 26 |
| PY4 | 967,292 | 87,256 | 104,592 | 809,875 | 3,039,188 | 37 |
| PY5 | 1,174,168 | 246,957 | 808,867 | 586,136 | 2,579,219 | 29 |
| PY6 | 1,057,072 | 0 | 128,070 | 465,811 | 3,024,254 | 25 |
| PY7 | 673,305 | 179,919 | 65,531 | 698,386 | 3,170,225 | 24 |
| PY8 | 336,481 | 0 | 307,559 | 1,000,579 | 2,196,005 | 30 |
| PY9 | 217,427 | 0 | 114,386 | 1,084,328 | 1,214,661 | 29 |
| PY10 | 126,524 | 432,805 | 588,500 | 254,953 | 497,465 | 27 |

| | | | | | | |
|-------------|---------|--------|--------|---------|---------|----|
| PY11 | 185,571 | 0 | 28,163 | 278,714 | 516,820 | 22 |
| PY12 | 154,544 | 25,356 | 7,774 | 203,779 | 433,769 | 20 |
| PY13 | 392,717 | 0 | 70,874 | 117,065 | 638,538 | 25 |

Various Collection Programs Used by Manufacturers to Collect CEDs

Manufacturers registered with the Indiana E-Cycle Program utilize three types of collection programs to fulfill their recycling obligations:

1. Permanent collection sites
2. Temporary/special collection events
3. Manufacturer take-back programs

Multistate Collaboration

The Indiana E-Cycle Law permits IDEM to participate in and join regional multistate organizations or compacts to assist in implementing the article. IDEM participates in regular conference calls with other Midwestern states, which are coordinated by the United States Environmental Protection Agency Region 5 office. The majority of the states that participate in the calls also have e-waste laws, most notably, Minnesota and Wisconsin, which have laws comparable to Indiana's. The information shared and the coordination achieved on these calls is valuable in assisting with the implementation of Indiana's law.

Description of Enforcement Actions Under the Indiana E-Waste Law

Manufacturers that do not meet their recycling obligation are subject to a shortfall fee, or a variable recycling fee (VRF). The VRF is calculated as follows:

- Forty cents per pound of shortfall for manufacturers that recycle less than 50 percent of their goal.
- Thirty cents per pound of shortfall for manufacturers that recycle at least 50 percent, but less than 90 percent, of their goal.
- Twenty cents per pound of shortfall for manufacturers that recycle at least 90 percent of their goal.

Four manufacturers were required to pay a shortfall fee for PY12, resulting in fees of \$5,910.90 for a total shortfall of 15,163 pounds. For PY13, one manufacturer will be required to pay a shortfall fee for a total amount of \$106.00.

Manufacturers that were exempt from the registration fee for PY13, because they sold less than 100 units of VDDs to households during PY12, are exempt from the VRF.

There have not been any enforcement actions under the Indiana E-Waste Law.

Retailer Education and Compliance

Throughout the state of Indiana, there are numerous brands of VDDs being sold through various retailer options. As was mentioned above, this past year there were 89 various brands of VDDs that registered with the program. In an effort to better educate and inform retailers of manufacturer compliance requirements with Indiana's E-Cycle Law, the department conducts "brand checks" on retailers that might be selling unregistered VDDs to Indiana households.

IDEM has developed a retailer toolkit to assist retailers in complying with the Indiana E-Waste Law. This retailer toolkit can be found by visiting the following website: https://www.in.gov/idem/recycle/files/e-cycle_retailer_toolkit.pdf. Retailers are responsible for knowing which brands of VDDs are registered with the Indiana E-Cycle Program. Retailers that sell new VDDs to households must provide customers information that describes where and how VDDs may be recycled and that advises of opportunities and locations for the convenient collection of VDDs for recycling. Retailers can comply with this regulation by providing IDEM's contact information or website address to customers.

The overall purpose of these "brand checks" is to educate and inform retailers selling VDDs that Indiana's E-Cycle Law requires they must sell only registered brands and inform their customers of where and how they can recycle unwanted electronics. The department has had success in having brands register with the program after contacting retailers.

Annual Government Center Collection Event

For several years, the Indiana E-Cycle Program has partnered with Technology Recyclers to host electronic waste collection events at the Indiana Government Center.

This year's event marked the fifth consecutive year that an electronic waste collection event was held at the Indiana Government Center.



2023 Electronic Waste Collection Event at Indiana Government Center

The collection event was held on June 14, 2023 and netted over 6,000 pounds of electronics. The collection event was advertised as a state employee only event this

year. The events have been well attended, and often, state employees are eager for the next one to occur.

With such strong support for e-waste collection events, the Indiana E-Cycle Program has begun to engage communities across the state with the idea of hosting similar collection events, especially in rural areas or counties without a registered e-waste collector. Results and discussion of this initiative is discussed below.

Pilot E-Waste Collection Project

With the growing amount of e-waste, coupled with increasing disposal cost, the Indiana E-Cycle Program recognized the need to assist. After internal and external discussion with various stakeholders, an e-waste collection pilot program was launched in late 2022.

The idea of the pilot program was that IDEM, and specifically the Indiana E-Cycle Program, would organize and fund e-waste collection events in communities across the state of Indiana. All types of e-waste (e.g. televisions, computer monitors, tablets, etc.) are accepted during the collection events free of charge. A special emphasis has been placed on the collection of televisions during the events. This in large part relates to concerns from collectors over the collection costs associated with televisions, especially cathode ray tube televisions.



E-Waste Collection Event Signage

Criteria as to where these events would be held focused primarily on access to e-waste collection opportunities and socio-economic status of the county itself. To date, two e-waste collection events have taken place. Below is a summary of these two events.

Jackson County E-Waste Collection Event

IDEM hosted its first ever e-waste collection event along with Technology Recyclers, Cummins, and the Jackson County Solid Waste Management District. The event was held on Saturday, November 5 from 9am – 12pm at the Cummins Engine Plant in Seymour, Indiana. The results of the event were:

- Total Weight Collected: **62,752 Pounds**
- Number of Vehicles: **380**
- Number of TVs/Monitors Collected: **895**

The Jackson County collection event was overall a success. This success can be attributed to the hard work of the volunteers, as well as Technology Recyclers and their

staff. Collecting over 60,000 pounds of e-waste material from a smaller rural Indiana County in Indiana further highlights the need for future events.

The event was also a learning experience for IDEM. Management of traffic flow and number of staff on hand to manage material brought to the event were two of the bigger takeaways. These two aspects were addressed, and a strong emphasis was placed on them for future events, which proved to be beneficial with the below mentioned Sullivan County collection event.

Sullivan County E-Waste Collection Event

IDEM partnered with ERI, Sullivan County School Corporation, and the Sullivan County Solid Waste Management District to host an electronic waste collection event. The event was held on Saturday, July 29 from 9am – 12pm at the Sullivan County High School. The results of the event were:

- Total Weight Collected: **42,077 Pounds**
- Number of Vehicles: **264**
- Number of TVs/Monitors Collected: **872**



Staff directing and collecting electronics during Sullivan County E-Waste event.

The Sullivan County collection event was a success. This success can be attributed to the hard work of the volunteers, as well as ERI and Secure Shreds staff on hand. Collecting over 40,000 pounds of e-waste material from a small rural Indiana County over the course of three hours further highlights the need for future events.

E-Waste Collection Events Comparison

Both the Sullivan and Jackson County collection events took place on Saturdays, from 9am – 12pm. Below is statical data from counties and a comparison of the two events:

- Jackson County Population: 46,428
- Sullivan County Population: 20,758
 - Total Weight Collected: Sullivan (42,077 lbs.) vs. Jackson (62,752 lbs.)
 - Number of Vehicles: Sullivan (264) vs. Jackson (380)

- Number of TVs/Monitors Collected: Sullivan (872) vs. Jackson (895)

The amount of e-waste collected and overall participation at both the Jackson and Sullivan County e-waste collection events showcased the need to continue these events in the future. IDEM is currently identifying potential locations for its next e-waste collection event.

Program Outreach

Program outreach was made a priority this past program year in an effort to better educate and provide educational information to citizens and Indiana E-Cycle participants on the program. These efforts included visiting and providing educational materials to solid waste management districts, local recyclers, collectors, and at various events hosted across the state of Indiana.



IDEM staff providing outreach during a battery collection event.

The Indiana E-Cycle Program strives to keep the public aware of how they can properly recycle their unwanted electronic devices, and often utilizes various platforms such as social media to keep the public aware of electronic waste collection events occurring across the state of Indiana. One new outreach approach that was taken on recently was connecting with the public through the use of video, and more specifically with the department's YouTube channel. The following link is an example of this effort: <https://www.youtube.com/watch?v=yE1VND243iY>. These outreach efforts as described here are a cumulative ongoing effort.

The department also houses outreach material on their website that local governments, retailers, collectors, recyclers, manufacturers, and others can use to educate their residents and customers about Indiana E-Cycle and Indiana's electronics recycling law. All materials on this page are available for free use and can be found by visiting: <https://www.in.gov/idem/recycle/2440.htm>.

Discussion of Results

Indiana's E-Cycle Program is comprised of collectors, recyclers, and manufacturers. PY13 marked the seventh year that an online reporting system was available for stakeholders to complete their registration and annual report. Previously, stakeholders completed their registration and annual report by completing a paper form. Each registered stakeholder in the program completed their registration and annual report

through this online format. Below is a brief discussion of results for each stakeholder group within the Indiana E-Cycle Program.

Collectors:

For PY13, there were 88 collectors registered with the program. This figure is slightly higher than the past several years, and this increase is assumed to be the result of better quality assurance and understanding of what facilities need to register with the program. One goal implemented by IDEM was to educate facilities to ensure that registered participants were actually required to register with the program. Upon completing this goal, it became apparent that some collection facilities were inappropriately registering with the program, as they were not, nor never had, collected CEDs. The continual outreach and education to stakeholders registering as collectors has resulted in fewer facilities needing to register with the program over the course of the last several program years.

Find out more information on collectors by visiting the collector's website at:
<https://www.in.gov/idem/recycle/2381.htm>

For PY13, collectors reported collecting 28,377,983 pounds of CEDs for the program year. Of this total, 21,338,229 came from metropolitan counties, while 7,039,754 came from non-metropolitan counties. Of the total CEDs collected for the program year, 6,034,972 came from Indiana Solid Waste Management Districts, while the remaining 22,343,011 came from other entities. Indiana Solid Waste Management Districts have proven to be a valuable resource for collecting these CEDs, especially in non-metropolitan areas in Indiana. For the program year, Solid Waste Management Districts jointly collected 2,120,377 out of 7,039,754 pounds of CEDs from non-metropolitan areas, while also collecting 3,914,595 from metropolitan areas in Indiana. For the program year, Solid Waste Management Districts accounted for roughly 30 percent of all CEDs collected from non-metropolitan areas in Indiana.

Issues involving the collection of e-waste continue to have effects on both public and private collectors. Over the course of the last several years, there has been an increasing concern from collectors over the collection costs of cathode ray tube devices (e.g. televisions & computer monitors). To mitigate this issue, IDEM has begun hosting free e-waste collection events in communities across the state of Indiana.

Recyclers:

For PY13, 21 recyclers registered with the program with 11 of them being located in Indiana. Both of these figures are slightly lower than the past several years, and this decrease can be explained by the implementation of better quality assurance and understanding of which facilities need to register with the program.

Find out more information on recyclers by visiting the recycler's website at:
<https://www.in.gov/idem/recycle/2382.htm>

Recyclers reported recycling 30,659,771 pounds of CEDs for the program year. Of this total, 23,880,150 came from metropolitan counties, while 6,779,621 came from non-metropolitan areas. It should be mentioned that the difference between the total amount collected by collectors and the total amount recycled by recyclers largely pertains to

material that was sent out of the state. Another factor contributing to this collection and recycling difference is that not all CEDs that were collected for the program year were processed by the recycler prior to the report being due.

As was discussed above, a 50 percent incentive can be earned for collecting CEDs from non-metropolitan counties in the state and a 10 percent incentive is earned for recycling CEDs at a registered facility in Indiana. For PY13, recyclers earned 5,190,263 in total incentives, which brings the total amount of CEDs recycled by recyclers for the program year to 35,850,034 pounds.

Recyclers collectively recycled 19,858,696 pounds of CEDs on manufacturer's behalf before the inclusion of incentives. After the inclusion of incentives, this figure rose to 22,611,953 pounds of CEDs.

Manufacturers:

For PY13, 63 manufacturers registered with the program. For the program year, manufacturers collectively had a recycling obligation of 21,113,415 pounds. Manufacturers met this recycling obligation by recycling 19,858,696 pounds of CEDs before incentives, and this figure increased to 22,611,953 pounds after the inclusion of incentives. Manufacturers used 70,874 credits this year, bringing the total pounds recycled and credited towards their recycling obligation to 22,682,827 pounds. This marks the thirteenth year that manufacturers have collectively met their recycling obligation.

Find out more information on manufacturers by visiting the manufacture's website at:
<https://www.in.gov/idem/recycle/2379.htm>

The amount of e-waste that registered manufacturers are responsible for recycling each year is determined based on the weight of products they sold during the previous year. With the continued light-weighting of products (products getting smaller and/or weighing less) and changes in the types of products that are being purchased (e.g., tablets instead of laptops), the total amount of CEDs that registered manufacturers are responsible for recycling has decreased from 22.9 million pounds in Program Year 1 to 21.1 million pounds in Program Year 13. The demand for e-waste collection and recycling in the state, however, has not decreased, meaning that the cost of collection is increasingly burdensome to e-waste collectors including solid waste management districts.

Figure 11 below highlights pertinent credit information over the most recent eight program years. Traditionally, credits have played a minimal role in helping to achieve manufacturer's recycling obligations for the program. IDEM made an effort to make manufacturers more aware of how credits worked within the program, while also explicitly informing each manufacturer of their credit totals. A total of 70,874 credits were used for the program year, while 117,065 credits expired. There were four manufacturers that used credits towards their recycling obligation for PY13.

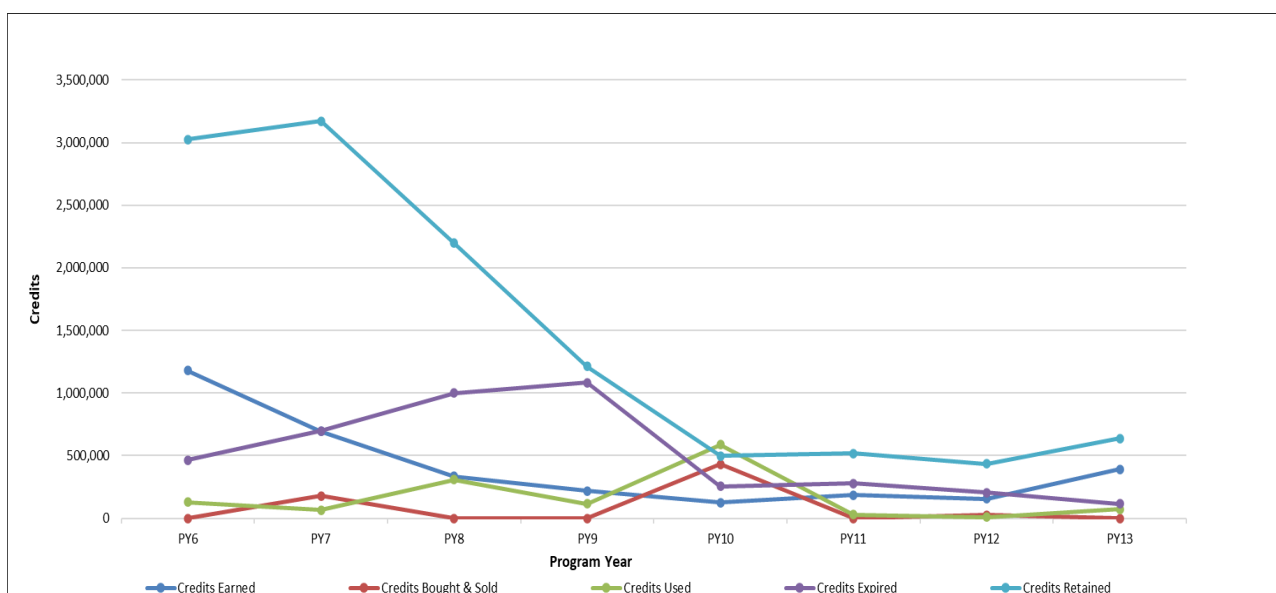
Twenty-five manufacturers retained credits that can be used in upcoming years within the program. It should be mentioned, that even though a large number of manufacturers are holding credits within the program, a majority of these credits being held are of

insignificant amounts. Out of the 25 manufacturers that retained credits, only 12 of them retained an amount greater than 1,000 credits.

As displayed below, there had been a steady increase in the number of credits expiring each year, coupled with a steady decrease in the amount of credits being earned each program year. The department has been placing a special emphasis on making manufacturers aware of these credits and how they can be utilized within the program.

Overall, credits are not as resourceful as was originally intended. One potential solution to making credits bear more weight within the program is to decrease the incentive manufacturers receive for recycling material from non-metropolitan counties in Indiana. This would reduce the number of overall credits, which in return would make their value increase, while lessening the amount of credits that go unused and expire on an annual basis.

Figure 11: Credit Information



Conclusion

Indiana has had the benefit of having a large number of collectors register with the program, which allows Indiana residents the ability to have numerous options to recycle unwanted electronic devices. The program has become more efficient and effective since its inception, and this can be observed through action items such as the program's online reporting platform along with ensuring only required facilities participate in the program.

IDEM has identified potential areas for improvement within the E-Cycle Program. One potential revision and improvement with the program involves lessening or ending the program's use of the 50 percent incentive given for collecting and recycling CEDs from non-metropolitan counties. Many states require manufacturers to arrange for the collection and recycling of 100 percent, by weight, of the electronic devices they sell within their respective states when recycling obligations are based on weight sold. Indiana, who holds manufacturers responsible for the collection and recycling of 60

percent of the VDDs they manufacture and sell to Indiana households, is on the lower end of the spectrum when compared to other states. The above-mentioned 50 percent incentive for recycling from non-metropolitan counties only inflates recycling data provided by stakeholders within the program, while having the potential to further lessen manufacturers' recycling obligations.

IDEM is dedicated to providing accurate data regarding the collection and recycling of electronics. Recent modifications and a more streamlined approach, coupled with an online reporting format, has assisted IDEM with achieving accurate data. The reporting of actual e-waste data by registered stakeholders provides credibility in achieving recycling goals and helps to determine long-term infrastructure needs for the proper management of e-waste in the state of Indiana.