

# 2013 Indiana E-Waste Law (IC 13-20.5) Implementation Report

August 1, 2013



**Indiana Department of Environmental Management  
Office of Pollution Prevention & Technical Assistance**

## Summary

Electronic waste (e-waste) is now one of the fastest growing waste streams worldwide. To help ensure that this waste stream is managed responsibly, the Indiana Electronic Waste Law (Indiana Code 13-20.5) was passed. The law took effect July 1, 2009. Indiana is currently one of 25 states with e-waste legislation and plays an important role in efforts to manage the numerous challenges presented by the significant volumes of e-waste generated each year in the United States.

The Indiana E-Waste Law establishes a state-wide program for the collection and recycling of e-waste. The Indiana Department of Environmental Management (IDEM) was tasked with the implementation and management of the program. Amongst other responsibilities, the law states that the department shall:

1. adopt forms for use by manufacturers, collectors, and recyclers for all registration statements, certifications, and reports required by the law;
2. establish procedures for receipt and maintenance of the registration statements and certifications filed with the department under IC 13-20.5-1; and
3. make the statements and certifications easily available to manufacturers, retailers, and the public.

**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:
  - The business has not more than:
    - 100 employees; and
    - average annual gross receipts of \$10,000,000.
  - If the business is a manufacturing business, the business does not have more than one hundred (100) employees.

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

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An analysis of the first three years of the recycling program established by the Indiana E-Waste Law reveals that each program year (PY) manufacturers collectively exceeded their recycling obligation, recycling a total of 66,650,767 pounds of e-waste (actual pounds without incentives) from Hoosier **households, small businesses, and public schools** (covered entities). While baseline data on e-waste recycling rates prior to the passage of the Indiana E-Waste Law is not available, 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.

The Indiana e-waste program has come a long way since the first program year and continues to grow. The aligning of the manufacturer program year with the collector/recycler program year will allow for better data gathering and analysis going forward.

The amount of e-waste collected in non-metropolitan counties in the State and the amount of e-waste processed at in-state recycling facilities continue to increase. These achievements are notable given the numerous challenges IDEM has encountered while implementing the law.

Three significant challenges currently facing the e-waste recycling industry at large are:

1. The steady stream of cathode ray tubes (CRTs) and the leaded glass that they contain that continue to be collected in large volumes despite allegedly limited markets for their recycling and reuse.

2. Cherry picking of the most valuable components in collected materials

and discarding of the rest. This, specifically, is a problem for Indiana's Solid Waste Management Districts, which are frequently stuck with the disposal cost of e-waste that has been stripped of the valuable components.

3. Assurance of responsible downstream handling of the **covered electronic devices (CEDs)** that are collected, and specifically, that the e-waste is not illegally dumped and/or exported.

IDEM will continue to monitor these issues and how they affect the implementation of the Indiana E-Waste Law.

### Overview of the Law

The Indiana E-Waste Law created an extended producer responsibility (EPR) program under which **manufacturers of video display devices (VDDs)** are required to collect and recycle e-waste from Indiana households, small businesses, and public schools. Such programs are established due to the belief that producers of certain types of items should share in the responsibility for managing the products they produce at end of life.

The law requires that manufacturers of VDDs that offer their products for sale to Indiana households annually register with and report to IDEM. These manufacturers are required to collect and recycle 60 percent by weight equivalent of the total weight of 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 meet their obligation.



CRTs and other e-waste discarded outside in Indiana.

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#### **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 (i.e., computer towers)
  - Fax machines
  - Peripherals including keyboards, external hard drives, printers, mice, and any other device that is sold exclusively for external use with a computer and provides input into or output from a computer
  - 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
  - iPods/MP3 players
  - Camcorders/Cameras
  - DVR/TiVo devices (including cable boxes and satellite boxes but not satellite dishes)
  - Portable GPS navigation systems
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All collectors and recyclers that collect and recycle CEDs on behalf of a manufacturer must also register with and report to IDEM annually. Collectors and recyclers must register or pounds collected and recycled cannot be credited toward a manufacturer's recycling obligation.

The law also contains a disposal prohibition which, beginning January 1, 2011, prohibits Indiana households, small businesses, and public schools from disposing of CEDs with trash that is intended for disposal at a landfill or for disposal by burning or incineration.

Effective July 1, 2012, the Indiana General Assembly enacted the following changes to the Indiana E-Waste Law:

- **Manufacturers**

|  |                         |
|--|-------------------------|
| original manufacturer program year               | April 1 – March 31      |
| manufacturer program year beginning PY4          | January 1 – December 31 |
| original manufacturer registration deadline      | April 1                 |
| manufacturer registration deadline beginning PY4 | January 1               |

- **Collectors and Recyclers**

- Collectors and recyclers now have a single registration date of November 1.
- Recyclers are now required to include the names of collectors from which they received CEDs on their annual reports.

### Implementation Report

This report fulfills the requirements contained in IC 13-20.5-7-4. IDEM is to submit a report concerning the implementation of the Indiana E-Waste Law to the general assembly, the governor, the Environmental Quality Service Council, and the Indiana Recycling Market Development Board before August 1.

Required content:

- 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.

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**Manufacturer:** a person that:

- Manufactures VDDs to be sold under the person's own brand or a brand the person licenses as identified by the person's own brand label or the brand label the person licenses;
- Sells VDDs manufactured by others under the person's own brand or a brand the person licenses as identified by the person's own brand label or the brand label the person licenses; or,
- Assumes the responsibilities and obligations of a manufacturer.

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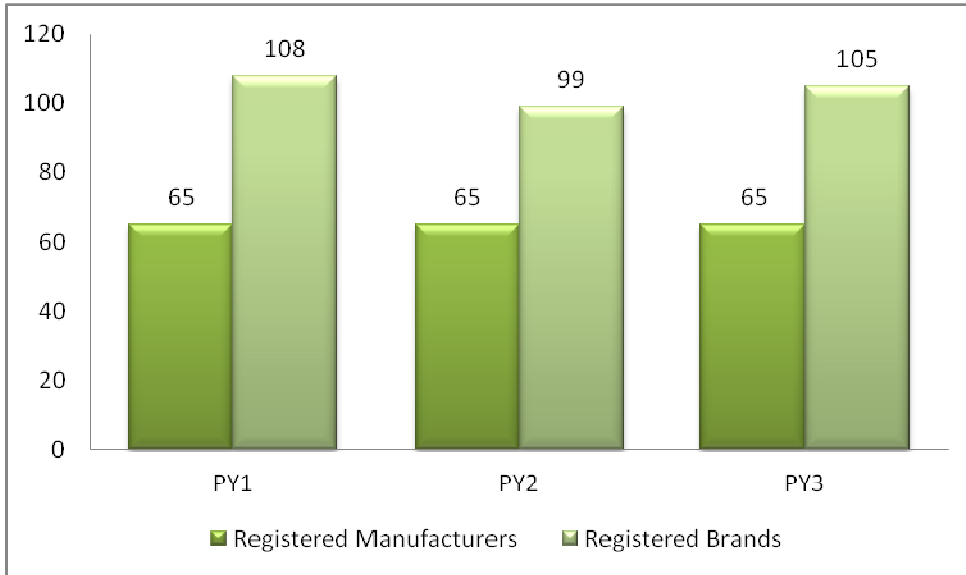
**Video display device (VDD):** a television or computer monitor, including a laptop computer, netbook, notebook, tablet computer, or e-reader, that contains a cathode ray tube or flat panel screen with a screen size that is greater than four (4) inches measured diagonally and is marketed by a manufacturer for use by covered entities.

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## Program Participation

While the number of registered manufacturers and brands has remained basically flat over the first three program years (Figure 1), the companies that are registered has varied as new manufacturers enter the market, other manufacturers exit the market, and mergers and acquisitions occur. A total of 82 different manufacturers have been registered with the Indiana e-waste program thus far.

**Figure 1: Registered Manufacturers and Brands**



There are currently more manufacturers subject to registration requirements than are registered. 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 provided with a registration form.

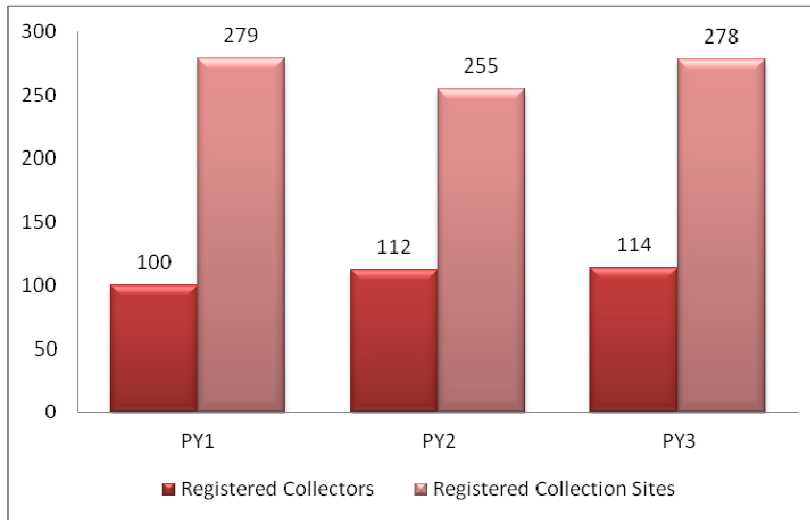
Manufacturers that have sold more than 100 units of VDDs to Indiana households during the previous year are required to pay a \$5000 registration fee for the first program year they register and a \$2500 registration fee each year thereafter for which their sales were above the 100 unit threshold.

Manufacturers registered with the program utilize three types of collection programs to meet their recycling obligations:

1. permanent collection sites,
2. temporary/special collection events, and
3. manufacturer take-back programs.

Similar to manufacturers, the number of registered **collectors** and collection sites has remained basically flat over the first three years of the Indiana e-waste program (Figure 2). Collectors are not allowed to perform any dismantling of CEDs and they do not have to be located in Indiana to participate in the program.

**Figure 2: Registered Collectors and Collection Sites**

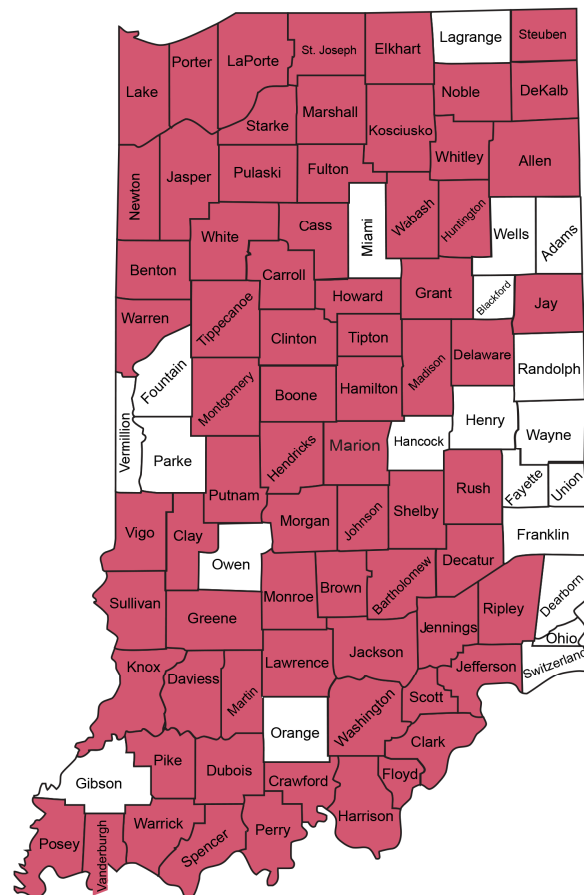


**Collector:** a public or private entity that:

- 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.

In Program Year 3 (PY3), there were registered e-waste collection sites in 71 of Indiana's 92 counties (Figure 3). These include all registered permanent collection locations in the State and some, but not most, temporary and special collection events.

**Figure 3: Counties with Registered Collection Sites - PY3**



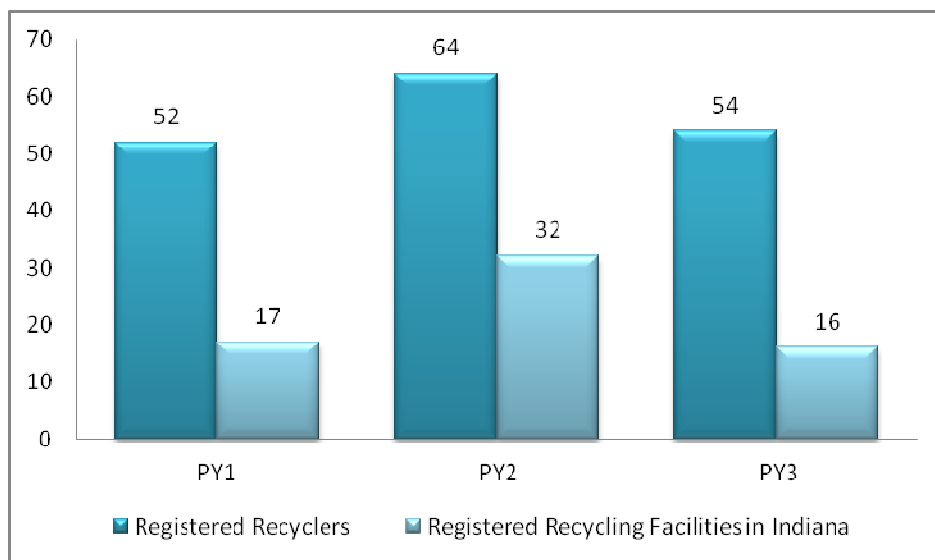
For each of the first three program years, the majority of registered **recyclers** have also been registered as collectors. There is significant competition between recyclers to secure contracts with manufacturers. It appears that after initially becoming aware of the program and choosing to register in PY2, several recyclers, specifically, small, in-state recyclers have determined that program participation was not to their benefit and therefore chose not to register again in PY3 (Figure 4).

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

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**Figure 4: Registered Recyclers and Registered Recycling Facilities in Indiana**



## Program Results

It is important when reviewing the data in this report to keep in mind that there is a difference in the timeframes for which the data was gathered. The original difference in program year schedules and reporting timeframes presented a significant challenge in analyzing the program results. During the first three years of the program, manufacturers reported how many pounds of CEDs they collected and recycled during April 1 through March 31 of the following year (PY1 and PY2) and April 1 through December 31 (PY3); collectors and recyclers reported how many pounds they collected and recycled each calendar year (January 1 through December 31). Beginning in PY4, the manufacturer program year is also January 1 to December 31. Therefore, manufacturer results will not be able to be compared directly with recycler results until PY4.

PY3 was shortened for manufacturers due to the transition in program year timeframe but the manufacturers' recycling obligations for PY3 were not affected by this change. The dates for program years referenced in this report are as follows:

|            | Manufacturers                | Collectors                 | Recyclers                  |
|------------|------------------------------|----------------------------|----------------------------|
| <b>PY1</b> | Apr 1, 2010 - March 31, 2011 | Jan 1, 2010 - Dec 31, 2010 | Jan 1, 2010 - Dec 31, 2010 |
| <b>PY2</b> | Apr 1, 2011 - March 31, 2012 | Jan 1, 2011 - Dec 31, 2011 | Jan 1, 2011 - Dec 31, 2011 |
| <b>PY3</b> | Apr 1, 2012 - Dec 31, 2012   | Jan 1, 2012 - Dec 31, 2012 | Jan 1, 2012 - Dec 31, 2012 |

## Manufacturers

The percentage of registered manufacturers submitting complete reports has increased each year (Figure 5). The percentage of manufacturers that reported meeting or exceeding their recycling obligation peaked in PY2. There continues to be a significant number of manufacturers that report recycling less than their recycling obligation each year. IDEM is optimistic that the percentage of manufacturers that report meeting or exceeding their obligation will increase markedly in PY4 since beginning in PY4 manufacturers that fail to meet their recycling obligation will be charged a shortfall fee.

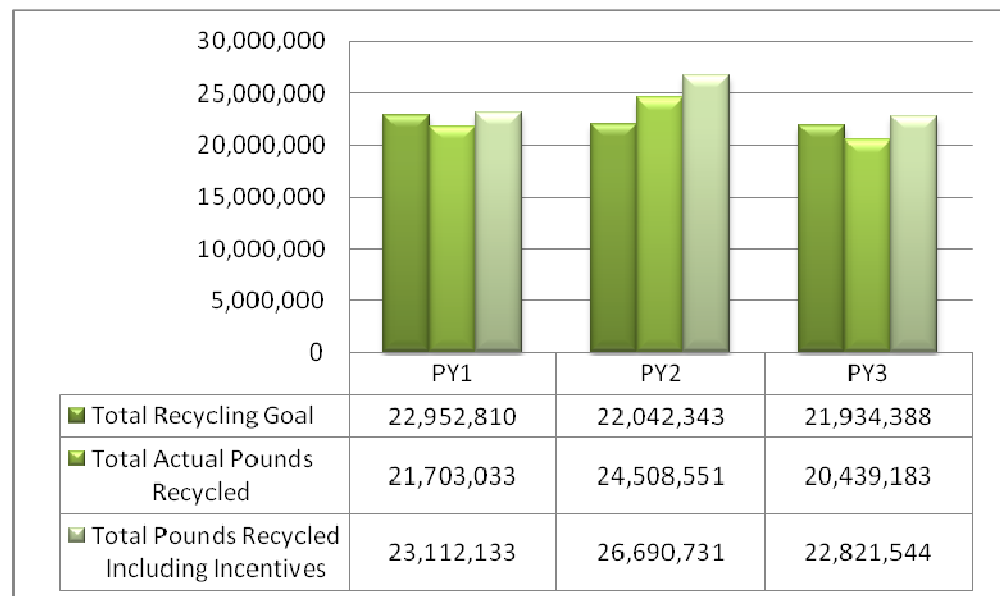
**Figure 5: Annual Reports Received - Manufacturers**



*\*PY3 was shortened from 12 months to 9 months because of the transition in program year timeframe. Recycling obligations were not adjusted since they were based on previous sales, potentially making it more challenging for some participants to meet their recycling obligation than it would have been if they had had the full 12 months to do so as originally scheduled.*

As a whole, manufacturers exceeded their total recycling obligation in each of the first three program years of the Indiana e-waste program and the total pounds of CEDs recycled has increased each year (Figure 6). However, this is due in part to several manufacturers reporting that they recycled significantly more than their obligation.

**Figure 6: Pounds Recycled - Manufacturers**



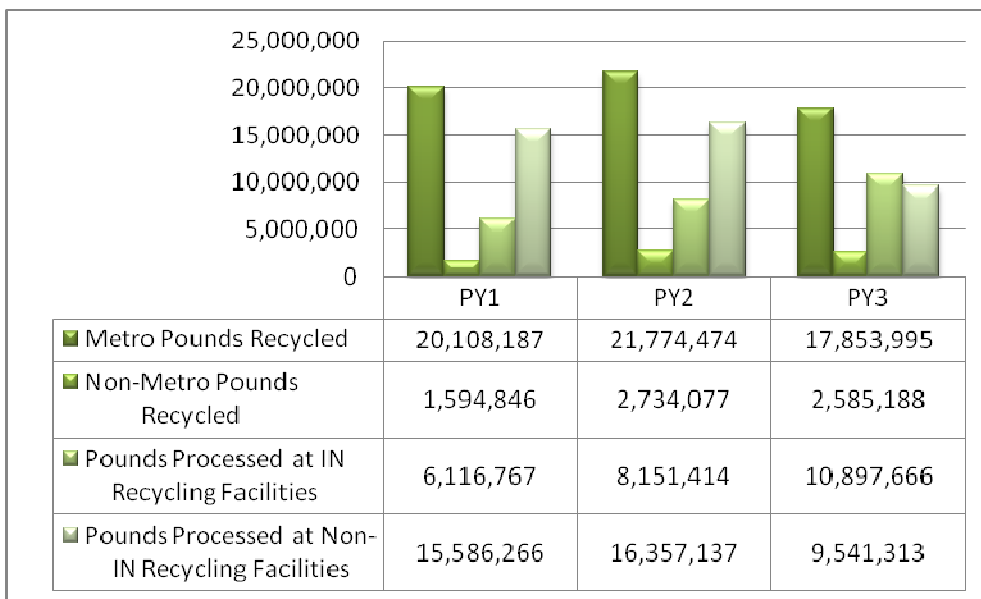


Of the 82 manufacturers that have been registered over the course of the first three program years,

- 14 manufacturers met or exceeded their recycling obligation for all 3 program years.
- 22 manufacturers had significant compliance issues: they failed to register, report, and/or meet their recycling obligation at least 2 of the 3 program years.
- 16 manufacturers had very serious compliance issues: they did not report recycling any pounds of CEDs as part of the program despite the requirement to do so.

Manufacturers are increasingly earning incentives for utilizing recycling facilities located in-state to process the pounds collected (Figure 7). PY3 was the first year during which more pounds of CEDs collected through the program were processed at recycling facilities in Indiana than were processed outside of the State.

**Figure 7: Pounds Recycled Details (Actual Pounds) - Manufacturers**

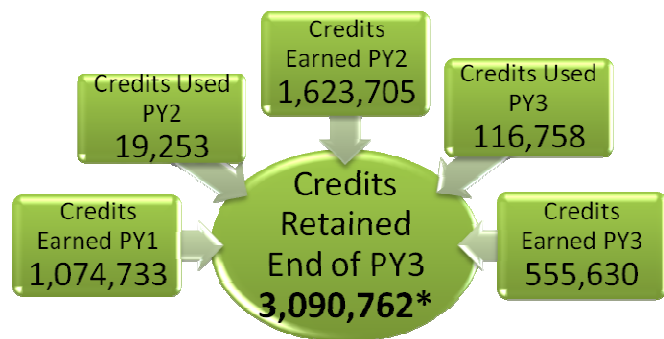


If a manufacturer exceeds their recycling obligation, 25% of the excess pounds are converted to recycling credits that can be used by the manufacturer to make up a shortfall or can be sold to another manufacturer in any of the three immediately following program years.

Collectively, manufacturers earned 1,074,733 pounds of credits in PY1. In PY2, 19,253 pounds of credits were applied by manufacturers to their recycling obligations and 1,623,705 pounds of credits were earned, resulting in 2,653,837 pounds of credits retained (Figure 8). Credits retained only includes credits retained by the manufacturers that were registered that year.

In PY3, 116,758 pounds of credits were applied by manufacturers to their recycling obligations and 555,630 pounds of credits were earned, resulting in 3,090,762 pounds of credits retained for use or sale in future program years.

**Figure 8: Manufacturer Recycling Credits**



\* Credits for manufacturers that earned credits in previous years, but did not register or report for PY3 are not included in the credits retained at the end of PY3.

Several of the manufacturers that failed to meet their recycling obligation in PY3 had credits available, but elected not to use them, a logical decision given that there was no penalty for a manufacturer failing to meet their recycling obligation in PY3, but there will be beginning in PY4. Beginning with PY4, manufacturers that fail to meet their recycling obligation will be subject to a **variable recycling fee (VRF)**.

Several manufacturers have earned enough credits that they can meet a future program year recycling obligation with little or possibly no actual recycling. As of PY3, a market has not developed for the sale of credits between manufacturers- no manufacturer has yet sold credits to another manufacturer.

### Recyclers

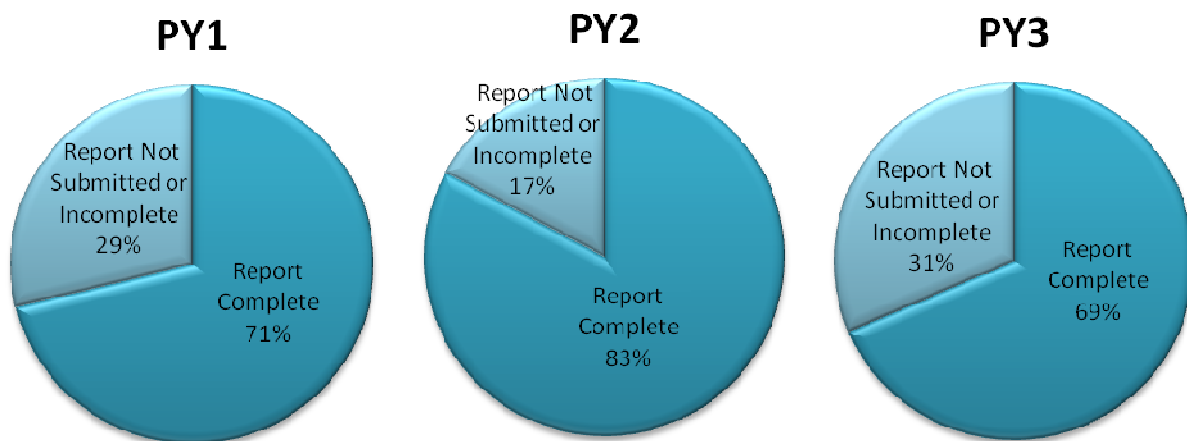
The annual report submittal rate for recyclers continues to be an issue (Figure 9). Because registration with the program is voluntary for recyclers, it is more difficult to motivate them to submit reports than it is manufacturers.

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The **variable recycling fee (VRF)** will be 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.
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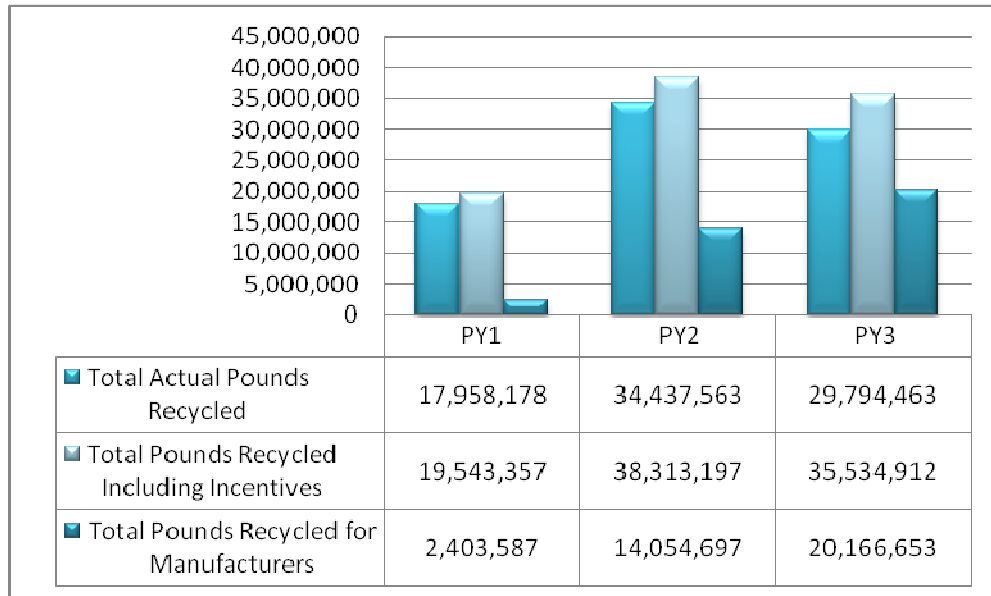
**Figure 9: Annual Reports Received - Recyclers**



There has been some confusion about the annual reporting requirements amongst recyclers. Increased education and clarification on forms have improved the quality of reports from recyclers.

There has been a continual increase in the number of pounds recyclers report having recycled on behalf of manufacturers (Figure 10), indicating an increased understanding of program requirements and the role of recyclers in the program.

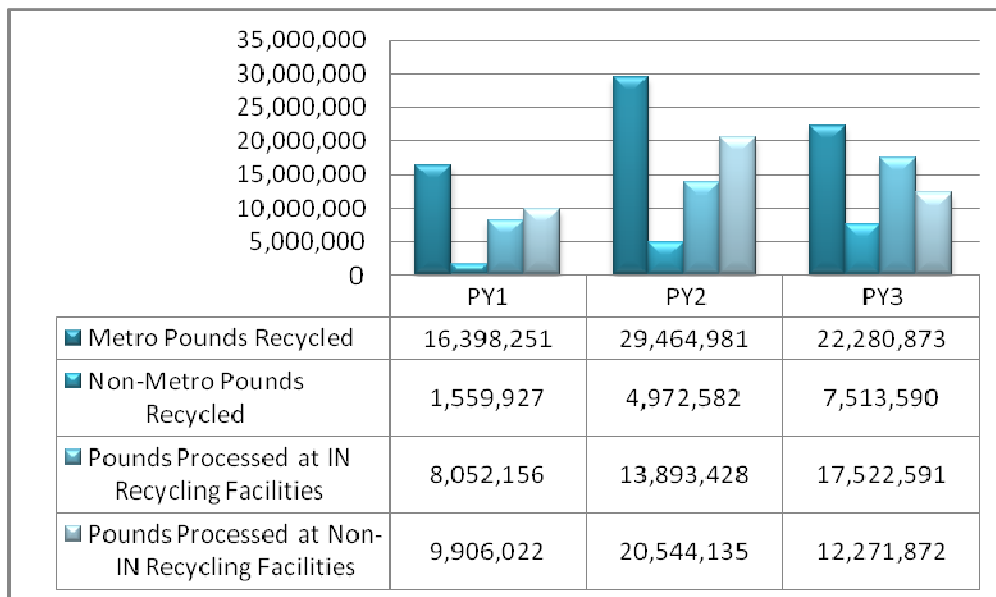
**Figure 10: Pounds Recycled - Recyclers**



While the pounds reportedly

recycled are not for exactly the same time periods, the results confirm feedback that IDEM has received from program participants as well as what has been reported by other Midwestern states: there are more pounds being recycled than there is manufacturer demand for. It is anticipated that this situation will continue to occur given that new VDDs are increasing lighter than older CEDs; that the list of items that meet the definition of CED is much more extensive than the list of items that are defined as VDDs; and that manufacturers' recycling obligations are based solely on their sales of VDDs to households, while CEDs collected to met their recycling obligations can come from households, small businesses, and public schools.

**Figure 11: Pounds Recycled Details (Actual Pounds) - Recyclers**



Recycler annual reports reflect a continual increase in the amount of CEDs collected in non-metropolitan counties in the State and, consistent with manufacturer annual reports, a steady increase in the pounds of CEDs processed at in-state recycling facilities (Figure 11).

## Other Collection & Recycling Efforts

This report is required to include information about CEDs that are being collected by persons other than registered manufacturers, collectors, and recyclers as well as information about CEDs, if any, being disposed of in landfills in Indiana. This information has not been included because there is no mechanism in place to collect such data.

## Multistate Collaboration

The Indiana E-Waste Law permits IDEM to participate in and to join regional multistate organizations or compacts to assist in implementing the article. The department has taken advantage of this opportunity and participates in regular conference calls with the other Midwestern states, which are coordinated by EPA's 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 very similar to Indiana's. The information shared and the coordination achieved on these calls is incredibly valuable in assisting with the implementation of the law.

Additionally, IDEM is an active voting member of the Electronics Recycling Coordination Clearinghouse (ERCC), a forum for coordination and information exchange among the state and local agencies that are implementing electronics recycling laws and all impacted stakeholders. Membership has proven very beneficial in that it provides the managers of the Indiana e-waste program with a forum for information exchange with the managers of the other state e-waste programs and helps to improve consistency in the implementation of the diverse state programs. The ERCC also provides members the opportunity to have a unified voice when addressing issues facing multiple states and a potentially stronger and more effective means by which to contact manufacturers that are not in compliance.

## Compliance & Enforcement Issues/Policy Recommendations

A complete analysis of the implementation of the program is not possible as not all registrants submit the required annual reports as required by the law.

### Issue: Manufacturer Compliance

No enforcement mechanisms are currently available for penalizing manufacturers that do not register or do not submit a complete and timely annual report. Pursuant to IC 13-20.5-1-2, a manufacturer may not sell, offer for sale, or deliver to a retailer for subsequent sale a new VDD unless the manufacturer has submitted a registration to IDEM; however, the department does not have the authority to prohibit the sale of VDDs by manufacturers that are not registered with the program, of which there are many.

### Policy Recommendation: Manufacturer Compliance

IDEM will engage stakeholders in a discussion about the potential to list non-compliant manufacturers on its website. While it is helpful that the list of registered manufacturers is posted online, lists of which manufacturers have failed to register and which manufacturers have failed to meet their recycling obligation could potentially improve compliance. Companies are generally concerned about their public image and this is important information that should be more easily accessible by the public. 7 other states currently have such lists available on their websites.

## Definitions

- **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.
- **Covered electronic device (CED):** a computer, fax machine, DVD player (including gaming systems that can play DVDs), video cassette recorder, digital photo frame, digital media player, MP3 player, camcorder, camera, DVR, portable GPS navigation system, video display device, or peripheral (including keyboards, mice, external hard drives, and printers) that is sold to a covered entity by means of retailer, wholesale or electronic commerce. An all-in-one printer/scanner/copier or a projector can be considered a peripheral if the item is designed exclusively for external use with a computer.
- **Covered entity:** an Indiana household, public school, or small business.
  - **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:
      - The business has not more than 100 employees and not more than average annual gross receipts of \$10,000,000.
      - If the business is a manufacturing business, the business does not have more than 100 employees.
  - **Public school:** a K-12 public school or charter school.
    - A public school is a school maintained by a public school corporation established by Indiana law.
    - A charter school is a public elementary school or secondary school that is nonsectarian and nonreligious and operates under a charter.
- **Manufacturer:** a person that:
  - Manufactures VDDs to be sold under the person's own brand or a brand the person licenses as identified by the person's own brand label or the brand label the person licenses;
  - Sells VDDs manufactured by others under the person's own brand or a brand the person licenses as identified by the person's own brand label or the brand label the person licenses; or,
  - Assumes the responsibilities and obligations of a manufacturer.
- **Recycler:** an individual or public entity that accepts CEDs from covered entities and collectors for the purpose of recycling.
- **Variable recycling fee (VRF):** a fee charged to manufacturers that fail to meet their recycling obligation. The fee will be charged beginning in 2014 and will be based on the results of the previous program year. The fee will be 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.
- **Video display device (VDD):** a television or computer monitor, including a laptop computer, netbook, notebook, tablet computer, or e-reader, that contains a cathode ray tube or flat panel screen with a screen size that is greater than four (4) inches measured diagonally and is marketed by a manufacturer for use by covered entities.

