

2011 Evaluation Report on the Minnesota Electronics Recycling Act



Minnesota Pollution Control Agency

December 2011

Legislative charge

Minn. Stat. §§ 115A.1320 sub. 1(e) and (c)

On or before December 1, 2010, and each year thereafter, the agency shall provide a report to the governor and the Legislature on the implementation of sections 115A.1310 to 115A.1330. For each program year, the report must discuss the:

- total weight of covered electronic devices recycled and a summary of information in the reports submitted by manufacturers and recyclers under section 115A.1316
- various collection programs used by manufacturers to collect covered electronic devices; information regarding covered electronic devices that are being collected by persons other than registered manufacturers, collectors, and recyclers; and information about covered electronic devices, if any, being disposed of in landfills in this state.
- a description of enforcement actions under sections 115A.1310 to 115A.1330

The agency may include in its report other information received by the agency regarding the implementation of sections 115A.1312 to 115A.1330.

The agency is to annually review and if necessary, recommend changes to the value of the following variables that contribute to effective functioning of the act: the proportion of sales of video display devices sold to households that manufacturers are required to recycle; the estimated per-pound price of recycling covered electronic devices sold to households; the base registration fee; and the multiplier established for the weight of covered electronic devices collected.

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Minnesota Pollution Control Agency

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Summary

The Minnesota Electronics Recycling Act was enacted in May 2007 to address the increase in the amount of waste electronics generated in Minnesota and the rising costs associated with properly managing waste electronics. The Minnesota Pollution Control Agency (MPCA) evaluation of the act for program year four (July 1, 2010-June 30, 2011) indicates that the amount of e-waste recycled has remained steady. The number of registered collectors and recyclers did increase from the prior program year, but the majority of recycling is done by a few processors. Manufacturers again recycled beyond the obligation, and the number of recycling credits held by manufacturers continues to increase. Finally, MPCA's enforcement activity increased, however, this was primarily for those entities such as collectors and recyclers that did not report or register by the annual due date.

Overview of the act

The law is premised on a producer responsibility approach that engages the manufacturers of certain electronic products in the collection and recycling of waste electronics. By internalizing the costs of end-of-life management, this more economically efficient approach to providing collection and recycling takes steps towards incentivizing the manufacturers to implement design for environment practices such as design for recyclability and other techniques to reduce cost.

The act establishes an obligation for manufacturers of video display devices (household televisions, computer monitors, and laptops) to collect and recycle 80 percent by weight of their products sold in Minnesota.

To meet this recycling obligation, manufacturers are able to apply a broader range of products called covered electronic devices (CEDs) including computers and peripherals, printers, facsimile machines, DVD players, and video cassette recorders in addition to video display devices (VDDs) to meet their obligations. To encourage collection in Greater Minnesota, an additional 0.5 lb. credit is offered for CEDs collected outside the 11-county metropolitan area (Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright).

The law establishes responsibilities for the Minnesota Department of Revenue and the MPCA, the two state agencies charged with oversight duties. Manufacturers report to the Department of Revenue by September 1 of each year. The department compiles and reviews the data submitted: total weight of video display devices sold to households, how manufacturers met their recycling obligation, and calculations of recycling credits.

The MPCA administers the Minnesota Electronics Recycling Act. Collectors and recyclers report and register with the MPCA by July 15 of each year and manufacturers register with the MPCA by September 1 of each year. MPCA staff review the compiled data submitted by collectors and recyclers on the total weight of CEDs collected and recycled; calculate estimated sales of video display devices sold to households during the preceding program year, based on national sales data; and manage the electronic waste account that includes manufacturer base registration fees and recycling fees.

The law caps the amount of credits that can be applied to an annual obligation. A manufacturer may meet only 25 percent of their program year obligation through the use of recycling credits.

Program year comparison

A program year runs from July 1 through June 30 of the following year. The most recent data available are from program year 4, ending June 2011.

	PY1/FY08	PY2/FY09	PY3/FY10	PY4/FY11	
Recycled per capita, statewide (pounds)	6.5 lbs.	5.7 lbs.	6.5 lbs.	6.2 lbs.	Supply
CEDs recycled (pounds)	33.6 million	30.3 million	34.7 million	33.0 million	
Conversion: program pounds*	41.8 million	36.5 million	41.4 million	38.4 million	
VDD sales (pounds)	25.6 million	31.2 million	29.2 million	26.9 million	Demand
Manufacturer recycling obligation (program pounds)	15.3 million (60 percent)	25.0 million (80 percent)	23.4 million (80 percent)	21.5 million (80 percent)	
Purchased: program pounds (and actual pounds)	32.7 million (28.0 million)	29.1 million (24.3 million)	33 million (28.7 million)	31.5 million (27.7 million)	
New recycling credits**: net change	17.6 million	5.1 million	10.5 million	10.2 million	Credits
Recycling credits available at program-year-end	17.6 million	22.7 million	33.2 million	43.4 million	

*Program pounds reflect 1.5x multiplier applied to pounds collected outside of the 11-county metropolitan area

**Recycling credits have the same value as program pounds, but their use was restricted starting in PY3

Collection

Registered collectors are public or private entities that receive covered electronic devices from households and arrange for delivery of the devices to a registered recycler. Collectors report annually on the total pounds of covered electronic devices collected during the program year and where those pounds were sent.

Registered collectors

The following table illustrates the number of registered collectors by program year and the counts of permanent collection locations in the 11-county metropolitan area and Greater Minnesota.

While permanent collection sites account for 75 percent of the actual pounds collected, residents also have the opportunity to drop off devices through events, pick-up services and mail back services. One goal of the

	Registered collectors	Permanent collection sites	
		11-county metropolitan area	Greater Minn.
PY5/FY12	214	118	157
PY4/FY11	229	113	158
PY3/FY10	207	90	148
PY2/FY09	181	N/A	127
PY1/FY08	177	N/A	136

program is to reduce the cost of recycling for Minnesota households. When searching for options, residents need to take fees, location and convenience into consideration. A variety of collection opportunities are offered by both local government programs which are subsidized with taxes or environmental fees as well as those offered by

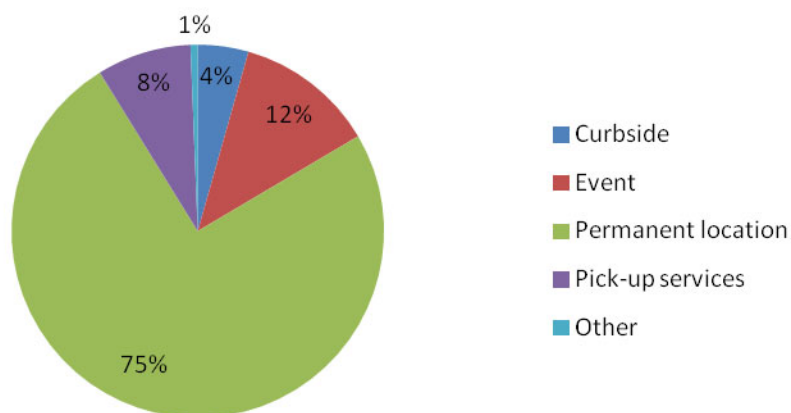
private businesses. Some local governments charge per item, while others may offer no fee recycling, but this is being subsidized by taxes or environmental fees. Retailers such as Best Buy, Office Depot and Staples offer collection as a service to customers. In fall 2011, Best Buy started accepting e-waste at no charge at their 28 stores in the state.

Another option is to access different programs based upon the brand of the device. Many registered manufacturers offer take-back programs, such as mail back options, for their brands and other brands as well. Some accept their brands for free and provide shipping, while others require payment for shipping. One notable manufacturer program is the Apple Recycling Program, which accepts all brands at no charge, including shipping.

Some collection sites also accept certain brands at no charge. For example, Waste Management of Minnesota collection sites will accept Sony and LG devices, while Electronic Manufacturers Recycling Management (MRM) listed sites will accept Mitsubishi, Panasonic, Sanyo, Sharp, Toshiba and VIZIO.

Collection in Greater Minnesota. To encourage collection activities in Greater Minnesota, the act provides a multiplier of an additional 0.5 pound to be applied to each pound collected outside of the 11-county metropolitan area (Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington and Wright). About fifty percent of the collection opportunities available in Greater Minnesota are offered by local governments.

Statewide collection, by source



Collection data

The following table illustrates the weight of waste electronics collected in Minnesota. The data indicates that the distribution of the weight collected between the Non-Metropolitan Area and the Metropolitan Area is consistent with the population distribution between the two regions.

Minnesota's PY3 per-capita collection rate of 6.7 lbs. compares favorably with other leading states, such as Oregon (6.3 lbs), Washington (5.9 lbs) and Wisconsin (4.2 lbs.).

	Metro	Non-metro	Statewide	Program pounds*
PY4/FY11	22.2 million lbs.	11.1 million lbs.	33.3 million lbs.	38.9 million lbs.
PY3/FY10	21.1 million lbs.	14.5 million lbs.	35.6 million lbs.	42.9 million lbs.

*Program pounds reflect 1.5x multiplier applied to pounds collected outside of the 11-county metropolitan area

Role of local government

Some local governments in Minnesota have elected to collect household e-waste as a service to their residents and then contract with registered recyclers for the actual processing of the devices. Some local governments provide this service due to a lack of collection options provided by other entities, to divert heavy metals from waste to energy facilities, or because a facility was already available and collecting household hazardous waste.

Local governments have the opportunity to enter into contracts with recyclers to recover a portion of costs involved with collection. Statewide, local governments collected nearly half (49 percent) of covered electronic devices in program year 4, offering a mix of permanent collection sites, special events for residents, and curbside recycling.

Local government collection efforts demonstrate that Minnesota residents want to recycle their waste electronic devices. The permanent sites and event collections offer convenient locations for residents where they can usually also bring other non-waste electronics to recycle. The MPCA recognizes the value of local government collection, but will continue to communicate with local government leaders to encourage evaluation of other collection options.

The following examples illustrate the costs borne by local governments for collection and the financial arrangements with recyclers that offset, to varying the degrees, those costs.

Metropolitan Area

Among metropolitan counties registered to collect covered electronic devices, most recover some of their costs from recyclers who work with manufacturers. With reported costs of \$1.6 million, counties covered nearly half using revenue from contracts with recyclers that sold the recycled pounds. Public collection is subsidized through various fees, such as solid waste tip fees or disposal fees charged to residents using the service.

County	Pounds CED collected (CY2010)	Recycling and transportation cost*	Share of costs recovered, by source		
			Recyclers/manufacturers	Consumer recycling fees	Not recovered
Carver	513,193	\$73,115	40%	39%	21%
Dakota	1,384,407	\$301,000	12%	0%	88%
Hennepin	5,867,854	\$978,266	68%	0%	32%
Scott	110,425	\$21,283	0%	100%	0%
Washington	1,504,255	\$230,091	33%	0%	67%

*Does not include labor and facilities cost

Hennepin County collects an average of 5.8 million pounds of covered electronic devices (CED) annually from two year-round drop-off facilities (Bloomington and Brooklyn Park), Minneapolis curbside collection, Household Hazardous Waste events and city cleanup/recycling days. The consumer electronics program is one component of the Hennepin County Solid Waste System financed through solid waste tip fees and hauler fees. Residents do not pay additional fees when dropping off consumer electronics at county sites. In 2009 and 2010 it cost the county an average of \$1 million per year to process CEDs, not including hauling, labor and facility costs.

Since 2009, Hennepin's recycling provider has increased the proportion of pounds sold to manufacturers from 51% to 87% of the total, which corresponds to an increase in the proportion of processing costs recovered from manufacturers from 36% to 68%. In 2010 the amount of CED processing costs not recovered through the program was 32%, or \$311,355. In addition, Hennepin County collects an average of 725,000 pounds per year of consumer electronics which are not CED as defined by the law, for which the county assumes the full cost of processing, an average of \$145,000 annually.

Washington County has an Environmental Center for year-round drop-off in Woodbury where county residents can recycle electronics at no charge, with the cost partially subsidized by county taxpayers. Washington County collected over 1.5 million pounds last year. In 2010 it cost the county \$230,091 to manage the recycling and transportation of these pounds, not including additional costs for labor and the facility. The county was able to recover 33 percent of these recycling costs from the eventual sale of recycled pounds by their recycler, leaving the county to pay the balance (\$154,986).

Dakota County has The Recycling Zone for year-round drop-off in Eagan where county residents can recycle electronics at no charge, with the cost subsidized by environmental fees. In 2009 the electronics collection was operated by Gopher Resources, so the county does not have cost data prior to 2010. In 2010 Dakota County collected 1.4 million pounds and it costs the county \$301,000 to manage the recycling and transportation of these pounds, not including the additional costs for labor and the facility. The county was able to recover 12% of those costs from the manufacturers with 88% not recovered, or \$263,649.

Carver County operates an Environmental Center for year-round drop-off in Chaska where county residents can recycle electronics. Residents bringing in televisions and monitors are charged \$5, but the rest of the e-waste is collected with no end-of-life fee, and thus partially subsidized by the tax payers. Carver County has collected around 500,000 pounds per year. In 2010 it cost the county \$73,115 to manage the recycling and transportation of these pounds, not including the additional costs for labor and the facility. From 2009 to 2010 the recycler decreased the amount sold to manufacturers from 100% to 78%. With this drop and additional \$5 for TVs and monitors in 2010, 40% was recovered from manufacturers, 39% was recovered from the fee and 21% was not recovered, or \$15,760.

Scott County has a Household Hazardous Waste facility for year-round drop-off in Spring Lake Township (east of Jordan) where county residents can recycle electronics for a fee, ranging from \$3-\$40 per item, depending upon the size and type of device. Scott County has collected around 100,000 pounds per year. In 2010 it cost the county \$21,283 to manage the recycling, transportation and labor of these pounds, not including the additional cost for the facility. The fee charged to residents at drop-off has covered the costs of the program. Scott County did not recover any costs from manufacturers.

Non-metropolitan Area

While most of the metropolitan counties recover some of their costs from recyclers who work with manufacturers, Crow Wing and St. Louis County receive a set amount of pounds that will be recycled for free that is known at the start of the program year. Their recyclers also work with manufacturers in order to offer this to the counties. The data below show that costs are not recovered from recyclers and manufacturers like it is with some metropolitan counties; rather, savings occur from a set amount of pounds recycled for free or through consumer recycling fees.

County	Pounds CED collected (CY2010)	Recycling and transportation cost	Total CEDs cost*	Share of cost recovered, by source		
				Recyclers/ manufacturers	Consumer recycling fees	Not recovered
Becker	178,000	\$26,289	\$26,289	0%	55%	45%
Crow Wing	295,980	\$15,830	\$31,252	0%	94%	6%
St. Louis	565,875	\$0	\$31,805	0%	26%	**74%

*Includes labor and facility costs

**St. Louis County receives free recycling and transportation through their recycler, so this only represents costs not recovered for labor and facilities.

Becker County has a transfer station just north of Detroit Lakes with a covered container for recycling electronics, therefore reducing the facility costs that many counties have. This site accepts all electronics, but charges \$5 for TVs and monitors. In 2010 Becker County collected 178,000 pounds. With an increase in pounds collected in 2010, the recycling and transportation costs increased from \$4,087 to \$26,289, not including labor costs. In 2009 the recycling fee covered the costs of recycling and transportation, while in 2010 it covered 55%. This left 45% not recovered, or \$11,949.

Crow Wing County has a year-round storage facility in Brainerd that charges a flat \$5 fee per e-waste item. Crow Wing County has collected around 285,000 pounds per year. In both 2009 and 2010, the county has received a set amount of pounds for free from the recycler. In 2010 it cost the county \$31,252 to manage the recycling, transportation, labor and facility costs. 94% of this was recovered through the \$5 fee and 6% was not recovered, or \$1,892.

St. Louis County has ten collection sites for waste electronics and charges \$1 for small CRTs (screens up to 20") and \$2 for larger. St. Louis County collects almost 600,000 pounds per year. In 2010 it cost the county \$31,805 to manage the labor and facility costs, with 26% of that covered with the disposal fees. With St. Louis County contracting with a vendor at the start of the e-waste program, there is no recycling or transportation cost.

In conclusion, local governments offer collection opportunities that are convenient for their residents, but the data show this service is a cost borne by the taxpayers. The cost varies depending upon the agreement with the recycler, with the metro counties not able to recover 47 percent of their costs in calendar year 2010. While local governments hope to completely cover their costs with a recycler who works with a manufacturer or through consumer recycling fees, MPCA will communicate with local government leaders to encourage evaluation of other collection options.

Recycling

Registered recyclers are public or private entities who accept household covered electronic devices from registered collectors for the purpose of recycling. The recyclers report annually on the total pounds received and recycled during the program year.

Registered recyclers

The number of recyclers registered in Minnesota has remained steady for each of the program years, but reporting continues to indicate that the majority of the recycling is done by a few processors. An analysis of program year four recycler reports indicates that the top ten recyclers accounted for 95 percent of the pounds recycled with the top three processing 72 percent of the total weight processed.

This past program year also saw a movement toward recyclers obtaining certifications for environmentally-sound management practices, including e-Stewards and R2 (Responsible Recycling). This is driven by concerns regarding the final disposition of waste electronics, including the media attention devoted to processing practices overseas, as well as desire for greater oversight on domestic recycling operations. There are currently three recycler facilities located in Minnesota certified with e-Stewards and four with R2. (Registrations as of November 30, 2011.)

	Registered recyclers
PY5/FY12	71
PY4/FY11	77
PY3/FY10	59
PY2/FY09	52
PY1/FY08	55

Recycling data

The weight of covered electronic devices collected for recycling during each of the four program years of the Minnesota Electronics Recycling Act continues to show that there is a significant amount of material still available from households. The switch to digital television in June 2009 was anticipated to result in a temporary increase in recycling of televisions; however, the overall weight of e-waste collected has not decreased.

The table presents the actual weight of recycled covered electronic devices collected from households in Minnesota for each program year.

	Pounds recycled	Pounds per capita	Pounds per household
PY4/FY11	33 million	6.2	15.8
PY3/FY10	34.7 million	6.5	16.4
PY2/FY09	31 million	5.9	14.8
PY1/FY08	33.6 million	6.4	16.1

It is important to note that the law does not require recyclers to report the weight of recycled waste electronics by product type. Thus, the MPCA is not able to determine, for instance, how much of the recycled e-waste weight was composed of televisions.

Manufacturer registration and reporting

Manufacturers report annually to the Minnesota Department of Revenue on their program year sales of video display devices (VDD) to households in Minnesota and how they met their recycling obligation (80 percent, by weight, of these Minnesota sales). An analysis of the annual reports for program years 1 through 4 demonstrates prominent trends:

- By weight, the manufacturers' recycling obligation is lower than the available pounds that are recycled; total recycling obligation is 54 percent of the total program pounds recycled.
- Manufacturer purchases of recycled pounds have far exceeded their recycling obligation for each program year (an average of 50 percent above obligation for program years 1 through 4). This has generated a large amount of recycling credits.

Addressing this imbalance of supply of recycled pounds and manufacturer demand for them is a significant challenge articulated by many program stakeholders.

Registration fees

Manufacturers remit a registration fee each program year based on their sales of video display devices in the previous program year:

- \$2,500 for companies with sales of 100 or more units to Minnesota households
- \$1,250 for companies with sales of fewer than 100 to Minnesota households.

These base registration fees, paid to the Minnesota Department of Revenue, are dedicated to funding the state agency responsibilities under the act. The Minnesota Electronics Recycling Act is managed by one FTE for implementation and oversight activities under the act, along with a 0.75 FTE for compliance and enforcement. Additional annual costs include \$16,500 to the Department of Revenue for managing manufacturer reporting and registration and an estimated \$15,000 for market share data and analysis as required under the act.

	Registered manufacturers	Base registration fees
PY5/FY12	*68	*\$ 152,500
PY4/FY11	78	\$ 161,250
PY3/FY10	71	\$ 151,250
PY2/FY09	72	\$ 151,250
PY1/FY08	80	**\$ 310,000

*As of Nov. 30, 2011

**Registration fees for the first program year were higher to cover start up costs: \$5,000 (est. sales of 100+ VDD) and \$1,250 (less than 100 VDD).

The data show that the base registration fees have remained consistent.

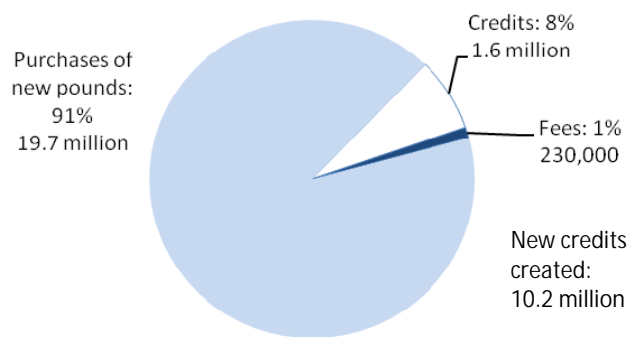
Sales and recycling obligation

In program year 4 (PY4), the overall weight of VDD sales dropped for the second consecutive year, with recycling obligation of 21.5 million pounds. At the same time, manufacturer reports to the Department of Revenue show the number of devices increased; this reflects changes in technology toward devices which are generally lighter, with a notable increase in the sales of mobile devices.

As allowed under Minnesota's law, manufacturers can meet their recycling obligation through a combination of three options:

- purchases of eligible pounds of recycled CED
- recycling credits (manufacturer's use limited to 25 percent of their PY recycling obligation)
- recycling fees; per-pound fee charged to the manufacturer

Meeting PY4 obligation



Purchases of recycled pounds

Manufacturer purchases of recycled pounds represent the largest share of recycling obligation; in program years 3 and 4, purchases of recycled pounds were at least 90 percent.

Combined with the use of recycling fees and recycling credits, manufacturer purchases of new pounds far exceed the recycling obligation each program year. In turn, this generates new recycling credits.

Recycling fees

In keeping with the underlying premise of flexibility for stakeholders, the program permits manufacturers to remit a fee to fulfill their obligation. The recycling fee is also assessed to manufacturers that did not meet their full obligation:

- Met 90 percent or more of their obligation: \$0.30 per pound of shortfall.
- Met 50 to 89 percent of their obligation: \$0.40 per pound of shortfall.
- Met less than 50 percent of their obligation: \$0.50 per pound of shortfall.

	Total recycling fees paid by manufacturers	Manufacturers paying fees
PY4/FY11	\$83,720	21
PY3/FY10	\$233,142	27
PY2/FY09	\$120,320	26
PY1/FY08	\$219,855	24

Manufacturers have used recycling fees to meet recycling obligation each program year, from 1 to 3 percent. MPCA would prefer to see manufacturers purchase eligible recycled pounds from registered stakeholders, rather than paying fees. To this end, the program has worked to foster greater communication between stakeholders with pounds to sell and manufacturers that need them to meet their recycling obligation.

Recycling credits

Recycling credits are generated when manufacturers exceed their program year recycling obligation; for each extra program pound purchased, manufacturers receive a credit that they can apply to meet a future obligation.

In the first program year, manufacturer purchases of recycled program pounds were more than double the recycling obligation, creating 17.6 million recycling credits. Concerns about reduced manufacturer purchases of pounds in the following program year (PY2) led to a change in the statute that limits a manufacturer's use of recycling credits to 25 percent of their program year obligation. This means for

every “pound” of credit used, a manufacturer needs three pounds obtained through new purchases or recycling fees, ensuring demand for pounds recycled each program year.

Since this amendment went into effect, recycling credits have been used to meet just 8 percent of the obligation in program years 3 and 4; new purchases have exceeded obligation, generating still more credits each program year. The total available for program year 5 is 43.4 million. The Department of Revenue reports that 68 percent of the credits are held by two manufacturers.

While manufacturer purchases have consistently exceeded recycling obligation, they are still, on average, just 80 percent of the program pounds available each program year.

	Manufacturers holding credits	Credits available	Credits used	Net change
PY5/FY12	43	43.4 million	N/A	N/A
PY4/FY11	39	33.2 million	1.6 million	10.2 million
PY3/FY10	35	22.7 million	1.8 million	10.5 million
PY2/FY09	42	17.6 million	16.9 million	5.1 million

Other program activities

The MPCA manages many activities that contribute to the efficient function of efforts under the act.

Grant program

In an effort to ensure collection occurs in Greater Minnesota, the act authorizes the MPCA to offer a competitive grant program, funded from manufacturer fees, for counties outside of the eleven-county metropolitan area. The MPCA issued a request for proposals during 2011 and awarded a total of \$129,890 to fund three grant proposals: Polk County, Cass County, and the East Central Solid Waste Commission. Results are expected in 2013.

The MPCA also issued a request for proposals during 2011 for market development for plastic and/or other components from e-waste. This request for proposals was for projects to develop markets in Minnesota for components of e-waste, including plastic. The agency did not receive any submissions.

Compliance and enforcement activity

The act established annual deadlines for registration and reporting by collectors, recyclers, and manufacturers. There were six forgivable administrative penalty orders (APO) sent out after August 1, 2011, to collectors and recyclers for noncompliance with the deadlines to register and/or report.

Additionally, the compliance and enforcement staff conduct inspections and investigate citizen complaints, as well as initiate enforcement cases related to any violations. This is not a requirement under the household e-waste program. There were ten new enforcement cases for mismanagement and abandonment and three additional inspections conducted that were in full compliance. The citizen complaints were addressed quickly.

Outreach to affected parties was also conducted to clarify the operating requirements for collectors and recyclers.

MPCA activity to promote consistency

The MPCA recognizes the importance of identifying opportunities to promote consistency with other states' programs, particularly with those in the Midwest. To that end, the MPCA is an active member in the Electronics Recycling Coordination Clearinghouse (ERCC), an organization created as a forum for the states with electronics recycling programs to exchange information and learn from each other's experience with implementation. A key function of the ERCC is to identify opportunities for program consistency as well as serve as a venue for discussion with manufacturers, retailers, haulers and others along the product chain.

There are now 25 states with e-waste laws. Among states with provisions similar to what is in place in Minnesota, these recent statutory changes are especially relevant to the Minnesota program.

- Illinois expanded the scope of obligated products to include televisions, monitors, printers, computers (including tablet computers), electronic keyboards, facsimile machines, videocassette recorders, portable digital music players, digital video disc players, video game consoles, small scale servers, scanners, electronic mice, digital converter boxes, cable receivers, satellite receivers and digital video disc recorders.
- Oregon added printers and peripherals as covered products in 2015 and allows credits for pounds collected over the minimum goal for programs.

Recommendations for legislative consideration

As required by the law, the MPCA issued recommendations in the 2010 Evaluation Report to address specific shortcomings of the functioning of the Act. None of these recommendations were enacted by the Legislature in 2011. The following recommendations seek to improve the efficient functioning of the act.

Recommendation 1: Include desktop computers, desktop printers, digital video recorders (DVRs), set-top TV boxes, video game consoles and DVD players in the obligation

Rationale: Expanding the scope of products that determine manufacturers' obligation serves several important objectives for the program. First, this would more closely align the list of obligated products with the purchasing habits, and ultimately recycling needs, of Minnesota residents. Second, it enhances convenient collection opportunities for Minnesota residents for products that are used in a typical household. Finally, the expansion of the number of obligated products will serve to address the imbalance between the weight-based obligation of manufacturers and the weight of products that is entering the collection and recycling infrastructure. Of particular importance is the trend toward smaller and lighter weight products that are being purchased by Minnesota residents. This is illustrated by program year 4 data that indicate the total weight is going down while the number of units sold is increasing. There was an increase in VDDs sold to Minnesota residents from 1,329,820 in program year three to 1,453,588 in program year 4.

The products identified, with the exception of DVRs, set-top TV boxes and video game consoles, are currently included in the program as covered electronic devices (CEDs) but do not count towards establishing the manufacturers' obligation. In effect, adding these products to the list of obligated products will create a level playing field in terms of what constitutes the obligation and what is collected.

Impact: Based upon Wisconsin's experience, the MPCA estimates that adding desktop computers and desktop printers would increase manufacturer obligation by 28% (by weight). Other impacts:

- Add a number of new large manufacturers, notably in printers. Comparing Wisconsin's E-cycle program, this would add printer manufacturers that currently aren't registered with our program. Comparing New York's e-waste program that includes all of the recommended products and a minimum screen size of four inches discussed in recommendation 2, there are around 100 registered manufacturers, which could add another thirty to our program.
- Add obligated device types to the reporting of several of the major manufacturers already registered.
- Would not add to the eligible devices collected for recycling (old CED).

Recommendation 2: Reduce the minimum screen size requirement for video display devices to four inches.

Rationale: Reducing the screen-size requirement will accomplish two objectives of the program. The first is to ensure a level playing field for manufacturers. Several products, most notably laptops, are now sold with a screen size smaller than nine inches. Secondly, the screen-size reduction will also be consistent with the video display device screen-size requirement in most states. Out of the 25 states with e-waste programs, 15 have screen sizes of 4 inches or larger and 5 don't have a minimum screen size.

Recommendation 3: Change the concurrent program year obligation to be based on the previous program year sales of obligated products.

Rationale: The proposed change will provide more certainty to all parties involved in the program regarding the annual collection target for a particular year since it is based on actual data. This is similar to Wisconsin's e-cycle program where manufacturer obligation is based upon sales from two years ago.

Recommendation 4: Remove registration fee requirement for manufacturers who sell fewer than 100 video display devices.

Rationale: Even though Minnesota has a comparatively low registration fee of \$1,250 for manufacturers who sell fewer than 100 video display devices, the fee may be onerous for those who only sell a few devices in the state. The Wisconsin E-cycle program does not charge a registration fee for manufacturers who sell less than 25 devices, while New York does not require registration for manufacturers who sell fewer than 1,000 units of covered electronic equipment.

Impact: The Minnesota Department of Revenue estimates a \$25,000 loss in registration fees based upon manufacturers that reported fewer than 100 units sold in program year 4, which would be offset with additional manufacturers added with recommendations one and two.

A benefit would be a decrease in staff time used for compliance and enforcement.

Recommendation 5: Eliminate six-month grace period for retailers selling brands where the registration has expired.

Rationale: The intent was to have the six month grace period for retailers when the program started in 2007 to help them with brands they had purchased, but didn't register. Now that the program has matured and retailers have been educated to only sell registered brands to Minnesota households, this grace period can be removed. It also removes confusion when communicating with retailers when the manufacturer registration due date passes.

Recommendation 6: Restrict the generation and use of recycling credits by manufacturers.

Rationale: Given that new recycling credits continue to be generated and held by manufacturers which, in turn depresses demand for current pounds, the MPCA recommends statutory change to address this issue. Potential policy approaches include phasing out banked credits by a date certain, placing restrictions on the generation of new credits and reducing the pound equivalent for credits (e.g., credits are worth 0.5 pounds rather than one pound). This recommendation would be most effective if coupled with recommendation three.