A Report from MN Product Stewardship Council on its Local Government E-Waste Forums

September 2015

Abstract

This report details input provided at forums held in the summer of 2015 throughout the State of Minnesota by the Minnesota Product Stewardship Council (MN-PSC), in partnership with the Minnesota Solid Waste Administrators Association (MN-SWAA). Comments received at the local government forums detail existing e-waste collection programs, what is working and what is not working, from the vantage point of Minnesota's local governments.

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INTRODUCTION

After the Minnesota legislature banned cathode-ray tube television and monitors from waste disposal in 2006, many local governments began collecting electronic waste (e-Waste). Local government officials saw the need to provide residents with effective recycling options, to reduce the likelihood of an increase in the illegal dumping of electronics, which was already emerging as a problem. Follow-up legislation in 2007 sought to assign electronics manufacturers with the responsibility of managing these waste electronics, intending to remove this burden from local governments.

In the years that followed, however, and due to issues identified in this report, responsibility was never fully assumed by electronics manufacturers. Instead, the burden of responsibility has increasingly fallen to Minnesota's local governments. This report is intended to shed light on the challenges of the system as it is currently functioning, so that they may be addressed by the stakeholders now considering improvements to Minnesota's e-Waste laws.

MINNESOTA E-WASTE BACKGROUND

The Minnesota Cathode Ray Tube (CRT) landfill disposal ban (MN Statutes 115A.9565) went into effect July 1, 2006. The CRT ban neither identified a funding mechanism for the e-Waste recycling system that would necessarily follow, nor provided a way to manage legacy CRT's that could no longer be disposed of as solid waste. In 2007, the Minnesota Electronics Recycling Act attempted to ascribe responsibility for managing e-Waste to electronics manufacturers. The Act was based on a shared producer responsibility approach to waste management which required the electronics industry to develop its own recycling program, according to statutory requirements, and encouraged them to work in collaboration with local governments.

The 2007 law utilized a market share approach to the apportionment of e-Waste recycling obligations. Manufacturers were required to collect and recycle 60% (by weight) of the household Video Display Devices (VDD's), which includes televisions, monitors and laptops, sold the previous year. The law left it to the manufacturers to determine how to pay for the recycling program, presumably by internalizing these costs in the price of the products.

The 2007 Electronics Recycling Act also included registration and reporting requirements for manufacturers, recyclers and collectors. If a manufacturer did not reach their 60% obligation, they were required to pay a small fee to the Minnesota Pollution Control Agency (MPCA), which was used to provide grants to local government to collect e-Waste. The Electronics Act also expanded the list of electronics, defined as Covered Electronic Devices (CED's) that could be counted toward the manufacturers' recycling obligations. If a manufacturer recycled more than their required amount of CEDs, the extra recycling credits could be banked and applied toward their recycling obligation in future years, or sold to another manufacturer that did not meet its annual obligation.

At the time of passage, the Electronics Act was supported by a broad coalition of stakeholders: The Association of Minnesota Counties, Best Buy, Clean Water Action Alliance of Minnesota, Consumer Electronics Retailers Coalition, IBM, the League of Conservation Voters, the League of Minnesota Cities, Minnesota Center for Environmental Advocacy, Minnesota Resource Recovery Association, Minnesota Retailers Association, Sierra Club, Solid Waste Administrators Association, Target Corporation, and 3M.

In its first years of implementation, the 2007 Electronics Act spawned many free collection events that created spectacularly long lines and mountains of e-Waste in event parking lots. But it soon became apparent that the formula for the manufacturer "obligation" to recycle was set too low, as they were obligated to pay for costs to recycle approximately half of what was being collected (labor, overhead and other costs were not covered).

The Electronics Act also included an additional .5 lb. credit for CEDs collected in Greater Minnesota (outside the St. Paul metro area), in an attempt to incentivize collection in the rural areas of the state. The extra credits would be counted towards the manufacturer's obligation. This credit, however, did little to effectuate outstate collection, or support the creation of outstate collection infrastructure.

The law was later amended to increase the manufacturers' recycling obligation to 80% of the previous year's sales of VDDs, and limit the carry-over of credits into future years, capping them at 25%. Both were intended to address the growing gap between the e-Waste collected and the manufacturers' obligation to recycle that e-Waste.

Data collected by the MPCA shows that since 2007 the amount of e-Waste collected in Minnesota has remained relatively constant, at about 30,000,000 lbs. per year. However, after year two, the manufacturers' obligation steadily decreased to a point where manufacturers' were obligated to pay for recycling costs which was only about half of the amount that was being collected. In response, and in order to keep the number of pounds obligated to be recycled from falling even further, the waste electronics legislation was amended in 2015 to set the manufacturers overall recycling goal at a minimum of 16,000,000 lbs. for program year nine.

EXISTING E-WASTE COLLECTION INFRASTRUCTURE

Both private businesses and government agencies provide e-Waste collection services. Collection infrastructure types vary from single day collection events to full-time drop-off services. Best Buy is the primary business stakeholder collecting certain types of e-Waste in Minnesota, on a drop-off basis, and Staples and Office Depot do so as well. Various types of mail-back programs are offered by Apple, Canon, Dell, Epson, HP, Lexmark, LG, Panasonic/Sharp/Toshiba, Samsung and Sony.

In the Minneapolis/St. Paul metro area (Metro), local government collections provide 72% of all event collections, and about 48% of the permanent collection sites, accounting for a total of 49% of all e-Waste collected. In greater Minnesota, government provides 65% of collections event and 54% of permanent collection sites, accounting for 55% of all e-Waste collected. All local governments do not restrict the types of e-Waste they accept, collecting all that is brought in for management.

MINNESOTA'S E-WASTE PROBLEM

The intent of Minnesota's Electronics Act was to create a system in which a product manufacturer assumed financial responsibility for collecting and recycling electronic waste. However, the legislation has not met that goal. Today, a substantial portion of the responsibility and financial burden for recycling waste electronics has fallen to local governments, private recyclers and residents as they pay collection fees.

There are several key reasons why the current e-Waste legislation has not been entirely successful. For one, the manufacturers' annual recycling obligation is based on 80% of the weight of Video Display Devices (VDD's) sold the previous year. Electronic devices continue to get smaller and lighter; large console televisions (TVs) have been replaced by flat screens, and desktop computers and monitors have been replaced by laptops, tablets and smartphones. The weight of these newer electronics is much less than that of their old CRT equivalents.

Taken together, this means that only about half the 30,000,000 lbs. of e-Waste coming through the doors of recyclers and collectors today (or 16,000,000 lbs.) is covered by the obligation that was intended to finance the recycling system.

Finally, the issue of illegally dumped, unobligated e-Waste remains to be resolved. Taken together with the issues identified above, responsibility for, and the cost of management of a great deal of un-obligated e-Waste has fallen back on the shoulders of local governments, private recyclers and the public.

STATEWIDE E-WASTE FORUMS

In an effort to bring local governments together to identify the most important issues related managing electronics waste, the Minnesota Product Stewardship Council (MnPSC) partnered with the Minnesota Solid Waste Administrators Association (SWAA) Executive Board to host joint meetings of solid waste professionals across the state in the summer of 2015. The effort quickly expanded to include meetings with the Solid Waste Management Coordinating Board (SWMCB), the Association of Recycling Managers (ARM) and the Household Hazardous Waste

Regional Program Managers (HHW-RPM). The intent was to gather input from all involved as to the pros and cons of existing law and programs, and to capture ideas on how the system could be improved. The ideas collected are consolidated in this report, which we hope will be brought forward and considered thoughtfully as stakeholders (SWAA, SWMCB, MPCA, Manufacturers and Industry) discuss legislative action for 2016.

Background information provided at the forums included an overview of the current e-Waste program, along with MnPSC's assessment of the same. Forum attendees were asked five questions in order to identify local government concerns and issues:

1. How is e-Waste handled by your local government?
2. Are changes needed to fix e-Waste legislation?
3. What currently works well? What doesn't?
4. Does the collection infrastructure need improving in your region?
5. Is it critical for all costs to be covered in order to participate; what's your bottom line for legislation?

Individual responses to these questions are provided in Appendices B through H. Although the MnPSC has reviewed and organized the responses into the common themes, it is highly recommended that the original comments are reviewed in full, to fully appreciate the level of frustration with the status quo.

1. **Overall, forum attendees expressed the urgent need for a swift resolution to Minnesota's e-Waste management problems**. Most forum attendees have been unable to be fully involved in discussions in St. Paul due to staffing limitations, and some have been reluctant to do so, believing that their input would have little impact on the eventual outcomes. As such, they appreciated the opportunity to provide comments at the local forums.

2. **A second key message communicated at the forums is frustration with the fact that local governments have been providing feedback on the problems with the existing e-Waste law for a great many years, to little or no effect**. There is a definite sense that what happens on the ground, involving local governments, is not seen by other stakeholders as terribly important. Nonetheless, many local government staff participated in the forums because they understand that things will likely only get worse if not corrected in the near future.

Beyond these two universally noted comments, responses to the questions varied, crossing over boundaries and not fitting neatly into common threads. As a result, the answers were analyzed by slotting each into the category it addressed, i.e. costs, legislation, etc., while removing the names of those providing them. Categories were then reviewed for the main points expressed overall. The categories and responses are found in Appendices B through G. The main categories identified were:

1. Local Government e-Waste Collection Infrastructure
2. Product Stewardship
3. Legislation
4. Obligation
5. Industry/Recyclers/Collectors
6. Cost (specific cost sheets by select counties and cities found in Appendix H)

More than 150 individuals participated in the forum process, either through personal attendance at a forum, a response to a questionnaire sent to all local units of government or by an emailed comment. Responses were received from all parts of the state. Appendix A provides a list of participants and a participation map can be found on page 8.

Following are the dates and locations of the forums:

- **Northwest MN Forum: SWAA Region II, III & IV**; May 20, 2015; Bagley MN; 12 attendees

- **Northeast MN Forum: SWAA Region I**; June 8, 2015; Duluth MN; 11 attendees

- **Southwest MN Forum: SWAA Region VIII;** June 20, 2015; Marshall MN; 9 attendees

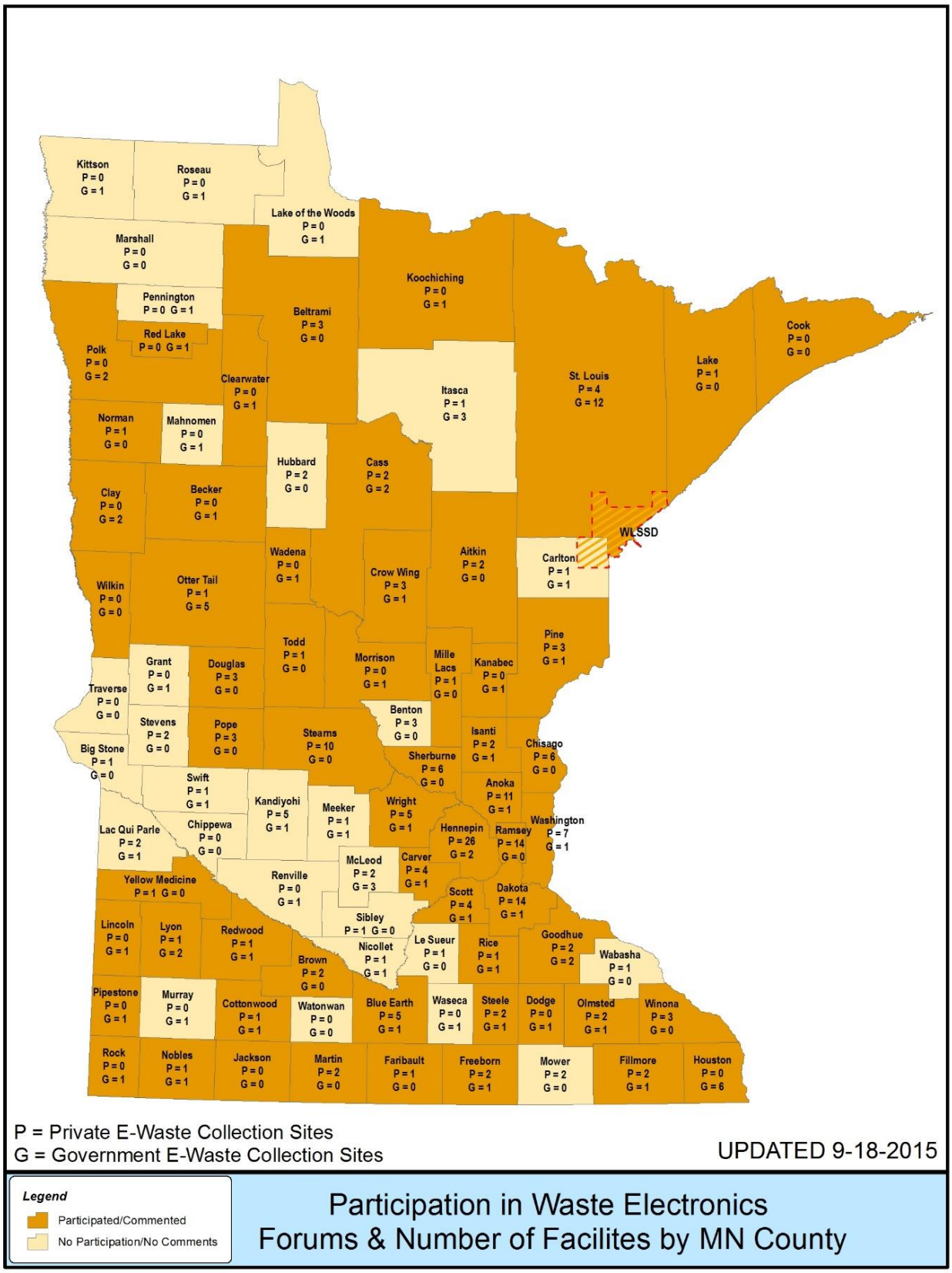
- **Twin Cities Metro: Association of Recycling Managers (ARM) Meeting**; June 11, 2015; Columbia Heights, MN; 60 attendees

- **Statewide: Household Hazardous Waste Regional Program Managers (RPM)**; June 24, 2015; Stearns County Service Center, St. Cloud, MN; 26 attendees

- **East Central MN Forum: SWAA Region V**; June 26, 2015; Mille Lacs County Historic Courthouse, Milaca MN; 7 attendees

- **South Central & East Central MN Forum: SWAA Region VII & IX**; July 30, 2015, Rochester, MN; 13 attendees

- **Twin Cities Metro: Solid Waste Management Coordinating Board, Policy Committee**; August 12, 2015; Richardson, Richter & Associates, Inc., St. Paul, MN; 15 attendees



P = Private E-Waste Collection Sites
G = Government E-Waste Collection Sites

UPDATED 9-18-2015

Legend

Participated/Commented

No Participation/No Comments

Participation in Waste Electronics Forums & Number of Facilites by MN County

LOCAL GOVERNMENT E-WASTE COLLECTION INFRASTRUCTURE

Northwest/Midwest Counties: The Northwest and counties south of this region utilize a mix of private and public drop sites for waste electronics. Most notably, they operate a five-county joint collection program, with Polk County as the central consolidation point. Several drop sites are private collections in urban areas. Most counties supplement their drop sites with mobile collections. The transporters and waste electronic recyclers are all represented in these counties. Fees are collected in several ways; some up front, some at end of life, and one county utilizes a voucher reimbursement program. Paid labor for managing electronics is the norm, though one county uses prison labor. End-of-life fees range from $5.00 -$25.00 per unit.

Northeast: The Northeast's infrastructure includes one-day-collection-only programs, and public drop sites for a fee. There is only one retail drop site, and two private collection drop sites in the whole region. Abandoned waste electronics are prevalent. Two local collectors and large contractors provide recycling services. End-of-Life fees reported ranged from $5.00 unit to $.25 per lb.

Southwest: Some counties hold special collection events and some collect when their landfills and Household Hazardous Waste (HHW) facilities are open. Some take electronics for free, some charge a nominal fee and others charge higher fees, but no one feels they are paying for all costs with the fees they charge. Some actively discourage re-use because of the confusion it causes at collection events. End-of-life fees are $10.00 per unit.

East Central: Most of the electronics collection is occurring via the private sector, especially in Chisago, Stearns, and Sherburne. Stearns also collects at landfills. The East Central Solid Waste Commission collects at two transfer stations and one landfill, serving Chisago, Isanti, Kanabec, Mille Lacs and Pine counties. Mille Lacs also collects at events. Crow Wing charges. Morrison collects at facilities and price is based on size. Wright collects at their facility and charges for televisions and monitors; everything else is free. Many counties subsidize local clean-up events. End-of-life fees range from $5.00-$35.00 per electronic.

South Central/South East: Many counties and cities collect at events, landfills and transfer stations, some privately operated. The area utilizes a variety of recyclers: Waste Management, Green Tech, Suburban Waste Services of Minnesota, Universal Recycling Technologies, GreenLights, The Retrofit Companies, Dynamic Recycling, and JR's Advanced Recyclers. Some also utilize Best Buy and Staples. Many have problems with "backyard scrappers". Houston sorts using Dynamic Recycling, Rice holds a free annual event. Winona relies exclusively on high-cost local collectors, and more remote Best Buy stores for the price sensitive. Olmsted covers their handling, transportation and recycling costs through a $.30/lb. fee on electronic waste, which will drop to $0.25/lb. in October 2015.

Metro Cities and Counties: The Metro Cities and Counties utilize private collection sites, one day collections, a few public drop-sites (albeit large ones) and curbside collection of waste electronics. See Appendix H for list of fees.

FORUMS SUMMARIZED

Product Stewardship

A better understanding of product stewardship is needed: Surprisingly, the Product Stewardship (PS) category generated a lot of comments. Several addressed the concept of PS, ranging from "no one cares" to "PS needs to be better understood," as many of the attendees are unfamiliar with the approach.

Manufacturers are not currently taking enough responsibility for their products, and they should not be given all the power for defining solutions: Problems of accountability arise when there is insufficient oversight of stewardship programs operated by manufacturers and their stewardship organization. There was some discussion of the need for another model, where the state retains product sales surcharges or manufacturer fees, and then finances the collection system. There were also comments indicating that PS is the responsibility of the manufacturers and retailers. Others commented that local governments in rural areas need to be involved, as they are often the only recycling location available.

The nuts and bolts: A national e-Waste framework would be best, individual producer responsibility doesn't work well with orphan products, a phased-in approach to PS may work best, efforts should include a life-cycle analysis in order to make the right choices, and any effort should ensure a level playing field among participants.

Examples of PS or similar programs that have been successful: Minnesota Department of Agriculture Waste Pesticide Collection, bottle bills in other states (with an incentive for return) and automotive battery recycling (with free take-back of multiple batteries at retail locations). The existence of markets for the recovered materials should enter into the calculus of which products to focus on for PS initiatives. Stewardship fees collected at the time of sale is a more effective way to fund collection than drop-off fees…people will pay when buying something, but are reluctant to spend money upon disposal, leading invariably to more illegal dumping or hoarding of e-Wastes.

Design for the environment improvement needed: e-Waste needs to be designed for better recycling capabilities.

Problems with product stewardship: A number of comments were critical of PS, saying that it's used to further certain agendas, is an unfunded mandate, there seems to be no ownership of the programs once they are established, updating has proven unworkable due to politics, and environmental protection is questionable.

Markets are global: Markets are global and go beyond what's happening in Minnesota. And processing facilities which produce saleable commodities are not located in Minnesota.

Tribes should be included in these discussions: They face the same market challenges.

Legislation

Frustration with the current law is broad-based: Many expressed frustration with the current e-Waste law, and echoed the sentiment that "no new product stewardship laws should be passed until the e-Waste legislation is fixed." A second very common sentiment expressed was that outstate issues are not understood by the metro.

Remember the intent of the legislation: The history of how we got to this point, starting with the CRT ban legislation in 2006 is important. Recalling that the intent of the law was to make manufacturers primarily responsible for e-Waste should help focus legislative amendments.

Keep it simple: A number of comments suggested changing the model in order to get something passed this next year and making the bill simpler; the current formulas are too complicated.

Need for a better enforcement mechanism: There is a lack of regulation of scrap yards and backyard scrappers, which at practically every local government jurisdiction is leading to time-consuming problems. Penalties for non-compliance should be assessed by the MPCA, and they should be set higher.

E-Waste efforts need to address gaps in outstate infrastructure: Grants should be used to build infrastructure. Legislation should address the need for greater outstate infrastructure for collection and recycling facilities. The legislated grant program was originally intended to create out-state infrastructure, but instead has funded short-term disposal costs. A couple of counties where the infrastructure works well were mentioned, one where the grants helped build it.

Advocacy for an up-front disposal fee: A number of comments advocated for an upfront disposal fee charged at the time of sale, with the state or a third party managing the money; not the manufacturers. This would address issues encountered with the PaintCare system. A comment was made that an internalized fee at the time of sale is basically an upfront fee. The customer is essentially pre-paying for disposal.

No prohibition on end-of-life fees unless service and costs are covered and guaranteed: Several commented that residents should pay a base fee at disposal. $5.00 would work, but anything higher would lead to dumping.

Credit system is not working: The credit system is not effective, particularly in Greater Minnesota. Many local government operators say they have never been approached by a recycler desiring their electronics. Perhaps changing the way credits are accrued, by linking them to CRT's instead of overall recycling goals, could address this, as CRT's are the base problem.

Obligation

The manufacturer's obligation must be increased to address the widening gap between what they have to pay for, and what comes in: The majority of comments focused on this gap, and recommend increasing the manufacturer's obligation from pounds sold to what actually comes in for management.

Keep it simple: Many comments noted that the mechanism used to calculate the obligation is confusing and complicated. The overall sentiment is that the solution should be simpler, not more complex. Some warned against widening the scope of products without increasing the obligation, and suggested that manufacturers have greater responsibility for outstate pounds to level the playing field with the metro.

Eliminate the weight of devices in standards and requirements: There were also a number of comments about changing the obligation model from weight-based to one based on units sold; acknowledging that it could, however, be more time consuming to count units.

The CRT issue is the heart of the e-Waste problem and must be addressed: Everyone attending the forums recognizes that CRT's are the primary cause of the e-Waste problem and that a weight-based approach helps manufacturers meet their obligations. The bottom line is the manufacturers must cover the cost of CRT disposal/recycling. Suggestions included modifying the obligation so that manufacturers would pay for CRT's up to a certain timeframe or weight limit.

Market Issues: Broken CRT screens are frequently found in rural recycling bins and roadside ditches. There is no market for leaded glass. Perhaps we should follow the Illinois model for CRT's.

Banned items cost the most to manage; and manufacturers should pay the cost: The list of banned items is growing. Banned items must be covered by manufacturers as they cost the most to handle and recycle. Non-banned Covered Electronic Devices (CED's) are accepted by the recyclers and help offset the cost of banned items (CRTs), but they also use CED's weight to meet their obligations faster, which leads to a lower obligation next time around, leaving local government to make up the difference.

Industry, Recyclers and Collectors

Manufacturers, recyclers and collectors must be on-board with changes: Communities rely on Best Buy a great deal, some exclusively, so Best Buy in particular must be on board with the proposed changes.

There is a spectrum of recyclers, but many are good and flexible to work with: It helps if recyclers offer different kinds of services to fit different collection scenarios (i.e. milk-runs, mixed loads, etc.)

There are many more drop-off sites now than before the law was passed, but equal coverage across the state is still needed: There is a significant lack of retail drop-off sites in greater Minnesota.

There is inconsistency in terms of what items sites accept, even within chains, and privates pick and choose what they will accept, while the public sites have to take it all: In one way or another, the e-Waste comes in. Additional credits should be given to sites that take it all. Advertise private collection sites as they help take the pressure off government sites.

Small collectors and recyclers have many of the same issues as local government: It's important not to put them out of business with new legislation or certification requirements, as they service many greater Minnesota residents.

There is a notable difference of opinion as to the proper role of local government: Some felt local government should take e-Waste, that it's their job to help residents deal with waste. Others felt that government should get out of collections altogether.

Greater Minnesota issues: Lack of good internet service limits computer sales, old electronics end up at the cabin, and rural people are used to driving to use services – including disposal.

Issues and inconsistencies exist in recycler/collector reporting of e-Waste for SCORE (Select Committee on Recycling and the Environment Act): This issue needs to be addressed.

As markets get tighter, sorting has become a requirement: Sorting takes substantial local government resources, including staff time and supplies (gaylords, pallets, etc.) which pushes recycling costs back on local government.

The state should have more than one vendor for the e-Waste recycling contract: More competition, flexibility and options are needed for local governments.

Transportation is hands down the major cost in recycling contracts, and must be addressed. Other issues are long-term liability, acknowledging existing infrastructure in any agreement. Some suggested the state get involved in the contracting, as they have more clout than local governments.

Instability in recycling contracts needs to be addressed: The whole system (low obligation, too many credits and low commodity prices) creates an untenable situation where recycling contracts are regularly broken and vendors come and go. Something needs to change is heard again and again from local government.

Costs

Local governments have to cover more and more of the cost for collection, transportation and disposal; manufacturers should pay for transportation and disposal/recycling costs: Local governments are faced with inconsistent pricing, rising costs, and having to pay for what is basically an unfunded mandate that is the e-Waste law. Staff time and overhead costs have not been calculated into the cost of recycling e-Waste.

Perhaps government collection is actually part of the problem: It is the opposite of what product stewardship requires; tax dollars are paying for the system. Some local governments aren't incurring costs because private industry is dealing with e-Waste in their jurisdictions, and some are passing the cost on to their residents through tipping fees.

Transportation adds a great deal to outstate e-Waste recycling costs due to long distances to markets: There must be efficiencies found in hauling routes, back-hauling, coordination of routes, and addressing "white space" (lack of density) issues. Transportation costs ultimately affect the affordability of e-Waste recycling.

Many in Greater Minnesota believe their challenges are not understood by state and metropolitan governments: SWMCB acknowledges that outstate is at a disadvantage in transportation.

There is a need for e-Waste disassembly facilities in outstate regions to make the system more economical: The infrastructure must be improved.

Appendix H contains two spreadsheets: county collection costs for e-Waste management and Metro municipality's collection costs and fees. The **cost estimates were provided by forum participants**. The estimates illustrate that manufacturers do not pay all expenses to collect and recycle e-Waste. Expenses not covered by manufacturers are left to be paid by local government, typically in the form of taxes, special assessments, grants, and user fees.

Conclusion

In closing, it is the hope of the participants that the information in this report will further the understanding of the issues facing local government e-Waste collections within an extended producer responsibility model. The original law was necessary to address a growing waste problem and visionary for its time. The approach had a large coalition of stakeholders supporting it in both government and industry. The law has been highly successful in getting the residents of Minnesota to make their e-Waste available for collection. As a result, Minnesota has one of the highest per capita recycling rates of any state in the country.

Additionally, it is the overwhelming position of local government that the law must evolve to address the complex current state of e-Waste management, as detailed in this report. The lack of a market for CRT glass, obligations for manufacturers that are set too low, and higher collection costs for all, make the current situation untenable.

Legislation that adheres to the principles of extended producer responsibility provides the best opportunity for environmental protection and market-driven success.

The Minnesota Product Stewardship Council sincerely hopes that all the stakeholders will once again agree to work together to develop a legislative compromise that fully addresses the problems of the current e-Waste management system, as set forth in this report.

Appendix A

Forums

Northwest MN Forum: SWAA Region II, III & IV; May 20, 2015; Bagley MN	
Kurt Casavan, Red Lake County MN	Garry Johanson, Norman County MN
Paul Fairbanks, Cass County MN	Bill Patenaude, Beltrami MN
Mike Hanan, Otter Tail, Todd, Wadena Counties	Bruce Poppel, Wilkin County MN
Dan Hecht, Clearwater County MN	Nathan Reinbold, Pope-Douglas Counties MN
Steve Skoog, Becker County MN	Kirk Rosenberger, Clay County MN
Jon Steiner, Polk County MN	

Northeast MN Forum: SWAA Region I; June 8, 2015; Duluth, MN	
Dan Belden, WLSSD	Tim Nelson, Cook County MN
Jack Ezell, WLSSD	Dale Olson, Koochiching County MN
Hank Fisher, Duluth MPCA	Heidi Ringhofer, WLSSD
Heidi Kroenig, Duluth MPCA	Mark St. Lawrence, St. Louis County MN
Christine McCarthy, Lake County MN	Terry Neff, Aitkin County MN
Doug Morris, Crow Wing MN	

Twin Cities Metro: Association of Recycling Managers (ARM) Meeting; June 11, 2015; Columbia Heights, MN	
Joel Anderson, Ramsey County	Renee Burman, Dakota County
Josh Aul, City of Bloomington	Roberta Colotti, City of Champlin
Mary Baker, MPCA	Amanda Cotton, MPCA
Amanda Bednar, City of Coon Rapids	Ali Ditty, City of Minneapolis
Ginny Black, Black Gold Recycling	Jesse Davies, City of Columbia Heights
Kayla Billett, Anoka County	Jake Duame, Carver County
Jean Buckley, Ramsey County	Cindy DeRuyter, City of Andover
Dan Devers, City of Bloomington	Rae Frank, Ramsey County
Sue Doll, Anoka County	Luke Frazier, MPCA
Dean Elstad, City of Minnetonka	Wayne Gjerde, MPCA
Tim Farnan, MPCA	Chris Goodwin, Eureka
Kris Hageman, City of St. Paul	Garth Hickle, MPCA
Sarah Hellekson, City of Plymouth	Laura Horner, Dakota Valley
Colleen Hetzel, MPCA	Jeff Jenks. City of Minneapolis
Susan Heffron, MPCA	Ryan Johnson, City of Roseville
Kathy Jensen, MPCA	Doug Link, Republic
Kellie Kish, City of Minneapolis	Maggie Mattacola, RAM
Dan Krivit, Foth	Julie Moore, City of Shorewood
Anna Kerr, MPCA	Meredith Moore, Carver County
Lena Larson, City of Farmington	Steve Pincuspy, PaintCare

Tim Pratt, Consultant	Tom Schuster, City of Rosemount
Dan Ruiz, City of Brooklyn Park	Lewis Segl, Dakota Valley
Brita Sailer, RAM	Steve Steuber, Scott County
Renee Sande, Anoka County	Leslie Storving, Eden Prairie
Peder Sandhei, MPCA	Chris Swanson, City of Maplewood
Sig Scheurle, MPCA	Mike Trdan, Seward Neighborhood
Krista Showalter, Republic	Amy Ulbricht, Anoka County
Ali Vandercook, Anoka County	Marcus Zidben, Carver County
Susan Young, Foth	Anne Morse, Winona County

Southwest MN Forum: SWAA Region VIII; June 20, 2015; Marshall, MN	
Andy Geiger, Jackson County	Robert Olson, Lincoln County
Eric Hartman, Rock County	Kyle Pillatzke, Cottonwood County
Paul Henrickson, Lyon County	Roger Schroeder, Lyon County
Mark Koster, Nobles County	Brian Sams, Redwood County
Stephanie McClain, Pipestone County	

Statewide: Household Hazardous Waste Regional Program Managers (RPM); June 24, 2015; St. Cloud, MN	
Amy Altman, Anoka County MN	Bill Fouks, Carver County MN
Caleb Anderson, Pine County MN	Adam Frederick, Washington County MN
Randy Bodensteiner, Northwest MN HHW	Ken Frederick, Blue Earth County MN
Greg Boe, Scott County MN	Troy Freihammer, Stearns County MN
Jane Boerboom, Minnesota Department of Ag	Ryan Gastecki, Veolia ES Technical Solutions
David Danielson, Crow Wing County MN	Darron Grahn, Lyon County MN
Paul Dennison, Chisago County MN	Sandy Gunderson, Becker County MN
Stan Kaminski, Minnesota Department of Agriculture	Pete Miller, Ramsey County MN
Julie Kennedy, Clay County MN	Doug Morris, Crow Wing County MN
Scott Martin, Olmsted County MN	Kim Nelson, Winona County MN
Paul Piper, Rice County MN	John Springman, Ramsey County MN
Heidi Ringhofer, Western Lake Superior Sanitary District, MN	Dave Stadum, Otter Tail County MN
Darwin Schulz, Hennepin County MN	Laura Villa, Dakota MN

East Central MN Forum: SWAA Region V; June 26, 2015; **Mille Lacs County Historic Courthouse, Milaca, MN**	
Trina Bergloff, Isanti County MN	Lisa Thibodeau, Chisago County MN
Troy Freihammer, Stearns County MN	Janelle Troupe, East Central Solid Waste Commission
Michele McPherson, Mille Lacs County MN	Teresa Wickeham, Kanabec County MN
Chuck Parins, Morrison County MN	

South Central & East Central MN Forum: SWAA Region VII & IX; July 30, 2015; Rochester, MN	
Rick Frank, Houston County MN	Jon Martin, Fillmore County MN
Mark Gamm, Dodge County MN	Anne Morse, Winona County MN
Mark Goskeson, Freeborn-Steele Counties	Billeye Rabbe, Prairieland Solid Waste Management – Martin & Faribault Counties
John Helmers, Olmsted County MN	William Root, Goodhue County MN
Jill Johnson, Winona County MN	Julie Runkel, Rice County MN
John Knisley, Brown County MN	Laine Sletta, Brown County MN
Dave Kronlokken, Blue Earth County MN	

Twin Cities Metro: Solid Waste Management Coordinating Board, Policy Committee, Richardson, Richter & Associates, Inc.; August 12, 2015; St. Paul, MN	
Jennifer Berquam, Association of Minnesota Counties	Randy Kiser, Hennepin County & MN Product Stewardship Council
Greg Boe, Scott County and MN Product Stewardship Council	Cara Lee, Richardson, Richter & Associates
Brad Fields, Anoka County MN	Mike Lein, Carver County MN
Georg Fischer, Dakota County MN	Carl Michaud, Hennepin County MN
Zack Hansen, Ramsey County MN	Trudy Richter, Richardson, Richter & Associates
Judy Hunter, Washington County MN	John Springman, Ramsey County MN
Jennifer Berquam, Association of Minnesota Counties	Jeff Travis, Washington County MN
Laura Villa, Dakota County MN	Leslie Wilson, Carver County and MN Product Stewardship Council

Appendix B

Local Government E-waste Collection Infrastructure

The first question asked at the forum was: How is e-Waste handled by your local government? The responses are as follows:

Counties:

- **Anoka:** Does not collect electronics from residents, and policy makers do not appear to be inclined to initiate electronics collection.
- **Becker:** Two drop sites and consolidated at one by prison labor. URT provides packaging and transport. Transport does not seem to be an issue. Biggest issue is the air space in the loads and "light weighting/white space."
- **Blue Earth:** MN Waste Process collects at their Transfer Station. E-Waste is also collected at County recycling center, which is managed by WM via contract – therefore, county does not control end-of-life fees. County Landfill also collects e-Waste but sets the fee higher than private recyclers so most e-Waste goes to privates including Green Tech and Best Buy.
- **Brown:** Collection provided at county landfill, load-up C-containers that are picked-up by SW out of Willmar – they charge county $5.00/unit. Event collections also provided by Springfield Bank (fundraiser), Sleepy Eye, and New Ulm. Two Private collectors including a computer repair business and scrap yard. County staff concerned about long-term liability because it is difficult to monitor recycler.
- **Cass:** E-Waste main collection facility is open 5 ½ days per week, up to 6 annual mobile collections and two transfer station facilities operated by Waste Management are collection points. Paid for with SWMF.
- **Chisago:** Contracts with private contractors, take bids from each one to keep costs low over five sites.
- **Clay:** Four to six e Waste-collection facilities. TRC is the contractor. Cost is covered with tip/svc fee. 327K pounds collected in 2014. TRC has required more and more separation since beginning of program.
- **Cook:** Has one day collections with TRC and they charge the customer as they are dropping off.
- **Crow Wing:** Charges $5.00 per CRT to break even. Crow Wing uses URT for a recycler, 80% of their shipments are CRT's.
- **Dodge:** Collects e-Waste at the transfer station for $20.00 per unit. Recycler is URT out of Janesville; which charges $. 65/lb.
- **East Central Solid Waste Commission:** Collect all electronics, $10.00 per TV, three sites are collecting these products. S & W pays $.15/lb. Accepts electronics all the time when the facilities are open.
- **Fillmore:** Collect e-Waste at the Transfer Station charging customers $10.00/unit. E-waste is packed in gaylords, which are then collected by Greenlights and Dynamic

Recycling. Dynamic received an MPCA grant to hold a rural collection event in the county.

- **Freeborn:** Two event collections at fairgrounds serviced by Recycling Retrofits charging variable rates. City of Albert Lea provides collection and Transfer Station serviced by JRs
- **Goodhue:** JR provides collection service and county recycling center. City of Red Wing has event collection. Privates collect including AMG Alliance (which is cheapest and charges by the pound). Have problem with "backyard scrappers."
- **Houston:** E-Waste collected at five county operated drop-off sites, open 2 days/week and located throughout the county. E-Waste is then transported to the county recycling center, where county staff does quite a bit of sorting (by type, size and sometimes by manufacturer). County contracts with Dynamic out of La Crosse to pick up e-Waste from recycling center and recycle; one semi-load every 3 weeks; of more than 13,000lb/load. Dynamic charges a county by type and size of unit, not pounds. Also pays county for some things, like large flat screen TVs in good shape.
- **Isanti:** Utilizes the ECSWC facility and subsidize the Township annual clean ups to approximately $500 each.
- **Kanabec:** Utilizes the ECSWC facility and options as the landfill facility is located in the County.
- **Koochiching:** E-Waste is collected at our transfer station and three of our rural canister sites. The process is for the customer to purchase tickets at $5.00 per item (CRTs) then drop them off during any open hours. We will take key boards, towers, etc. without charge and add them to the collection. Larger items are stacked on pallets and wrapped; the rest is put in gaylords. We have a contract with a trucker to haul our recyclables. When we get a load, generally about 20,000 lbs., we line up a time for delivery and he hauls it. Our current delivery location is Retrofit but we've used 5R and URT as well.
- **Lake:** Is paying $.25/pound. Hoarding has become an issue. E-Waste is collected in 3 ways from Lake County.

  1) Abandoned E-Waste – collected from the highway department in ditches and gravel pits etc.

  2) County operations – IS department for example – Charged to the respective department at $.25 per pound.

  3) Household Collection at the HHW facility –Charged at $.25 per pound

  All of the E-Waste is collected and packaged in one location and picked up 3 times during the year (2014). Lake County currently has Afterlife Electronics Graveyard in Superior, WI pick up the e-Waste.
- **Martin/Faribault:** Have several city and county collection events each year. Green Tech out of Mankato provides recycling service for $.10/lb. County charges $15.00/unit. Collection, corresponding with regular HHW collection schedule, is also provided at Prairieland Compost Facility. County cooperates with City of Fairmont utility that offers coupon for e-Waste recycling.
- **Mille Lacs:** Provides collection in conjunction with the annual HHW.
- **Morrison:** Provides collection facilities and a sliding fee schedule based on the size of a covered electronic. The program seems to work, but it's not the right thing.

- **Mower:** Event collections serviced by Retrofit Recycling
- **Olmsted:** Collected 360,000 pounds in 2014 at its Recycling Center Plus facility. They charged $.30/lb. (will be $.25/lb. beginning Oct. 1, 2015); (half pays for handling and half for transport and recycling). Dynamic currently provides the recycling service. Retailers Best Buy and Staples also play an important role in electronics recycling.
- **Polk, Red Lake, Norman, Mahnomen and Clearwater:** Participate in a joint collection program using Polk's sites as the aggregation points for the other Counties. Residents are directed to seasonal collection sites in their County, where they have a roll-off container provided by Polk to place full gaylords of e-Waste. When full, they contact Polk and an empty roll-off and gaylords are dropped off at the County site, and the full roll-off of e-Waste is pulled back to Polk's site. Each County's loads materials are tracked, then aggregated to fill truckload quantities for hauling to recycler. Recycler used is URT. URT Contract has hauling figured into it. Program started under an MPCA grant a few years ago, and continued after grant ended. Participating counties are happy with the partnership. Saves lots of money.
- **Polk:** Was told transportation costs, falling material prices and less manufacturer allocations are all significant reasons for future contract increases. To offset some of the increase, Polk was encouraged to arrange its own transport to market – as they have significant difficulty finding timely and cost-efficient transportation.
- **Pope/Douglas:** Three private drops (Waste Management, Alex Rubbish and Recycling and Tom Kraemer Inc. C&D Landfill. Collections casually conducted by the county. Fees cover recycling costs.
- **Ramsey:** Does not collect and tells their constituents to take them to Best Buy. Very popular among commissioners. Concern about e-Waste ending up in ditch but even where it is collected it ends up in ditch.
- **Red Lake:** Selling towers to local collector. URT is collecting the waste electronics at a drop facility.
- **Rice:** E-Waste collected at landfill; customers charged $15/CRT and $5/other e-Waste. JR's provides the recycling service at cost to county of $0.32/lb. County also does a free annual collection event.
- **St. Louis:** Household electronics are collected and stored at 12 solid waste collection sites located throughout the St. Louis County's Environmental Services Department service area. As the sites fill up, the electronics are then loaded into a 20 foot trailer pulled by a pick-up truck and hauled back to the Virginia Regional Landfill or Hibbing Transfer Station for consolidation into Gaylord boxes. This work is performed by a contractor, County Sentenced to Serve workers, or Environmental Service Department staff. Once a sufficient number of boxes is accumulated, the recycling contractor provides a semi-trailer, which is loaded with 48 to 52 boxes by County staff, and the trailer is hauled to the facility for processing. It is costing more and more to recycle and manage waste electronics. St. Louis County got hit extra hard this year.
- **Steele:** Collection provided by Recycling Retrofits at their facility in Owatonna & JR has a box at the Steele County landfill.

- **Sherburne:** Relies on the private industry to manage e-Waste. We do provide (SCORE) reimbursement to Cities and Townships for any electronics collected at Spring Clean-Up Day Events. The Cities and Townships hire private companies (who are registered with the State as Collector or Recycler) to collect and process the e-Waste from these events. The County licenses three full service recycling facilities. The competition between the three keeps costs reasonable for our residents.
- **Stearns:** Two landfills offer electronic collections and they also subsidize the Township cleanups.
- **Wilken:** Does not collect but recommend to Best Buy and WM in North Dakota. County pays resident $10.00 per electronic after a recycling voucher is provided. Cost is $7,000 - $8,000 annually.
- **Winona:** Privates handle all e-Waste including Best Buy, Matejka, and Millers (customers pay by the pound, $35.00 or more for TV's). Winona County does not collect electronics. Staff directs citizens to one of the transfer stations that accept electronics for a fee or the free Best Buy program. Staff devotes considerable time answering phone calls and directing citizens to the proper locations to dispose of electronics. Additionally, staff time is required for numerous ditch clean ups and transport of electronics to appropriate collectors.
- **Wright:** Provides a single permanent collection location where citizens drop off their electronics and we prepare them for shipment through a vendor, usually Dynamic Recycling out of Lacrosse, WI; have also used Retrofit Recycling out of Little Canada, MN. Charge a flat rate $20.00 for any size television and CRT computer monitors. All other general electronics we have been taking in for no fee.

Metro Cities:

- **Columbia Heights:** Curbside once per week, charge $5.00 per household, remaining costs are subsidized by city. The annual cost is $8,000. There are no limits on how many, just happy to get them since they were dumped in parks before.
- **Coon Rapids:** Costs $2,000 per week.
- **Maplewood:** Sends folks to Best Buy.
- **Minneapolis:** Collect from residents at "no additional charge." They collected 636 tons last year which represents 25,000 individual electronics. There will be a fee introduced next year.
- **Rosemont:** Residents can drop off to and pay the vendor (JR's) directly. They collected 4,300 pounds last year.
- **Roseville:** Retrofit is recycler, charge $10.00 per screen, $1,300 cost in 2015 so far.
- **St. Louis Park:** Waste Management collects curbside.
- **St. Paul:** 6 clean-up events, $5.00 for most items, $15,000 costs in 2014.
- **Shorewood:** Spring clean-up only, charge fees for electronics.

Appendix C

Product Stewardship

Product Stewardship Comments Received:

- No one cares.
- There needs to be a better understanding across the board of PS, as it is all mixed up.
- There is a great understanding of the intent of PS from folks working in solid waste since the late 80's and early 90's. Newer folks to the SW field are not as clear about PS and seem less supportive of the concept; seems related to be how PS has been attached to certain legislation and how the programs have evolved.
- PS should take care of product's life cycle.
- There should be a life cycle analysis done on electronics.
- National product stewardship program would be better.
- Individual responsibility was discussed – since orphan (producer no longer exists) waste is an issue, it might be difficult.
- Incentivize/encourage the private sector to take on the responsibility.
- Product stewardship should be implemented completely by manufacturers.
- Make it a retail and manufacturer issue to take care of.
- A law that says no product can be sold in Minnesota unless EPR in place would put the onus on retailers to get producers going and that would never be passed due to strong retail lobby.
- Manufacturers are driving the programs and calling the shots. The intent was for the manufacturers to be responsible for e-Wastes. Its product stewardship in reverse now.
- The PS mission is getting lost when it left to the manufacturers to run and implement and call the shots.
- Don't let manufacturers dictate the entire program.
- Level the playing field across the state.
- No additional organizations to manage e-Waste.
- A phased approach or baby step approach towards ultimate EPR (producer is responsible for collecting all e-Waste) would move us in the right direction.
- It is still a little too early for me to tell what needs to be changed. However, product stewardship is huge. Items need to be made easier to recycle. The businesses that sell the electronics need to be more responsible for the recycling.
- EPR is supposed to drive the value of product components, green design. What if e-Waste was of value to producers – there would be no problem!
- Put product stewardship into recycling rules.
- Dept. of Ag pesticide model may work but is at the whim of state funding.
- Bottle Deposit is an example of PS.
- We should focus on recyclables and wastes that have markets vs. more products. For example, more plastics made of 1 and 2.
- A Product Stewardship program that works: Battery model w/5-free per drop-off.

- PS is being used to push agendas. It's a term/concept that is easier to embrace than being called an unfunded mandate. However, all PS initiatives to date are only functioning as unfunded mandates on communities.
- There is no ownership of these programs once passed…getting the program into law is the success, not operating a good program as it was intended.
- The hard decisions and fights are avoided. Program changes and maintenance become unworkable due to the politics if a mechanism for making those changes is not accounted for in the initial law. A regulated party is never going to voluntarily agree to more expense.
- Maybe government should collect, bill the tax payers and not pursue EPR – that way we'd know that the environment is being protected to some extent.
- Without a crisis of some kind, it is not possible to get a decent EPR bill passed.
- Many of the mandates we run across are questionable from the beginning. This is especially true in the northern regions of the state where transportation distances are so far. If you do the math you will discover that about a quart of diesel fuel is burned per CRT just to haul them from northern MN to the Twin Cities. Many times customers come to our facility with just a monitor or TV. This means they probably burned an additional gallon of fuel to get them to us. Is it better to recycle them and contribute that much CO2 to the environment? Or would it be better to treat them as garbage?
- There has been little/no communication of PS initiatives and changes in law with the different tribal entities in the state. If changes impact end markets, they are impacted too.
- The market is influenced by out-of-state e-Waste.

Appendix D

Legislation

Legislation Comments Received:

- Don't start any new PS initiatives until we have electronics and paint figured out.
- A portion of the e-Waste program is product stewardship, but legislative changes are needed. Until it's fixed, new PS initiatives will not be supported.
- There is a lack of understanding of Greater MN issues.
- Greater MN should determine the metrics for their regions and counties.
- We knew this would happen back in 2007 but we needed to get something passed; recognizing that legislation would need to be amended at some time.
- SWAA needs to have a set of guiding principles in regards to e-Waste legislation changes.
- We need to develop talking points so counties can effectively talk to their legislators.
- Legislative changes should be drafted by local governments instead of by the MPCA.
- There is less than a year left in which to improve the current legislation
- We need to include new perspectives and new voices.
- When reviewing the development of new legislation it is critical to review the 2006 e-Waste disposal ban legislation and subsequent 2007 recycling law. How have these evolved to get to the current status, processes and operations of today's e-Waste collection program?
- For our purposes and our set-up, e-Waste legislation seems to be working just fine.
- We need to advance legislation that can get passed.
- Change the model of the bill because the current one is not working.
- How about introducing a law that makes the producer "own" their product, rather than the consumer.
- Make the model understandable, simpler.
- Don't expect county support if we can't understand the bill. A significant portion of our costs aren't covered and we have little assurance that environmental standards being met.
- The MPCA's Policy Report needs to address these issues.
- There is no oversight of scrap yards or backyard scrappers … very little enforcement leads to problems including electronic parts, CRTs, etc. being abandoned in ditches and at recycling depots.
- MPCA should spend more time regulating scrap yards.
- We hear stories of people loading scrap cars with CRT glass to make them heavier.
- The state collects penalty fees… how is the money used?
- Establish penalties if e-Waste is not collected or legislation is not adhered to.
- Higher penalties for noncompliance.
- The Grant Program was intended to provide for infrastructure in underserved communities. Once the infrastructure was in place, they would not need continued funding to maintain the program. However, the Grant Program has only offered to pay for collection service in underserved communities that apply. Unfortunately, when

funding for service ends at the end of the grant period, so does the service. Many communities do not apply because once a service is offered, the public expects it will be made available long-term. The current grant program is missing the intent.

- Infrastructure needs to be built or upgraded to manage this waste.
- We need at least one and maybe two centralized e-Waste collection points in northern MN.
- Polk County partnership is working well. Is funded by grant program.
- St. Louis County's infrastructure for electronics collection and consolidation is working well.
- Totally start over.
- No law is needed.
- Why is e-Waste the primary focus?

Fee Comments Received:

- Concept is good; but implementation details need work. Perhaps upfront fee is best.
- Include an up-front fee.
- Get rid of approach and put in an advance disposal fee.
- Mandating the manufacturers and retailers to pay an up-front fee.
- Upfront (time of sale) fees help people make purchasing choices; which is a good thing.
- Upfront fees can reduce end-of-life tip fees, which will reduce illegal dumping.
- If legislation goes the way of the paint model, the state or a third party should be responsible for collecting the funds at the time of sale, not the manufacturers.
- The paint stewardship model works, but PaintCare is not motivated in the same way society is. It would work better if the program and upfront fees were managed by a neutral third party or the government.
- Create financial Incentives for consumers to recycle.
- Establish a baseline value for each lb. of e-Waste created, like bottle bills do.
- Manufacturers will obviously roll recycling costs into the cost of the electronics they sell. The consumer is essentially "paying forward" the disposal/recycling costs of the e-Waste, assuming the retailers don't add a "handling fee" when people drop off items.
- No end of life fee prohibitions unless service and full reimbursement is guaranteed.
- It's not critical that all labor, supplies and overhead be covered by product stewardship legislation, as long as we still have ability to charge an end-of-life fees. If end-of-life fees are prohibited, then labor and overhead costs should be covered.
- Trying to cover current costs by charging customers doesn't work. When the laws were first adopted we put a $12.00 per unit fee on TVs and computer monitors. It wasn't long before we were finding them in alleys, in ditches, thrown off bridges, etc. We reduced the fee to $5.00 and the illegal disposal stopped. There are limits to what people will pay.
- The concept and idea of PS is costing us. Fees are used for administration and support positions and the General Fund.

Credit Comments Received:

- Credits are not important.
- If the credit isn't paid, then the rate will change.
- I find the whole credit system a bit confusing, but we haven't ever been approached by any manufacturers, so we haven't had to understand it.
- Change what "counts" for e-Waste credit.
- Could we make an additional credit available for CRTs, since they are the hardest to deal with?
- Counties are sorting; CRTs in one bin, other stuff in others (Dakota said they do 7 sorts) I suggest we look at staying with a weight-based system, and establish an average weight for each major VDD—(based on weights 10 years ago, before the light-weighting) and then give manufacturers credits for units sold, based on this average weight calculation translated into units. We could also then increase the credits per CRT sold.

Appendix E

Obligation

Obligation Comments Received:

- What is the real number for the obligation?
- Manufacturers need to be responsible for 100% of the weight.
- Increase the obligation for the manufacturers.
- All e-Waste that comes in should be covered.
- Manufacturers should pay for what is collected, not sold.
- The ideal would be to have manufacturers pay for whatever we (or others) collect.
- Manufacturers should be responsible pound for pound.
- Manufacturers need to pay for what is collected, not what is sold.
- The manufacturer's obligation needs to change—increase demand, thus increase reimbursement.
- Increase manufacturer's obligation… to create a market for e-Waste and pay for performance.
- Don't widen the scope of products unless manufactures obligation increases.
- Current legislation allows manufactures to meet recycling responsibilities with materials collected within the metro area. Out-state areas, whose best option may be the State Contract, are left to absorb all costs. The formula should be changed to make manufacturers responsible for a significantly higher percentage of sales or otherwise mandate manufactures be responsible for a significant portion of electronics collected by non-metro counties.
- Yes, some things need to be fixed. Either the program has to be eliminated and we go back to throwing them away or manufacturers should be made to pick up the entire tab. The biggest problem I see is that there will always be someone trying to take advantage of the program.
- I think the most important change to the Electronics Recycling Act of 2007 would be to eliminate the weight of devices in standards and requirements. Weight made sense only for CRTs and large TVs. The number of devices/units (sold, recycled, etc.) is more meaningful as devices become smaller and lighter and is more likely to retain value in the legislation as things change.
- Weight should not be a factor, fees should be based on "each."
- Change the model, the obligation. Have producers pay for unit rather than lbs.? Determine average weight of a "unit" – like a mouse, screens, etc.? Conversion factor for a pallet or box of waste types?
- There was some discussion on how, other than weight, can you change the obligation. Units sold—administratively time consuming to counties counting units recycled—so no.
- Existing formula for manufacturer's obligation may be adequate once the heavy e-Waste is out of the waste stream… but it may take a long time.
- Another [idea] is to have manufacturers pay for CRTs for a certain amount of time or up to a certain limit.
- The group agreed commercial electronics need to be included.

CRT Comments Received:

- Focus on CRT's**.**
- CRT's need to be covered because most costly.
- CRTs remain the big issue and we have to find a way to get manufacturers to be responsible and pay for them so we are looking for creative ways.
- CRT supply will sunset, preferably the Industry figure something out and put in legislation.
- Broken screens are frequently found in rural recycling bins.
- There needs to be a market for leaded glass, maybe landfilling…
- Local CRT glass markets/handling (Jennifer [MPCA} is an expert on this). How to work the TCLP.

Banned Comments Received:

- Clarify what is banned. Original ban was on CRT containing devices. That was stretched to VDD's (over 9" in screen size – measured diagonally). Now seems to be viewed as other display devices (smart phones, tablets, etc.).
- Banned items should be covered by manufacturers.
- Banned material costs the most to recycle and manage but also most lack markets.
- Ban should not include items the marketplace will currently pay for or accept for no charge (paying for hard drives/towers/laptops, accept for free other CED's).
- Non-banned CED's are taken either for free or generate a revenue. Banned VDD's are taken for a high fee. Recycler pricing encourages putting more CED's into the recycling stream to off-set VDD expenses. However, the CED tonnages collected are claimed by the manufacturer to meet their obligation toward recycling VDD's – which leads to a less manufacturer allocation to recyclers the next program year – which then leads to increased cost that program year to recycle VDD's. It's a downward spiral of the program to fulfill its intended purpose: require manufacturers to recycle their share of banned VDD's.

Appendix F

Industry/Recyclers/Collectors

Manufacturer/Recycler/Collector Comments Received:

- [Need] broad coalition and support from those actively engaged in providing collection of e-Waste.
- Recyclers should also be supportive of legislative changes.
- What is the scenario that Best Buy wants?
- Why don't Wal-Mart and Target collect like Best Buy? Do they make e-Waste products?
- Support engaging the local collectors.
- Collectors should be engaged.
- Recyclers are getting squeezed by the Manufacturers.
- Some recyclers/collectors are held in higher esteem than others. Some who have done business in the region are recently closed (5R).
- One thing that seems to work it's the drop off point on the other end. Retrofit has been great to work with. Due to limited space we can only do a small amount of sorting. They have accepted that and take our material without complaint.
- Service types vary greatly which is good because county have may different collection needs.
- Most counties choosing recyclers based on the service they can provide rather than price (for example: milk-run type service for less than full trailer volume, services that will pick-up e-Waste from floor of storage area, and a service that picks up e-Waste along with other items such as lamps, ballast, etc…).
- Certification program and enforcement for get rich quick entities.
- Certification of Recyclers is important.
- Financial incentive at MRFs to recycle.
- More [drop-off] sites available [now than] prior to the Rule.
- [Need] Coverage for all and equal across the state.
- PaintCare model won't work to fix e-Waste problem because VDD retailers [i.e. drop-off sites] are not common in the district; except in [Dakotas].
- Chain collection programs (i.e. Best Buy) is not consistent around the state in how it is collected and location of stores.
- Manufacturers cherry pick what they'll accept, and then counties and cities are the primary entity taking the hard stuff (large TVs and e-Waste).
- Collection sites – primarily private sites – tend to only take limited types of VDD's/CED's. (They only take back the products they originally sold, only take back if you purchase a new one from them, accept only the type of product they sell, or they limit the number, size or total volume they will take) The public sites tend to take – out of necessity to provide an outlet – all VDD's and/or CED's. Limited sites should not be treated the same as non-limited sites. Any law that would create a 'convenience factor' or 'service threshold' should account for these limited sites either with less credits provided to manufacturers, not count towards the metric, or otherwise balanced.
- Advertising for private collection points.

- Make sure that e-Waste doesn't put privates out of business.
- Small collectors will continue to have issues getting their collected items picked up.
- There was discussion on who collectors are; a definition is needed. He noted that he doesn't have any collectors, his County is the collector.
- We're public employees. As long as we're already at the landfill, we should take these things to help our public and ensure proper disposal.
- Government should not be in the business of collecting.
- Every county does its own thing, and [some may not] want to have [more] going on.
- Maybe a phased reduction of what government will collect. We reduce our share of collected e-Waste, maybe still collect from people who need one stop shopping.
- Discussions regarding larger ideas and concepts including government getting out of collections.
- Many rural folks don't have computers as there is no service and most use their phones.
- A lot of lake folks bring their electronics to the cabin counties.
- Rural people are used to hauling to where it is convenient.
- Light weighting and tonnage tracking increases for SCORE.
- I understand that our SCORE reporting is in pounds that go out, but the reporting that goes out from the business that takes it (Afterlife for example) separates the materials and then reports those pounds separately. The totals are different and therefore do not track well.

Sorting Comments Received:

- There is too much cherry picking for pounds and credits with the higher value items
- No requirements (wanted) for sorting at point of collection – all in one bin**.**
- In reality the whole program is a pain. Collecting, sorting, packaging and loading all take a lot of time. County employee time has not been calculated into the true cost of recycling e-Waste, but if it was, there would be a significant increase.
- Collector and transporter also calling shots and continually changing how waste is sorted, packaged and shipped. This is to save them cost based on credits and arrangements with manufacturers.
- I know that there are outlets that provide better collection opportunities but we would have to sort, palletize and store until we have full semi loads. I do not have the staff for sorting and I certainly do not have the facilities for storing semi loads at our eight transfer stations. To be real honest the electronics program in Minnesota looks no different to us (in terms of service) than it did prior to the electronics legislation.

Contract Comments Received:

- Another vendor for the MN state contract would be a good addition.
- There was discussion regarding a state contract for electronics recycling.
- Another vendor for state e-Waste contract (not just one vendor).

- One other side note is they want to work with the MPCA to rebid the state contract to get more than one vendor to manage E Waste. The transportation to Wisconsin is a killer—increasing costs … 2 to 3 times! Only one vendor to choose from.
- Contract transportation out differently.
- Long-term liability issues should be addressed.
- Acknowledgement of the existing infrastructure
- Encourage more state involvement like PaintCare.
- Something needs to be done. We have been bouncing around from one e-Waste collector to the next for the past several years. Up until now we've managed to get rid of nearly all our e-Waste at no charge (other than transportation). But the "free" pool has dried up.

Appendix G

Program Costs

Cost Comments Received:

- Costs to counties are less now than prior to 2007 rule.
- Costs are all over the place… no consistency between recyclers.
- Costs are different based on facility and populations.
- More affordability needed.
- Prices will continue to rise, so the legislation does not work.
- The 2014 costs are high but 2015 is going to be more dramatic due to the increase in costs and free shipping. The [MN-PSC e-Waste] spreadsheet should be done for 2015 too.
- E-Waste law in past has been a shell game – percentages of this or that, based on past years, weights of this or that, etc. E-Waste has never been fully financed by producers and producers have never truly been "responsible." Apathy about getting costs – disposal, transportation, staff – covered.
- It seems no one is getting a good deal anymore. Everyone is paying.
- The current legislation does not work well. It results in Out-State counties such as [ours} having to cover all cost for collection, transportation, and disposal. [Our] County Environmental Services has developed a very comprehensive electronics collection system throughout our rural Management Area that is creating a financial hardship on us for managing an effective state mandated program.
- It currently costs our county nearly 6-times more to recycle e-Waste than it does to dispose of garbage. Fortunately we have a low population so the cost should remain under $20,000 annually. It has still turned into an unfunded mandate, just as predicted.
- Just get all costs covered**.**
- From the inception of the so called "electronics program" I have seen NO benefits and NO improvements as it would relate to my counties. We have consistently had to locate our own collectors/recyclers of our electronic waste and we have consistently had to pay to have our electronics (especially CRT's) recycled. No one seems interested in our volume.
- Manufacturers pay for all, including gaylords and transportation. Caveat made that they should only have to pay for that which they have produced.
- Coverage of all costs or at least transportation and disposal/recycling.
- Cost recovery needed—specifically disposal and transportation costs.
- Pay for all transportation.
- The best case scenario would be if transportation and disposal costs were covered. I don't think counties or cities should be reimbursed for their employee time because that would create too big of an opening for dirty fingers to get into the bucket.
- The bottom line for us is that we would cover collection costs at our facility and pay for transportation to an end market. We would cover some of those costs with a small tipping fee to customers.

- Yes, it is critical all cost be covered for participation. [The] County has an extensive service area with a large rural population with ample land and area to illegally dispose of materials such as electronics. Providing low cost disposal options for its residents is therefore critical. The current legislation results in all cost responsibilities falling to [the] County. This in turn will result in increased tipping fees for these items in order for the County to cover the increasing costs of the program.
- I have no problem with us covering staff time since we run the e-Waste program in conjunction with our HHW program, but I feel everything else should be paid for by the manufacturer.
- There needs to be a better way to pay for the electronics that we find in the ditches, etc.
- At least 50% of costs (but then PS is sacrificed) should be covered.
- If we take 50% we concede PS.
- One county is willing to pay a bit.
- Bottom Line: No expense is incurred to get rid of e-Waste collected and service is guaranteed.
- Discussed government being part of the problem when we collect and tax payers cover the costs.
- There was discussion regarding cost. It was noted that some counties have no costs because their collections are handled by the private sector.
- "We (the county) aren't losing money – the customers pay for it." Another participant explained that is not how product stewardship is supposed to work. The manufacturer is supposed to pay for it all.
- S & W [a recycler] also collects appliances and as a package deal, the rate is kept low.

Transportation Comments Received:

- Finding transporters that travel in this region to make back hauls and collections.
- A map needs to be developed of current e-Waste electronic collection points and transport routes Perhaps efficiencies could be gained and mapped.
- Develop a system where you are charged on volume vs. weight as transport increases costs because of the "white space."
- "White space" issues when loading the truck and hauling.
- Most recyclers are a long ways from SW MN (Greenlights, URT, Salvage Warehouse, and Retrofit Recycling).
- There is a lack of understanding of the geographical and operational challenges of greater MN (by regulatory and metro counties). Recommendation was to get out and work the program to get a better understanding.
- SWMCB says Greater MN has it the roughest because of transportation expense – need to include them in recommendations.
- It is difficult to provide the e-Waste service to the north part of [the] County. If we could charge more, we could recover the cost to traveling north to get it.
- With our current hauling contract transportation costs $2.00 per mile round trip. That amounts to about $1,200 per load just to deliver the e-Waste to a recycling facility. A collection and disassembly facility is needed in the northern regions of the state.

Appendix H: County and City Cost Spreadsheets

Local Government	Year	Covered Electronic Devices (CED's) Collected at your facilities (lbs)	Your Facility Labor cost to handle e-Waste (1)	Your Facility Overhead and Supplies cost to handle e-Waste (1)	Your Transportation Cost (if separate from your contract with recycler or manufacturer) (1)	Fees you paid to Recycler or Manufacturer to collect and/or recycle	Total Cost for Local Government to recycle CED	Revenue from Recyclers or Manufacturers for sale of CED's (2)	Difference between revenue from recyclers/manufacturers and your cost
Aitkin County	2014	47,125	$ 1,390	$ 555	$ 500		$ 2,445		$ (2,445)
Becker County	2014	299,940	$ 6,000	$ 6,681		$ 4,300	$ 16,981	$ -	$ (16,981)
Brown County	2014	165,350		$ 1,000		$ 10,364	$ 11,364		$ (11,364)
Chisago County	2014	290,820				$ 43,326	$ 43,326	$ -	$ (43,326)
Clay County	2014	326,715	$ 9,930	$ 7,200		$ 40,433	$ 57,563	$ -	$ (57,563)
Cottonwood County	2014	52,297	$ 1,000	$ 500		$ 5,225	$ 6,725	$ 294	$ (6,431)
Crow Wing County	2014	297,120	$ 25,920	$ 5,379		$ 3,705	$ 35,004	$ -	$ (35,004)
Dakota County	2014	2,000,000	$ 86,000	$ 41,000	$ 26,000	$ 61,000	$ 214,000	$ 23,500	$ (190,500)
Dakota County	2015 Estimated	2,100,000	$ 90,000	$ 43,000	$ 79,000	$ 96,000	$ 308,000		$ (308,000)
Dodge County	2014	71,106	$ 9,984	$ 5,950		$ 1,534	$ 17,468	$ 294	$ (17,174)
Fillmore County	2014	58,774	$ 2,500	$ 500		$ 13,578	$ 16,578		$ (16,578)
Goodhue County	2014	30,669				$ 6,000	$ 6,000		$ (6,000)
Hennepin County	2014	5,501,000			$ 83,256	$ 719,000	$ 802,256		$ (802,256)
Hennepin County	2015 Estimated								
Houston County	2014	187,775	$ 3,701	$ 3,320		$ 16,602	$ 23,623		$ (23,623)
Koochiching County	2014	62,000	$ 3,000	$ 500	$ 3,438		$ 6,938	$ -	$ (6,938)
Lake County	2014	23,374	$ 1,640	$ 600		$ 5,864	$ 8,104	$ 5,844	$ (2,260)
Lyon County	2014	134,160	$ 4,200	$ 2,250	$ 5,855		$ 12,305		$ (12,305)
Morrison County	2014	71,000	$ 639			$ 10,355	$ 10,994		$ (10,994)
Olmsted County	2014	361,820	$ 34,944	$ 7,236		$ 55,595	$ 97,775		$ (97,775)
Olmsted County	2015 Estimated	360,000	$ 34,944	$ 7,236		$ 43,200	$ 85,380		$ (85,380)
Pipestone		70,680	$ 7,667	$ 300		$ 8,190	$ 16,157		$ (16,157)
Rice County	2014	282,075	$ 3,000			$ 66,024	$ 69,024		$ (69,024)
Sherburne County	2014					$ 43,958	$ 43,958	$ -	$ (43,958)
St. Louis County	2014	640,000	$ 37,850	$ 340			$ 38,190	$ -	$ (38,190)
St. Louis County	2015 Estimated	640,000	$ 20,000	$ 340	$ 43,680	$ 92,800	$ 156,820	$ 380	$ (156,440)
Steele County	2014	47,650	$ 2,382			$ 16,201	$ 18,583		$ (18,583)
WLSSD	2014	562,133	$ 13,240		$ 11,400	$ 22,500	$ 47,140		$ (47,140)
Wright County	2014	78,210	$ 8,410	$ 1,000		$ 11,062	$ 20,472	$ 1,631	$ (18,841)

(1) Cost may be estimated

(2) Do not include any revenue from taxes, special assessments, or customer drop-off fees .

N City	Company	Cost to city	other	Charge to residents?
Brooklyn Park	Jobs Foundation/Tech Dump	.13 pound in 2014	they collect and haul	Yes
Champlin		.20 pound for TVs & computer monitors. Remaining free.		Yes
Columbus	All Appliance Disposal	city does not pay a fee	hauler collects a fee from resident for some items. city does not charge; hauler charges for some	No
Coon Rapids	Optimum Appliance	$10 for TVs and computers/$15 console or projection	they collect weekly and haul away	Yes
Eden Prairie	Certified Recycling, L. L. C.	charge by item	Last used in 2012. They collect and haul	Yes
Eden Prairie	A1	charge by item	they collect and haul.	Yes
Edina	DOES NOT COLLECT ELECTRONICS	NA	Recommend Best Buy.	No collection
Maplewood	Retrofit	$5 per TV (going up to $10 in 2015)	they collect and haul away	Yes
Minnetonka	DOES NOT COLLECT ELECTRONICS	NA	Recommend Best Buy.	No collection
Norwood Young America	Dynamic Recycling	charge by pound		Yes
Plymouth	Tech Dump/Jobs Foundation Amanda LaGrange alagrange@techdump.org, 763-432-3117	.22 per pound in 2015	recycling electronics only - does not include collection or hauling charges	Yes
Rosemount	JRs Advanced Recycling	charge by item	they collect and haul	Yes
Rosemount	Certified Recycling, L. L. C.	charge by item	they collect and haul	Yes
Roseville	Retrofit Recycling 2960 Yorkton Blvd Little Canada MN 55117, 1-800-795-1230; Jen Alm, jalm@retrofitcompanies.com, (651) 717-4740		They charge a $300 fee to be at event, then collect and haul. Drop off at Retrofit's location ($) or at Best Buy (free). No city event.	Yes
Shoreview	Retrofit	charge by item		Yes
Shorewood	Certified	charge by pound (free appliances/batteries/small motor)	they collect and haul	Yes
St. Louis Park	Tech Dump/Jobs Foundation Amanda LaGrange alagrange@techdump.org, 763-432-3117	Tech Dump, $13 for CRT's and box TV's		Yes
Watertown	ATHC drop off site		Charge $5 per item	Yes