

DEPARTMENT: POLLUTION CONTROL AGENCY
NT:

STATE OF MINNESOTA

Office Memorandum

DATE: December 21, 2007

TO: Interested Parties, re: Solid Waste Policy

FROM: David Richfield
MPCA
david.richfield@pca.state.mn.us

PHONE: 651-297-8369

SUBJECT: Comment Draft of 2007 Minnesota Solid Waste Policy Report

Following is a public-comment draft of the 2007 biennial Minnesota Solid Waste Policy Report for your review and response.

This year the MPCA has adopted a new format for the Solid Waste Policy Report comment draft. The draft lays out MPCA's policy direction in light of important developments over the last two years; provides sets of near-term policy options along with the criteria MPCA staff used for evaluating them; provides a set of focus questions for stakeholders in preparing their comments; and offers suggestions on a decision-making process in 2008 that would focus on two major opportunities for progress.

After considering the comments the MPCA will finalize its work in late January and distribute the final report.

Please send your comments and any information you would like to provide by close of business January 11, 2008 (e-mail is preferred), to the attention of:

Jim Chiles, Solid Waste Policy Report staff coordinator
Minnesota Pollution Control Agency
Municipal Division, Solid Waste Section
520 Lafayette Road N.
St. Paul, MN 55155-4194
jim.chiles@state.mn.us
651-296-7273 voice
651-297-8676 fax



**Minnesota Pollution
Control Agency**

2007 Minnesota Solid Waste Policy Report

Draft for Public Comment,

December 21, 2007

Authors:

Richard Andre
Ginny Black
David Cera
Jim Chiles
Madalyn Cioci
Wayne Gjerde
Colleen Hetzel
Garth Hickle
Dave Richfield
Mark Rust
Sig Scheurle
Paul Smith
Arlene Vee

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520 Lafayette Road N.
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jim.chiles@state.mn.us

Table of Contents

Part 1: Executive Summary	1
Part 2: Background.....	4
A. The State's Solid Waste Policy Report	4
B. Current status of waste generation and funding	4
Part 3: Near-term Policy Evaluations	9
3A. Telephone directories.....	9
3B. Beverage containers	12
3C. Non-residential recycling	15
3D. Biodegradable bags and organics recovery.....	17
3E. Open burning of garbage	19
Part 4: Long-Term Policy Needs.....	22
Part 5: Work to Come	26
Appendix A: SCORE Report for 2006	

Part 1: Executive Summary

In 1980, when the Minnesota Waste Management Act was passed, at least nine out of every ten tons of waste went straight to 140 landfills and nearly 200 illegal open dumps. These waste deposits were often located in low areas such as excavated gravel pits, and any pollutants passed easily into drinking water. It was not unusual for operators of open dumps to burn the waste to reduce the volume, emitting air pollutants often inhaled by nearby residents. For these reasons, Minnesotans organized to oppose indiscriminate waste burial and burning and supported passage of the Waste Management Act.

Minnesotans have accomplished much since 1980. We have a mature integrated system for solid waste management with well-managed facilities for recycling, energy production and disposal. Despite good progress there remain important opportunities to do more to protect public health and the environment and conserve resources.

Since passage of the Waste Management Act, new threats to Minnesota's environment and public health and perhaps new opportunities for our economy have emerged. In the 2007 session the Governor and Legislature, with broad support from Minnesotans, addressed the need for renewable energy and cutting greenhouse gas emissions. As a sign of renewed support for the waste management system, during the 2006 Session the Governor and Legislature restored the previous baseline level of \$14 million for SCORE integrated waste management programs, effective the FY 2007-08 biennium.

The MPCA decided upon the focus of this report considering the following factors:

- Long-standing Waste Management Act goals
- Threats to Minnesotans' public health, way of life, and environment
- Public, legislative and executive desires to assign high priority to renewable energy and the threat of global climate change
- Completing unfinished business from previous solid waste policy reports and the MPCA's Strategic Plan

While there are many worthy policy issues that could be addressed in this report, the 2007 Solid Waste Policy Report is featuring the opportunities for renewable energy, energy conservation, and cuts in greenhouse-gas emissions. During four months of meetings with stakeholders, MPCA leaders and staff asked each group to suggest how the elements of the waste management hierarchy, when applied to specific materials in specific parts of Minnesota, could—in a cost-effective manner—increase renewable energy production; contribute to energy conservation; and reduce greenhouse gas emissions. MPCA's discussions with a broad array of solid waste stakeholders reaffirmed great interest in tackling these issues without delay.

Common themes appearing at these meetings were:

- Greenhouse gas cuts and energy gains are timely, even urgent, themes. There was no opposition to charting a course to make significant, measurable progress on these twin goals. The Waste Management Act fits with these goals generally but actions can be directed better to make sound decisions with specific materials in specific regions.
- Source reduction and reuse has never received the attention or support that recycling and waste-to-energy incineration has gotten.
- Counties are key to improved waste management but their budgets are stretched and their financial situation isn't likely to improve in the near future.

- The current state law on local control of waste (districting, designation, and organized collection) is outdated and needs retooling given the Oneida Supreme Court decision.
- Don't force large increases in recycling collections without verifying markets and the infrastructure for collection and transportation. When seeking more materials for recycling or energy, look first to materials with solid markets and good energy/greenhouse gas results.
- Counties want SCORE payments to "catch up" and are willing to talk about incentive programs and new goals that fit with local conditions. If the state wants higher performance in the waste hierarchy the state would have to increase its involvement.

The MPCA listed a wide range of near-term and long-term policy options to address these themes, and considered the following principles when evaluating them.

- Focus on locations where large quantities of available waste can be harnessed for resource gains and environmental improvement.
- Seek out measurable and significant advances in energy (efficiency and production) and cuts in GHG emissions. Proposals must be cost effective, should use the infrastructure already in place, and must be studied for any unintended consequences to the environment or health.
- Assess implementability as indicated by stakeholder input, benchmarking with other states, and available infrastructure.
- Enforce current laws. If laws aren't working identify the reasons. Look at results from past promises to meet voluntary goals that were offered in lieu of mandates (for example, the "25 by 95" packaging goal passed in 1991, which called for a 25% drop in the amount of packaging discarded into the waste stream, measured per capita.)

Following is a summary of near-term needs identified by the MPCA as needing solutions:

- Minnesota should seize the opportunity to conserve significant amounts of energy and reduce greenhouse gas emissions through attention to readily recyclable beverage containers, beginning with aluminum containers.
- Minnesota needs to raise the recycling rate for waste being generated by businesses and institutions. Much marketable material is being lost to disposal now.
- "Backyard burning" of garbage has only decreased slightly and the health risks from this practice are significant.
- Plastic bags are a significant problem at facilities that compost organic matter into soil amendment and that rely on bagged organic material for their inputs. Noncompostable plastic film raises costs at these facilities and cuts the value of the compost.
- An early attempt at "product stewardship" for telephone-book recycling did not work as intended, because costs have been borne mostly by counties and cities rather than the businesses that produce such phone books.

Further, MPCA recommends engaging stakeholders in a broad-based policy discussion next year to work on two vital needs, the solutions for which would require legislative amendments.

- A process to create solid waste authorities, along with necessary changes in waste designation and organized collection statutes.
- Refocusing the SCORE program, its targets, and the use of revenues from the Solid Waste Management Tax to create stronger incentives for achieving the most important environmental and public health results.

Fortunately, the information needed to chart a better course is now available, given 27 years of the Waste Management Act, dozens of reports and studies on waste materials, the on-the-ground experience of local governments, many pilot programs, and the many businesses participating in the system. While the existing waste management hierarchy has long pointed in the direction of energy gains and fewer emissions to the environment, attempts to move waste “up” the hierarchy (from basic landfilling to energy recovery, composting, recycling, reuse and reduction) has generally stalled. A prominent example is the statewide recycling rate, which has remained flat despite rising commodity prices. The rate of waste-to-energy processing has dropped. Meanwhile landfilling has grown both in tonnage and rate.

The MPCA is seeking safe and cost-effective ways to end that long stagnation. Making the point that the energy and climate-change issues are here to stay, the Legislature and Governor signed into law several major directives during the 2007 Legislative session. These directives, which are now linking up with state and provincial efforts across the Upper Midwest, have long time horizons, even out to 2050. The goals are very ambitious but can be met if action begins right away. These include a target to cut emissions of climate-warming gases from Minnesota, along with per-capita fossil fuel use, each by 15 percent by 2015. More extreme changes from “business as usual” will follow in subsequent decades.

Facilitated stakeholder discussions are being completed in the Minnesota Climate Change Advisory Group. Their package of recommendations should be complete by February 2008 and should include such areas as source reduction, recycling, waste to energy and landfill-gas recovery. Meanwhile, following the 2007 law changes, several regions of Minnesota are already seeing multiple proposals from agencies, businesses, and investors to gather large quantities of biomass for energy production. The quantities sought considerably exceed today's supplies of purpose-grown biomass, agriculture-product waste, and tree waste.

Changes to 2007 law also direct Minnesota electric utilities to shift more of their energy supply to renewable sources. Energy production from municipal waste—whether from waste to energy (WTE) mass-burn units, refuse derived fuel (RDF) processes, gasification, or landfill-gas-to-energy—is explicitly counted as renewable energy for such targets and therefore the regulated utilities have incentives to pay extra for power that counts as renewable. Still other statutory targets focus on energy conservation. Source reduction and recycling offer opportunities here.

Solid wastes now being lost to landfills have potential to assist in progress toward all these targets.

The recycling and waste-to-energy industry is comparatively mature, with much investment and infrastructure now in place that could handle larger volumes of recyclables. Currently Minnesota recovers about 47 trillion BTU of energy from its municipal waste through recycling, organics recovery, combustion in WTE plants, and landfill gas-to-energy. More energy is saved “upstream” through solid-waste source reduction and reuse. The MPCA believes that an improved waste system in Minnesota could raise its total energy capture by 50%, or even more.

Part 2: Background

The State's Solid Waste Policy Report

This is the tenth biennial *Solid Waste Policy Report* to the Minnesota Legislature. The Waste Management Act (WMA) requires the Commissioner of the Minnesota Pollution Control Agency (MPCA) to submit the report every two years to the Minnesota Legislature, Minn. Stat. § 115A.411 (2000). The purpose of this report, as specified in the WMA, is to:

- Summarize the current status of solid waste management in Minnesota.
- Evaluate the extent and effectiveness of programs in accomplishing state policies and goals.
- Identify issues requiring further research and action and make recommendations for establishing or modifying the state's solid waste management policies and programs.

State waste management policy is based on the Waste Management Act, Minn. Stat. § 115A as amended. Full versions of the state statutes, session laws, and rules can be found online on the Minnesota State Legislature web site: www.leg.state.mn.us/leg/statutes.htm.

In 1980, the Minnesota Legislature enacted the original Waste Management Act (Minn. Stat. § 115A.02) to:

(a) protect the state's land, air, water and other natural resources and the public health by improving waste management in the state to serve the following purposes:

1. reduction in the amount and toxicity of waste generated;
2. separation and recovery of materials and energy from waste;
3. reduction in indiscriminate dependence on disposal of waste;
4. coordination of solid waste management among political subdivisions; and
5. orderly and deliberate development and financial security of waste facilities including disposal facilities.

(b) The waste management goal of the state is to foster an integrated waste management system in a manner appropriate to the characteristics of the waste stream and thereby protect the state's land, air, water and other natural resources and the public health. The following waste management practices are in the order of preference:

1. waste reduction and reuse;
2. waste recycling;
3. composting of yard waste and food waste;
4. resource recovery through mixed municipal solid waste composting or incineration;
5. land disposal which produces no measurable methane gas or which involves the retrieval of methane gas as a fuel for the production of energy to be used on-site or for sale; and
6. land disposal which produces measurable methane and which does not involve the retrieval of methane gas as a fuel for the production of energy to be used on-site or for sale.

The current status of waste generation and funding

The *Report on 2006 SCORE Programs* (see Appendix A for full report) summarizes information submitted by all 87 counties and the Western Lake Superior Sanitary District on waste management efforts, including waste reduction activities, recycling, household hazardous waste programs, and problem materials collection.

The Minnesota Pollution Control Agency (MPCA) uses this information to calculate the state’s recycling rates and the cost of managing municipal solid waste and recycling, and to detail trends in waste generation and disposal. While data collection began in 1989, the MPCA typically uses calendar year 1991 as a baseline for trend analysis. Further information and database access for the SCORE Program is available on the MPCA’s Web site at www.pca.state.mn.us/score.

Waste generation: Quantities and trends

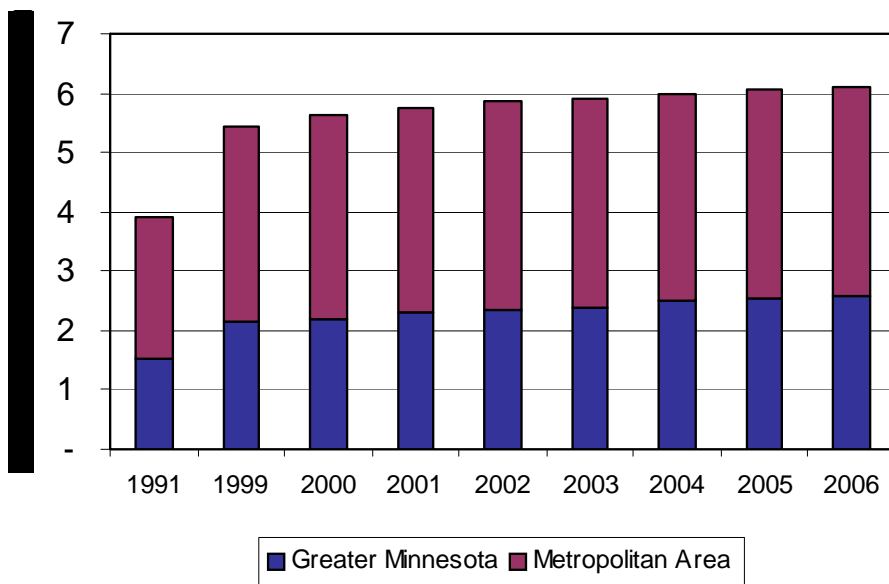
Since 1989, Minnesota’s municipal solid waste (MSW) generation has grown year by year. This growth is reflected in both the total amount of MSW generated and in the per capita figures (total waste generated divided by the state’s population).

Minnesota total MSW generation totaled 6,100,748 tons in 2006. Notably, this represents only a 0.4 percent increase over the previous year. This is a lessening of the typical yearly waste growth rate and likely being driven by economics. Waste generation generally decreases during times of economic stress and increases during an economic upsurge.

In 2006, the Minnesota per-capita rate remained essentially unchanged from 2005 (a drop of 0.11 percent) to 1.166 tons per person. The MPCA calculates the amount of waste that the “average” Minnesotan creates each year in an attempt to separate the effects of population growth from individual consumption patterns. This per-capita drop is a fairly recent trend, and the MPCA flagged the development two years ago in the previous policy report.

Meanwhile Minnesota’s population continues to grow. In 2006, Minnesota’s population increased to 5,231,106, only a 0.5 percent increase. In the last five years Minnesota’s population increased approximately 55,000 per year; however in 2006 the population increased by 26,000.

Figure 1: Minnesota MSW Generation



Overall trends in waste disposal

Waste management in Minnesota is guided by a hierarchy that prioritizes waste reduction, recycling, composting, and energy recovery. From 2005 to 2006:

- The statewide recycling rate (including credits for yard waste recycling and waste reduction efforts) increased by 0.2 percentage points to 48.7 percent. The state's base recycling rate rose to approximately 41.4 percent.
- MSW composting increased by 1 percent—to 17,912 tons in 2006.
- Waste-to-energy decreased by 6.7 percent (84,000 tons) to 1,161,066 tons. Facility down time for improvements accounted for some of the decrease since permitted capacity remains the same.
- The amount of waste sent to landfills, the least-preferred disposal option, increased by 75,000 tons or 3.6 percent to 2,200,457 tons (62% of the waste stream). Despite being the least-preferred option, landfilling has become the dominant disposal method in Minnesota.
- County estimates of on-site disposal on-site dumping and burning that occur decreased by almost 3 percent (more than 2,000 tons) to 76,586 tons.

Recycling

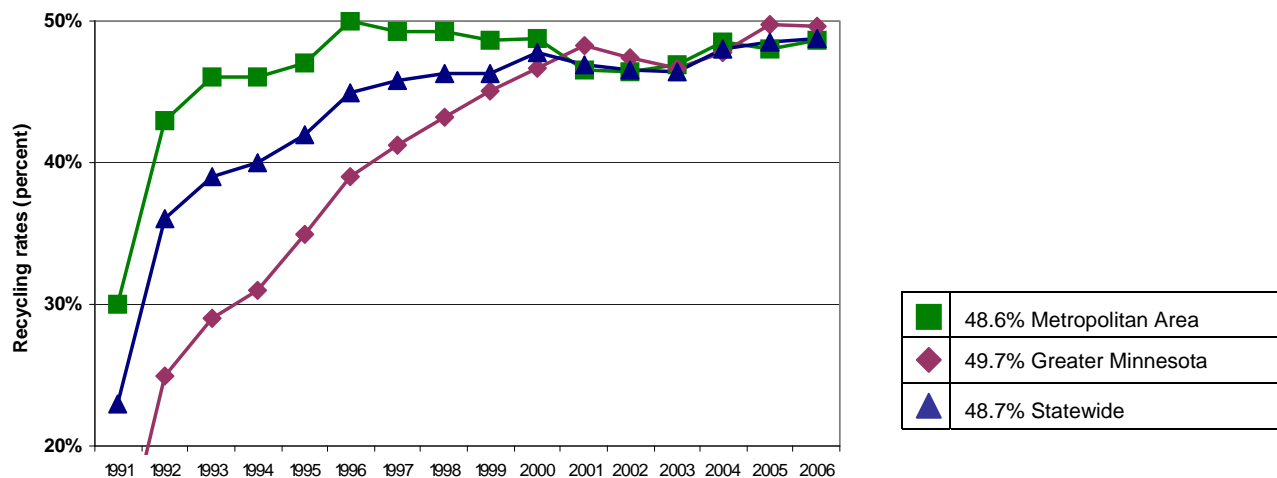
Minnesota's recycling programs are among the nation's most successful, reflecting the strong local and state investment and public participation. In 2006, recycling programs collected over 2.5 million tons of recyclable materials (paper, metals, glass, plastic, food, problem materials, etc.)—an increase of over 43,000 tons, or 1.7 percent, from 2005.

In 2006, Minnesota's recycling rate (including credits for yard waste recycling and waste reduction efforts) increased by 0.2 percentage points to 48.7 percent. The state's base recycling rate is approximately 41.4 percent, an increase of nearly half of a percentage point. (The base recycling rate is a more accurate measure of progress as it the actual percentage of materials recycled and does not include the additional source reduction and yard waste credits.) While this growth reflects the significant state, local, and industry investment in our recycling system, as well as strong material markets, evidence suggests much more could be done to recover the millions of tons of discarded recyclable and organic material still disposed of each year.

This increase in rates should not obscure the fact that Minnesotans failed to separate and recycle 1.3 million tons of otherwise marketable material. Had it been recovered instead of disposed it would have been worth \$312 million. One surprising fact is that, despite higher market prices for paper, plastic, and metal, there has been a drop in the total amount of paper, plastic, and metal being recycled compared to 2005. This indicates that the willingness of Minnesotans and some businesses to recycle does not appear to be strongly linked with market signals.

In 2006, for the first time, source-separated compostable organics counted toward recycling. Of the total 179,043 tons of organics recycled, 166,966 tons were recovered as food to animals (food waste that is fed to livestock), 4,427 tons were recovered as food to people (food recovered for people through food banks), and the remaining 7,650 tons consisted of source-separated compostables.

Figure 3: Minnesota's Recycling Progress



Since the SCORE legislation was enacted in 1989, Minnesota's statewide recycling rate has climbed by over 25 percentage points. In 2006, recycling programs in Minnesota collected over 2.5 million tons of recyclable materials (paper, metal, glass, plastic, food, source-separated organics, problem materials, and more), an increase from 2005 of 1.7%.

Out-of-state waste flow

Compared to 2005 there was a decrease of 72,000 tons (-9 percent) in the amount of mixed MSW leaving Minnesota for disposal, down to a figure of 740,269 tons. While many factors may have contributed to this decline in out-of-state waste flow (facility locations, hauling companies in operation, existing contracts, surcharges and tip fees, and gas prices), increasing state surcharges from Wisconsin and rising transportation costs likely have had the most impact. Most of the exported waste goes to landfills.

MSW going out of state	2006
Wisconsin	467,538
North Dakota	103,384
South Dakota	1,405
Iowa	167,941

County and state funding

Minnesota registers one of the best recycling rates in the nation due to the level of participation by its residents and businesses, along with comprehensive recycling programs at the township, city, and county levels—programs funded by local government (\$42 million) and state revenues (\$12.5 million). In 2006, Minnesota counties spent over \$54.5 million for SCORE-related programs, an increase of about \$300,000 (0.6 percent) from 2005.

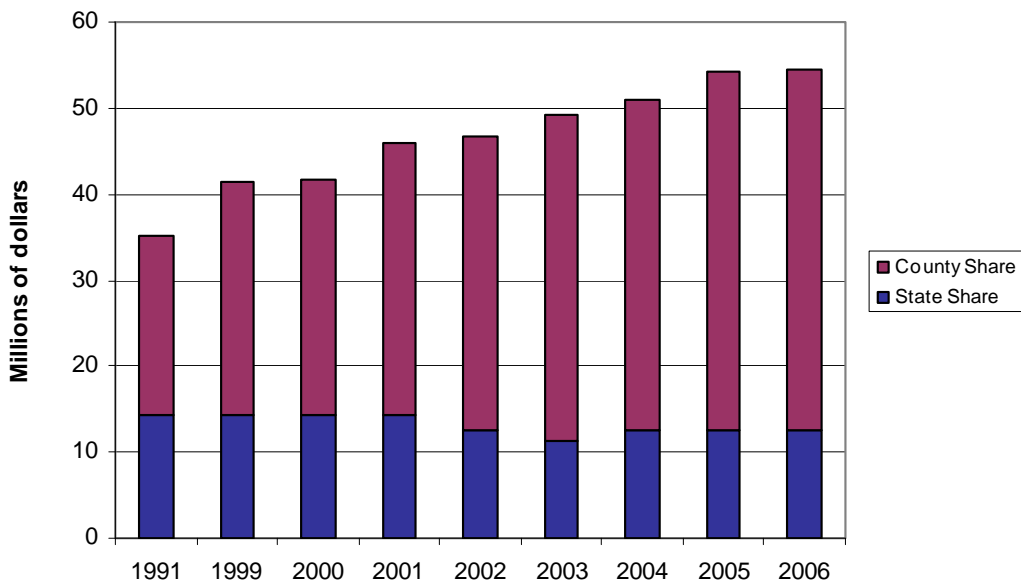
Notably, the Legislature and Governor took action in the 2006 legislative session to restore SCORE funds to previous levels, to \$14 million. Discussed later in this report is the possibility of using additional funding to create incentives to reward measurable performance. Together with the affirmed SCORE spending, this could affirm the state's renewed commitment to recycling and offer counties the ability to restore environmentally beneficial programs. A well-crafted incentive approach could also enhance Minnesota's ability to remove additional materials that will bring energy and economic benefits for the state.

County funding

Each county is required to match the funding from the Legislature with a local contribution of at least 25 percent. In 2006, counties continued to exceed this match, spending over \$42 million of county funds toward SCORE-related activities. Since SCORE reports are based on county activity, additional funds not reported here were spent by other local units of government, such as cities and townships. This went for SCORE-type programs such as recycling, household hazardous waste, and waste education.

Counties' financial resources have not kept pace with inflation. Rural recycling programs, in particular, face growing challenges to collect materials and deliver them to markets. Meanwhile counties are aware that million of tons of recyclables that could be separated from the waste stream for recycling are being lost to disposal facilities.

Figure 2: County and State Expenditures



Part 3. Near-term Policy Evaluations

The five sets of policy evaluations in Part 3 are intended to provide stakeholders some insight about the options that MPCA considered for this draft, in light of the overall goals of renewable energy and reducing GHG emissions. The list of options and the criteria by which staff evaluated those options are based on four months of stakeholder input that included many policy ideas as well as criteria on which to judge them. The MPCA did not attempt to list every possible option but did draw its options out of proposals offered during those talks.

MPCA expects the options, evaluations, and MPCA comments will trigger more discussions. Each policy evaluation is followed by a list of questions for stakeholders, which will be useful to the MPCA in preparing its final draft of findings and recommendations for the Legislature's environmental committees and the Governor.

Policy Area 3A: The statutory plan of product stewardship for telephone directories is not working

Statement of need

The Minnesota Pollution Control Agency (MPCA) is examining strategies to promote the reduction and recycling of phone directories in Minnesota. Beginning in 1992, state law (Minn. Stat. § 951) imposed a disposal ban on such directories and required the directory publishers to provide for the collection and recycling of directories. The law also required reports from the publishers to the state detailing their recycling activities. However, the reporting remains incomplete with only 24 companies filing reports with the Agency in the most recent year, 2006, and local governments have been left bearing much of the responsibility to collect and recycle telephone directories.

Given the low level of recycling for telephone directories combined with lack of compliance with the statute, it is clear that current state law is not sufficient to promote an effective approach to the recycling of telephone directories.

The obligations for telephone directory publishers under the current statute are as follows:

1. Provide for the collection and delivery to a recycler of waste telephone directories.
2. Inform recipients of directories of the collection system.
3. Submit a report to the agency by August 1 of each year that specifies the percentage of distributed directories collected as waste directories by distribution area and the locations where the waste directories were delivered for recycling and that verifies that the directories have been recycled.

Telephone directories remain a problem for recycling managers because the most common practice for residents and business is either to discard the books in MMSW or place them into county-supported recycling programs. The root of the problem appears to be unclear statutory wording that has prevented effective enforcement of the law. A proliferation of telephone directory publishers has worsened the enforcement problem.

Although the state has not conducted a statewide waste composition study since 2000, individual sorts at facilities indicate that Minnesotans are still discarding thousands of directories in mixed MSW despite the statutory ban on such disposal. A waste composition study conducted in 2007 at the Hennepin Energy Recovery Company WTE facility in Minneapolis showed that telephone books made up 3.8% of the trash delivered, despite the longstanding statutory ban prohibiting Minnesotans from dumping their phone

books in trashcans. Even without a statewide waste-composition sort (last conducted in 2000) this study confirms that the disposal ban and recycling mandates are not working.

The MPCA estimates that close to 13,000 tons of phone books were distributed in Minnesota during 2006. Because less than 15% of these phone books were recycled, at least 85 percent went to waste to energy plants or into a landfill. The trend is troubling because the recycling rate has dropped from 2003, when 35 percent were recycled. As of 2006, directory publishers reported to the state that 111 tons of phone directories were received for recycling.

Meanwhile, county programs handled 1,462 tons of phone directories for recycling in 2006. In short, the counties have been picking up recycling costs that the legislature directed telephone directory manufacturers to assume, and the trend is increasing.

MPCA's proposed target for action

The Minnesota Pollution Control Agency (MPCA) is examining strategies to promote a 50 percent reduction of phone directories distributed in the state and to reach a minimum 80 percent recycling rate for phone directories in Minnesota. The MPCA estimated that, as of 2003, the per capita generation of telephone directories in Minnesota is five pounds, for a total of 13,000 tons. Reaching the target rates would reduce 6500 tons and keep an additional 5,200 tons per year out of the disposal stream.

The following table reflects a qualitative opinion by MPCA staff on the degree to which each policy option could satisfy the criteria laid out by staff, based on stakeholder remarks.

Option evaluated	Focus on top of waste mgmt hierarchy?	Builds on work to date, under the 1980 Waste Mgmt Act?	Potential for energy gains and GHG cuts? (within context of SW Sector)	Need for long-term state or county subsidy?	Likely to hit proposed target?
1) Status Quo - no changes to current Minn. Stat. 115A.951	medium	low	low	medium	low
(2) Strengthen statutory recycling obligations of telephone-book publishers and require "opt-in" approach	high	high	low	low	medium
3) Strengthen the statutory recycling obligations of telephone recycling and require "opt-out" approach	high	high	low	low	Low- medium

Discussion

The MPCA believes Option 2 most closely satisfies the evaluation criteria: Clarify and strengthen the obligations of telephone directory publishers to fulfill their recycling obligations under 115A.951 and further require the directory publishers to change their distribution practice. Instead of dropping directories off at every address, publishers would drop them off only at addresses where residents had responded to an offer and had actually requested such directories. MPCA recognizes that some Minnesota residents do not have access to the Internet or other sources of electronic information and would work with directory publishers to ensure that the directories are available to residents who express a desire for them.

This would be a new step for states. North Carolina, New Mexico and New York introduced legislation in 2007 to provide residents a method of opting-out from receipt of phone book directories. The North Carolina legislation would require directory publishers to provide residents with the option to stop delivery of directories by signing up on a Do Not Receive Registry. The New Mexico bill would prohibit a for-profit business from distributing a local telephone directory to a resident who has notified the business that they no longer wish to receive the directory. Both North Carolina and New Mexico put the burden of publishing the opt-out on the telephone directory publisher. The New York bill authorized local government to establish a registry for residents that do not want to receive telephone directories from other providers besides their provider. While no states have yet proposed an “opt-in” plan, in North Carolina, AT&T proposed to stop publishing its white pages directory in the cities of Charlotte and Raleigh. Instead they would have made the directories available by CD-ROM or web. This was not instituted.

Considerable environmental savings would occur with the implementation of an opt-in system for phone books. Based on the tonnages and recovery rates summarized in the Needs section, if 1,022,000 Minnesotans did not receive phone books (based on the percentage of Minnesotans that have registered with the “do not call” registry), the state would save the 14,007 MTCO₂E and 101.6 billion BTUs per year. (MTCO₂E refers to “metric tons of carbon-dioxide equivalent,” and is a measure of global warming potential.)

Implementation

The statutory change could be implemented within one year of enactment. Telephone directory publishers would be responsible for administering the “opt-in” provision. To carry that out they would solicit customers interested in receiving a directory through telephone billing statements or other means of communication. The statutory changes would not require additional MPCA staff for implementation.

Other options considered

Following are options summarized in the table above for comparison purposes, other than the status quo.

Option 3: The MPCA does not recommend an opt-out method for reducing the number of phonebooks distributed. (An opt-out provision, which is used in junk-mail reduction campaigns, would require residents to take action to decline phone books.) An opt-in program is preferred since many barriers may exist to residents learning about the opt-out solution and therefore would continue to receive unsolicited phone directories. The reduction in phone directories expected with an opt-in program, the environmental benefits are expected to be much greater than for opt-out.

Questions for Commenters on this Draft:

What is your opinion on MPCA's targets and timeline?

What is your level of support or opposition to the options?

Has the MPCA correctly identified strengths and weaknesses of the options?

Do you have specific information on costs and benefits that you can provide the MPCA?

Do you have suggestions on changing a particular option?

Do you have suggestions for implementation?

Policy Area 3B: The current recycling system is missing major energy and GHG-reduction opportunities with beverage containers, starting with aluminum cans

Statement of need

The original SCORE program made it a priority to raise the recycling rates of aluminum, plastic and glass containers that are recyclable. Despite 17 years of that broad-based program, and despite improving markets, Minnesota recycling rates remain well below those of the highest-performing states. For instance, the container recycling rate is 61 percent in California and 97 percent in Michigan.

2006 estimated recycling/disposal figures (tons collected separately at curbside for recycling)

	Tons recycled	Recycling rate	Tons disposed
Aluminum containers	44,371	52%	40,544
PET plastic containers	4,766	19%	20,272
HDPE plastic containers	4,377	21%	16,893
Glass containers	125,230	66%	64,195

Despite experimentation with different waste-separation technologies, public education, and market development, recycling is still highly dependent on the willingness of Minnesotans to “source separate” the beverage containers at their homes and businesses, and on the abilities of collection programs to get them to end markets. It is a striking fact that high market prices for the materials in recent years has not raised the recycling rates, which has prompted the MPCA to look at new strategies that could significantly increase the recycling rate for beverage containers.

The low recycling rate for aluminum, which has held true despite rising prices, is disappointing because aluminum is an extremely valuable metal to recycle and all indications are that it will remain so. The reason for giving aluminum attention first is not only the massive amount of energy that is embedded in the lost metal, but the fact that markets statewide are ready to absorb greater collected amounts immediately.

Aluminum is a known problem material when burned in waste-to-energy plants, particularly mass-burn units, where the metal melts and fouls air injectors and other combustion equipment. This adds downtime for equipment maintenance. When waste combustors are down for maintenance, the garbage they otherwise would process must be bypassed to landfills in Minnesota and other states, where neither raw materials nor energy can be recovered from cans and bottles.

MPCA's proposed target for action

The MPCA proposes a statewide goal that 80 percent of aluminum beverage containers be recycled by 2011. Glass and plastic beverage containers would be expected to meet the 80 percent goal by 2015. If all these targets were reached it would recover an extra 85,000 tons per year and lead to an increase in the state's overall base recycling rate from the current 41.4% to approximately 43%.

The following table reflects a qualitative opinion by MPCA staff on the degree to which each policy option could satisfy the criteria laid out by staff, based on stakeholder remarks.

Option evaluated	Focus on top of waste mgmt hierarchy?	Builds on work to date, under the 1980 Waste Mgmt Act?	Potential for energy gains and GHG cuts? (within context of SW sector)	Need for long-term state or county subsidy?	Likely to hit proposed target?
(1) Status Quo SCORE program at state and local level	medium	low	low	medium	low
(2) Ban on the disposal of aluminum beverage containers with glass and plastic containers to follow	high	high	medium	low	medium
(3) Container Deposit	high	high	high	low	high
4) requirement for mandatory mechanical separation prior to WTE or landfilling	medium	low	low	medium	low

Discussion

The MPCA believes Option 2 most closely satisfies the evaluation criteria. It would be a phased-in statutory approach that would first ban aluminum containers from being disposed along with mixed municipal solid waste, followed by a similar approach for plastic and glass containers. The greenhouse gas and energy savings from increasing the recycling of beverage containers, aluminum in particular, are significant and underscore the Agency's focus on this component of MSW.

Energy and greenhouse gas benefits of recycling beverage containers at projected 80 percent recycling rate

Greenhouse gas savings	
	CO ₂ equivalent (in tons)
Aluminum containers	998,356
PET plastic containers	31,104
HDPE plastic containers	23,903
Glass containers	43,328
Total	1,095,692

Energy savings	
	BTUs
Aluminum containers	12.8 trillion
PET plastic containers	444 billion
HDPE plastic containers	323 billion
Glass containers	322 billion
Total	12.9 trillion

For the purposes of energy comparisons, a unit train carrying 10,000 tons of coal contains nearly 200 billion BTUs.

Wisconsin began banning cans and other recyclables from landfills in communities without recycling programs. These bans, combined with market building, raised the statewide recycling rate from 16% to 36%. By contrast the state of Minnesota has employed few disposal bans covering waste that are non-toxic, for reasons usually associated with saving landfill space or encouraging resource conservation. Among the few “resource-oriented” bans in Minnesota are laws banning telephone books (see Policy 3A) and yard waste from trash cans.

North Carolina recently enacted a disposal ban covering beverage containers. The legislation included a requirement that licensed beverage distributors have a recycling program for the beverage containers they sell. This ban is being phased in over three years. The ban and requirement will take effect January 1, 2009.

The MPCA believes better recycling rates would follow if Minnesota were to ban recyclable cans and bottles from disposal with mixed waste. Since bans have the force of law it is important to implement the policy in phases, measuring outcomes and making sure the collection and marketing infrastructure can absorb the added material.

Implementation

If adopted the disposal ban should begin by covering aluminum beverage containers, followed two years later by PET and glass beverage containers.

The MPCA recommends that any container disposal ban be coordinated with the mandatory commercial recycling option (Policy Area 3C). This would extend the collection options for beverage containers, which would be particularly important for beverages consumed away from home, which to date have shown a poor container-recycling rate.

In order to gauge the effect of the disposal ban, the MPCA recommends monitoring of such containers' presence in Minnesota's mixed waste stream through intermittent waste-composition studies and comparing this figure to recovered tonnages, as a way to measure whether the containers are actually reaching the 80% recycling target.

As with other bans, the disposal ban would be implemented and enforced at disposal facilities but would be coupled with an aggressive public outreach campaign to educate Minnesotans about the ban and the options for recycling beverage containers.

Other options considered

On the presumption that the disposal ban and other coordinated efforts will drive verifiable container recycling rates of 80%, the MPCA does not recommend the following options at this time. (If aluminum-can recycling rates were to fall short of projections, the MPCA would report that fact prior to implementation of the PET and glass container disposal bans.)

Option 3: The MPCA considered but does not recommend a container-deposit approach given the good potential of a disposal ban. While container deposit has been successful in other states in terms of recycling rates, the MPCA supports an alternative that takes advantage of Minnesota's existing broad-based recycling infrastructure and does not impose additional transaction costs up the product chain.

Option 4: The MPCA does not recommend an option relying on added mechanical separation as an alternative to more thorough source separation of recyclables by waste generators. No mechanical method of separating the material from mixed waste has performed well enough at a commercial scale in Minnesota as a means of pulling out aluminum, plastic, and glass from mixed waste before combustion or

landfilling. (The best performer has been the use of eddy-current separation at RDF plants, which captures on average two tons out of every three tons of fragmented aluminum passing through; further, the recovered aluminum lacks the market value of source-separated cans due to unavoidable contamination from municipal waste.)

Questions for Commenters on this Draft:

What is your opinion on MPCA's targets and timeline?

What is your level of support or opposition to the options?

Has the MPCA correctly identified strengths and weaknesses of the options?

Do you have specific information on costs and benefits that you can provide the MPCA?

Do you have suggestions on changing a particular option?

Do you have suggestions for implementation?

Policy Area 3C: Current pricing and management practices are holding back non-residential recycling

Statement of need

The Waste Management Act (WMA) presently requires counties and cities of a minimum size to provide their residents an “opportunity to recycle.” The current language does not address the non-residential sector. (Note: some cities have acted on their own to boost business and institutional recycling, using their ordinance powers. *[Note: Information to follow on Bloomington, MN, program]*. Approximately 55 percent of the municipal solid waste stream is generated by institutional, public and private business establishments. These establishments have an irregular track record of providing the opportunity to recycle for employees, tenants or customers.

The market for purchasing trash and recycling services is easier for residential customers to understand than for customers in the non-residential market. The current pricing for non-residential service has great variability and this may be due to multiple factors. In the language used by the WMA, the pricing outside of the residential sector is not “transparent;” further, some of those who control the allocation of building space and services are not providing opportunities to recycle in the way that counties and cities have been carrying out such responsibilities on behalf of residential waste generators. Minnesota needs a system in which nonresidential generators pay less by choosing to recycle than if they choose to dispose of all their waste without recycling any of it.

MPCA's proposed target for action

There are currently 715,000 tons of material available for recycling (excluding organics) that is disposed by the commercial sector. This figure presumes that of the estimated 1,300,000 tons of recyclables annually being disposed, about 55 percent originates from the non-residential sector. The MPCA believes that the recovery of an additional 25 percent of available recyclables (179,000 tons per year) is a viable target. The current market value of this material is \$43 million.

The following table reflects a qualitative opinion by MPCA staff on the degree to which each policy option could satisfy the criteria laid out by staff, based on stakeholder remarks.

Option Evaluated	Focus on top of waste mgmt hierarchy?	Builds on work to date, under the 1980 Waste Mgmt Act?	Potential for energy gains and GHG cuts? (within context of SW sector)	Need for long-term state or county subsidy?	Likely to hit proposed target?
(1) Status Quo Pricing statute applies to residents only	Medium	Low	Low	Low	Low
(2). Change "transparent pricing" language to apply to all customers	High	High	High	Low	High
(3). Status Quo - "Opportunity to recycle" statute covers residents only	Medium	Low	High	Low	Low
(4) Extend "opportunity to recycle" language to non-residential sector, plus public education campaign	High	High	High	Low	High

Discussion

The MPCA believes a combination of Options 2 and 4 most closely satisfies the evaluation criteria. Option 2 would extend the language in Minn. Stat. §115A.93 Subd.3(c), solid waste collection requirements, to include all customers. The word resident would be replaced with the word customer in all places in the statute so as to include both the residential and non-residential sectors. These changes would assist cities that have mandatory business recycling. The language changes would encourage the market place to provide a more transparent pricing signal to the non-residential markets.

Minnesota could capture an additional 25 percent of available recyclables or 179,000 tons if these statutory changes were made. The current market value of this material is \$43 million. The annual energy and GHG savings are estimated as follows:

- 2006 BTU savings: 10 trillion BTUs
- 2006 Energy savings: \$74 million
- 2006 GHG reductions: 177,000 car equivalents
- 2006 GHG savings CO₂ equivalent: 881,479 tons

Option 4 would implement a change in language to section 115A.552 Subd.4, the “opportunity to recycle” requirement. The amendment would require all building owners, building managers and building operators who contract for waste management for the building, facility or business to provide the opportunity to recycle at the building. The opportunity to recycle would be for employees, tenants, and customers. Public buildings and events would be also required to provide the opportunity to recycle. By requiring all buildings and events to provide recycling, Minnesota would make “away from home” recycling convenient and easily accessible.

Increased collection in the non-residential market place has not occurred despite the increased price of commodities. The current pricing mechanism in the marketplace provides no incentive for recycling over disposal. Most businesses want to recycle but do not always have the opportunity or the financial incentive. This would bring more material into the recycling stream, which would support our local manufactures, create jobs, reduce GHG emissions, and save energy.

If adopted these changes should become effective on a date to coincide with the aluminum-can disposal ban. The implementation responsibility for these changes would be placed on businesses and building owners. Most strip and retail stores already have recycling of OCC by a commercial service. The additional material would involve an upgrade of the service provided to them to include the additional materials. Markets are readily available to absorb these materials.

A major education campaign to inform business and building owners about these changes would be coordinated by the MPCA in partnership with the Minnesota Chamber of Commerce, counties, cities, and other groups. The campaign would also be used to publicize section 115A.151, state and local facility recycling, which presently requires the state, cities, counties, schools and other local units of government to provide recycling containers for at least three recyclable materials.

Questions for Commenters on this Draft:

What is your opinion on MPCA's targets and timeline?

What is your level of support or opposition to the options?

Has the MPCA correctly identified strengths and weaknesses of the options?

Do you have specific information on costs and benefits that you can provide the MPCA?

Do you have suggestions on changing a particular option?

Do you have suggestions for implementation?

Policy Area 3D: Contamination from noncompostable plastic bags is a problem when composting organic materials

Statement of need

Minnesota law banned the disposal of all yard waste in landfills by 1992. From that point forward, yard waste has been delivered to yard waste composting facilities around the state. Most of the yard waste is collected in plastic polyethylene bags that are not compostable within the compost process. As the compost is processed and formed into windrows the polyethylene (PE) bags shred into pieces.

Polyethylene plastic film from non-degradable bags continues to be the most troublesome contaminant in finished compost. Compost facilities receiving non-biodegradable bags find that they must screen finished compost up to three times to remove the shreds of PE plastic to make the finished compost marketable. This necessity results in significant additional screening costs (\$3-5/ton) compared to a system that did not have to deal with such bags. Further, even with the extra processing costs being carried at the facilities, some shreds and bits of plastic remain in the material all the way through final use. This reduces the potential markets and it significantly lowers the price that can be charged for the finished product.

MPCA's proposed target for action:

Composting facilities are not hampered by non-compostable plastic bags as they process organic wastes.

The following table reflects a qualitative opinion by MPCA staff on the degree to which each policy option could satisfy the criteria laid out by staff, based on stakeholder remarks.

Option evaluated	Focus on top of waste mgmt hierarchy?	Builds on work to date, under the 1980 Waste Mgmt Act?	Potential for energy gains and GHG cuts? (within context of SW sector)	Need for long-term state or county subsidy?	Likely to hit proposed target?
(1) Status Quo – any type of bag can be used	Medium	Low	(To be studied)	Low	Low
(2) Allow compost facilities, cities or counties to require the use of biodegradable bag, or debag	Medium	Medium	(To be studied)	Low	Medium
(3) Require the use of biodegradable bags meeting the ASTM B 6400 standards when collecting or transporting organics in a bag	High	High	(To be studied)	Low	High

Discussion

The MPCA believes Option 3 most closely satisfies the evaluation criteria. A state law could provide that all yard bags for the collection and composting of yard waste and other organic materials are made from biodegradable/compostable materials that meet the ASTM D 6400 specifications. This would back a bill introduced in 2006. The ASTM D 6400 specification is recognized by the composting industry as the technical standard that biodegradable/compostable bags should meet.

Minnesota compost facilities collected 674,336 cubic yards of yard waste for composting. One fifth of the volume, or 134,867 cubic yards was lost as a side effect of removing non-biodegradable bags and shreds. If this law were passed, the capture rate of this material would increase to 100 percent. In addition, there would be no need to screen the PE from the finished product resulting in a significant reduction in the burning of diesel fuels causing less air pollutants, such as particulates and savings in GHG emissions. Finally, 100 % of the finished product would be more attractive and diversify the options for marketing, likely resulting in an increase in the sale price of the finished compost. The combination of these improvements would decrease operational costs and strengthen the economic viability of compost facilities.

Paper and biodegradable/compostable plastic bags are commercially available that meet the ASTM D 6400 standard. They are commonly sold at supermarkets, hardware stores, and retail stores including Home Depot, Menards, Wal-Mart and Target. The degradable bag is more expensive than the standard non-degradable polyethylene yard waste bag.

The pure polyethylene bags are made from fossil fuels. Biodegradable/compostable bags are made of a blend of petroleum and plant-based materials. Staff discussions with industry representatives suggest that the cost of biodegradable/compostable bags would decrease as the market grew, because economies of scale would be triggered.

Using a biodegradable/compostable bag has the potential to boost an industry that produces a more sustainable product. Currently most biodegradable bags are some combination of biodegradable materials, like corn or soybeans, and petroleum. This requirement would result in more revenue to the company's to conduct additional research to increase the amount of biodegradable materials and decrease the amount of petroleum used to manufacture the bag.

An implementation date of March 29, 2009, is recommended. This date would coincide with a full growing season and would allow enough lead time to have sufficient biodegradable bags on retail shelves for the entire season. The state and local collectors would also need time to implement a public education campaigns to raise awareness of the change. (Note: This measure would not affect composting programs in which all organics arrive in such a way that bags are not drawn into processing equipment. In such programs organics arrive in reusable containers used or else residents debag the material themselves and dispose of all bags separately.)

Other options considered:

Option 2 is already available to cities and counties. However, the municipal location and requirements of the hauler and the final composting facility can differ, resulting in continued plastic contamination. For example, the City of Minneapolis whose haulers collect organic waste and transport it to Hutchinson for processing.

Questions for Commenters on this Draft:

What is your opinion on MPCA's targets and timeline?

What is your level of support or opposition to the options?

Has the MPCA correctly identified strengths and weaknesses of the options?

Do you have specific information on costs and benefits that you can provide the MPCA?

Do you have suggestions on changing a particular option?

Do you have suggestions for implementation?

Policy Area 3E: Open burning of farm and household garbage has persisted, despite risks

Statement of need

Minnesota law made backyard garbage burning illegal in 1969. Still, the practice remains in wide use and stakeholders have continued to highlight the problem in policy reports and public meetings. Minn. Stat. §§ 88.171 and 17.135 are the two major statutes that deal with backyard garbage burning. 88.171 mainly details prohibited materials (which include most of what makes up modern MSW) and 17.135 discusses issues relating to backyard garbage burning for farmers. In the mid-1980s, the Legislature added a major exemption to 17.135 that allowed farmers in particular to burn or bury their wastes on-site, unless their county took action to pass a resolution stating that garbage service was available county-wide.

Because backyard garbage burning is considered a personal-liberty issue to some residents, this has made county action politically difficult. The result is that only 28 counties in Minnesota have such resolutions in place (leaving 59 counties that allow open burning). Previously the number of counties that banned open burning was 29. Few programs have been put in place to stop this practice. The proliferation of wood and corn stoves for home heating (due in large part to rising fuel prices) also suggests a problematic trend because other materials, including garbage and pesticide-treated wood or seed, are sometimes burned.

A 2005 statewide study of backyard garbage burning showed that 45% of rural residents still burn waste on-site. Annual county SCORE surveys used in conjunction with other state and national studies estimate

as much as 250,000 tons may be burned on-site in Minnesota every year, posing potentially significant health risks to many Minnesotans. According to EPA's Dioxin Inventory, backyard garbage burning is the number one source of dioxin in the US; more than all other known sources combined and one burn barrel can produce as much dioxin as a 200 ton per day waste combustor. Another safety risk is wildfire: Minnesota DNR estimates that over 40 percent of the State's wildfires are caused by backyard garbage and related debris burning.

To estimate the potential health risks from exposures to air emissions from open burning, MPCA conducted an evaluation of the available emissions data and consulted with the Minnesota Department of Health. The evaluation suggests that exposures to air emissions from open burning could be at, or approaching, levels of health concern – particularly for susceptible populations. Several of the pollutants emitted are persistent in the environment, and they accumulate in the food chain. Exposures of potential concern may occur through inhalation and ingestion. High exposures to these chemicals have been associated with acute and chronic adverse health effects, ranging from respiratory irritation to asthma exacerbation and cancer. Susceptible populations, such as children, the elderly, people with compromised immune systems, and people with respiratory and cardiovascular diseases may be especially at risk.

The MPCA's evaluation included only some of the risks associated with open burning emissions, and therefore, actual risks may be higher than estimated. Given the available information and the relatively large contribution of toxic air emissions from open burning in Minnesota, the MPCA, in consultation with MDH, has concluded that further actions are warranted to protect public health.

MPCA's proposed target for action

No open burning of farm or household garbage after 2010. Cities having a population over 5,000 ensure that their citizens have their waste collected.

The following table reflects a qualitative opinion by MPCA staff on the degree to which each policy option could satisfy the criteria laid out by staff, based on stakeholder remarks.

Option evaluated	Focus on top of waste mgmt hierarchy?	Builds on work to date, under the 1980 Waste Mgmt Act?	Potential for energy gains and GHG cuts? (within context of SW Sector)	Need for long-term state or county subsidy?	Likely to hit proposed target?
(1) Status Quo - Education & Assistance only	Low	Low	Low	Low	Low
(2) Priority effort on education & assistance but also change law to ban garbage burning in 2010 with limited, temporary exemption period to close certain gaps in collection, etc.	Medium	High	Low-Medium	Medium	High

Discussion

The MPCA believes Option 2 most closely satisfies the evaluation criteria: a statutory change in combination with prioritized, targeted assistance that would stop the open burning of garbage. The benefits would include reduced pollution, lower health risks for both burn-barrel users and consumers alike.

It is possible—and may even be likely—that actual health and environmental risks are higher than the MPCA estimates, based on qualitative information about air emissions and exposures, and the limitations of the quantitative portion of the evaluation. Therefore, even without waiting for further studies, it is prudent to prevent and reduce exposures to toxic air emissions from open burning of garbage.

Surprisingly, some communities with persistent and wide use of burn barrels appear to be cities over 5,000 population that for years have been under a statutory directive to see that waste collection service is available to all residents. Survey and anecdotal evidence also indicates that seasonal, part-time residents are more likely to burn their garbage as they do not have an established routine of garbage collection or because they think that rules are relaxed in Greater Minnesota. State compliance and assistance efforts in the coming years will include such communities.

Since the late 1990's, the MPCA has provided technical assistance to local governments to reduce backyard garbage burning. While a rising number of counties have provided residents with information about the dangers of backyard garbage burning, and while the MPCA has provided limited support to programs such as Chisago County's Burn Barrel Buy-Back program, these efforts have not reduced backyard garbage burning statewide. During the 18 months of the MPCA's statewide Burn Barrel Reduction Campaign, over 28 counties have become involved in local education and reduction efforts funded by state and local dollars but more engagement at the household and farm level is needed in addition to clear and consistent state laws. Following are implementation suggestions from counties and field staff at the MPCA.

- For a garbage-burning ban to work, convenient options for waste must be available. Depending on the region these could include recycling, composting, waste-to-energy combustion, transfer stations, drop-sites, and landfills because many live in rural areas without convenient solid waste collection services or where collection prices are very high. Without targeted assistance, local education and reduction initiatives, and compliance Minnesota could see more illegal dumping.
- One method has been to raise the money needed through county property tax service charges to cover the cost of canister operations, so that residents who drop off their garbage in public canisters do not have an "out of pocket" cost. These canisters typically are located on well-used routes of travel. One is St. Louis County, which maintains 17 canister sites for residents to drop off their solid waste.
- Continued technical support, educational resources, and financial assistance would be needed in addition to a well-crafted law. Without locally crafted burn-barrel reduction initiatives that stress education, incentives, infrastructure, and enforcement, it is likely a statewide ban would fail.

Questions for Commenters on this Draft:

What is your opinion on MPCA's targets and timeline?

What is your level of support or opposition to the options?

Has the MPCA correctly identified strengths and weaknesses of the options?

Do you have specific information on costs and benefits that you can provide the MPCA?

Do you have suggestions on changing a particular option?

Do you have suggestions for implementation?

Part 4: Long-Term Policy Needs

Stakeholder process

The MPCA plans to convene a multi-stakeholder group in 2008 to weigh the merits of various alternatives to improving solid waste management in Minnesota, including the possible creation of regional waste authorities and changes to the SCORE recycling goals and funding incentives. This group would make recommendations to the executive and legislative branches. Discussions should be structured around the goals of renewable energy and cutting greenhouse-gas emissions, in light of the *Oneida* decision and those geographic locations where waste is concentrated. The G-16 stakeholder group convened on water-quality issues could serve as a model on building a constructive dialogue. In consideration of the possible impact that such a group's report could have upon the long-term prospects for improved solid waste management in Minnesota, the Legislature may wish to appoint such a stakeholder task force during the 2008 legislative session.

Statement of opportunity

Several recent developments have given Minnesota's solid waste a new profile, as a resource that deserves a higher level of attention.

Opportunity No. 1: Looking for economies of scale

The United States Supreme Court issued a major decision on April 30, 2007. In *United Haulers Association, Inc. v. Oneida-Herkimer Solid Waste Management Authority* the Court reinstated the ability of local governments to enact properly crafted solid-waste flow control (sometimes known as "waste designation" or "waste assurance") ordinances. In light of that decision, local units of government are asking how they should proceed. The decision opens up new possibilities for achieving a high level of performance in the solid waste system, but the resolution will mean balancing different points of view. A thorough and inclusive dialogue is needed.

Because integrated waste management systems have historically needed economies of scale, counties and groups of counties with high concentrations of waste were the first to study the *Oneida* decision. Geographic areas that account for more than 70% of the waste generated in Minnesota are:

1. **Twin Cities area:** All or portions of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington and Wright Counties.
2. **St. Cloud area:** All or portions of Benton, Sherburne and Stearns Counties.
3. **Duluth area:** All or portions of Carlton, Cook, Lake and St. Louis Counties, and the Western Lake Superior Sanitary District.
4. **Rochester area:** All of Dodge and Olmsted Counties.

The potential benefits of focusing on the opportunities presented by *Oneida* in regions with a concentration of available waste could include:

1. Economies of scale and efficiencies gained by consolidating urban waste programs;
2. Competitiveness gained in contracting for private waste management services;
3. Improved risk sharing ability based upon a region, rather than individual local jurisdictions;
4. A larger voice to market programs and educate local citizens;
5. Increased ability to reduce waste at the source of generation;
6. An increase in control and available resources to reduce toxics in the waste stream;

7. Ability to maximize the resource value of the waste generated, including not only municipal solid waste but also construction, demolition and industrial waste;
8. Improved ability to implement flow control designation by mirroring the governance structure reflected in the recent U.S. Supreme Court decision, *United Haulers Association, Inc. v. Oneida-Herkimer Solid Waste Management Authority*.

This discussion should also build on recommendations from the Minnesota Climate Change Advisory Group, the Next Generation Energy laws, and the longstanding Waste Management Hierarchy.

Opportunity No. 2: Energy and GHG-emission factors suggest ways to pull the statewide SCORE program out of stagnation

With the establishment of the SCORE program (Governor's Select Committee on Recycling and the Environment) in 1989, Minnesota has seen dramatic improvement in local programs such as recycling and the management of household hazardous waste. State and local funding, expansion of local infrastructure, minimal recycling service requirements and recycling goals, have all been instrumental to the success of the SCORE program to date.

Even so, a pattern of stagnation has emerged. The performance of Minnesota's 17-year-old SCORE program has stalled and in some cases retreated. SCORE recycling goals have not been updated since the mid-1990s, many local recycling programs have been paired down or eliminated altogether, and the statewide recycling rate has not significantly climbed since 1995. Meanwhile much recyclable material is being lost into trash cans: at least 40% of garbage could be recycled if businesses and residents sorted it for collection. It is time to re-think the current SCORE measurement and goals, and create new, performance-based incentives.

The purposes of rebuilding the current SCORE program would be:

1. Increase the recovery of recyclable materials: 40% of what we currently "throw away" is estimated to be recoverable recyclables and another 30% is estimated to be recoverable organic materials.
2. Reduce greenhouse gas emissions while increasing renewable energy production and conservation. Look for ways to document such improvements and connect them to incentives now being crafted at the state and regional level.
3. Increase participation by citizens, businesses, and local governments.
4. Improve the accuracy and usability of recycling data collected. This will lead to improved trend analysis and better planning.
5. Provide new incentives for local governments that will encourage the development of new approaches attuned to county and city needs.

Target

In 2008, begin a thorough stakeholder process to seek out ways in which Minnesota can be a leader among the states, covering (1) the opportunity created by the *Oneida* decision, focusing on geographic regions with significant concentrations of waste, and (2) the opportunity offered by state GHG and energy legislation, along with other timely environmental concerns, to build on the SCORE program using performance criteria.

The following table reflects a qualitative opinion by MPCA staff on the degree to which each option could satisfy the criteria laid out by staff, based on stakeholder remarks.

Option evaluated	Focus on top of waste mgmt hierarchy?	Builds on work to date, under 1980 Waste Mgmt Act?	Potential for energy gains and GHG cuts?	Need for long-term state or county subsidy?	Likely to hit proposed target?
(1) Status Quo - Existing System	Low	Low	Low	Low	Low
(2) Creation of Stakeholder Process	High	High	High	Medium	High

Issues to discuss regarding regions with high concentrations of waste

How Minnesota should proceed to rebuild a waste management system around energy and climate change in light of the *Oneida* decision will require lengthy stakeholder discussions in the coming months. The MPCA proposes that a multi-stakeholder group be convened in 2008 to explore alternatives to solid waste management in Minnesota, and report back to the legislature. This diverse stakeholder group could include state and local government elected officials; staff representatives of local governments, government associations and private non-profit associations; and various representatives of the private sector.

During MPCA's discussions with stakeholders from June to September about geographic areas with high concentrations of waste, the following issues were identified as needing attention.

1. The ability to develop and operate waste management systems that further the state's objectives with respect to the waste management hierarchy, GHG emission reduction, and new energy generation. One suggestion has been to enable and create a new solid waste local authority, bounded according to regional "waste sheds" in which much tonnage is now going to landfilling. This provides economies of scale.
2. In concurrence with suggestions from our stakeholders, the establishment of performance standards that would be a binding commitment for waste reduction, recycling and organics recovery to ensure that emphasis is given to the higher end of the waste management hierarchy. The Olmsted County program is one of the best examples that can be drawn upon to illustrate commitments to the upper end of the hierarchy. The county very deliberately set out to optimize the upper end of the hierarchy (reduction, recycling, composting, household hazardous waste management) and achieve certain environmental goals, including GHG emission reductions. The County's approach proved very effective and the requisite public support was obtained.
3. Life-cycle tools and risk analysis should be used in the process of assessing the appropriate mix of waste management options.
4. Necessary funding, including user fees from waste generators and possibly capturing additional funds from the Solid Waste Tax, in addition to an expanded Capital Assistance Grant Program, and other new sources of funds for development costs.
5. Financial incentives from utilities to engage in waste to energy, such as renewable energy credits.
6. The need for financial efficiency, which could include waste flow designation and organized collection, if necessary, to achieve recycling, organic recovery and energy production results that cannot be achieved through the marketplace.
7. Ability to manage both mixed municipal solid waste and construction and demolition waste.

8. Ability to form mutually beneficial public/private partnerships with the state of Minnesota, municipalities, utilities, and non-profit and for-profit companies involved in the management of waste.
9. A robust public information and “waste education campaign” so that the public can be a knowledgeable participant in the management of waste, including the proper management of household hazardous waste.

Issues to discuss for a new SCORE approach

During MPCA's discussions with stakeholders from June to September about the SCORE program and how to get off the plateau of flat recycling rates, the following possibilities were identified as deserving discussion.

1. Additional funds could be dispersed based upon measurable performance that led to increased recovery and new, innovative programs (this would revisit the “Incentive-Based SCORE Recommendations” to the Legislature [2005]).
2. Need to update the old 35% and 50% statutory recycling goals and consider an overall “diversion” goal that incorporates the top levels of the hierarchy, not just recycling.
3. Give the counties “credit” for efforts in waste reduction, organics management, problem materials management and resource recovery.
4. Streamline and expand the reporting process with consideration given to the addition of household hazardous waste and the reporting of all wastes (e.g. construction and demolition), not just municipal solid waste, in order to minimize year-to-year reporting inconsistencies.
5. Reconsider this existing policy: in addition to a county’s actual recycling rate, counties now also receive up to an 8% credit for yard waste and waste reduction activities. This is confusing and not tied to measured performance, but the policy points to the need for an alternative to inspire county residents to reduce waste at the source and to keep yard waste out of trash cans.
6. Promote regional reporting to improve data quality and promote the benefits of regional partnerships, such as improved marketing power, cost reductions through economies of scale etc.

Discussion Questions

What is your reaction to the stakeholder process as described in Part 4?

How long do you think a productive stakeholder process should take?

As far as discussion points for the group, what is your opinion on (a) the suggested "concentration of waste" approach in seeking economies of scale and (b) using energy and greenhouse-gas factors as key performance criteria when rebuilding the SCORE program?

Part 5: Work to Come

The MPCA will work with stakeholders on a wide range of issues, including the following:

- Build a working knowledge of carbon trading and global climate change, and assess the role in carbon exchanges for waste management methods such as recycling that are higher on the waste management hierarchy.
- Develop better information regarding generation and management of non-MSW materials: in particular, construction, industrial and demolition wastes (CD&I wastes).
- Further evaluate the benefits and costs of organized collection, in light of energy and GHG factors.
- Prepare an updated waste reduction strategy for Minnesota, in light of product stewardship and other related efforts to date.
- Explore product stewardship on two different levels: solid waste problem materials and the products most risky to public health and the environment.
- Assist in developing more thorough life-cycle information about the full range of organics-recovery methods.
- With county partners, continue to study the feasibility of collecting, and composting, yard wastes and food wastes together.
- Engage stakeholders in discussions regarding future legislation regarding local authorities, waste designation, organized collection, SCORE goals, and use of the Solid Waste Management Tax to create performance-based incentives.
- Find opportunities to advance landfill-gas recovery for flaring and, in particular, energy recovery.

Appendix A: Report on 2006 SCORE Programs

Minnesota Pollution Control Agency
520 Lafayette Road North
Saint Paul, MN 55155-4194
651-296-6300 or 800-657-3864 toll free
<http://www.pca.state.mn.us>

Author

Principal author/Data analysis: Arlene Vee

Contributors

Ginny Black
Angela Bourdaghs
Linda Countryman
Wayne Gjerde
Garth Hickle
Mark Rust

Editing and Graphics

Paul Andre
Theresa Gaffey
Glenn Krocheski-Meyer
Gail Skowronek

The total cost of preparing the Report on 2006 SCORE Programs was \$10,600 including staff time, writing, editing, and printing.

The MPCA is reducing printing and mailing costs by using the Internet to distribute reports and information to a wider audience. For additional information on recycling, waste prevention, and waste management, check out the SCORE Web site: www.pca.state.mn.us/score

This report was printed on recycled paper manufactured without the use of elemental chlorine (cover: 30% post-consumer; body: 100% post-consumer).

Table of Contents

Introduction	1
MSW Generation in Minnesota	1
Totals and trends	2
On-site and problem materials not recycled	2
Per capita MSW generation	3
Recycling and Waste Reduction	3
Electronic waste	5
Source reduction	5
Environmental and economic benefits of recycling	6
MSW Processing and Disposal	7
Trends in waste disposal	6
Funding of SCORE Programs	9
State funding: SCORE block grants	9
County funding	10

Figures

<i>Figure 1: Minnesota MSW Generation.....</i>	<i>4</i>
<i>Figure 2: Minnesota's Recycling Progress.....</i>	<i>6</i>
<i>Figure 3: MSW Disposal and Processing in Minnesota 2005.....</i>	<i>11</i>
<i>Figure 4: Trends in Minnesota Waste Management.....</i>	<i>12</i>
<i>Figure 5: SCORE Expenditures</i>	<i>14</i>

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Introduction

In 1989, based on recommendations of the Governor's Select Committee on Recycling and the Environment (SCORE), the Legislature adopted comprehensive legislation to launch Minnesota's statewide recycling efforts in earnest. This set of laws, commonly referred to as SCORE, initiated a stable source of state funding for recycling programs, as well as waste reduction and the improved management of household hazardous wastes and problem materials. SCORE legislation and grant dollars, along with funding from counties and local government provide the basis for long-term, flexible programs.

This *Report on 2006 SCORE Programs* summarizes information submitted by all 87 counties and the Western Lake Superior Sanitary District on waste management efforts, including waste reduction activities, recycling, household hazardous waste programs, and problem materials collection.

The Minnesota Pollution Control Agency (MPCA) uses this information to calculate the state's recycling rates and the cost of managing waste and recycling, and to detail trends in waste generation and disposal. While data collection began in 1989, the MPCA typically uses calendar year 1991 as a baseline for trend analysis. In 1991, counties began collecting data on a calendar year basis, instead of a fiscal year basis, and by that point, data collection and format had greatly improved, making the quality of the data that much better.

This report and information on the SCORE Program are available on the MPCA's Web site at www.pca.state.mn.us/score.

Every other year, the MPCA expands on the annual Report on SCORE Programs and makes solid waste policy recommendations to the Legislature in the form of a solid waste policy report. The 2006 Solid Waste Policy Report highlights policy recommendations and discusses other subsequent recommendations. See www.pca.state.mn.us for more details.

MSW Generation in Minnesota

Since 1989, Minnesota has shown a steady growth in municipal solid waste (MSW) generation. This growth is reflected in both the total amount of MSW generated and in the per capita figures (total waste generated divided by the state's population). During the robust years of 1994 to 1998, Minnesota saw a 4.62 percent increase in MSW generation and a 3.4 percent increase in per capita generation. In 1999, those rates began to slow during a downturn in the economy. After an increase in 2005 of nearly 2 percent, 2006 MSW generation growth slowed to an all-time low—increasing just 0.4 percent. Per capita generation of MSW remained roughly the same (1.167 tons in 2005 and 1.166 tons in 2006).

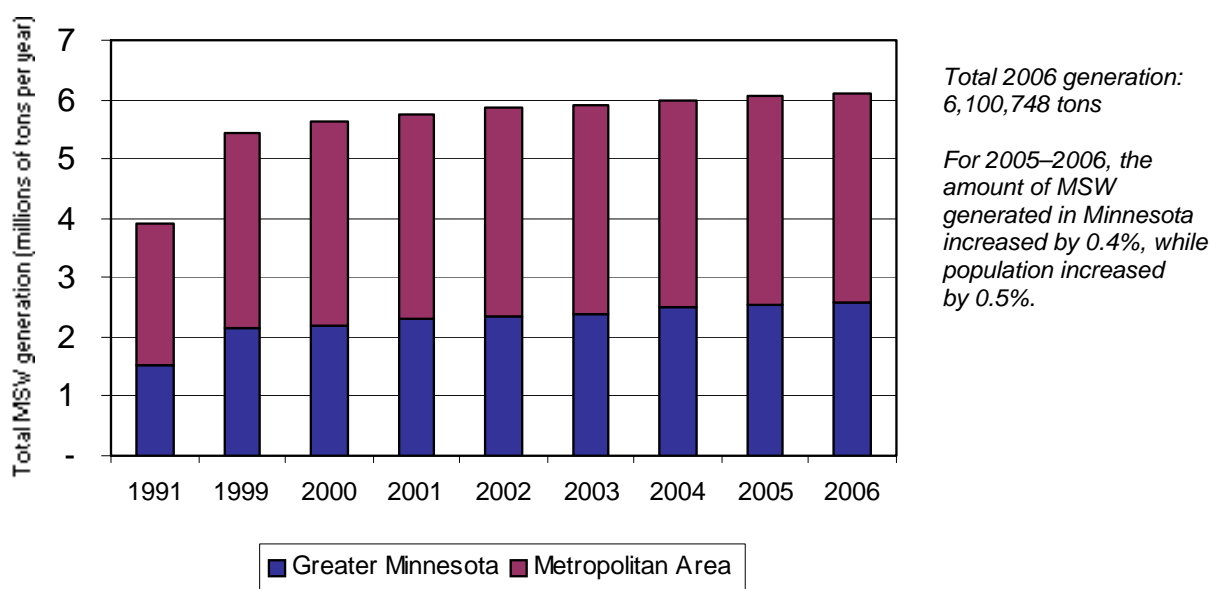
Mixed MSW is defined by statute as “garbage, refuse, and other solid waste from residential, commercial, industrial, and community activities that the generator of the waste aggregates for collection.” It includes common materials found in household and commercial garbage, such as packaging materials, containers, food discards, and other compostable materials, plastic, paper, etc. MSW does *not* include auto hulks, street sweepings, ash, construction debris, mining waste, sludge, tree and agricultural wastes, tires, lead acid batteries, motor and vehicle fluids and filters, and other materials collected, processed, and disposed of as separate waste streams (Minn. Stat. § 115A.03, subd. 20). MSW *does* include wastes recycled, discarded (including tons sent to disposal and resource recovery facilities), tons disposed of on-site (burn barrels or farm dumps), and problem materials not recycled (PMNR).

Totals and trends

Minnesota MSW generation totaled 6,100,748 tons in 2006, a slight increase from 2005's 6,076,789. Statewide, this represents only a 0.4 percent increase over the previous year. Greater Minnesota accounted for 42 percent of the state's MSW generation, and the seven-county Metropolitan Area accounted for 58 percent in 2006.

Since 1991, MSW generation has grown on average by 3 percent per year. After the period of biggest growth (1989-1997), the average increase in MSW generation over the last nine years dropped to 2 percent (1998-2006) and just over 1 percent over each of the past four years (2003-2006). While improvement in waste reduction efforts may account for some decline, waste generation generally decreases during times of economic recession and increases during an economic upsurge.

Figure 1: Minnesota MSW Generation



	1991	1999	2000	2001	2002	2003	2004	2005	2006	Changes 2005-06
Greater Minnesota	1.54	2.14	2.21	2.32	2.37	2.41	2.53	2.56	2.58	1%
Metropolitan Area	2.37	3.30	3.42	3.42	3.49	3.51	3.45	3.52	3.52	0.0
Minnesota	3.90	5.44	5.63	5.74	5.86	5.92	5.98	6.09	6.10	0.4%

Figures in millions of tons. For full data for 1991-2006, refer to appendices.

On-site and problem materials not recycled

On-site disposal of MSW, either burning or burying, has been a practice used for generations and still is being used. Although it is against the law for most people, some farmers are allowed to burn or bury their household garbage, under existing Minn. Stat. §§ 88.171 and 17.135.

In the 2006 SCORE survey, counties estimate that 1.3 percent of the total waste generated is disposed of on-site. This number may be conservative. According to a 2005 study of backyard garbage burning in Minnesota, 45 percent (estimated at a minimum of 920,000 people) of rural residents statewide still burn

or bury on-site. This presents a significant health and environmental threat to all Minnesotans. U.S. Environmental Protection Agency (EPA) research shows that burn barrels are the primary source of dioxin in the United States. Just one burn barrel can produce as much or more than a full-scale municipal waste combustor burning 200 tons per day (*Inventory of Sources of Dioxin in the U.S.*, March 2001).

“Problem materials not recycled” (PMNR) makes up 2 percent of the total MSW generation. PMNR includes five materials that have been banned from disposal in Minnesota (vehicle batteries, tires, major appliances, motor oil and oil filters). The PMNR number is that portion of the materials that is not recycled, but is assumed to be disposed of somewhere, legally or not, as they are banned from MSW disposal facilities. It is assumed that they are not being counted in landfill or incinerator tonnages.

Per capita MSW generation

The MPCA calculates the amount of waste that the “average” Minnesotan creates each year in an attempt to understand if waste growth is coming primarily from an increase in population or increases in consumption.

In 2006, the Minnesota per capita rate decreased insignificantly (-0.11 percent from 2005) to 1.166 tons per person (2,332 pounds/person/year). This is consistent with the small increases seen in MSW generation (0.4%) and with Minnesota’s economy. In looking at greater Minnesota versus the Metro Area per capita rate, we find that the greater Minnesota per capita rate is 1.07 tons (2,140 pounds/person/year), an increase of approximately 0.37 percent from 2005. In comparison, the Metro Area per capita rate is 1.249 tons (2,498 pounds/person/year), a decrease of 0.44 percent from 2005. Greater Minnesota per capita rate has increased steadily since 1991. However, the Metro Area began to see a decrease beginning in 2001.

Minnesota’s population continues to grow. In 2006, Minnesota’s population increased to 5,231,106 from 2005 population of 5,205,091, only a 0.5 percent increase—greater Minnesota by 0.6 percent and the Metro Area by 0.4 percent. In the last five years Minnesota’s population increased approximately 55,000 per year; however in 2006 the population increased by 26,000. From 1991 to 2006, Minnesota’s population grew 18.5 percent—greater Minnesota increased 14.9 percent and the Metro Area increased by 21.7 percent.

Recycling and Waste Reduction

Minnesota’s recycling programs are among the nations most successful, reflecting the strong local and state investment and public participation. In 2006, Minnesota’s recycling rate (including credits for yard waste recycling and waste reduction efforts) increased by 0.2 percentage points to 48.7 percent. The state’s base recycling rate is approximately 41.4 percent, an increase of nearly half of a percentage point. The base recycling rate is a more accurate measure of progress as it the actual percentage of materials recycled and does not include the additional source reduction and yard waste credits. While this growth reflects the significant state, local, and industry investment in our recycling system, as well as strong material markets, evidence suggests much more could be done to recover the millions of tons of discarded recyclable and organic material still disposed of each year.

In 2006, 1.3 million tons of recyclable material remained in the waste stream, worth \$312 million. Market prices for paper, plastic, and metal were high in 2006; however, at the same time we saw a drop in paper, plastic, and metal being recycled from 2005: paper was down 1,491 tons, plastic was down 876 tons, and metal was down 72.6 tons. Minnesota residents do not see financial advantages to recycle more during times the recycling markets are high. Businesses that have large quantities of recyclables and their own means to collect and market them see financial advantages of recycling when recycling market prices are

high. The majority of the small businesses, however, do not see the financial advantages, and at times, their haulers may offer financial incentives not to recycle.

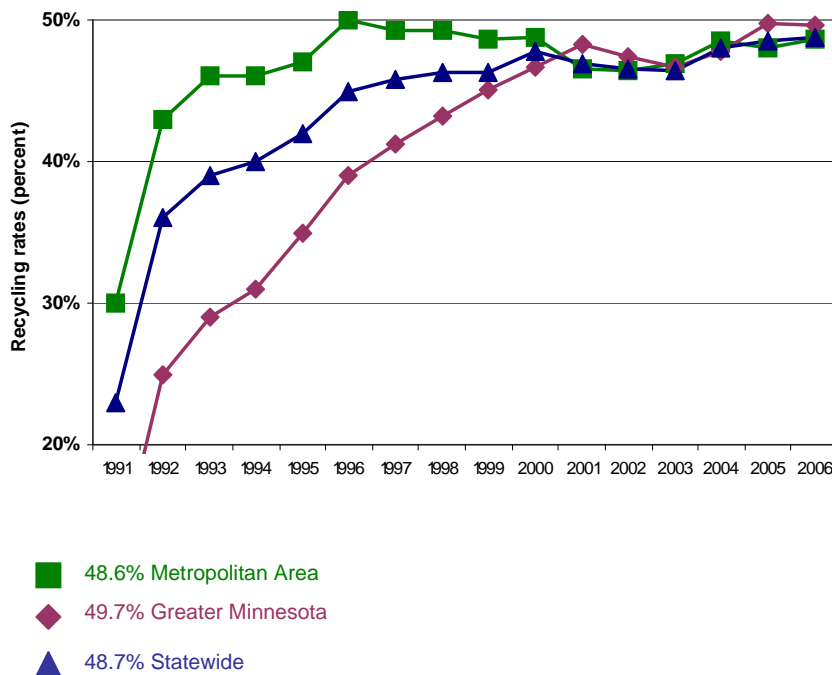
In 2006, recycling programs collected over 2.5 million tons of recyclable materials (paper, metals, glass, plastic, food, problem materials, etc.)—an increase of over 43,000 tons, or 1.7 percent, from the previous year. Since the SCORE legislation was enacted in 1989, the tons of materials collected for recycling in Minnesota have more than tripled, and the statewide recycling rate has increased by more than 25 percentage points, moving from approximately 23 percent to 48.7 percent.

In 2006, for the first time, source-separated compostables counted toward recycling. Source-separated compostable materials are defined as mixed municipal solid waste that is:

- separated at the source by waste generators for the purpose of preparing it for use as compost.
- collected separately from other mixed municipal solid wastes.
- composed of food wastes, fish and animal waste, plant materials, diapers, sanitary products, and paper that is not recyclable.
- delivered to a facility to undergo controlled microbial degradation to yield a humus-like product.

Of the total 179,043 tons of organics recycled, 166,966 tons were recovered as food to animals (food waste that is fed to livestock), 4,427 tons were recovered as food to people (food recovered for people through food banks), and the remaining 7,650 tons consisted of source-separated compostables.

Figure 3: Minnesota's Recycling Progress



Since the SCORE legislation was enacted in 1989, Minnesota's statewide recycling rate has climbed by over 25 percentage points.

In 2006, recycling programs in Minnesota collected over 2.5 million tons of recyclable materials (paper, metal, glass, plastic, food, source-separated organics, problem materials, and more), an increase from 2005 of 1.7%.

Electronic waste

Although the 2006 Legislature failed to pass the Electronic Waste Bill, the disposal ban of cathode-ray-tube-(CRT) containing products became effective July 1, 2006. The ban spurred counties and other entities to expand the number of collection options for waste electronics. According to the SCORE survey data, the amount of electronics collected has risen from 2000 to 2006 by 287 percent.

In 2006, 10,385 tons of electronics were recycled, and only four counties out of the 87 did not report recycled volumes. In the year 2000, only 2,686 tons of waste electronics were reported recycled with only 29 counties reporting recycling volumes. The greatest increase occurred between 2005 (7,027 tons were recycled) and 2006 (10,385 tons were recycled).

Source reduction

The MPCA works with Minnesota residents, schools, government, and other organizations to increase recycling, reduce waste generation, foster environmentally friendly purchasing practices, reduce the use of toxic cleaners, and conserve energy. The activities of two of these programs, Environmental Preferable Purchasing and the Healthy Sustainable Schools Project, are described here. Additional information on these programs and others can be obtained by going to www.pca.state.mn.us.

Environmentally preferable purchasing

In 2006, environmentally preferable purchasing (EPP) workshops took place throughout Minnesota; including the northeast, southwest, and metro regions. These half-day workshops were tailored to the purchasing needs of workshop attendees—from office administrators to public works staff to fleet managers. Breakout sessions covered multiple areas, including office supply procurement, fleet and building maintenance, and EPP information for schools. Informational workshops such as these are great ways for local governments to jumpstart interest in EPP and get the word out to the different departmental purchasers and product users that need the information.

Future EPP projects include working with the Solid Waste Management Coordinating Board to update the comprehensive online EPP Guide (<http://greenguardian.org>). The MPCA encourages counties to model and share this new and updated resource next year as part of a more comprehensive program to increase EPP across the state of Minnesota. In regards to policy, state and federal governments have supported efforts to increase EPP on the local level by setting the example with the passage of state mandates [16B.121 and 16B.122 (1989)] and federal executive orders [EO 13423(2007)].

More information can be obtained through the Environmentally Preferable Purchasing Guide that can be found at <http://greenguardian.com> or by contacting MPCA at 800-657-3864, www.pca.state.mn.us/epp.

Healthy Sustainable Schools Project

Under an EPA grant, the MPCA conducted a Healthy Sustainable Schools Project from 2004 to 2006. This project demonstrated that a dedicated coordinator and team in a school or district can make changes that benefit schools by enhancing student health and performance, attaining higher performing buildings, reducing environmental impacts, increasing attendance, reducing operating and maintenance costs, and increasing staff satisfaction.

Demonstrations were conducted in five districts with assistance from three coordinators: Houston K-12, Hutchinson High School, Becker High School, and the districts of Pine Point Elementary and Foley Schools. Eight school buildings were audited in many areas and the following results were achieved:

- Reduced energy costs of \$16,326 in two schools.
- Changed to less toxic cleaners in four schools.

- Added energy controls as the most common energy quick fix.
- Reduced paper use by moving to double-sided printing and copying.
- Changed to efficient T-8 lamps or reduced excessive lighting.
- Recycled more than 87 tons per year in two schools.
- Removed more than 6.87 pounds of mercury at four sites.
- Added vermi-composting or considering food to pigs for reducing waste costs.

Much greater waste reduction and recycling could be accomplished if these efforts were expanded across the state. School officials are encouraged to select from a variety of actions from the *Healthy Sustainable Schools Guide* to improve their facilities, while reducing labor and costs over time. To download the guide or for more information, visit www.healthyschools.state.mn.us or contact Project Coordinator Linda Countryman at 651-215-0269.

Drawing on new survey results (available at www.pca.state.mn.us/assistance/schools/index.html) the MPCA has begun to streamline its assistance to schools and others, seeking the most effective and efficient ways to help schools implement sound environmental practices.

Environmental and economic benefits of recycling

Recycling is important in Minnesota—both economically and environmentally. Minnesota’s recycling manufacturers contribute an estimated \$2.98 billion to the state’s economy; 9,000 manufacturing jobs are tied to companies using recycled material in their manufacturing processes. \$760 million in wages is related to recycling activities. In addition to the contributions of these value-added manufacturers, there is economic value related to collecting, processing, and marketing recyclables in Minnesota (which is supported by SCORE dollars).

Recycling’s environmental benefits can be quantified using the National Recycling Coalition’s (NRC) Environmental Benefits Calculator, based on tons of materials recycled, landfilled, and incinerated in Minnesota using the 2006 data submitted by its 87 counties and Western Lake Superior Sanitary District (WLSSD). (For more information on recycling benefits, check out the *Minnesota’s Recycling Industries: Economic Activity Summary* at www.pca.state.mn.us/oea/market/economic.cfm and National Recycling Coalition at www.nrc-recycle.org.)

- By recycling 2.5 million tons, Minnesota reduced its greenhouse gas emissions by 1.7 million metric tons carbon equivalent compared to disposal. This is equal to taking nearly 1.3 million passenger cars off the road.
- By recycling, Minnesotans avoided the use of nearly 46 million BTUs of energy, which is equal to the energy use of almost 410,574 households.
- Recycling saves \$539 million in electricity use.
- By recycling 306,604 tons of steel in Minnesota, we saved a total of 616,274 tons of resources—383,255 tons of iron ore, 214,623 tons of coal, and 18,396 tons of limestone (www.recycle-steel.org).
- More than 6.8 million trees were saved by recycling over 503,150 tons of newsprint, mixed, and office paper in 2006 (www.conservatree.org).

MSW Processing and Disposal

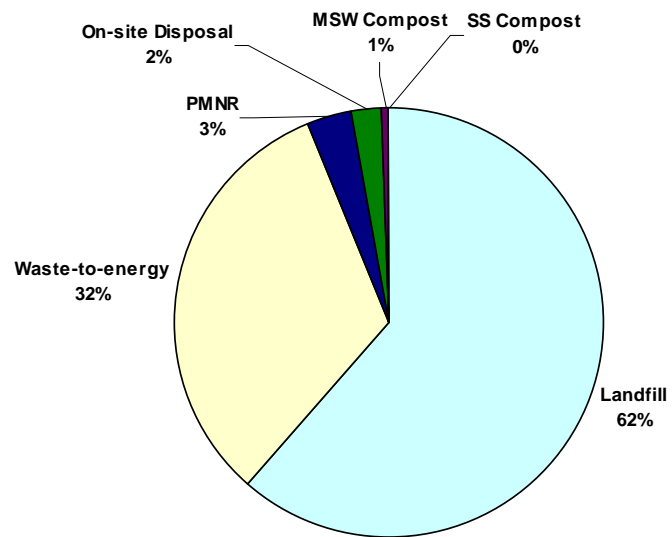
In Minnesota, waste is managed through four main methods: landfills, MSW composting, resource recovery facilities, and on-site disposal. In 2006, waste that was not recycled or prevented/reduced and, therefore, must be disposed of totaled nearly 3.6 million tons—a decrease of over 19,000 tons (-0.5 percent) from 2005. This number includes waste landfilled and processed, as well as estimates for on-site disposal and PMNR.

Trends in waste disposal

Waste management in Minnesota is guided by a hierarchy that prioritizes waste reduction, recycling, composting, and resource recovery. During 2006:

- MSW composting increased by 1 percent—from 17,742 tons in 2005 to 17,912 tons in 2006.
- On-site disposal (estimates from county staff on the level of on-site dumping and burning that occur) decreased by almost 3 percent (more than 2,000 tons) to 76,586 tons.
- Waste-to-energy decreased by 6.7 percent (84,000 tons) to 1,161,066 tons. Facility down time for improvements accounted for some of the decrease since permitted capacity remains the same. At its peak in 1993, WTE handled 57% of the waste stream, but that share eroded to just 32 percent in 2006.
- The amount of waste sent to landfills increased by 75,000 tons or 3.6 percent to 2,200,457 tons. Despite being the least-preferred option, landfilling has become the dominant disposal method in Minnesota (62 percent), more than double its share in 1993 (28%).

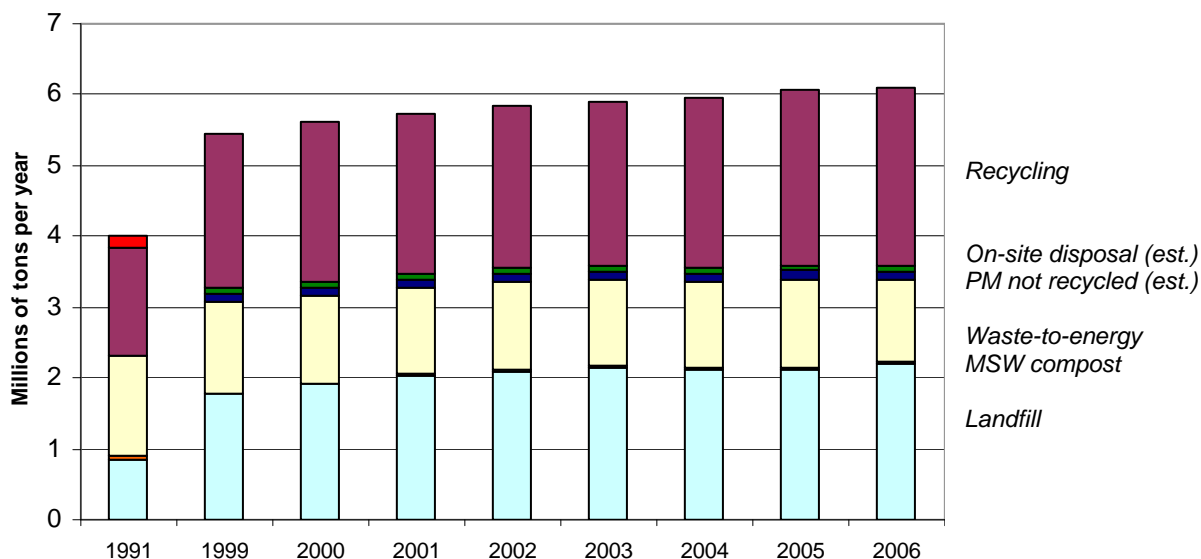
Figure 3: MSW Disposal and Processing in Minnesota, 2006



		Change 2005-06
Landfill	62%	3.6%
Waste-to-energy	32%	(6.7%)
PMNR (est.)	3%	(1.7%)
On-site disposal (est.)	2%	(3.0%)
MSW compost	1%	1.0%

Percentages of total waste disposal; excluding recycling. Decreases indicated by parentheses (x%).

Figure 4: Trends in Minnesota Waste Management in Tons



	1991	1999	2000	2001	2002	2003	2004	2005	2006	Change 2005-06
Source-separated compost					0.004	0.005	0.01	0.01	0	(100%)
Recycling	1.2	2.18	2.27	2.27	2.29	2.32	2.42	2.49	2.52	1.7%
On-site disposal (est.)		0.08	0.10	0.09	0.08	0.08	0.08	0.08	0.08	(3.0%)
PM not recycled (est.)		0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	(1.7%)
Waste-to-energy	1.41	1.28	1.23	1.22	1.26	1.23	1.21	1.24	1.16	(6.7%)
MSW compost	0.07	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	1.0%
Landfill	.84	1.77	1.91	2.03	2.11	2.16	2.12	2.12	2.20	3.6%
Total	3.69	5.44	5.63	5.74	5.88	5.92	5.98	6.09	6.10	4.6%

Figures in millions of tons. PM = Problem Materials. Decreases indicated by parentheses (x%).
 * Unknown destination waste totals were only reported during the early years of SCORE (1989-1994).

Out-of-state waste flow

In 2006, there was a decrease of 72,000 tons (-9 percent) in the amount of MSW leaving Minnesota—from 812,379 in 2005 to 740,269 tons in 2006. 2005 was the first time since 2002 that there was a decrease in the amount of MSW leaving the state. While many factors may have contributed to this decline in out-of-state waste flow (facility locations, hauling companies in operation, existing contracts, surcharges and tip fees, and gas prices), increasing state surcharges from Wisconsin and rising transportation costs likely have had the most impact. The price of gasoline is probably the largest reason for the decline in MSW leaving Minnesota. Since 2003, gas prices have increased nearly 73 percent (from \$1.786 per gallon in 2003 to \$3.083 in 2006; http://tonto.eia.doe.gov/dnav/pet/hist/mg_tt_usw.htm).

MSW leaving Minnesota	
2001	671,954 tons
2002	614,002 tons
2003	702,131 tons
2004	850,204 tons
2005	812,380 tons
2006	740,269 tons

Wisconsin received the majority of the 740,269 tons of waste going out-of-state. Iowa received 23 percent; North Dakota received 14 percent; and South Dakota received a fraction of a percent (0.2 percent).

Minnesota MSW going out-of-state

	2005	2006	Change in tons	Change in %
Wisconsin	519,875	467,538	(52,337)	-10 percent
North Dakota	87,684	103,384	15,701	18 percent
South Dakota	1,498	1,405	(93)	-6 percent
Iowa	203,323	167,941	(35,382)	-17 percent

Of the total waste going out-of-state, 1.3 percent (9,544 tons) was taken to the NRG Facility in La Crosse, Wisconsin, privately owned by Xcel Energy. The remaining 98.7 percent (730,725 tons) was taken to landfills, of which 87 percent are privately owned and 13 percent are publicly owned. Five of Wisconsin’s privately owned landfills received 404,960 tons, and two publicly owned landfills received 53,035 tons. In North Dakota, one privately owned landfill received 61,731 tons and two publicly owned landfills received 41,653 tons. In South Dakota, one publicly owned landfill received 1,405 tons. In Iowa, three privately owned landfills received 167,941 tons.

Funding of SCORE Programs

Minnesota boasts one of the best recycling rates in the nation due to the level of participation by our residents and businesses, along with comprehensive recycling programs at the township, city, and county levels—programs funded by local government and state revenues. In 2006, Minnesota counties spent over \$54.5 million for SCORE-related programs, an increase of about \$300,000 (0.6 percent) from 2005. Continued funding commitments from the Legislature and significant investments at the local level provide the funding for these programs.

State funding: SCORE block grants

From the inception of SCORE, state tax revenue has provided a significant funding source for recycling and waste reduction programs. Money from the state is passed on to counties in the form of annual block grants. SCORE disbursement dollars had been consistently \$14.2 million per year, until 2002 when the Legislature cut SCORE block grant dollars by 10 percent, dropping the figure to \$12.6 million. To handle a budget shortfall in 2003, the governor enacted a one-time general revenue un-allotment, and available SCORE dollars fell further to \$11.2 million. This downward trend reversed beginning in 2004, when block grants rose to \$12.5 million. (Subsequently, in the 2006 Session, the Legislature and Governor took action to restore additional SCORE funds, to a level of \$14 million per year, effective FY 2007.)

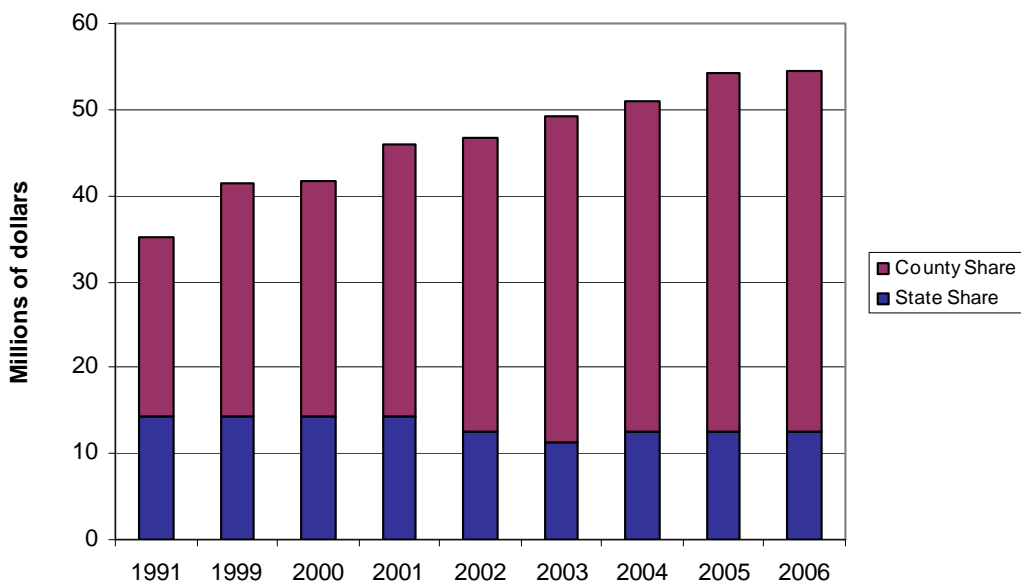
Within certain guidelines, counties have broad discretion in determining how to spend SCORE block grants and local matching funds, which gives them flexibility to develop programs that best meet local needs. The MPCA monitors the county use of SCORE grants to ensure the money is used to fund SCORE-eligible programs: source reduction, recycling, market development, management of problem materials, waste education, litter prevention, technical assistance to ensure proper solid waste management, and waste processing (Minn. Stat. § 115A.55).

Despite the economic value of the recycling industry to the state’s economy, Minnesota’s recycling infrastructure faces challenges. Some counties are dealing with budget reductions by closing down recycling centers or limiting the types of materials they collect. Plastic and glass recycling have been

eliminated in some communities. Rural recycling programs, in particular, are facing more obstacles in getting materials to distant markets. The MPCA continues to explore ways to better support county recycling programs and secondary markets, recover more recyclable and organic material from the waste stream, and identify more opportunities to reduce, reuse, and recycle in the manufacturing and business sectors.

Restoring SCORE grant dollars to previous levels and looking into additional funding (incentive based) would show the state’s renewed commitment to recycling and offer counties the ability to restore their reduced or cut programs. The additional funding would also enhance the ability to remove usable materials from the disposal system and capture energy and economic benefits for the state. While we will talk more about SCORE grant dollars in the *Report on 2007 SCORE Programs*, the Legislature did increase SCORE funds to previous levels, to \$14 million. For more information on state SCORE funding and recommendations for the 2008 legislative session, see the MPCA’s *2007 Solid Waste Policy Report*.

Figure 5: SCORE Expenditures (millions of dollars)



County funding

Between 1992 and 2006, overall SCORE expenditures have increased by 41 percent. These increases have been funded entirely at the local level by counties and cities through use of general revenue dollars, special assessments, or other sources of revenue. In 2006, a total of \$54.5 million was spent on SCORE expenditures. Greater Minnesota counties *increased* expenditures by \$1 million (3.4 percent) and the metro counties *decreased* their spending by \$750,000 (-3.1 percent) from 2005.

	1991	1999	2000	2001	2002	2003	2004	2005	2006	Change 2005-06
Greater Minnesota	14.4	23.0	23.1	25.8	26.7	29.5	28.5	30.22	31.25	3.4%
Metropolitan Area	20.8	18.4	18.6	20.2	19.9	19.7	22.6	24.06	23.35	(3.1%)
Total	35.2	41.4	41.7	46.0	46.7	49.1	51.1	54.28	54.60	0.6%

Figures are in millions of dollars. Decreases indicated by parentheses (x%). The annual SCORE survey includes only county spending; local units of government also fund programs for waste management, reduction, and recycling.

Each county is required to match the funding from the Legislature with a local contribution of at least 25 percent. In 2006, counties continued to exceed this match, spending over \$42 million of county funds toward SCORE-related activities. This investment is in addition to undocumented dollars spent by other local units of government, such as cities and townships on programs such as recycling, household hazardous waste, and waste education.

Counties continue to see their dollars not keeping up with inflation. Rural recycling programs, in particular, face growing challenges to collect materials and deliver them to markets. These challenges are seen by significantly reduced volumes of materials collected and its residents discouraged from recycling. Counties' declining dollars are not covering their existing recycling programs and have been hard pressed to expand their recycling programs. Counties are aware of the million of tons of recyclables remaining in the waste stream and of the missed economic and environmental benefits associated with recycling.

In looking closer at how the decreasing dollars affect local staff and programs along with how the counties are obtaining the necessary dollars to pay for their programs, we looked at years prior to 2002, when the Legislature permanently reduced SCORE block grant dollars, to 2006.

In 2000, there were a total of 572 full-time equivalent (FTE) county, township and city staff people working on SCORE related activities compared to in 2006, 528 FTEs. This drop began in 2003 when the FTE went down to 540 FTE.

In looking closer at the counties' revenues as reported in "Revenues and Expenditures" in the SCORE survey report, it was found that during this same time period, 2000 to 2006, the counties had increased tipping fees, surcharges, and service fees to make up the lost revenue from SCORE and MPCA grants and to keep up with inflation. In 2006, SCORE disbursements were down 11 percent and MPCA grant dollars were down 23 percent from 2000. In response, general revenue (which is from county special assessments, levy, and property taxes) increased 115 percent, from \$3.3 million in 2000 to \$7.1 million in the year 2006.

Revenues received from material sales and other sources increased during this same time period. Material sales increased by 28 percent. In 2000, counties received \$3.6 million and, in 2006, \$4.6 million. The majority of this increase has been since 2003.

In comparison to the decrease in SCORE disbursements and grant dollars, MPCA funding to household hazardous waste (HHW) programs continued. In the year 2000, counties received \$428,790 from MPCA, in 2006, \$518,959.