

Waste Management in Minnesota

SUMMARY

Minnesota law says that counties should manage municipal solid waste according to a hierarchy that makes waste reduction, reuse, and recycling the preferred methods and landfill disposal the least preferred. In 1989, the Legislature adopted comprehensive waste reduction and recycling legislation, commonly referred to as SCORE, to support the waste management hierarchy. Among other things, the legislation authorized state block grants to counties that could be used for recycling and waste reduction activities, education, developing markets for recycled material, and management of household hazardous waste. The legislation also established goals for recycling and waste reduction.

In Minnesota, state, county, city, and some township governments all play important roles in managing “mixed municipal solid waste.”¹ The state has established a general framework for managing solid waste and has enacted laws that specify how certain wastes must be handled. Counties are required to have a solid waste management plan, and they may enact ordinances to ensure that waste is handled in a manner consistent with the plan and with state policies. Cities and, in some cases, townships are generally responsible for overseeing day-to-day garbage collection, but counties also play an important role.

This chapter presents a general overview of Minnesota’s system for managing mixed municipal solid waste and, specifically, the role of the SCORE program. It addresses these questions:

- **What role does SCORE play in furthering state solid waste management policy?**
- **How do SCORE activities fit into Minnesota’s waste management system?**

To answer these questions, we reviewed state laws and interviewed officials at the Office of Environmental Assistance (OEA) and the Minnesota Pollution Control Agency (MPCA), solid waste administrators in 15 counties, and representatives of the waste hauling industry.

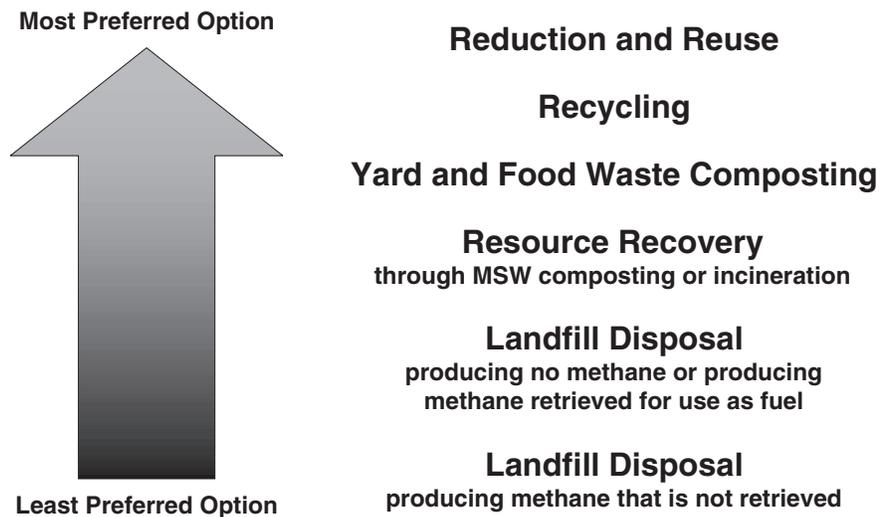
1 Mixed municipal solid waste is trash set out by homeowners, businesses, and offices intended to be collected as garbage. It does not include construction and demolition waste, sewer sludge, industrial waste, infectious waste, agricultural waste, ash, auto hulks, street sweepings, or items banned from the waste stream such as tires, used oil, and batteries. Throughout this report, we use the terms mixed municipal solid waste, municipal solid waste, trash, and garbage interchangeably. Material specifically set out for recycling is *not* mixed municipal solid waste.

MINNESOTA'S WASTE MANAGEMENT HIERARCHY

In order to protect the state's environment and public health, the Legislature established an order of preference for managing waste. This preferential order, commonly referred to as Minnesota's waste management hierarchy, is shown in Figure 1.1. The hierarchy establishes that:

- According to state policy, waste reduction and recycling are the most preferred methods to manage solid waste, while disposing of waste in landfills is the least preferred method.

Figure 1.1: Minnesota's Waste Management Hierarchy



SOURCE: *Minn. Stat.* (2001), §115A.02 (b).

Recognizing that solid waste poses a risk to the environment no matter how it is managed, the Legislature placed waste reduction and recycling at the top of the hierarchy. The less waste produced and the more material recycled, the less the need for processing or disposal. Landfill disposal is at the bottom of the hierarchy because of pollution and related liability concerns and the lost opportunity to use waste as a resource.

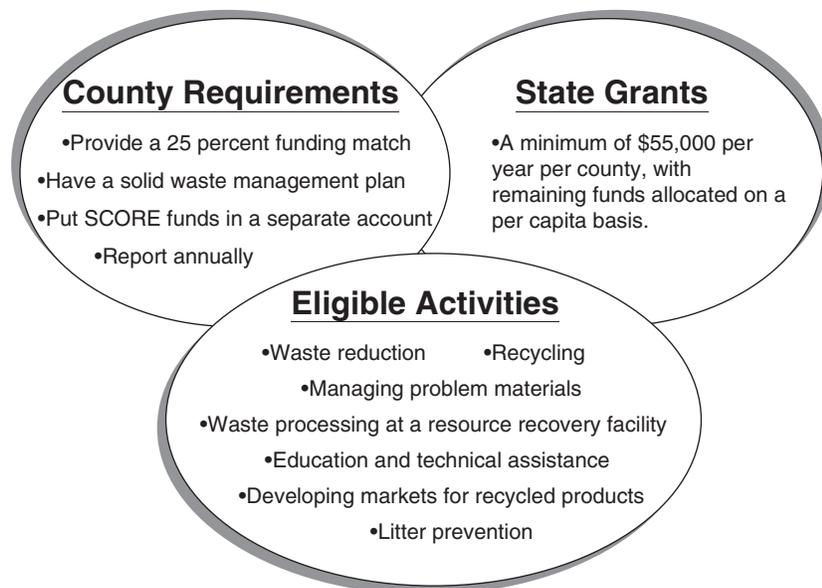
SCORE Grants to Counties

To further the goals of waste reduction and recycling, the 1989 Legislature adopted comprehensive legislation based on the recommendations of the

Counties meeting eligibility requirements receive a minimum SCORE grant of \$55,000 per year with additional funds allocated by population.

Governor’s Select Committee on Recycling and the Environment.² This set of laws is commonly referred to as SCORE. As shown in Figure 1.2, SCORE authorizes grants of \$55,000 or more to counties if they meet certain requirements, including providing matching funds and having an approved solid waste management plan. Counties may use the grants for a specified group of waste abatement activities including waste reduction, recycling, education, and management of problem materials such as household hazardous waste.³ The 2001 Legislature added waste processing at resource recovery facilities (e.g., incinerators that burn waste to produce energy) as another acceptable use of SCORE funds.⁴

Figure 1.2: Key SCORE Provisions



SOURCE: *Minn. Stat.* (2001), §115A.557.

Funding for SCORE comes from a sales tax on solid waste management services.

State funding for SCORE comes from a portion of sales taxes on solid waste management services. The tax rate for municipal solid waste collection is 9.75 percent for residential customers and 17 percent for commercial customers.⁵ Half of the proceeds or \$22 million, whichever is greater, goes to the Solid Waste Fund, used for MPCA landfill assessment and closure costs and appropriations

² Governor’s Select Committee on Recycling and the Environment (SCORE), *Recommendations to Rudy Perpich, Governor, State of Minnesota* (St. Paul, 1988).

³ *Minn. Stat.* (2001), §115A.557. Problem materials are materials that can cause health or environmental damage or processing problems when deposited in landfills or waste processing facilities. *Minn. Stat.* (2001), §115A.03, subd. 24a. Household hazardous waste is waste generated from household activities that is corrosive, flammable, toxic, or otherwise fits Minnesota Pollution Control Agency criteria for hazardous waste. *Minn. Stat.* (2001), §§115A.96, subd. 1 (b) and 116.06, subd. 11.

⁴ *Laws of Minnesota* (1Sp2001), ch. 2, sec. 125.

⁵ *Minn. Stat.* (2001), §297H. Different tax rates apply to construction debris, industrial waste, and infectious waste.

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for solid waste and groundwater programs. The remainder goes to the General Fund, but a portion is used by the Legislature to fund OEA and SCORE grants to counties. Since the program's inception, the Legislature has appropriated \$14 million per year for SCORE grants. According to OEA, the solid waste management tax generated \$53.9 million in revenue in fiscal year 2001. About \$27 million went to MPCA, and \$20 million went to OEA (including \$14 million for SCORE, \$3 million for competitive grants and loans for waste abatement initiatives, and \$3 million for the office's operating budget). Approximately \$7 million remained in the General Fund.

The SCORE legislation also requires counties to ensure that residents of single and multifamily dwellings have an opportunity to recycle.⁶ The law requires that:

- Each county must have a local recycling center that accepts at least four different materials and is open a minimum of 12 hours per week year round.
- Counties must have convenient sites for collecting recyclable materials.
- Metro cities with 5,000 or more people and outstate cities with over 20,000 people must provide monthly curbside pickup of at least four broad types of recyclable materials.
- Counties must provide information on how, when, and where materials may be recycled, including a promotional program that publishes notices at least once every three months.

OEA oversees SCORE programs.⁷ It provides technical assistance to counties and annually collects data from counties on their SCORE revenues and expenditures, the amounts of solid waste generated and recycled, and their recycling and waste reduction programs. It compiles this data in an annual report that provides statewide trends as well as measures of each county's recycling efforts.⁸ OEA also reviews county solid waste management plans to ensure that each county has articulated how it will manage its waste in accordance with state policies promoting waste reduction and recycling and reducing the dependence on landfills for disposing of solid waste.⁹ The office has, on occasion, temporarily withheld SCORE funding from counties that were late in updating their plans or did not meet other statutory plan requirements.

⁶ *Minn. Stat.* (2001), §115A.552.

⁷ Throughout the report, we use the phrase "SCORE programs" to refer collectively to waste reduction, recycling, education, management of problem materials, and other activities for which SCORE grants may be used.

⁸ See, for example, Minnesota Office of Environmental Assistance, *Report on 1999 SCORE Programs* (St. Paul, 2001).

⁹ Plans must describe the county's existing waste management system and discuss the county's strategy for meeting state waste reduction and recycling goals and household hazardous waste requirements. Counties must update their plans every five years. *Minn. Stat.* (2001), §§115A.46 and 473.803.

The Legislature established recycling goals for each Twin Cities metro county to recycle 50 percent of waste generated and for each outstate county to recycle 35 percent.

The 1989 SCORE legislation established goals for each of the seven Twin Cities metropolitan area counties to recycle 35 percent of their mixed municipal solid waste by December 31, 1993 and for each outstate county to recycle 25 percent.¹⁰ The goals were subsequently amended to 50 percent for the metro counties and 35 percent for outstate counties by December 31, 1996.¹¹ The goals have not been revised since 1996. A county’s SCORE grant is not affected by its success in achieving the prescribed goals. We discuss counties’ progress in meeting these goals in Chapter 4.

Figure 1.3 shows how OEA calculates county recycling rates. OEA first calculates a base recycling rate for each county which is the weight of all material recycled divided by the weight of all waste generated, expressed as a percentage. In other words, it is the percentage of all waste generated that is recycled. OEA then adds credits for county yard waste and “source reduction” (i.e., waste reduction) programs.

Figure 1.3: Minnesota’s Recycling Rate Formula

$$\text{Recycling Rate} = \frac{\text{Tons of Recycled Material}}{\text{Tons of Waste Generated}} + \text{Yard Waste Credit} + \text{Source Reduction Credit}$$

NOTE: Tons of waste generated includes mixed municipal solid waste, problem materials that are banned from landfills, recycled material, and waste illegally buried or burned (estimated). Tons of recycled material includes household hazardous waste and other problem materials collected. Yard waste is not included in either recycled material or waste generated.

SOURCE: Adapted from Minnesota Office of Environmental Assistance, *Report on 1999 SCORE Programs* (St. Paul, 2001), 9.

State law allows counties to receive a yard waste credit of up to five percentage points and a source reduction credit of up to three percentage points added to the base rate if they engage in certain yard waste management and waste reduction activities.¹² State law bans yard waste from garbage collection and disposal in landfills or waste processing facilities other than compost facilities, and counties do not typically collect data on how much yard waste is generated and composted.¹³ In lieu of that, OEA awards the yard waste credit based on a county’s response to a checklist of activities such as the availability of yard waste curbside collection and yard waste drop-off sites and the existence of county yard waste education programs.¹⁴ Similarly, because it is very difficult to measure the amount of waste not generated, OEA awards the source reduction credit based on a county’s response to a checklist of activities designed to reduce waste. These include conducting focus groups or distributing material on waste reduction,

¹⁰ *Minn. Stat.* (2001), §115A.551, subd. 2. The metro counties are Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties.

¹¹ *Minn. Stat.* (2001), §115A.551, subd. 2a (a).

¹² *Minn. Stat.* (2001), §115A.551, subd. 2a (b).

¹³ *Minn. Stat.* (2001), §115A.931. Yard waste is garden waste, leaves, lawn cuttings, weeds, pruning, and shrub and tree wastes. *Minn. Stat.* (2001), §115A.03, subd. 38.

¹⁴ *Minn. Stat.* (2001), §115A.551, subd. 2a (c).

The Legislature also established a goal for the state to reduce the amount of waste generated per capita by 10 percent between 1993 and 2000.

providing technical assistance on waste reduction to businesses, or staffing waste reduction displays at county fairs or similar events.

In addition to recycling goals, the Legislature established a statewide goal to reduce the amount of mixed municipal solid waste generated per capita by 10 percent. This reduction was to be achieved by the end of 2000 compared to the amount generated in 1993.¹⁵ The Legislature required OEA to develop a strategy to achieve this goal and report on the progress being made.¹⁶ We discuss the state's progress in meeting this goal in Chapter 4.

THE WASTE MANAGEMENT SYSTEM

Waste management involves much more than garbage collection. Waste management includes 1) efforts to design products and educate consumers to reduce the amount and toxicity of waste generated in the first place; 2) collection and removal of garbage from the residences, businesses, and institutions that generate it; and 3) processing or disposing of the garbage.

Waste Generation

Waste management begins with the design and use of products that become waste. Many factors influence the amount of waste generated including manufacturers' choices in designing and packaging products, economic conditions (people consume more products during good economic times), and consumer preferences for disposable goods. Designing products that can be reused or recycled saves resources that would be required to manufacture new products. In addition, reducing the amount of waste generated in the first place along with recycling reduces the resources needed to manage garbage.

After waste reduction and recycling, the remaining waste is mixed municipal solid waste, or garbage, that must be managed. In 2000, 2.3 million tons of waste were collected for recycling, and 3.2 million tons were managed as garbage.

Garbage Collection

In Minnesota, cities and, in some cases, townships are generally responsible for garbage collection. Counties, however, can impose conditions on garbage collection through local ordinances and licensing requirements for waste haulers. As discussed in Chapter 3, counties are also responsible for collecting household hazardous waste and other problem materials such as large appliances and used tires that are excluded from residential garbage collection. Some counties also oversee garbage collection in rural areas.

¹⁵ *Minn. Stat.* (2001), §115A.55, subd. 4 (a).

¹⁶ *Minn. Stat.* (2001), §115A.55, subd. 4 (b).

Garbage collection generally works under two types of systems: “open” collection and “organized” collection.¹⁷ In an open collection system, haulers (usually licensed by the city or county) compete with each other for the business of residential customers. Customers select a garbage hauler and pay the hauler directly for services. In an organized collection system, the county or city directly provides collection services or contracts with one or more garbage haulers to provide residential garbage collection for an entire community. Residents then generally pay their garbage bill to the city or county. In a few cities with organized collection, the city owns the garbage trucks and employs the collection personnel itself. Regardless of the system of garbage collection for residential customers, commercial customers generally make their own arrangements for garbage collection (an open system), although nothing precludes a city from using an organized collection system to serve commercial customers.

Garbage haulers may take the garbage they collect to a transfer station for temporary storage. Transfer stations are large warehouses with concrete floors where garbage is dumped. At some transfer stations, material that can be recycled is separated from the garbage. The remaining garbage is then taken to its final destination for processing or disposal.

Garbage Processing and Disposal

Once collected, garbage is either composted, burned to produce energy, or disposed of in landfills.

Once collected, garbage is either processed (through composting, incinerating to produce energy, or processing into refuse-derived fuel) or disposed of in landfills. With composting, waste is allowed to decay naturally, requiring only periodic turning and aeration. The resulting material, called compost, is used as a fertilizer or bedding for plants and gardens. As we discuss in Chapter 3, composting is used extensively for managing yard waste removed from the waste stream, and counties are looking at it as a way to manage organic waste. However, composting has not been used extensively as a method to process garbage. In 2000, less than 1 percent of Minnesota’s 3.2 million tons of garbage was composted.¹⁸

Resource recovery through incineration, also called “waste-to-energy processing,” involves burning garbage to produce steam used to generate electricity or for other industrial purposes. While state policy puts resource recovery by incineration above landfilling in the waste management hierarchy, critics of this technology are concerned about possible air pollution. Also, waste-to-energy processing produces an ash that is usually deposited in specially-designed landfills. In 2000, five waste-to-energy incinerators operated in outstate counties and one in the Twin Cities metro area. In 2000, 13 percent of Minnesota’s garbage was burned to produce energy.¹⁹

Making refuse-derived fuel involves processing garbage into pellets that are then burned to generate electricity. This technology requires that recyclable and other nonburnable material be removed. Processing waste into refuse-derived fuel,

¹⁷ Organized collection may also be referred to as “public collection.” In this report, we use the term organized collection.

¹⁸ Office of the Legislative Auditor analysis of county SCORE report data.

¹⁹ *Ibid.*



In 2000, about 13 percent of Minnesota's nonrecycled garbage was burned at waste-to-energy facilities such as this one in Otter Tail County.

Although state policy ranks landfilling as the last preferred method of managing waste, 60 percent of nonrecycled garbage was landfilled in 2000.

however, is more expensive than incineration. Minnesota has two refuse-derived fuel facilities. In 2000, 25 percent of Minnesota's garbage was processed into refuse-derived fuel, the vast majority of which was handled at the Minnesota facilities.²⁰

Landfilling is burying garbage in the ground. As noted above, state policy ranks landfilling as the least preferred option for managing waste because of its pollution potential, liability issues, and lost resource-recovery opportunities.²¹ Landfill space is also limited. In 2000, unprocessed garbage generated in Minnesota went to 22 landfills in Minnesota and 11 landfills located in border states. OEA estimates that Minnesota has enough landfill capacity to handle waste until 2010 without expanding existing landfills or siting new ones.²² Counties generally find that it is politically difficult to site a new landfill because nobody wants one in his or her neighborhood.²³ Nevertheless, landfilling is the most common means of handling garbage in Minnesota. In 2000, 60 percent of the garbage remaining after recycling was taken to landfills, about one-third of which went out of state.²⁴

²⁰ *Ibid.* A small amount of Minnesota solid waste was also taken to a refuse-derived fuel facility in La Crosse, Wisconsin.

²¹ Landfills also produce methane gas that can be a source of air pollution and pose a fire hazard if not properly managed. If properly collected, on the other hand, methane gas can be an important energy source.

²² Minnesota Office of Environmental Assistance, *Solid Waste Policy Report* (St. Paul, 2000), 31.

²³ According to OEA, the last new municipal solid waste landfill to open in Minnesota was in St. Louis County in the early 1990s. An attempt to site a new landfill in the metro area in the late 1980s failed because no community wanted one. About a dozen landfills have expanded their permitted capacity since 1990, mostly by increasing their slopes and expanding upward.

²⁴ Office of the Legislative Auditor analysis of county SCORE report data.

Consolidation in the waste hauling industry and a Supreme Court decision have limited counties' ability to designate where waste is taken.

Several events in the last decade have curtailed counties' ability to manage their garbage. The waste hauling industry has consolidated as small independent haulers have been purchased by larger companies. These large national waste hauling companies also own landfills and transfer stations in Minnesota and surrounding states. These changes in the waste hauling industry have highlighted the tension between counties' efforts to meet state policy goals and private sector interests. For example, it is cheaper for waste haulers to ship garbage to landfills in neighboring states than to take the garbage to a refuse-derived fuel facility. OEA officials point out that today's waste haulers are not paying the full cost of disposal at landfills which includes landfill closure, post-closure maintenance and monitoring, and financial assurance for possible cleanup of future ground water contamination. Similarly, because the larger hauling companies own their own landfills, they have an additional incentive to maximize the amount of garbage that is landfilled and a disincentive to encourage their customers to recycle. Waste haulers, on the other hand, told us that they are committed to recycling and that they have made major investments in recycling collection and material recovery facilities that prepare recycled material for market.



Olmsted County owns and operates both a waste-to-energy incinerator and a landfill and provides many waste management services at a Rochester site.

A United States Supreme Court decision also limited counties' ability to designate where waste is taken. The court ruled that a county ordinance designating where privately-owned garbage hauling companies had to deposit garbage was unconstitutional.²⁵ The court ruled that the flow of waste is interstate commerce, and that local ordinances could not designate where haulers take it. This decision has inhibited efforts by Minnesota counties to divert garbage to waste processing facilities rather than landfills. Counties can legally control the flow of waste through the terms of organized collection contracts or through licensing requirements. In order to fulfill their obligations to supply garbage to

²⁵ C & A Carbone Inc. v. Town of Clarkstown, 511 U.S. 383 (1994).

refuse-derived fuel facilities and incinerators, some counties have had to subsidize processing facility disposal fees (or “tip fees”) to make them comparable to landfill disposal fees.²⁶

Faced with cheaper fees to deliver garbage to landfills than waste processing facilities and limited ability to prevent garbage haulers from taking waste to landfills in other states, counties have found it difficult to meet their goals to reduce landfill use. Indeed, after recycling, the percentage of garbage being deposited in landfills rose from 31 percent in 1992 to 60 percent in 2000.²⁷

The significance of this issue is under debate. Representatives of the waste hauling industry argue that landfills today are environmentally sound and economical, particularly landfills equipped to recover and use methane gas emissions as fuel. Large waste haulers are confident that they have enough landfill capacity, in and out of the state, to handle Minnesota’s garbage in the future. Most county solid waste administrators and other stakeholders we interviewed, however, reaffirmed support for current policy to minimize land disposal, arguing that: (1) Minnesota should not rely on other states’ continued willingness to take Minnesota’s municipal solid waste; (2) landfilling carries with it long-term environmental and liability risks; and (3) siting a new landfill in Minnesota is a very difficult process.

26 The 2001 Legislature recognized this problem and appropriated \$6 million per year for counties to pay \$5 per ton towards the cost of processing waste at an incinerator or refuse-derived fuel facility. *Minn. Stat.* (2001), §115A.545.

27 Minnesota Office of Environmental Assistance, *Report on 1999 SCORE Programs*, 14, and Office of the Legislative Auditor analysis of county SCORE report data.