

2005 WINNER

Minnesota Solar Electric Rebate Program

Minnesota Department of Commerce
State Energy Office



The Minnesota Solar Electric Rebate Program, run by the Department of Commerce, provides an incentive to Minnesota electricity consumers to use solar electricity. The program offers general consumers the opportunity to receive roughly a 25 percent rebate on dealer-installed solar systems.

The state-run program has increased solar electricity in Minnesota significantly. Before the program began, Minnesota had 190 kilowatts of solar electricity installed. In the three plus years since, 223 kilowatts of additional solar electricity have been added—an increase of over 100 percent. Average performance of the solar energy systems installed to date are exceeding the program goal.

It is estimated that the solar panels from this program will offset 223,000 kilowatt hours of traditional electricity, avoiding the following pollutants: 365,720 pounds CO₂; 1,110 pounds SO₂; 876 pounds NO_x; and just over 1 ounce of mercury. Minnesota is now ranked within the top 20 states nationally in terms of total solar capacity and solar capacity per kilowatt. In fact, notable states such as Texas and Florida now lag behind Minnesota in solar electricity installed per capita.



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Winona County Environmental Services Department Used Motor Oil Container Program

Winona County's Used Motor Oil Container Program was implemented by the Environmental Services staff to best address the problem of improper containers being used by residents when disposing of used oil at the Winona Household Hazardous Waste Facility. Winona County had experienced oil spills from oil containers brought in from residents. These containers would often break and were difficult for Winona County staff to handle.

In order to promote solid waste reduction, protect ground and surface water, recycle more oil, and help with worker safety, staff came up with the idea to purchase efficiently sized 2½ gallon containers with educational labels and distribute them to Winona County residents that use the HHW center.

By purchasing the containers, the county has seen a reduction in spills, a decrease in staff time needed for oil recycling, and less contamination.

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University of Minnesota E85 Program

The University of Minnesota began purchasing vehicles compatible for E85 fuel in 1995. From that initial purchase of six, the number of E85 vehicles has grown substantially to 71 — currently 14 percent of the university's fleet. This includes cars (Ford Taurus, Dodge Stratus), trucks (Ford Ranger, Chevy Silverado), vans (Dodge Grand Caravan), and SUVs (Chevy Tahoe).

After a few years of using E85 vehicles, the university decided that it could do more. It's one thing to have E85 vehicles available, but it's another step to encourage and ensure that drivers use E85 fuel instead of gas. So when the university relocated Fleet Services and built a new facility in 2000, an E85 tank and pump were added into the plans. Then in 2003, another E85 tank and pump were added into the St. Paul facility during remodeling.

In an effort to ensure that E85 was selected during on-campus refueling, drivers of leased and rented fleet vehicles were provided with a fuel key that works only at the E85 pump. This clever idea resulted in E85 becoming 50 percent of the total fuel used for E85 vehicles on the Twin Cities campus.



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**Your Eco Home Television Show, City of Fridley**

Since 1998, Fridley has been incorporating recycling information into an ongoing community television program called Community Development Journal. Cable television and the city's web site provided a no-cost way to distribute much-needed environmental education throughout the community. A magazine-type format television program and a corresponding web page were developed. The web page, which is on the city's web site, offers viewers links to more detailed information about current and past television program topics. The show is produced quarterly and includes such topics as waste reduction, environmentally friendly yard care, air quality, and construction salvage and reuse.

The overall goal of the program is to give viewers correct environmental information so that they can make informed decisions about their environmental impact in the community. Nearly 29,500 Fridley residents have access to electronic environmental programming, and the city has reached a wider audience by diversifying the way information is dispersed.

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The Next Step for Recycling: Wayzata's Curbside Organics Collection Program

In 2003, Wayzata implemented a citywide pilot project to divert as much of Wayzata's residential source-separated organics (SSO) as possible to composting, rather than disposal or resource recovery.

Prior to the first pickup, all 1,252 households in the city received a 38-gallon cart, kitchen bucket, and three-month supply of biodegradable bags for collecting their organics. The material is brought to the Hennepin County Recycling Center and Transfer Station in Brooklyn Park for inspection to ensure that non-biodegradable contaminants are below-threshold levels. After the material is inspected, it is transported to NRG Processing Solutions, a composting facility.

From the very beginning of the program, the source-separated organics collected from Wayzata's curbside program have been clean. As a result, NRG was able to compost all the material sent to its facility. The amount of material collected weekly is typically between 1½ to 2 tons.



During the pilot project, 215 tons of organics, primarily food waste and non-recyclable paper, was diverted from Wayzata's residential waste stream and composted into a valuable soil amendment. Residential garbage generated by Wayzata's residents decreased by 12 percent, from 1,056 tons in 2002 to 926 tons in 2004, while recycling tonnage increased by 23 percent.

In early 2005, the Wayzata City Council unanimously approved adding organics collection to the city's regular recycling services. The project's final report is available on: <http://www.swmcb.org/publications/pdf/ccofssway.pdf>.

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MPCA/OEA Alliance for Reduction and Recycling of Waste (ARROW) Team

Established in 1989, staff from the Minnesota Pollution Control Agency and the Office of Environmental Assistance created a committee to provide building-specific information about waste reduction, reuse, and recycling. Staff in the building is encouraged to "walk the talk." The goals and objectives of the volunteer-based committee are:

- ▶ develop methods that continue to encourage and educate staff regarding waste reduction, reuse, and recycling.
- ▶ ensure that the present waste reduction, reuse, and recycling programs continue to operate efficiently.
- ▶ develop new ways to reduce, reuse, and recycle.
- ▶ prepare reports on the two agencies' recycling efforts required by the Department of Administration.

In 1995, the amount of waste produced in the building was 113,000 pounds and more than 169,000 pounds of material was recycled or composted. In 2004, trash was reduced to only 64,000 pounds. The two agencies have also reduced the need for purchasing new office supply products because of the emphasis ARROW places on reusing materials such as binders, folders, paper, etc.



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Minnesota Army National Guard Battery Recharging Program, Rosemount FMS-1

The Minnesota Army National Guard Rosemount facility implemented a rechargeable dry cell battery program in 2003. Rechargeable batteries can be reused hundreds of times,



and once they no longer hold a charge, they can be recycled through the Rechargeable Battery Recycling Corporation (RBRC). As a result, this program eliminated most dry cell battery purchases and disposal costs.

During 2001 and 2002, the Rosemount field maintenance shop (FMS) disposed of approximately 850 pounds of dry cell batteries at a cost of \$1,100. During 2003 and 2004, that number dropped to less than 200 pounds at a cost of \$300. Starting this program saved the facility \$800 in just two years' time. Only 10 pounds of dry cell battery waste have been collected for 2005, as remaining stocks of disposable dry cell batteries are used up.

In that same span of time, hundreds of dry cell batteries would have been purchased and ultimately disposed of under universal waste management rules. By implementing the rechargeable battery policy and monitoring supply purchases, the Rosemount FMS ensures that no disposable battery technologies are brought back into the shop.

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Northeast Minnesota Mattress Recycling Pilot Project

The Northeast Minnesota Mattress Recycling Pilot Project is a complete system that provides for the collection, deconstruction, and recycling of recovered mattresses in northeast Minnesota. The project began as a grant to hold a workshop for stakeholders to develop and implement a mattress recycling project. The recycling project brought together partners from Goodwill Industries, universities, the hospitality industry, retailers, and the seven counties in northeast Minnesota. These partners have been able to work together to establish consistent criteria for mattress acceptance, tipping fees, etc.

As of February 2005, the number of participating retailers and institutions has increased from three to nine, over 4,500 mattresses have been deconstructed, over 100 tons of recyclable material have been diverted from the landfill, a reusable, alternative market for box springs has been created, tipping fees for disposal have increased to more accurately reflect disposal costs, and additional staff have been hired to work on mattress deconstruction at Goodwill. The project has become a model for other organizations across the nation.



2005 WINNER

Camp Ripley Recycling Program

The Camp Ripley program was established to reduce waste generated throughout Camp Ripley by procuring environmentally friendly products, reducing waste, and recycling as much as possible. This goal has been incorporated and institutionalized within the Minnesota Army National Guard Environmental Management System and Policy.

In 1988, Camp Ripley was generating 8½ pounds of refuse per person per day. In 2004, this amount had dropped to less than 2½ pounds of refuse per person per day. Camp Ripley currently recycles over 63 different items and systematically reviews the waste stream for new or expanded recycling initiatives. More than 3,500 tons of material have been recycled, which results in a landfill disposal cost savings of \$263,175.



2005 WINNER

Glensheen Low Impact Development, Shoreline and Bank Stabilization Projects

The Glensheen Estate is located on the rapidly developing shoreline of Lake Superior in Duluth. The goals of this project were to:

- ▶ improve water quality of storm water from the parking lot at Glensheen Estate into Lake Superior.
- ▶ stabilize the clay bank in order to reduce waves, rain, and surface flow erosion during large storms.
- ▶ provide a location where the general public can see examples of and become educated on low impact development practices.

All of these goals have been accomplished. The bank stabilization portion is protecting 140 feet of easily erodible bank. An estimated 70 tons of soil erosion will be kept out of Lake Superior trout spawning habitat because of the project. Over 70,000 visitors tour Glensheen each year, and educational information on the project is displayed for the public to read. This project demonstrates a great example for other sites on Lake Superior to replicate.

