

Minnesota Schools Cutting **KARBON**

100 schools, 3 years...
How much energy can we save?

Press Release

Minnesota Schools Cutting Carbon awards \$200,000 in grants to 23 schools across the state for student-led energy projects

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February 4th, Statewide Minnesota – The Minnesota Schools Cutting Carbon (MnSCC) Project has announced the award of over \$200,000 in 19 grants to 23 public high schools, colleges and universities across Minnesota. Projects range from making energy improvements such as energy efficient lighting and motion sensors; installing renewable energy projects including solar photovoltaic and solar thermal systems; increasing recycling and composting; reducing paper use and food waste; supporting community greenhouse production of local foods; and increasing sustainable transportation options by encouraging walking, biking, carpooling and bus riding to school.

“The hard work the teams have put into implementing their carbon reduction strategies at their schools has been amazing. Across Minnesota—rural and urban, college and high school—we are seeing young people take on leadership roles in reducing energy usage and implementing clean energy projects. It is unfortunate we only have limited funds, because we saw so many creative projects submitted and could only afford to fund a small percentage,” said Patrick Santelli, Schools Cutting Carbon Project Coordinator. Patrick is working closely with the participating schools to help them plan and implement projects at their schools. Sponsors and mentors from across the state are also welcome to provide support and guidance to teams.

Funding for these 19 grants and for the MnSCC Project is provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR). The Trust Fund is a permanent fund constitutionally established by the citizens of Minnesota to assist in the protection, conservation, preservation, and enhancement of the state’s air, water, land, fish, wildlife, and other natural resources.

One hundred public high schools, colleges and universities are joined together in the Minnesota Schools Cutting Carbon program to reduce their carbon emissions and save on energy costs. Student teams, led by a faculty coach and supported by school administrators and building operators, are exploring no-cost and low-cost behavior changes as well as larger projects to increase energy efficiency and create clean energy on campus. To view the schools participating across the state and find out how you can get involved, please visit www.SchoolsCuttingCarbon.org.

See the next several pages for a list of the 19 funded projects and 23 schools, with descriptions for each.

Minnesota Schools Cutting Carbon is a joint program of the Clean Energy Resource Teams, Minnesota Pollution Control Agency, and Minnesota Office of Energy Security. Funding for this project was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources.



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Grant Recipients and Project Descriptions

Gobblers Go Green – Aitkin High School: An energy audit by Environmental Resources Management (ERM) from the Schools Cutting Carbon program indicated that Aitkin High School's carbon footprint was "above average." Using suggestions from the ERM audit report, the school's Green Team created a list of energy-saving projects that will save energy and reduce the school's carbon footprint. Building upgrades that provide visible and teachable energy-savings include replacing existing exit lights with LED signs, replacing mercury vapor lights in the gym with more efficient lighting, installing motion detectors, and installing vending misers on school vending machines.

Beavers Cut More than Trees – Bemidji State University: Three campus facilities at Bemidji State University will install more efficient lighting technology to reduce energy use, operating costs, and safety concerns associated with these buildings. Deputy Hall, the BSU Gymnasium, and Bangsberg Fine Arts Complex are locations with high visibility because several thousand students, faculty, staff, community members, and visitors pass through these buildings each year. The project team will use various outreach methods to make the benefits of these lighting retrofits even more visible.

We Only Have One Earth: Reducing Our Carbon Footprint and Emissions – Crosby-Ironton High School: Crosby-Ironton High School is an Energy Star school that will implement a multi-faced project driven by students using behavior change and technological advances to continue reducing carbon emissions. One focus involves eliminating the "phantom load" from electronic devices by installing power strips and working with students and staff to shut down appliances and electric devices during the night. (Phantom load refers to the fact that many devices continue to use electricity even when turned off if they remain plugged into an outlet.) Another focus is an analysis of the building structure to identify areas of energy inefficiency by using energy-audit equipment such as an infrared camera, and identifying areas needing proper insulation, sealing, and other energy efficiency actions on an annual basis. Students will participate in these building inspections annually and present their recommendations to the school district.

LED Retrofit of Exterior Lighting – Dakota County Technical College: Current standard High-Intensity Discharge (HID) exterior parking lot fixtures will be replaced with LED lamps to improve and lower energy consumption, carbon emissions, and maintenance costs. Existing light poles will be used, with only the head and arm of the fixture needing replacement. A significant portion of this work will be integrated into the technical program curriculum and performed by students in this program. The project will provide valuable insight for future lighting decisions on campus and in the community, ongoing classroom learning, and the opportunity for a student-led team to share their experience with students and community members.

Triple Purpose Solar Training and Demonstration Project – Eden Valley-Watkins High School: Assisted by volunteer construction workers, as well as labor and materials donated by local businesses, high school students will build a solar project that will be used in the Eden Valley-Watkins science, math, and computer curriculum. Several photovoltaic modules will be mounted on a sun-tracker on the southeast corner of the school building, with an additional module incorporated into a solar training and demonstration unit. The team will also build an informative display in the main entrance lobby. In addition, the project will involve the community through student-assisted community education courses.

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Northeast Higher Education District Sustainability Collaborative - Hibbing, Itasca, Mesabi Range, Rainy River, and Vermilion Community Colleges: These five community colleges comprise the Northeast Higher Education District (NHED). Student sustainability teams at each NHED campus will focus on one of five areas relevant to the carbon footprint of higher-education institutions: student housing (Rainy River), commuting (Hibbing), food service (Itasca), solid waste (Mesabi Range), and lighting (Vermilion). Each sub-project includes a strong educational component to promote carbon emissions reductions throughout the NHED campuses and communities of greater Northeastern Minnesota. Upon completion of the project, each campus will share their challenges and triumphs with the other campuses.

Mix, Match, Recycle – Higher Ground Academy, St. Paul: High school students will organize a recycling program at the school for paper, plastic, glass and aluminum. They will lead the project by locating recycling bins throughout the school, educating students, teachers, and staff in how to separate recyclable products in the classroom and cafeteria, collecting and sorting recyclables, and measuring and reporting results. The project will emphasize teaching students, staff and the community about the importance of recycling and the impact of recycling on reducing the school's carbon footprint. Elementary and high school students will also go on field trips to recycling centers. The project hopes to foster a shared understanding of the benefits of recycling among the campus and community at large.

Walking Softer: Lightening John Marshall High School's Carbon Footprint – John Marshall High School, Rochester: Students will promote awareness of alternative energy sources and the efficient consumption of fossil fuels to their peers and the community. The school will install a new pool cover and expects to recover the installation costs within six months. They will continue to realize energy and cost savings for the remaining 4.5 years of the pool cover's expected lifetime.

Reducing Electricity Use in Our School and Community – Ortonville School District: Ortonville's Local Environmental Focus Team (LEFT) identified ways to reduce electricity usage after reviewing recommendations in the school's ERM energy audit report. The team will replace T12 bulbs with more efficient T8 bulbs in all classrooms that use those bulbs, install energy misers, and replace less efficient lighting in other classrooms. Electricity monitors will eliminate phantom electricity use, and the team will program laboratory computers so that they can be more easily shut down. Through in-kind donations of radio time and newspaper space, the school will educate the community about reducing energy use and the impact these actions have on the school's carbon footprint.

The Green Take-Over – Proctor High School, Proctor: Reducing electricity consumption and waste are the primary focus areas for reducing the carbon footprint of Proctor High School. To increase the energy efficiency of the building, eight motion sensors and two light harvesters will be installed in the secondary school building to assure that lights are on only when necessary; students will read energy meters before and after the implementation of this system to determine energy savings. Also, the school will replace fifteen of its CRT computer monitors with energy efficient LCD monitors. To decrease food waste, Proctor will implement a composting campaign. Purchasing additional reusable dishes and utensils for the cafeteria will also help the school realize its goal of recycling at least 50% of its waste by reducing waste in those areas.

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Cooling Our Heels – Rosemount High School: Rosemount High School's energy audit report by ERM indicated that Rosemount High has a larger than average carbon footprint. This project is intended to reduce energy use by over 10%, as well as reducing the amount of paper used at the school by a similar percentage. Students will use light meters and infrared thermometers to identify areas needing energy efficiency improvements such as caulking, insulation and weather-stripping. Motion activated sensors, power strips, and energy misers will be used for energy management. Sixteen LCD computer monitors will replace half of the existing CRT monitors. Paper reduction training for teachers and monitoring software will reduce the amount of printing by teachers and students. The student team will also organize and promote a walk/bike/carpool/bus day.

Reducing Our Carbon Footprint through Alternate Energy – St. Michael-Albertville High School: Through a shop class design-and-build project, students will help construct a passive solar air heating system in the school's greenhouse and a small solar thermal hot water heating system to demonstrate the power of solar thermal. Both projects will be integrated into the school curriculum. In addition, students will evaluate the effectiveness of these projects through an electronic monitoring system that will be used to train students in all grades through web-based system integration or video monitoring.

Southwest Community Education Green Team Solar Lighting Project – Southwest High School, Minneapolis: Nearly forty percent of the school's greenhouse gas emissions are from electricity usage. The Southwest Community Education Green Team ("SWCEd") will educate the student body, community, and elementary students about alternative energy sources, with an emphasis on the beneficial applications of solar energy. The team will demonstrate how solar energy can reduce carbon emissions by building a solar lighting module and solar heating module. The team will use these materials in elementary school and community workshops to illustrate how solar energy can be effectively produced and used to reduce reliance on fossil fuels and reduce our carbon footprint.

EcoCity Works! Cuts Carbon – The City, Inc., Minneapolis: The EcoCity Works! student environmental club conducted an energy audit to determine improvement options for the school and recommended that The City, Inc. replace the school's washing machine and milk cooler, which are not energy efficient due to their age and condition, with Energy Star qualified appliances to realize energy savings. The EcoCity Works! team will promote the project and the resulting energy savings through its website, Face Book account, newsletter, and at a planned special event to educate the school and community about the benefits of saving energy.

UMD Cutting Carbon: Conservation, Education and Investigation – University of Minnesota – Duluth: University of Minnesota – Duluth (UMD) students and staff will lead an energy conservation outreach campaign targeted at behavioral changes to reduce electricity use on campus. Campaigns include: Dorm Energy Wars, a UMD-Energy Saver pledge (with a web-based tracking component), departmental energy mini-audits, and a 'Green Your Office' presentation series providing energy-saving incentives (i.e. power strips, and possibly wool socks or sweatshirts funded by UMD). The project will also offer the UMD community a way to pledge to save energy and track promised energy savings through a web-based database and modification of an existing energy conservation program pledge.

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Students Using Natural Energy (SUN-E): Solar Thermal Installation and Education Project – University of Minnesota – Morris: A new solar-thermal heating system is being installed on the Recreation Fitness Center (RFC) community pool and will serve as a demonstration site for the project. The Students Using Natural Energy (SUN-E) team at the University of Minnesota – Morris (UMM) will use grant funding to support the RFC solar-thermal project by recruiting student volunteers to support the technical and educational outreach objectives of the project and to educate the campus, other colleges, and local communities about solar-thermal energy. Funds will also be used to purchase two of the solar thermal panels. The benefits of a solar-thermal heating system for the pool are reductions in natural gas consumption and resulting greenhouse gas emissions. The University of Minnesota-Morris (UMM) shares the RFC with Stevens County residents and the Morris Area Education System (MAES).

Willmar Community Greenhouse Expansion – Willmar Public School: The Willmar Community Greenhouse was created in fall 2007 as a student project by the Youth Energy Summit (YES) student team at Willmar Public School. A unique hybrid heating system fueled primarily by passive solar heating, hot water solar collectors, and a biomass burner heats the greenhouse. This project involves expansion of the current operation by building more planting beds, improving delivery of produce, and increasing vermiculture. Expanding the number of planting beds includes building a new frame for insulation and will increase production, heat retention, and thermal mass. The expansion of planting beds will also help the project move closer to becoming self sustaining by generating more revenue. The vermiculture increase will produce more heat, which will help maintain more consistent growing conditions and produce a high quality soil supplement.

Winona Senior High School Farm to School, Bike to School, and Water to School – Winona Senior High School: This project intends to increase the number of students and staff biking to school. The student team will lead the construction of a bike shelter equipped with a security system, and promote these improvements and the benefits of biking to school to students and staff. In addition, the school team will support the use of reusable water bottles by making them available and creating an educational campaign to increase student awareness about the benefits of replacing their disposable bottles with reusable bottles. The student team would also like to incorporate more local foods as options for its lunch program.

A Million Miles per Gallon: Transitioning to a Bicycle-Based Community – Winona State University: This project promotes a viable alternative to automobiles by purchasing 20 industrial cruiser bicycles and helmets to expand Winona State University (WSU)'s student-led bike rental program. The project also provides for student staffing for the recently launched WSU Bike Station, as well as installation of bicycle racks on school shuttles to enable mixed bike/public transportation options. WSU's goal is that this program will achieve a more sustainable, bicycle-based community throughout the City of Winona.

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