

CERTs 2012 Seed Grant Recipients

Helping Minnesota communities determine their energy future

The Clean Energy Resource Teams (CERTs) connect you and your community members with resources to identify and implement energy efficiency and renewable energy projects.

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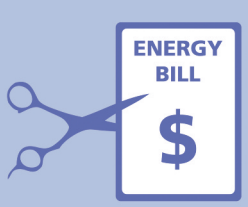


As we kick off 2012, we are excited to announce the projects awarded CERTs seed grants in each of the seven Minnesota CERTs regions.

Each of the seven CERTs regions awarded $10,000 worth of seed grants, catalyzing energy efficiency and renewable energy projects across the state. The funding is provided by the Minnesota Department of Commerce, Division of Energy Resources.

Read on for all of the details! Thanks to everyone who submitted a proposal!
To learn more about past funded projects, visit http://projects.mncerts.org.

CENTRAL REGION

Solar Thermal for Mobile Homes – Rural Renewable Energy Alliance
Pine River, MN – The Rural Renewable Energy Alliance's Solar Thermal for Mobile Homes Project aims to bring energy efficient and cost saving solar air heat (SAH) to mobile homes in Minnesota. RREAL's Solar Assistance program provides an economically, environmentally, and socially responsible solution that lasts for decades. However, solar thermal installations are typically not permitted for the several million American living in mobile homes. This project will allow RREAL to secure a structural engineering stamp for the integration of SAH on a typical mobile home structure and thereby allow this valuable service to be extended to mobile homes across the State. (Research: Renewable Energy; $5,000)

Solar Energy Conservation Project – Northland Arboretum
Brainerd, MN – This project represents the final – yet critical – phase of the Northland Arboretum's Solar Energy Conservation Project to create a real time, touch screen display that merges energy cost data (usage) with solar production data (output). This display will create an interactive exhibit in the lobby of the Arboretum's Visitor Center designed to educate viewers about the value of energy conservation. With over 26,000 onsite visitors, as well as access via the Arb's website, this project will add tremendous educational value to the other efforts already put in place.
(Education: Renewable Energy; $2,500)

Park Rapids Area Energy Expansion – Sailer Environmental
Park Rapids, MN – The Park Rapids Area Energy Expansion project's primary aim is to facilitate the formation of a cohesive, local energy interest group, beyond the city itself, that will collaborate with other organizations, provide structure for future community energy initiatives, and educate community members on a broad spectrum of energy topics including energy efficiency and conservation measures, renewable energy systems and the expertise to maintain them.
(Outreach: Energy Efficiency & Renewable Energy; $2,500)

METRO REGION

Sustainable Living Pilot Program – Aeon
Minneapolis, MN – Aeon is a nonprofit developer of high-quality affordable apartments and town homes that serve more than 3,000 people annually in the Twin Cities. Through the Sustainable Living Pilot Program, Aeon seeks to engage residents in conservation, providing a platform for education, engagement, empowerment and leadership around sustainable living practices.

The primary goal of the project is to engage residents in reducing water and energy use, diminishing waste, and increasing recycling efforts. Long-term, Aeon's Sustainable Living Program will help Aeon reduce energy usage throughout their entire portfolio. (Energy Efficiency: Low-Cost/No-Cost Upgrades, Behavior Change; $2,500)

North High AquaSol Project – Renewables Research & Policy Institute
Minneapolis, MN – The AquaSol project at North High School will combine aquaponics technology powered by renewable energy to provide an environmental education opportunity for students. The first phase of the project is an assessment to determine the best renewable energy option (e.g. solar, wind, or combination) for the school's greenhouse. The engineering assessment and development for the project will be provided by the Renewables Research and Policy Institute LLC, a renewable energy and energy efficiency deployment and consulting firm located in Minneapolis. The AquaSol laboratory will provide science and environmental education for the school as well as urban gardening resources for the surrounding North side community.
(Energy Efficiency: Audit; Renewable Energy: Solar Electric, Wind; Energy Storage; $1,500)

Shakopee Environmental Learning Center – SELC Committee
Shakopee, MN – The Shakopee Environmental Learning Center (SELC) is a model of community interaction and involvement. This project ties together the efforts of Shakopee High School (SHS), local building contractors, the City of Shakopee, and Lowe's Home Improvement to create an innovative, self-sustaining structure that will serve as a model of green design and clean energy sources for this region. Although the SELC is being built by SHS construction classes as a lesson in green construction, expert labor is required to complete the installation of the solar panels and wind turbine. The purpose of this grant is to secure funding for that technical assistance. (Energy Efficiency: Low-Cost/No-Cost Upgrades, Behavior Change; Renewable Energy: Solar Electric, Wind; $4,000)

Solar Learning Center – Transfiguration Catholic Church & School
Oakdale, MN – This project will provide a mobile information Solar Learning Center (SLC) that can be used in classrooms and positioned throughout the church/school campus. The SLC will provide information concerning the design and operation of a 40 kilowatt solar photovoltaic project (210 panels) on the roof of the school installed in late 2010. The SLC will include a real-time display of electricity generation for the system and the cumulative amount of power generated. Funding will primarily enable a teacher at the school to serve as a coordinator for assistance in creating the SLC and integrating the SLC into the student curricula, as well as the broader parish community. (Renewable Energy: Solar Electric; $2,000)

NORTHEAST REGION

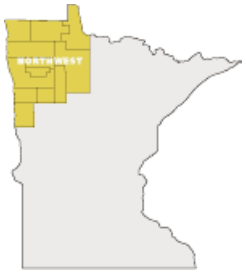
Ely Senior Center Energy Efficiency Project – Ely Area Senior Citizens Inc.
Ely, MN – The Ely Area Senior Citizens provides social and volunteer opportunities, and public transportation for area senior citizens. The Ely Area Senior Citizens Center is used by several supporting organizations and hosts a variety of activities for area senior citizens. The Ely Senior Center Energy Efficiency Project will continue conservation and weatherization improvements to the Ely Area Senior Citizens including sealing major air leaks and upgrading attic insulation to R50. These upgrades will not only save the Center energy, but also increase the effectiveness of the solar air heat panels recently installed to supplement the fuel oil heating system. This is an important and cost-effective step in the Center's overall energy plan. This project will continue to facilitate community collaboration by bringing in multiple generations and organizations, and highlighting the opportunities for energy savings through building improvements. (Implementation and Education: Energy Efficiency; $3,500)

Esko Fire Hall Energy Efficiency Upgrade – Thomson Township
Thomson Township, MN – As a local government unit, the Town of Thomson is committed to energy efficiency upgrades that will reduce costs for its township citizens. The Thomson Township and the Esko Fire Department have had all public buildings evaluated and audited for energy efficiency and potential savings. The Thomson Township Firehouse energy efficiency project will aid in the implementation of recommended upgrades for the Esko Fire Hall such as replacing outdated lighting with more efficient fixtures, installing occupancy light controls, connecting cooling timers to drinking fountains, and adjusting the water heater controls. These upgrades collectively have a projected payback of less than 2 years. These energy efficiency improvements will be shared with the Township citizens and other local volunteer fire departments as a benchmarking tool. (Implementation: Energy Efficiency; $1,000)

Charging Up the Curriculum – Hibbing Community College
Hibbing, MN – Hibbing Community College (HCC) is a public two-year, comprehensive community and technical college. HCC's "Charging Up the Curriculum" project is designed to bring together community college and high school students, with Minnesota-based manufacturers of electric vehicles and solar panels. Participating high school students will convert a small truck to an all-electric vehicle while HCC students in the Solar Photovoltaic Program will install a Silicon Energy solar array for a solar changing station for the electric car. The students will gain hands-on experience working with electrical systems, as well as collaborate with various community members and businesses related to the Charging Up the Curriculum electric vehicle project.
(Implementation and Education: Energy Efficiency and Renewable Energy; $1,500)

Student Housing Solar Thermal Domestic Hot Water Pre-Heat System – Vermillion Community College
Ely, MN – Vermilion Community College (VCC) is committed to becoming a sustainable institution. The solar thermal hot water pre-heat system for Vermilion Hall is a project that will contribute solid, visible progress toward VCC's sustainability goals. Vermilion Hall, the primary residence hall on campus that houses 150 students each school year and 50 residents in the summer, currently uses a traditional hot water heating system fueled by propane. The solar thermal pre-heating has the potential to cut the building's hot water energy costs in half, reducing operational costs and achieving the college's sustainability goals. The solar thermal system will be prominently placed and serve as an educational example to students, parents, and the community, showcasing an example community clean energy. (Implementation and Education: Renewable Energy; $4,000)

NORTHWEST REGION



Ice Arenas Energy Study – City of East Grand Forks
East Grand Forks, MN – As part of its broader city-wide sustainability initiatives to improve energy conservation, cost savings, and healthy lifestyles, the City of East Grand Forks is performing a comprehensive energy study for three indoor ice arenas: the East Grand Forks Civic Arena, the East Grand Forks VFW Arena, and the East Grand Forks Blue Line Arena. The study will determine the most significant power consuming items of each arena building, and the annual energy savings possible if systems are upgraded to energy efficient equipment. The study will involve inspections of the buildings' envelope, the ice making systems, lighting and HVAC systems. With this study, the City of East Grand Forks can make an informed decision as to what potential renovations will best benefit the community and contribute to the City's overall sustainability program. (Research: Feasibility Study; $3,000)

City Shop Energy Improvement Project – City of Warren
Warren, MN – The City of Warren has been completing energy audits of its existing buildings and shop. This project will implement identified energy-saving opportunities in the City Shop, including upgrading from single-pane to energy efficient windows, replacing un-insulated steel doors with insulated doors, and increasing the insulation of the concrete walls. With the new improvements, the city anticipates significant natural gas cost savings. Additionally, the Energy Improvement Project will be a model for other public and private buildings interested in similar endeavors; specifically the cost-savings and payback information will be helpful in financing of future community projects. (Energy Efficiency: Building Envelope; $2,500)

Renewable Energy Guide for Schools Outreach – Minnesota Renewable Energy Society
Northwest CERT Region, MN – Minnesota Renewable Energy Society coordinated and managed production of a Renewable Energy Guide for Schools, published in 2011 under a contract with the Division of Energy Resources and the Minnesota Pollution Control Agency (see guide: http://mnrenewables.org/REguide). This project will provide further support and follow-up about the guide to individuals in the education community to facilitate information sharing and catalyze local projects. MRES will connect with educators interested in being renewable energy project champions, create a channel of communication for information, and identify an efficient mechanism to transform interest generated by the guide into action. (Education: Renewable Energy; $500)

Biomass Heating Plant Feasibility Study – University of Minnesota-Crookston
Crookston, MN – The University of Minnesota-Crookston (UMC) hosts a college of 1,500 students, the Northwest Research and Outreach Center, regional Extension Service, and the Northwest Regional Sustainable Development Partnership. Serving their vision as a regional hub for regional sustainability, UMC will be evaluating locally available biomass sources to potentially replace coal with biomass pellets/briquettes in their power plant. A variety of biomass sources are within 30 miles, including hybrid cattails, brush, grass, and hybrid poplar plantings. UMC will partner with the Energy & Environmental Research Center (EERC) at the University of North Dakota and the Nature Conservancy to conduct a feasibility study to evaluate the role of biomass as a renewable fuel, including the sustainability, energy content, and compatibility of biomass within the UMC system. (Research: Renewable Energy; $4,000)

SOUTHEAST REGION

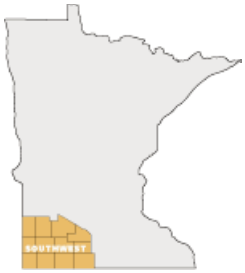
Make Mine Solar – Minnesota Renewable Energy Society
Freeborn, Mower, Steele, and Olmsted counties, MN – The goal of the Make Mine Solar program is to both increase consumer awareness around solar thermal technologies and decrease the implementation barriers that often impede solar installations. The program is developed to walk a consumer through the steps of purchasing solar in a non-biased manner while also providing great deals on equipment and labor costs. MRES will increase awareness and education through free workshops and low-cost site assessments. They will reduce barriers by pre-approving local installers, setting a price for the average system, and assisting potential customers in streamlining the permitting process. MRES will collaborate with local energy groups and utilities to host workshops and recruit potential participants. (Implementation and Outreach: Renewable Energy; $5,300)

Renewable Energy Guide for Schools Outreach – Minnesota Renewable Energy Society
Southeast CERT Region, MN – Minnesota Renewable Energy Society coordinated and managed production of a Renewable Energy Guide for Schools, published in 2011 under a contract with the Division of Energy Resources and the Minnesota Pollution Control Agency (see guide: http://mnrenewables.org/REguide). This project will provide further support and follow-up about the guide to individuals in the education community to facilitate information sharing and catalyze local projects. MRES will connect with educators interested in being renewable energy project champions, create a channel of communication for information, and identify an efficient mechanism to transform interest generated by the guide into action. (Education: Renewable Energy; $500)

Small Wind Bulk Buy – Region 9 Development Commission
Blue Earth, Faribault, Le Sueur and Waseca counties, MN – This project will support the Region 9 Development Commission, in collaboration with Windustry, in developing a Small Wind Bulk Buy program. The intention of the program is to provide the technical and logistical support for a group of individuals, small business, and agricultural enterprises to leverage their purchasing power to make small wind turbines more affordable, to begin the development of a local workforce trained to install and maintain these turbines, to stimulate additional supply chain business development, and to keep energy and energy dollars local to build the rural economy. (Outreach: Renewable Energy; $2,100)

Jefferson Elementary Direct Digital Control System and Facilities Staff Training – Winona Area Public Schools
Winona, MN – Jefferson Elementary will begin upgrades to its 1939 vintage heating system in 2012. This particular project will provide support to integrate a new energy management system in the building to provide state of the art controls and to ensure that building staff are trained (to then serve as onsite trainers). These controls, combined with staff training, will optimize the new heating system's energy savings and ensure that operation—and energy usage—is tailored to building occupancy. Beyond the direct energy savings, the project will impact both the school and the broader Winona community. The project will be publicized to the community through press releases and District newsletters. Additionally, fourth grade students will calculate energy and cost savings each year as part of their math class. They will publish the results for the school, district, and community on an annual basis showing results per year and improvement over time. (Implementation & Education: Energy Efficiency; $2,100)

SOUTHWEST REGION



Biomass Heating Feasibility Guide – Agricultural Utilization Research Institute (AURI)
Southwest CERT Region, MN – AURI will create a Biomass Heating Feasibility Guide focused on poultry production and greenhouse industries to replace high cost fuels such as propane and fuel oil with biomass combustion heating systems. The guide will include an analysis of several biomass heating technologies and an economic feasibility analysis to be used as a tool to determine the feasibility of switching to biomass heating systems. Heating costs for these businesses are a significant portion of their operating expenses and more cost effective heating systems are needed for them to stay competitive and grow in SW MN. (Research; $6,000)

Renewable Energy Guide for Schools Outreach – Minnesota Renewable Energy Society
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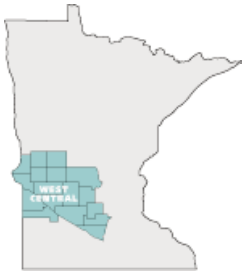
(Renewable Energy; $2,000)

Small Wind Bulk Buy – Region 9 Development Commission
Brown, Watonwan, Martin counties, MN – This project will support the Region 9 Development Commission, in collaboration with Windustry, in developing a Small Wind Bulk Buy program. The intention of the program is to provide the technical and logistical support for a group of individuals, small business, and agricultural enterprises to leverage their purchasing power to make small wind turbines more affordable, to begin the development of a local workforce trained to install and maintain these turbines, to stimulate additional supply chain business development, and to keep energy and energy dollars local to build the rural economy.
(Outreach: Renewable Energy; $2,000)

WEST CENTRAL REGION



Milan Community Center Energy Revitalization Project – Sustainable Energy Utility (SEU) of Milan
Milan, MN – The Sustainable Energy Utility (SEU) of Milan provides education, technology, and financing services for area residents to improve energy efficiency and consider renewable energy for their residences, businesses, and gathering places. The SEU is working to revitalize the Milan school building to improve its energy efficiency and better fit the multiple uses of the community. The project will study the community's mixed use of the building and the feasibility of a district heating/cooling system, develop schematic plans, and prepare cost estimates and finance options for local biomass aggregation and cooperative pelletization. Potential improvements to the Milan school building include adding insulation to roof and walls, upgrading the heating and cooling system, and making architectural changes to accommodate expanded mixed uses. (Implementation: Renewable Energy & Energy Efficiency; $2,500)

Renewable Energy Guide for Schools Outreach – Minnesota Renewable Energy Society
West Central CERT Region, MN – Minnesota Renewable Energy Society coordinated and managed production of a Renewable Energy Guide for Schools, published in 2011 under a contract with the Division of Energy Resources and the Minnesota Pollution Control Agency (see guide: http://mnrenewables.org/REguide). This project will provide further support and follow-up about the guide to individuals in the education community to facilitate information sharing and catalyze local projects. MRES will connect with educators interested in being renewable energy project champions, create a channel of communication for information, and identify an efficient mechanism to transform interest generated by the guide into action. (Education: Renewable Energy; $500)

Small Wind Bulk Buy – Region 9 Development Commission
Nicollet and Sibley counties, MN – This project will support the Region 9 Development Commission, in collaboration with Windustry, in developing a Small Wind Bulk Buy program. The intention of the program is to provide the technical and logistical support for a group of individuals, small business, and agricultural enterprises to leverage their purchasing power to make small wind turbines more affordable, to begin the development of a local workforce trained to install and maintain these turbines, to stimulate additional supply chain business development, and to keep energy and energy dollars local to build the rural economy.
(Outreach: Renewable Energy; $2,000)

Solar Garden Development – The Johnson Center for Environmental Innovation, Gustavus Adolphus College
St. Peter, MN – The Johnson Center for Environmental Innovation supports environmental sustainability on the Gustavus Adophus College campus and in the surrounding communities. The Johnson Center will develop and implement a community solar garden concept that will help people who face obstacles to rooftop solar power, and that offers benefits to all stakeholders. The solar garden will enable more community members to be a part of local renewable energy transformation. This project provides a working example of a community-model for renewable energy for Gustavus students and the St. Peter community, and will demonstrate how organizational innovation can support greater expanded renewable energy generation capacity in the community.
(Implementation and Education: Renewable Energy; $2,500)

Willmar Community Greenhouse – Willmar Public School's Youth Energy Summit Team
Willmar, MN – The Willmar Public School's YES! Team promotes sustainability through demonstrating the energy-saving and health benefits of locally grown produce. The YES! Team will upgrade the Willmar Community Greenhouse through greater insulation, system redesign, and reconstruction to improve the efficiency of the solar panels and the biomass boiler. The greenhouse is currently heated through passive solar, solar thermal hot water panels, a biomass burner, and vermicompost bins. In addition, the renovation will expand the growing area and further improve the energy efficiency. The Willmar Community Greenhouse provides produce for the Willmar Public Schools, individual patrons, and the Willmar Area Food Shelf, as well as learning opportunities for students and community members. (Implementation and Education: Energy Efficiency; $2,500)

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