

**Environment and Natural Resources Trust Fund
2010 Request for Proposals (RFP)**

LCCMR ID: 067-B2

Project Title:

Strategically Reshaping DNRs Energy and GHG Emissions Footprint

LCCMR 2010 Funding Priority:

B. Renewable Energy Related to Climate Change

Total Project Budget: \$ \$2,500,000

Proposed Project Time Period for the Funding Requested: 3 years, 2010 - 2013

Other Non-State Funds: \$ \$0

Summary:

Reshaping energy use to support natural resource and environmental goals. Achieving and demonstrating dramatic GHG reductions at DNR facilities through strategic high return, cutting edge efficiency and renewable energy projects.

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Sponsoring Organization: DNR

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Location:

Region: Statewide

County Name: Statewide

City / Township:

_____ Knowledge Base	_____ Broad App.	_____ Innovation
_____ Leverage	_____ Outcomes	
_____ Partnerships	_____ Urgency	_____ TOTAL

MAIN PROPOSAL

PROJECT TITLE: Strategically Reshaping DNR's Energy and GHG Emissions Footprint

I. PROJECT STATEMENT

The Department of Natural Resources is committed to being a leader in the implementation of sustainable energy systems at the approximately 2500 buildings managed by DNR statewide. Initial efforts have included a building at Camden State Park that combines wind power generation with geothermal heating and cooling to produce a facility that uses no "net" energy from traditional fossil fuel or electric sources. Other DNR facilities have utilized solar-powered lighting, solar-powered pumps, and LED parking lot lighting.

"Changes Related to Energy and Climate" is one of the key trends that DNR has included in its 2009-2013 Strategic Conservation Agenda. As a part of that focus, there is a need to accelerate installation of small sustainable energy features at DNR facilities, and to better understand what mix of sustainable energy technology is appropriate for different types of DNR sites. Good monitoring data of these systems will be needed, along with a better understanding of lifecycle costs and payback periods. Installation challenges and appropriate design techniques need to be documented and understood.

This project proposes to take the following steps at 8 DNR facilities (one state park or recreation area plus one other DNR facility in each of the four DNR regions): 1) conduct baseline energy audits; 2) address issues identified in baseline audits; 3) install a sustainable energy system and high-quality monitoring equipment at each site that may include photovoltaic solar, solar thermal, wind generation, geothermal heating and cooling, LED lighting, daylight harvesting, and others; 4) install appropriate interpretive displays (real time electronic where feasible) to provide public information about sustainable energy technology and increase public interest; 5) prepare a comprehensive study document that compiles baseline data, installation costs, carbon footprint calculations, energy statistics, operational issues, and lifecycle costing information about each site and combination of equipment.

This baseline information will help position DNR to effectively meet the requirements of the Sustainable Buildings 2030 statute (MN Statutes 216B.241) and Executive Order 05-16 (Conserving Energy in Buildings). Installations chosen for this project will be primarily in Greater Minnesota, as DNR has received a grant from Xcel Energy that will fund a similar program at DNR facilities in the Xcel service area (primarily metro and southern Minnesota). In addition, this project will provide DNR with the opportunity to leverage Park's existing marketing partnership with Great River Energy (Touch Stone Energy Partners) to explore energy efficiency/conservation projects.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: Conduct baseline energy audits at eight DNR facilities

Budget: \$ 50,000

Deliverable:

Completion Date

- 1) Detailed energy audit by professional energy audit consultant for each site

December 2010

Result 2: Address facility deficiencies identified by audits

Budget: \$400,000

Deliverable

Completion Date

- 1) Improved energy efficiency in each facility (i.e. replacement or renovation of Lights, windows, doors, furnaces, water heaters, insulation, etc.)

December 2011

Result 3: Installation of sustainable energy equipment, such as PV solar,

Budget: \$1,600,000

solar thermal, wind generators, geothermal heating/cooling, LED lighting, daylight harvesting) and monitoring equipment

Deliverables

- 1) Individualized design for each site to provide optimal mix of energy saving equipment.
- 2) Installation of energy-saving equipment and monitoring equipment at each site

Completion Date:

July 2011

December 2011

Result 4: Installation of interpretive displays, including real-time electronic information where feasible

Budget: \$400,000

Deliverables

- 1) Individual interpretive design for each site
- 2) Installation of interpretive displays for each site

Completion Date:

December 2011

July 2012

Result 5: Summary Reporting

Budget: \$50,000

Deliverable

- 1) Prepare a comprehensive summary report that addresses the following areas for each site:
 - a) baseline data, b) installation costs and problems,
 - c) energy use records, d) carbon footprint reduction calculations,
 - e) lifecycle cost data, and f) operational issues

Completion Date

June 30, 2013

Overall Project Budget:

\$2,500,000

III. PROJECT STRATEGY AND TIMELINE

A. Project Partners

DNR has received a \$897,000 grant from Excel Energy to pursue energy installations, monitoring, and public education at DNR facilities within the Excel service area. This LCCMR project would pursue similar goals in areas not served by Excel, and add critical information at each end of the projects with the initial energy audit and final summary reporting. Partnerships would be established with local energy providers at each site chosen.

B. Time

This project would require 36 months to complete, with a final completion date of June 30, 2013.

C. Long-Term Strategy

This project addresses an important part of DNR's "Strategic Conservation Agenda 2009-2013" (currently in draft form), as it is directly related to the trend of "Changes Related to Energy and Climate", which has three strategic directions: a) Climate Change Mitigation and Adaptation, b) Conservation-based Energy Sources, and c) Energy Efficiency. It is also an important part of DNR's efforts to comply with the Governor's Next Generation Energy Act which established 15%, 30%, and 80% reductions in greenhouse gas emissions by 2015, 2025, and 2050 respectively.

Project Budget

IV. TOTAL PROJECT REQUEST BUDGET (\$2,500,000 for 3 YEARS)

BUDGET ITEM	AMOUNT
Personnel:	\$ -
Contracts:	\$ -
Contract for utility or architecture/engineering firm to perform energy audits and provide summary reports	\$ 80,000
Contract for Architecture/Engineering firm(s) to design energy efficient HVAC and building renovations, and renewable energy systems.	\$ 285,000
Contract for design, fabrication, and installation of interpretive displays	\$ 400,000
Construction contracts for installation of energy efficiency and renewable energy designs	\$ 1,700,000
Equipment/Tools/Supplies: <i>In this column, list out general descriptions of item(s) or item type(s) and their purpose - one line per item/item type.</i>	\$ -
Travel: In-state travel to the NE, NW, SE, and SW parts of MN for visits to the 8 sites selected for implementation of this request.	\$ 35,000
Additional Budget Items: <i>In this column, list any additional budget items that do not fit above categories. List by item(s) or item type(s) and explain how number was reached.</i>	\$ -
TOTAL PROJECT BUDGET REQUEST TO LCCMR	\$ 2,500,000

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ Being Applied to Project During Project Period: <i>Indicate any additional non-state cash \$ to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.</i>	\$ -	<i>Indicate: Secured or Pending</i>
Other State \$ Being Applied to Project During Project Period: <i>Indicate any additional state cash \$ (e.g. bonding, other grants) to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.</i>	\$ -	<i>Indicate: Secured or Pending</i>
In-kind Services During Project Period: <i>Indicate any in-kind services to be provided during the funding period. List type of service(s) and estimated value. In-kind services listed must be specific to the project.</i>	\$ -	
Remaining \$ from Current Trust Fund Appropriation (if applicable): <i>Specify \$ and year of appropriation from any current Trust fund appropriation for any directly related project of the project manager or organization that remains unspent or not yet legally obligated at the time of proposal submission. Be as specific as possible. Describe the status of \$ in the right-most column.</i>		<i>Indicate: Unspent? Not Legally Obligated? Other?</i>
Funding History: <i>Indicate funding secured prior to July 1, 2010 for activities directly relevant to this specific funding request. State specific source(s) of funds.</i>	\$ -	

Minnesota Department of Natural Resources

Worksite Locations and Leased Offices



- Multi-Discipline
- Parks and Recreation
- Forestry
- Fisheries
- Wildlife
- Lands and Minerals
- Trails and Waterways
- ▲ Leased Offices

- DNR Regions**
- Bemidji
 - Grand Rapids
 - New Ulm
 - St. Paul



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3/10/2008

May 1, 2009

LCCMR Proposal: Strategically Reshaping DNR's Energy and GHG Emissions Footprint

Project Manager Qualifications and Organization Description

Project Manager Qualifications:

Kath Ouska will be the Project Manager for this project. Kath is the Facility Manager for DNR, and leads a team of professional designers highly versed in the design and development of energy efficiency and renewable energy projects. She was a leader in the initiation of the B3 and MN Sustainable Building Guidelines, and a registered architect with over 20 years of successful project management experience.

Organization Description:

DNR's mission is to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life. DNR is committed to conserving natural resource systems - working with citizens and partners to achieve its three-part mission.