

**Environment and Natural Resources Trust Fund
2019 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 187-E

Using Solar Resources to Create Student Scholarship Funds

Category: E. Air Quality, Climate Change, and Renewable Energy

Sub-Category:

Total Project Budget: \$ 1,800,000

Proposed Project Time Period for the Funding Requested: June 30, 2022 (3 yrs)

Summary:

The MN Coalition of Residential Environmental Learning Centers proposes to create statewide scholarships for 550-650 economically underprivileged students, annually, through LCCMR funded solar array expansions at six environmental centers.

Name: Karl Brown

Sponsoring Organization: Minnesota Coalition of Residential Environmental Learning Centers/Mounds View

Title: Director, Laurentian Environmental Center

Department: _____

Address: 4570 Victoria Street North
Shoreview MN 55126

Telephone Number: (651) 621-6053

Email karl.brown@moundsvIEWSschools.org

Web Address https://www.moundsvIEWSschools.org/laurentian

Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

This visual shows a flowchart tracing the process by which solar energy savings will be converted into sustainable Environmental Education scholarship funds for economically disadvantaged students.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity	_____ Readiness	_____ Leverage	_____ TOTAL _____%
_____ If under \$200,000, waive presentation?			



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

PROJECT TITLE: Using Solar Resources to Create Student Scholarship Funds

I. PROJECT STATEMENT:

The MN Coalition of Residential Environmental Learning Centers (MCRELC) proposes to create a perpetual scholarship fund for economically disadvantaged students (approximately 500-650 students annually, statewide) by leveraging the energy savings afforded through a LCCMR funded increase in our solar infrastructure capacity. The MCRELC Centers across MN, through their association with schools and school districts, are uniquely positioned to increase student knowledge of conservation issues and recreational use of natural resources among student groups who are currently largely underrepresented in outdoor leisure participation. This proposal involves increasing the centers' current PV solar capacity towards 100KW systems at each site (based on approximate cost of \$3.00/watt, or \$300,000 per Center), with the majority of resulting actual annual savings realized (estimated at a high limit of \$65K-\$70K annually across all centers) applied to providing schools and/or individual students with high quality environmental learning experiences. Scholarship funds would be made available to any school program demonstrating over 25% Free and Reduced eligibility, and/or to partially supplement individual students from programs below that cut level. Expanded arrays would also contribute towards a "net zero" energy consumption footprint, continuing the Coalition's prior ENRTF funded work with MCRELC in the Sustainable Energy Priority area. Creating this sustainable system would, at best estimates, approach the same Return on Investment ratio for LCCMR as direct "pass through" scholarships that LCCMR has funded in the past and reduce the foreseeable future need to apply for direct scholarship funds supporting this targeted population.

II. PROJECT ACTIVITIES AND OUTCOMES

ENRTF Budget: \$1,800,000

Activity 1: Installation of PV Solar Arrays – Installation of photovoltaic solar arrays at Wolf Ridge, Eagle Bluff, Laurentian, Audubon, Deep Portage, and Long Lake Residential Environmental Learning Centers, increasing solar capacity per center towards 100KW (at a cost of \$300,000 per center) with dedicated savings funds used to fund student scholarships.

Outcomes	Completion Date
1. Consultation/RFP with contractors and securing written support and formal agreements from regional energy carriers (Excel, Great River, Lake Country, East Central, Crow Wing, MN Power) for retail buy-back/reduction rates, production caps, and array orientation that would most benefit both the regional grid and site production of excess kWh.	Sept 1, 2019
2. Construction of solar array expansions at each site, including updates of current monitoring equipment for educational use and real-time calculation of power generation and savings. Allotments are inclusive of Consulting/RFP costs. <ul style="list-style-type: none"> Laurentian Environmental Learning Center, Britt - \$300,000 Eagle Bluff Environmental Learning Center, Lanesboro - \$300,000 Long Lake Conservation Center, Palisades - \$300,000 Audubon Center of the North Woods, Sandstone - \$300,000 Deep Portage Learning Center, Walker - \$300,000 Wolf Ridge Environmental Learning Center, Finland - \$300,000 	Sept 1, 2020
3. Application of savings funds towards individual and/or school scholarships/discounts annually impacting at least 500-650 individual students receiving Free and Reduced Lunch. <ul style="list-style-type: none"> 6 sites with arrays at or near 100Kw solar capacity would produce \$79,200/yr, with \$65-\$70K encumbered for scholarships and \$7-8K allotted for maintenance, based on the following current assumptions: A 100,000 kW system generates 120,000 kWhr/yr, worth \$13,200/yr at an average retail rate of \$.11/kWhr. Variations in savings between sites would vary based on local agreements. 	Ongoing through Sept 1, 2022



**Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template**

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding

Name	Title	Affiliation	Role	Existing Solar Capacity
Karl Brown	Director of Community Education and Technology	Laurentian Center (Britt, MN)/Mounds View Public Schools (Shoreview, MN)	MCRELC Project Lead; Laurentian site Project Lead	5.8 PV Kw, all funded by LCCMR
Bryan Wood	Executive Director	Audubon Center (Sandstone, MN)	Audubon site Project Lead	38 PV Kw, including 6 kw funded by LCCMR
Pete Smerud	Executive Director	Wolf Ridge Center (Finland, MN)	Wolf Ridge site Project Lead	80 PV Kw, including 12 funded by LCCMR
Joe Deden	Executive Director	Eagle Bluff Center (Lanesboro, MN)	Eagle Bluff site Project Lead	12.75 PV Kw, including 11.75 funded by LCCMR
Wendie Carlson	Business Manager	Long Lake Center (Palisade, MN)	Long Lake site Project Leader	11.91 PV Kw, all funded by LCCMR
Dale Yerger	Executive Director	Deep Portage Center (Hackensack, MN)	Deep Portage site Project Leader	41.5 PV Kw, none funded by LCCMR

B. Partners NOT receiving ENRTF funding

Name	Title	Affiliation	Role
Tim Gulden	Owner	Winona Renewable Energy, LLC	Consultant, technical and product advisor

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

- **Long-Term Implementation:** At each billing cycle following completion of the solar additions, Project Leads at each center will calculate the real savings generated by the expanded arrays (including both deferred cost savings against potential non-solar-assisted billing and any retail/wholesale buy-back from their energy co-ops) and encumber 90% of those savings in a dedicated, interest bearing account or center budget line. The expected yearly goal for each center will be 100% utilization of these funds for individual student scholarships and/or large group discounts for eligible school programs.
- **Funding:** Based on provisional calculations and current conditions, this innovative approach would result in nearly the same Return on Investment rate (1:1 if taken over the 3-year project duration) for ENRTF funds as direct “pass through” funding for scholarship programs that have been awarded by LCCMR in past years, and potentially continuing at that rate for the lifespan of the panels. Creating a sustainable fund impacting economically high-need schools and students would free up centers’ resources to pursue scholarships and programs in other areas of more targeted interest to the State, including outreach to minorities and disabled persons regarding Outdoor Leisure activities and conservation education.

V. TIME LINE REQUIREMENTS:

- This project timeline would entail 3 years: 1 for bidding and installing the solar panel additions to existing systems, and 2 for administration of the scholarship program, and reporting data collection to LCCMR on the numbers of students served by the program. The full project is inclusive of the funding period and would not require additional future funding.

2019 Proposal Budget Spreadsheet - MCRELC

Project Title: Using Solar Resources to Create Student Scholarship Funds

IV. TOTAL ENRTF REQUEST BUDGET *[Insert # of years for project] years*

BUDGET ITEM (See "Guidance on Allowable Expenses")	AMOUNT
Equipment/Tools/Supplies: PV Solar Array installations (design, parts, installation and monitoring systems/software), towards an overall 100KW target, at each of the 6 MCRELC sites: <ul style="list-style-type: none"> • Laurentian Environmental Learning Center, Britt - \$300,000 • Eagle Bluff Environmental Learning Center, Lanesboro - \$300,000 • Long Lake Conservation Center, Palisades - \$300,000 • Audubon Center of the North Woods, Sandstone - \$300,000 • Deep Portage Learning Center, Walker - \$300,000 • Wolf Ridge Environmental Learning Center, Finland - \$300,000 	\$ 1,800,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 1,800,000

V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:	NA	NA
Other State \$ To Be Applied To Project During Project Period:	NA	NA
In-kind Services To Be Applied To Project During Project Period: MCRELC staff time to administer the scholarship program going forward, \$12,000 annually (\$2000 per site), over three years. In-Kind allocation value of additional duties embedded in existing staff responsibilities.	\$ 36,000	Secured
Past and Current ENRTF Appropriation: 1) LCCMR, 2010 - Sustainable Energy Practices: Residential Environmental Learning Centers (RELCs), \$1,500,000 2) LCCMR, 2011 - Solar Photovoltaic Installation at Minnesota Residential Environmental Learning Centers (MCRELC), \$150,00 3) LCCMR, 2017 - Increasing Residential Environmental Learning Center Opportunities, \$135,000 (Audubon Center of the North Woods)	\$ 1,785,000	Spent, except for Audobon 2017 allocation (Legally Obligated)

Using Solar Resources to Create Student Scholarship Funds

(Minnesota Coalition of Residential Environmental Learning Centers - MCRELC)



Install/Upgrade 100 Kw PV Solar Arrays at 6 Environmental Education Camps:
Laurentian - Britt
Wolf Ridge - Finland
Audubon - Sandstone
Eagle Bluff - Lanesboro
Long Lake - Palisade
Deep Portage - Walker

Scholarship Funds generated through onsite monitoring, calculating monthly generation and/or potential savings in payments to local utilities

Calculated solar savings encumbered in a **perpetual and sustainable scholarship fund** to subsidize high-need students/programs, thereby increasing their access to Environmental Education resources and experiences.

LCCMR Project Manager Qualifications
Promoting Equitable Environmental Education through Expanded Solar Capacity

Karl Brown has been selected the Project Manager by the Minnesota Coalition of Residential Environmental Learning Centers (MCRELC). Karl is the Director of Laurentian Environmental Center, as well as the Director of Community Education and Technology for Mounds View Public Schools, positions he has held for the prior 7 years.

Laurentian Environmental Education Center, with the support of Mounds View Public Schools, has served as fiscal agent for many grants at the state and federal levels. As a public-school district, Mounds View is routinely audited and oversees an operating budget of nearly \$150 million annually; Laurentian oversees an annual budget of over \$450,000.

The MCRELC consists of Audubon Center, Deep Portage, Eagle Bluff, Laurentian, Long Lake and Wolf Ridge. As educational and environmental non-profit organizations, the Centers have long been philosophical partners, proactively conserving resources and energy on each campus while teaching students to wisely use the land, water and woods of Minnesota. Additionally, the coalition partners regularly with their local energy carriers on sustainability projects, including this proposal: Dairy Land Power, Great River Power, Lake Country Power, Excel Energy, and Crow Wing Energy.

Located across Minnesota, the Centers highlight the environmental diversity and beauty of Minnesota. Our individual perspectives, unique locales, teaching styles and management techniques combine to create a collective resource bank for the state of Minnesota: six unique examples of efficiency located throughout the state with applications specific to each region.

This scholarship project is being led by the executive directors of the six centers that comprise the MCRELC. More information about each center is found on their respective websites or by contacting the person listed below.

Bryan Wood, Executive Director

Audubon Center of the North Woods
54165 Audubon Dr, Sandstone, MN 55072
Phone: (320) 245-2648
Non-Profit Organization
Web: www.audubon-center.org
Federal Tax Id No: 23-7044164

Dale Yerger, Executive Director

Deep Portage Learning Center
2197 Nature Center Dr. NW, Hackensack, MN 56452
Phone: (218) 682-2325
Public Entity: Cass County
Non-Profit Organization
Web: www.deep-portage.org
Federal Tax Id No: 51-0164070

Joe Deden, Executive Director

Eagle Bluff Environmental Learning Center
28097 Goodview Drive, Lanesboro, MN 55949
Phone: (507) 467-2437 Non-Profit Organization
Web: www.eagle-bluff.org
Federal Tax ID No: 41-1431959

Karl Brown, Director

Laurentian Environmental Learning Center,
8950 Peppard Rd, Britt, MN 55710
Phone: (218) 749-1288
Public Entity: Mounds View Public Schools
Web: www.laurentiancenter.org
Federal Tax ID No: 41-6008084

Courtney Dowell, Co-Director

Wendie Carlson, Co-Director

Long Lake Conservation Center
28952 438th Lane, Palisade, MN 55469
Phone: (218) 768-4653
Web: www.longlakeecc.org
Public entity: Aitkin County
Non-Profit wing: Long Lake Conservation Foundation
Federal Tax Id No: 41-1409634

Pete Smerud, Executive Director

Wolf Ridge Environmental Learning Center
6282 Cranberry Rd, Finland, MN 55603-9700
Phone: (218) 353-7414
Non-Profit Organization
Web: www.wolf-ridge.org
Federal Tax Id No: 41-1251705