

Environment and Natural Resources Trust Fund 2009 Phase 2 Request for Proposals (RFP)

LCCMR ID: 105-D2

Project Title: Empowering Interactive Approaches for Future Visioning, Measured Savings

Total Project Budget: \$ \$574,000

Proposed Project Time Period for the Funding Requested: 2 years, July 2009 to June 2011

Other Non-State Funds: \$ \$0.00

Priority: D2. Residential Energy Conservation

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Sponsoring Organization: Center for Energy and Environment

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Region:

County Name:

City / Township:

Statewide

Summary: Through mobile phones and other innovative social media technologies, a statewide web-based competition and alternate reality game will inspire Minnesota grade 4-12 students to achieve measured energy savings at home.

Main Proposal: 0908-2-022-proposal-LCCMR school-lib main proposal.doc

Project Budget: 0908-2-022-budget-LCCMR_2009_SchoolLibProject Budget.xls

Qualifications: 0908-2-022-qualifications-CEE-ShenQuals.doc

Map:

Letter of Resolution: 0908-2-022-resolution-LCCMR_CEE_letter.pdf

PROJECT TITLE: Empowering interactive approaches for future visioning, measured savings

I. PROJECT STATEMENT

This project is intended to motivate and mobilize school age students to take an influential role in achieving greater residential energy efficiency in their communities. Highly innovative interactive approaches will engage students in examining their home energy use through future visioning simulation and community-involving competition. Three projects will be performed to target upper elementary students, middle school students and high school students throughout the state. The goal of the project is to bring together a diverse population of students to create informed, concerned and active leaders in their communities. The project will take advantage of the widely used communication technologies currently favored by today's youth (mobile phone technologies and the Internet) to maximize audience penetration and participation. This project will work with schools and local libraries.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: Marketing Research Budget: \$54,000
A marketing analysis of the three target audiences will be performed to gain an understanding of student awareness and knowledge, technology use, social networks, and other important audience factors. Resources at schools and local libraries will also be analyzed.

| Deliverable | Completion Date |
|---------------------------------|-----------------|
| 1. Audience segmentation report | Oct 1, 2009 |

Result 2: Curriculum review and development Budget: \$60,000
A review of the Minnesota learning standards pertaining to energy education will be performed. Curriculum development will be performed in connection with the Wisconsin K-12 Energy Education Program (KEEP) and will enhance the KEEP curriculum by adding communication and interactive technologies for dealing with residential energy use. This work will be led by the Hamline University Center for Global Environmental Education (CGEE).

| Deliverable | Completion Date |
|--|-----------------|
| 1. A final report on learning objectives, strategies and approaches for the three pilot projects | Apr 30, 2011 |

Result 3: An interactive game for upper elementary students Budget: \$100,000
An interactive web-based computer game for upper elementary students to help them understand the issues of home energy conservation will be developed. The web-based game will allow students to examine their personal energy choices and take action to reduce their home energy use and carbon footprint. CGEE will be responsible for game development. The Minnesota Energy Challenge will be used to track pledge savings.

| Deliverable | Completion Date |
|--|-----------------|
| 1. Interactive Flash-based computer game | Apr 30, 2011 |

Result 4: An energy use alternate reality game Budget: \$260,000
An alternate reality game (ARG) will be developed and hosted. An ARG creates a narrative in which participants interact through **real-time, real world actions**. Players interact with characters in the game, solve problems and challenges as they come up in the plot narrative, and work together with a community to shape the narrative and coordinate online and real-life activities. The target audience will be middle school and high school students in the state of Minnesota. The ARG will be developed and piloted to lead students to making real and achievable energy savings in their homes. The project will employ social media tools such as SMS mobile phone texting, blogs, websites, and videos to

present students' ideas and actions. At the conclusion of the ARG, curriculum and lesson plans will be published on the web so that other schools, school districts and libraries can replicate the ARG. This will be developed by the marketing and Internet agency Eantage Consulting. The Minnesota Energy Challenge will provide tools to allow students to track and report their actual energy usage and savings.

| Deliverable | Completion Date |
|------------------------------|-----------------|
| 1. ARG web page and archives | Apr 30, 2011 |

Result 5: Interactive marketing competition Budget: \$80,000
 A statewide online competition will actively enlist students to get the word out on residential energy conservation to the community. Teams of students will be challenged to create interactive marketing projects (mobile phone technologies, websites, blogs, viral video campaigns, wikis, etc.) to achieve home energy savings. Teams will consist of three to six students with a mentor from the Minnesota Interactive Marketing Association (MIMA) pending approval of the MIMA Board of Directors. The competition will encourage interdisciplinary teams that consist of students interested in technology, science, business, communications, and current affairs. The Minnesota Energy Challenge will provide tools to allow students to incorporate in their projects to track energy usage and savings. There will be three age groups: 19 and under, 15 and under and 12 and under. Winners of the competition will be judged in part on actual savings achieved and will receive scholarships and/or prizes.

| Deliverable | Completion Date |
|--|-----------------|
| 1. Projects and project reports of competitors | Apr 30, 2011 |
| 2. Press release of winners | Apr 30, 2011 |

Result 6: Final Evaluation Budget: \$20,000
 A final evaluation will look at audience participation as well as actual total energy savings achieved. Recommendations will be made for project improvements.

| Deliverable | Completion Date |
|-----------------|-----------------|
| 1. Final report | Jun 30, 2011 |

III. PROJECT STRATEGY AND TIMELINE

A. Project Partners

Eantage Consulting, Minnesota Interactive Marketing Association, Hamline University Center for Global Environmental Education, Wisconsin K-12 Energy Education Program

B. Project Impact

This project will achieve home energy savings through an audience that currently is not reached but can have an enormous influence on family energy usage patterns.

C. Time

This is a two year project, extending from July 1, 2009 to June 30, 2011.

D. Long-Term Strategy

Results and products of the project will be available on the web so that others can use the tools and processes created and replicate the project results.

Project Budget

IV. TOTAL PROJECT REQUEST BUDGET

| BUDGET ITEM <i>(See list of Eligible & Non-Eligible Costs, p. 17)</i> | AMOUNT | % FTE |
|--|-------------------|--------------|
| Personnel: | | |
| <u>Project Manager</u> - overall management of program design and implementation, supervision of staff, reporting & evaluation, supervise Proj Coord [2 yrs] | \$ 97,200 | 40% |
| <u>Project Coordinator</u> - coordination of ARG and statewide competition; communication with partners [2 yr] | \$ 21,600 | 20% |
| Contracts: | | |
| Hamline University Center for Global Environmental Education - curriculum development, interactive game creation, competition management, evaluation | \$ 160,000 | |
| Evantage Consulting - marketing research, ARG creation and production, evaluation | \$ 280,000 | |
| Minnesota Interactive Marketing Association - coordination of and participation in statewide competition | \$ 10,000 | |
| Wisconsin KEEP - curriculum consultants | \$ 5,000 | |
| TOTAL PROJECT BUDGET REQUEST TO LCCMR | \$ 573,800 | |

V. OTHER FUNDS

| SOURCE OF FUNDS | AMOUNT | Status |
|--|---------------|---------------|
| In-kind Services During Project Period: Minnesota Energy Challenge coordination and development; admin support, accounting; CGEE Director supervision and game production resources | \$ 118,064 | |

Center for Energy and Environment

The Center for Energy and Environment is a non-profit 501 (c) (3) corporation that works to promote the responsible and efficient use of natural and economic resources. CEE accomplishes this mission through research, program development, delivery and evaluation, financing and public policy initiatives. CEE has provided energy, environmental and housing rehabilitation services to utilities, private corporations, neighborhood organizations, municipalities and public agencies for over twenty-five years. CEE has a staff of over 45, including research engineers, architects, programmers, analysts, design coordinators, construction managers, IAQ technicians, loan officers and policy analysts.

CEE runs the Minnesota Energy Challenge (mnenergychallenge.org). The Minnesota Energy Challenge is a web-based program where Minnesota residents and businesses can calculate their carbon footprints, learn about energy efficiency and conservation and pledge to reduce their own energy use. The website includes resources regarding utility programs, an "Ask the Experts" function and a regularly updated blog. As of September 2008 over 17,200 Minnesotans are pledging to reduce their energy use by over 134 million pounds of carbon dioxide a year, the equivalent of taking over 11,000 cars off the road annually. There are also over 900 community, business and city tracking their savings using the website.

Lester Shen, Ph.D., Director of Innovative Technologies

Dr. Shen joined CEE in July 2008 and has been working on projects dealing with the use of technologies for communicating energy use information. Prior to joining CEE, Dr. Shen was the Associate Dean of the BS:Visualization Program at the Minneapolis College of Art and Design. He helped to design, create and administer the degree program since its founding in 1997. Previous to his time at MCAD, Dr. Shen was a Research Associate with the Underground Space Center at the University of Minnesota. His research included numerical analysis of heat loss from residential building foundations and earth-sheltered buildings, residential indoor air quality, radon mitigation, and program delivery of low-income weatherization programs. He is also a developer of interactive training and educational computer tools for audiences ranging from builders and public health officials to school age children. Topics have included solid and hazardous waste issues, radon mitigation, residential energy use, building science, renewable energy, water resources, and indoor air quality. Dr. Shen has a Ph.D. in Mechanical Engineering from the University of Minnesota, an M.S.M.E. in Mechanical Engineering from the Georgia Institute of Technology, and a B.S. in Chemistry from Haverford College.