

# Energy Efficiency Education Starts Early For Children

## CASE STUDY

Focus on Energy, a statewide service, works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. We provide technical expertise, training and financial incentives to help implement innovative energy management projects. We place emphasis on helping implement projects that otherwise would not get completed, or to complete projects sooner than scheduled. Our efforts help Wisconsin residents and businesses manage rising energy costs, protect our environment and control the state's growing demand for electricity and natural gas.

To learn more about Focus on Energy,<sup>SM</sup> call 800.762.7077 or visit [focusonenergy.com](http://focusonenergy.com)

For information about KEEP programs, call 715.346.4770 or visit [www.uwsp.edu/keep](http://www.uwsp.edu/keep).



The K-12 Energy Education Program (KEEP) course, School Building Energy Efficiency (NR 734), was created to inform teachers about the Focus on Energy Schools Program and to encourage participation in energy saving activities in their school. Classroom teachers, Focus on Energy Schools Program energy advisors, utility representatives, and school district staff (including facilities managers, professional development coordinators, and curriculum coordinators) were consulted during the development process.

This course focuses on evaluating the energy use in school buildings across Wisconsin and guiding K-12 teachers towards utilizing the school building as a learning tool for energy education. Course components include a school building audit, guest speakers from school districts and local utilities, analysis of school energy bills, and activities focused on incorporating school building facilities and energy into classroom curriculum. Participants in the course develop action plans or lessons/unit plans highlighting opportunities in energy efficiency and conservation in their schools. After completing the course, teachers can visit the KEEP Web site ([www.uwsp.edu/KEEP](http://www.uwsp.edu/KEEP)) and click on the NR 734 course button to find links and downloadable support materials on how to help schools save energy. Teachers earn one graduate credit from the University of Wisconsin – Stevens Point through participation in this course.

### COURSE GOALS

As a result of participating in NR: 734, students will learn:

- The basic energy systems and energy flow within a school building
- How school buildings consume and are billed for energy resources
- Ways to incorporate school building energy systems into curriculum
- How to develop an effective action plan for school building energy savings
- Resources that are available to educators for further learning

### COURSE IMPLEMENTATION

Over 130 teachers have participated in the course. Utility scholarships cover most of the tuition costs of the course so teachers pay only \$50. Utilities provide these scholarships in support of teacher's professional development in energy literacy and teaching competencies.

### REPORTS FROM MADISON

Madison Gas and Electric (MGE) is one of the utilities that offer teacher scholarships. Jim Jenson, Community Education Manager with MGE, is also an adjunct faculty for KEEP and teaches KEEP inservices including NR 734.

Jim reports that the course has been very popular among teachers, providing them with an "eye-opening experience that puts into perspective how much it actually costs to heat and power their school." With the school building being the educational resource for the course, teachers receive background information in energy flow and efficiency through an energy audit and by examining their school's energy bills. The energy advisors from the Focus on Energy Schools Program are key interpreters during the course, helping teachers understand complex energy systems. "The teachers receive a firsthand look at the major energy end users of their building; many

teachers might not be aware of their school's boiler room or HVAC system unless they've taken this course," Jim notes.

The course introduces teachers to ways they and their students can help reduce their school's energy consumption, save money, save energy, and help the environment. Jim surveys teachers at the end of the course, and they confirm that they feel more empowered and able to make a case for saving energy in their school.

Mary Ringelstetter, a teacher at Hawthorne Elementary, and students in her after school club, Madison School & Community Recreation (MSCR) energy club, provide evidence that the course experience inspires energy saving activities. After she took NR 734 in April 2005 and after learning of her school's energy expenses, she was motivated to develop an action plan aimed to reduce the school's utility bill by \$200 per month. Her students went on a school audit to inventory where and when energy is used. It became apparent they could reduce energy consumption by changing incandescent light bulbs in lamps and in small offices to compact fluorescent light bulbs. Next the students arranged to do presentations in each classroom about ways to save energy in the school. They encouraged teachers and students to turn off lights and computers when not in use. After implementing these activities they checked to see if they had reached their goal. They didn't reduce their school's monthly energy bill by \$200, they reduced it by \$780!

Mary reports that her students are excited about their success and are exploring ideas for energy projects for next year. Their story is being featured on district and city wide news programs. She thanks Jim Jenson of MGE for his support as well as Doug Pearson, director of building services for the school district.

Pearson provided Mary's club with the energy efficient light bulbs that helped make their project a success. He has participated in each NR 734 offered in the Madison area, providing expertise on school building energy needs. He says the course "provides teachers with a global view of what it costs to run the schools in terms of energy." Doug plans to use Ringelstetter's success story and others to present his Shared Savings Program to the school district. His proposal is that schools would get to keep half of the funds they save

by reducing energy costs. His only suggestion for NR 734 was that more teachers should experience it!

#### **FUTURE COURSE PLANS**

NR 734 continues to evolve as KEEP receives feedback and evaluations from teachers, Focus energy advisors, and adjunct faculty. The course has already been used by teaching staff to help them qualify for the state's Green and Healthy Schools program. Future courses will continue to promote this asset of NR 734. The Focus on Energy Benchmarking project for K-12 schools provides insightful information into energy consumption and will be incorporated into future course. KEEP will investigate how the course can help improve collaborative experiences among teachers, facility managers, and the administration in relation to helping the school save energy. These endeavors and others will be pursued to help teachers and their students appreciate how they can use their school as a learning laboratory to improve and increase their understanding of energy flow and efficiency.

For more information on KEEP visit [www.uwsp.edu/keep](http://www.uwsp.edu/keep). For more information about how to control energy costs in schools, contact Focus on Energy. Visit [focusonenergy.com](http://focusonenergy.com) or call 800.762.7077 and ask to speak to a Schools & Government team member.

Focus on Energy is a public-private partnership offering energy information and services to energy utility customers throughout Wisconsin. The goals of this program are to encourage energy efficiency and use of renewable energy, enhance the environment, and ensure the future supply of energy for Wisconsin. **800.762.7077 [focusonenergy.com](http://focusonenergy.com)**

The Wisconsin K-12 Energy Education Program (KEEP) was created to help promote energy education in Wisconsin. KEEP receives its primary funding through Focus on Energy. KEEP offers professional development opportunities, fun student involvement projects, educational energy resources, networking opportunities and more for Wisconsin's public and private K-12 schools. For information about KEEP programs, call **715.346.4770** or visit **[www.uwsp.edu/keep](http://www.uwsp.edu/keep)**.

This case study in whole is the property of the State of Wisconsin Department of Administration, Division of Energy, and was funded through the Focus on Energy Program.

