KEEP On Going

Wisconsin K-12 Energy Education Program Newsletter
Spring 2008 Vol. 9 No. 1

In this KEEP issue:

Pedal Power Host Project

Would you like to have a Pedal Power for your educational site or classroom? Would you be interested in helping others in your community gain "legs-on" experiences in energy efficiency?

If so, we encourage you to apply to become one of KEEP's Pedal Power Hosts. As a Host, KEEP lends a Pedal Power unit to your school or education site for two years. During those two years, you use the Pedal Power Unit in your classroom or setting and also sublet the Unit out to other educators.

What is Pedal Power?
Pedal Power is a tool you can use in your classroom to teach about energy production, use, and conservation. Students ride a stationary bike to power a generator, which in turn powers incandescent and compact fluorescent light bulbs (CFLs), a hair dryer, radio, and a fan. This experience will teach students how much energy it takes to power these common electrical conveniences we use everyday and how important it is to turn them off when not in use (or not use them at all).

Pedal Power includes a sturdy bike stand, a free-standing board with telescopic legs which shows energy use in amps, a bag containing a hair dryer, radio, and fan, a carrying case for the board, and a binder full of lessons and activities. To learn more about Pedal Power, visit www.thepedalpower.com.

(Continued on page 3)

WISCONSIN KEEP K-12 ENERGY EDUCATION PROGRAM

focus on energy
The power is within you.

Moving ideas to increase transportation education in your classroom

With concerns about climate change in the news so often these days, people are getting serious about exploring ways they can reduce the amount of greenhouse gases they add to the atmosphere. How we get from one place to another—our transportation practices—is one area of our lives that we can change that can affect our carbon footprint. Following are a few ideas for teachers of different subject areas on how they can use transportation to address Wisconsin academic standards.

Academic Standard: Language Arts E.8.2 Make informed judgments about media and products. Recognize common structural features found in print and broadcast advertising.
Transportation teaching idea: Investigate and compare car advertisements. What is the message? Is energy efficiency included?

Academic Standard: Mathematics F.12.2 Use mathematical functions in a variety of ways, including translating different forms of representing them (e.g., tables, graphs, functional notation, formulas).
Transportation teaching idea: Read and interpret graphs and tables in consumer reports and other publications about fuel efficiency of vehicles.

Academic Standard: Social Studies D.4.7 Describe how personal economic decisions, such as deciding what to buy . . . can affect the lives of people in Wisconsin, the United States, and the world.
Transportation teaching idea: Inventory the automobile dealerships in the community and the types of cars sold. Interview people considering purchasing a car; do they consider fuel efficiency when making their decision?

Visit KEEP's online *High School Supplement* for a variety of ideas and Internet links to include transportation topics in your classroom lessons. The supplement is on KEEP's Web site, under *Resources*.

KEEP is administered through the Wisconsin Center for Environmental Education and funded through Focus on Energy. This newsletter in part is the property of the State of Wisconsin, Public Service Commission, and was funded through the Focus on Energy Program. 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. For information about Focus on Energy services and programs, call 800.762.7077 or visit www.focusonenergy.com.

WISCONSIN KEEP K-12 ENERGY EDUCATION PROGRAM

Account 901010
Wisconsin K-12 Energy Education Program
Learning Resource Center
University of Wisconsin-Stevens Point
Stevens Point, Wisconsin 54481

In this issue:
Pedal Power Bike for your school!
Sign up for summer KEEP courses

Nonprofit
Organization
U.S. Postage
PAID
Stevens Point, WI
Permit No. 19

KEEP Staff Corner

The KEEP staff has been busy providing services, administering programs, and getting the word out about KEEP. The following summary shows how a large number of KEEP graduates continue to make energy education a priority in their schools and homes throughout the state.

KEEP by the numbers

- 3,675 teachers have participated in KEEP courses since 1997
  340 teachers have taken or are registered for KEEP courses this school year
- 17 conferences have had a KEEP exhibit or presentation
- 132 students are involved in building electric cars as part of the Wisconsin Electrathon
- 200 students are involved in Wisconsin ENERGY STAR® Homes or Home Performance with ENERGY STAR projects
- 198 students entered drawings the into the 2008 bookmark contest
- 99 student groups are participating this year's *Bright Idea* Fundraiser
- 27,054,969 pounds of CO_2 were not released into the atmosphere because of bulbs sold from the fundraiser
- 19 teachers have developed action plans to reduce energy in their school building this year

KEEP Staff

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Fond du Lac Public Schools
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Community & Customer Programs Coordinator
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Teacher Survey

There were 2,300 teachers surveyed using the KEEP In-service Course: Satisfaction Survey. Approximately 19% responded with insight about how the KEEP NRES 603/730 is used in classrooms.

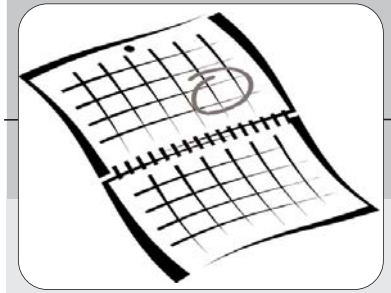
A majority of teachers indicated that they have or will incorporate energy education into their curricula. Of those teachers who are not teaching about energy, the reason most often cited is not enough class time. The next most common reason is that energy concepts are unrelated to the teacher's subject area.

Of the teachers who do teach about energy, the most commonly taught theme is *We Need Energy*, followed by *Managing Energy Resource Use*, *Developing Energy Resources*, and *Effects of Energy Resource Development*.

Teachers also indicated that they are more comfortable integrating energy concepts into curricula as a result of participating in the KEEP in-service course. In general, teachers felt that the course improved their abilities to increase student knowledge about energy and renewable energy, affect student attitudes toward energy, and to encourage students to use energy more efficiently.

Teachers need more support to help students understand energy flow through systems or Wisconsin energy issues.

Overall, the survey has provided valuable information for the KEEP staff, Focus on Energy, and utilities that cooperatively support energy education in Wisconsin. Results will be written up and reported to the KEEP Advisory Committee.



Calendar of Events

March
4, 6, & 8: NR 730 in Hudson
5 – 7: Better Buildings Better Business Conference in Wisconsin Dells
6 & 7: WTEA Conference in Wisconsin Dells
7: CWEA Conference in Schofield
8: WEST Science Extravaganza in Stevens Point
8 & 9: NR 730 in Pembine
8 & 15: NR 730 in Milwaukee, Cooper Elementary
12 – 14: Wisconsin Technical College Renewable Energy Summit in Milwaukee
13 – 15: WSST Conference in Lake Geneva
14: NWEA-NE Conference in Green Bay
17 – 20: Interstate Renewable Energy Council Conference in Albany, NY
29 & April 5: NR 730 in Nekoosa
31 & April 1: WCSS/International Education Annual Conference in Madison

April
5 &12: NR 732 in Milladore, Mead Wildlife Area
22: Earth Day
22, 26, & 29: NR 732 in Appleton
24: Energy Awards Ceremony in Madison
27 & 28: Electrathon Endurance Competition at Road America in Elkhart Lake

May
2 & 3: Electrathon Endurance Competition Fox Valley Technical College in Appleton
14: Solar Olympics in Green Bay

June
20 – 22: Renewable Energy & Sustainable Living Fair in Custer

In the Spotlight

Family and Consumer Education Teacher Saves Energy!

My name is Mary Koch (pictured on left). I am in my 12th year teaching at Kewaskum High School in Family and Consumer Education (FCE). Saving energy is an important part of my home life and is becoming more a part of what I teach my students. Following are just a few of the ways energy plays a role in my life.

• Our FCCLA [Family Career & Community Leaders of America (Formerly Future Homemakers of America)] chapter participated in the *Bright Idea* Fundraiser and earned enough to finance 2 scholarships for post secondary education for Kewaskum High School graduates. The bulbs were VERY easy to sell! – especially with energy costs increasing. The information provided by KEEP made it easy to put together our own advertising.

• As a result of a KEEP class I took, I developed a PowerPoint presentation on the step by step instructions of how to make window quilts which I show to my Beginning Clothing students, Fashion Design students, and will show to my Parenting & Life Skills classes next year.

• I will be using the "watts up" meter to test appliances in this class newly required for all Kewaskum graduates. The KEEP activity "Cost of Using Energy" matches up well with the Environment chapter in my text book *Goals for Living* – written by Mary J. Kennedy – a Wisconsin FCE teacher.

• The KEEP course was a good opportunity to improve and expand lessons related to reading and interpreting technical information posted in care & use manuals for various appliances. Interpreting the spec sheets is a little tricky and the energy savings is apparent as students complete the study guide. This project helped me better address literacy standards and also helps students compare and appreciate differences in appliance energy efficiency.

• At home, we drive Honda CNG cars, have ENERGY STAR qualified appliances, and we are signed up with our utility's green energy and peak demand reduction programs. We had our home energy audited two years ago....and followed EVERY recommendation they gave us. The insulation was a 'fun' family project accomplished in just one 8 hour day for the 4 of us. The rebates were a great incentive and the proof of lower energy costs were remarkable.

Paradise Lost?

Blending Science and Art to Educate about Climate Change

• A traveling art and science exhibition was developed by a team of artists, scientists and educators. The exhibit provides an overview of global climate change, examples of ecological impacts in the Great Lakes region and a call to action. It has been seen by over 75,000 visitors in 7 communities.

• Community education events at each venue highlight the work of scientists, artists, and local and regional initiatives to reduce greenhouse gas emissions. Educators involve local classrooms in science and art activities including local student artwork in the exhibit.

• A science-based (and standards-based) website for teachers. A team of scientists and educators is developing a website for teachers including a framework of concepts, student outcomes correlated to science standards, and links to hands-on science activities. They share scientific findings and involve students in the process of science to learn how scientists gather information and make predictions.

• Teacher workshops will involve scientists presenting their work and engaging teachers in the scientific process. A partnership with KEEP will provide teachers with activities and positive actions to involve students in reducing greenhouse gas emissions.

For more information:
www.wisc.edu/cbe/K12/paradiselost.html
Project Director:
Dolly Ledin daledin@wisc.edu

Pedal Power Host Project (continued)

Project Need and Goal
Interest in borrowing KEEP's Pedal Power increases each year. By developing a Pedal Power Host Program, KEEP hopes to improve access to and use of Pedal Power throughout Wisconsin. The desired outcome of host program is to increase appreciation of the need for energy efficiency resulting in more individuals taking steps to save energy.

Eligibility
- Educators who work with K-12 students and/or community members in Wisconsin. Schools, nature centers, and museums are encouraged to apply.
- Only one entry per school or organization allowed. Educators may work in teams and submit a single entry.

Reasons to Apply
Educators that participate in this effort will reap significant benefits, including the following:
- Access to new equipment for the classroom or teaching site
- Opportunity to integrate "legs-on" learning about energy efficiency into the curriculum
- Strategies to build a school-community connections
- Capacity to promote energy efficiency within the school and community

What the Host will receive
The educators whose applications are chosen to become Hosts will receive:
1) One (1) Pedal Power, which consists of the following items:
   a. bike stand (host will need to provide the bike)
   b. free-standing board with carrying case
   c. bag with a hair dryer, radio, and fan
   d. binder full of lessons and activities.
2) One (1) free workshop on Pedal Power training and implementation
3) Recognition on KEEP's Web site as a Pedal Power Host

Application Rules
If you are interested in hosting Pedal Power for two years, submit your contact information, the site where the unit will be located, and a "Pedal Power Implementation and Outreach Plan" (3 page limit) to KEEP. The plan should highlight your strategy to accomplish the following:
- Integrate Pedal Power Unit into learning programs during the 2008-09 & 2009-10 academic years
- Use the unit to raise student and community awareness of the benefits of energy efficiency during the 2008-09 & 2009-10 academic years
- Ability and willingness to lend the unit out to at least six (6) other educators over the next two years (at least three [3] per year)
- Assess the effectiveness of your efforts and report outcomes to KEEP

Deadline: May 5, 2008

Send applications to: KEEP Pedal Power Host Project, Wisconsin K-12 Energy Education Program, WCEE, 403 LRC, UWSP Stevens Point, WI 54481

Selection Process: KEEP will select three hosts based the thoroughness of "Pedal Power Implementation and Outreach Plan."

Timeline:

May 5, 2008	Deadline for submitting applications to the Wisconsin K-12 Energy Education Program (KEEP). Applications must be postmarked by this date.
May 19, 2008	Hosts will be notified
July/Aug. 2008	Pedal Power delivery and training to Host's site
Sept. 2008	Two year lending period begins

Questions: Contact Jamie Mollica at 715.346.4818 or at energy@uwsp.edu

Earn Graduate Credit at the Energy Fair

This information applies to each of the two courses offered at the Energy Fair. Teachers may register for only one course.

Location: Custer, WI - Energy Fair

Credits: One graduate credit from the University of Wisconsin-Stevens Point

Cost: $75 (Includes graduate credit, course materials and weekend entry into the fair). The in-service actually costs $450; however, select Wisconsin utilities are providing $375 scholarships to participants who are practicing K-12 teachers from Wisconsin schools in their territories (participants will pay the balance of $75).

Apply: Send $75 and course registration forms (see insert) to reserve your spot (non-refundable after June 1, 2008).

NR 610 - Exploring Renewable Energy

Date: Friday, June 20, Saturday, June 21, and/or Sunday, June 22, 2008 (there will be required sessions on Saturday)

Details: This sixteen-hour course provides K-12 teachers with a unique opportunity to learn more about renewable energy technologies and applications and receive hands-on activities, project ideas, and information on renewable technologies while networking with other teachers.

NR 731 - Exploring Energy Technologies: A Study of Sustainable Living and Renewable Energy for Technology Education Teachers

Date: Friday, June 20, Saturday, June 21, and Sunday, June 22, 2008 (there will be required sessions on Saturday and Sunday)

Details: This sixteen-hour course will focus on introducing Technology Education instructors to the technologies of energy efficiency and renewable energy. Through informative sessions from energy experts and a remarkable tour of local renewable homes, teachers will gain vital background knowledge to integrate energy concepts into classroom activities. Networking opportunities will connect participants to leaders in energy efficient building methods, domestic renewable energy techniques, and alternative transportation and fuels.

A Center for Environmental Education

The Wisconsin Center for Environmental Education (WCEE) is working to improve environmental education (EE) in Wisconsin. The WCEE assists in the development, dissemination, implementation and evaluation of teacher and student K-12 EE programs.

The WCEE was established by the Wisconsin legislature in 1990 and placed within the College of Natural Resources at the University of Wisconsin-Stevens Point (UWSP). This connection allows the WCEE staff to work with more than 100 faculty and staff in various disciplines.

The WCEE houses several statewide programs such as KEEP. Dedication to environmental education and experienced staff have helped the WCEE become a leader in the field of EE. The center is able to accomplish its goals through strong partnerships with state agencies and other organizations.

The WCEE will be be hosting the 17th annual High School Conference on the Environment in November, 2008. The theme for the conference will be energy and KEEP is excited for this opportunity for students and teachers to showcase their energy efficiency and renewable energy projects.

More information will be available on the WCEE Web site.
www.uwsp.edu/wcee/

Mackenzi Nourse
5th Grade
Thomas Jefferson

Bookmark Contest Winners

KEEP is proud to announce that there were over 200 entries from 54 Wisconsin schools in our 2008 Energy Education Bookmark Contest. The theme *Safe Routes to School: Alternative Transportation* was the most successful energy education bookmark contest to date.

The 2008 contest was funded by the Wisconsin Environmental Education Board (WEEB) and the Wisconsin Department of Transportation.

Congratulations to the winners of the 2008 Energy Bookmark Contest!

Grade 5
Tessa Rutsch, St. Paul's Catholic School, Bloomer
Shelby Weiland, Harrison School, Janesville
Mackensie Nourse, Thomas Jefferson Middle School, Port Washington

Grade 6
Grace Schelble, Lumen Christi Catholic School, Mequon
MacKenzie Lambert, Berlin Middle School, Berlin
Hanna Seidel, John Edwards Middle School, Port Edwards

Grade 7
Olivia Letter, Notre Dame Middle School of DePere, DePere
Scott Frazier, Lumen Christi Catholic School, Mequon
Emma Kowalkowski, Notre Dame Middle School of DePere, DePere

Bright Idea Fundraiser Saves Communities Energy and Money

KEEP's *Bright Idea* Fundraiser in which students sell ENERGY STAR® compact fluorescent light bulbs (CFLs) and light emitting diode (LED) holiday lights continues to be an enormous success! So far this year KEEP has 99 schools, clubs, and youth groups signed up to participate in the fundraiser.

So far the fundraiser groups have sold 21,062 CFLs and 6,941 strings of LED holiday lights. They have earned $62,947 for their school or club. Students are not the only winners in this fundraiser. The community members who purchase the bulbs have saved over 1 million dollars in energy savings and prevented over 26 million pounds of the greenhouse gas carbon dioxide from being released into the atmosphere.

The fundraisers will end in April and the final results of the fundraiser will be posted only at the end of the school year.

UWSP MAIL-IN REGISTRATION FORM
KEEP, WCEE, 403 LRC, UWSP, STEVENS POINT, WI 54481

Last Name First Name Middle Maiden Name

UWSP ID# or Social Security Number **(required)** Email Address **(required)**

Date of Birth (mo/day/yr) **(required)** Home Phone

Home Address City State Zip + 4 County

High School You Graduated From (required) City/State Year of Graduation

School You Teach At School Address City District State Zip

Grade Level(s)/Position Subject Area(s) School Phone & Extension

Application Status:

☐ **High School Student** (Youth Options Program) – 20

☐ **Undergrad Special** (taking undergrad courses but not toward a degree at UW-SP, or a student with a degree taking undergrad courses for teacher certification, additional majors or degrees, self improvement, etc.) – 9

☐ **Grad Special** (taking graduate courses, but not seeking a master's degree at UWSP) – 10
NOTE: There is no guarantee that courses taken as a Grad Special can later be used to fulfill master's degree requirements. It is in your best interest to submit an application for Graduate Study if you might pursue a graduate degree in the future.

☐ **Grad Regular** (applied and accepted to a master's program at UWSP) – 11
Grad Program of Study: _____ Advisor _____

__Intended Graduate Degree __MA __MEPD __MMED __MS __MSE __MST __DOCTOR OF AUDIOLOGY

Sex __ Male (M) __ Female (F)

Citizenship __ Citizen (C) __ Nonresident Alien (N)
__ Permanent Immigrant (P)
Alien Registration No. _____

Veterans Benefits Status __ Not a Veteran (0)
__ Receiving VA benefits (2) __ Veteran Not Receiving Benefits (9)

Racial/Ethnic Heritage
__ African American/Black (B)
__ American Indian or Alaska Native (N)
__ Southeast Asian: Cambodian, Hmong, Laotian, Vietnamese (E)
__ Other Asian/Pacific Islander (O)
__ Hispanic/Latino (S)
__ White/Non-Hispanic (W)

RESIDENCY: Please Note: It is your responsibility to register correctly, as a resident or nonresident, under the law.

- Have you, your spouse or parent(s) recently moved to Wisconsin to Accept Permanent Employment? __ Yes __ No
- Do you claim Legal Wisconsin Residence for tuition purposes? __ Yes __ No
- Indicate the dates you have lived at your present address From (mo/yr)_____ to (mo/yr)_____
- List former addresses (street, city, state) within the last two years
_____ From (mo/yr)_____ to (mo/yr)_____
_____ From (mo/yr)_____ to (mo/yr)_____
- Employment history and/or activities (other than school) for the last two years (include city/state)
_____ From (mo/yr)_____ to (mo/yr)_____
_____ From (mo/yr)_____ to (mo/yr)_____
- Parent's Name (City and State of residence within the last two years)
_____ From (mo/yr)_____ to (mo/yr)_____
_____ From (mo/yr)_____ to (mo/yr)_____

Have you previously taken courses offered by UW Stevens Point, either on-campus or off-campus? __ Yes; __ No

CHOOSE ONLY ONE:

_____NRES 610 SEC 88: EXPLORING RENEWABLE ENERGY, 1 GRAD CREDIT, SUMMER 2008

_____NRES 731 SEC 88: EXPLORING ENERGY TECHNOLOGIES, 1 GRAD CREDIT, SUMMER 2008

_____ _____
SIGNATURE DATE

KEEP Course Descriptions

Each KEEP course is one graduate credit through the University of Wisconsin - Stevens Point.

Select Wisconsin utilities provide $350 scholarships in their service territories to practicing K-12 teachers from Wisconsin schools (the inservice costs $400, participants pay $50). This fee covers the sixteen hour inservice course, graduate credit, and all materials.

NRES 610 Special Topics - See page 4 for more details.

NRES 730 Energy Education in the Classroom
Integrate energy concepts into your curriculum with KEEP! Through hands-on activities and class discussions, learn how you can enhance your students' understanding of what energy is, where it comes from, and how it affects their lives. You will also receive a copy of KEEP's comprehensive, easy-to-use Energy Education Activity Guide which features various teaching strategies and assessment techniques to reach students with a broad range of abilities. Teachers will also be introduced to additional energy-related educational materials. This course is for teachers who want to experience it today and teach it tomorrow. Applicable across the curriculum to infuse energy.

NRES 731 Special Topics in Energy Education - See page 4 for more details.

NRES 732 Doable Renewables: Renewable Energy Education in the Classroom
This course offers the next step in renewable energy hands-on activities, class discussions, and classroom based application to help teachers analyze energy information and create strategies and techniques to enhance their students' understanding of energy. The course will highlight renewable energy curriculum designed for K-12 teachers to use in their classroom.

NRES 733 Energy Education: Concepts and Practices online
Learn about energy, via the Internet! NRES 733 is a one credit graduate level course of UWSP's College of Natural Resources. It is encouraged that you view the web-based portion of the course now for free. Registrants will take part in online discussions with the instructor and each other to analyze energy concepts and misconceptions. You will explore energy readings and related Web sites and conduct activities such as interpreting utility bills, home energy audits, and calculating the wattages of various appliances. This course will give you a better understanding of the different forms of energy, energy conversions, measuring energy, CO_2 emissions, and the laws of thermodynamics. If you would like to get hands-on experience with activities to use in your classroom, consider taking NRES 730: Energy Education in the Classroom.

NRES 734 School Building Energy Efficiency Education
Know the flow of energy in your school building! This course focuses on evaluating the energy use in school buildings and guiding K-12 teachers towards utilizing the school building as a learning tool for energy education. Take an informative tour of a school building's energy systems and learn how you and your students can make a difference on your school's utility bill. Participants in the course will develop action plans or unit plans highlighting opportunities in energy efficiency and conservation in their schools.

NRES 735 Renewable Energy Education online
Participants will gain a fundamental knowledge of renewable energy and investigate renewable energy practices which they can incorporate into their lives. Through online readings, activities, surveys, and discussions, enrolled participants will investigate renewable energy technologies and explore uses of renewable energy in communities across Wisconsin, the United States, and the World. Find out how to incorporate renewable energy into your life and classroom and discover what the future of renewable energy holds for you.