

Energy Sparks for the Classroom - Static Electricity

Have you ever received a shock when touching a metal object or light switch on a cold day? Have your clothes ever clung to each other after coming out of the dryer? Have you made a balloon “stick” to the wall by rubbing it against a wool sweater? When you move your feet along the carpet, when clothes brush against each other in the dryer, or when you rub a balloon against your sweater, you’re transferring charges (electrons) from one object to another. One object ends up with more electrons than the other. This buildup of electrons is called static electricity. Objects with fewer electrons (with a positive charge) pull or attract the object with more electrons (a negative charge). For example, when you rub a balloon against your sweater, you are enabling electrons to move or be transferred from the cloth to the balloon (the atoms in the balloon hold onto their electrons more tightly than the atoms in the cloth do, so the cloth loses its electrons).



Try rubbing a plastic spoon with wool. Bring the rubbed spoon near some Styrofoam peanuts laying on a table and observe what happens. Experiment with the spoon and the Styrofoam peanuts. Try to get the peanuts to levitate. Then answer the following questions:

- What form of energy was used to suspend the peanuts? (electrical energy)
- What form(s) of energy was present in the “floating” peanuts? (kinetic energy)
- When you rubbed the spoon with the wool, were you transferring something from the wool to the spoon? Do you know what it was? (The wool loses the negative charges [electrons] to the spoon.)

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KEEP On Going

Wisconsin K-12 Energy Education Program Newsletter

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Home Energy Audits

Are you thinking about improving your home? Do you want to save money on your energy bills? Would you like a more comfortable home with fewer drafts?

If you answered yes to any of these questions, you should schedule an energy audit, or home performance evaluation and inspection, for your home. Home Performance with ENERGY STAR® is a service that is offered through Focus on Energy, Wisconsin's energy efficiency and renewable energy initiative. No matter what the age of your home, an energy audit is a good way to find out where air leaks are, where you need more insulation, and what small or large home improvement projects would help make your home more comfortable and safe, raise the resale value, and help you save money on energy bills.

We recommend scheduling a 2-3 hour home energy audit with a professional, specifically someone who is trained to identify the cause of problems or potential problems in your home and provide you with solutions. After you schedule your appointment, ENERGY STAR experts will conduct a thorough inspection of all the systems in your home and identify problems and their sources. You'll receive an objective, third-party diagnosis and a report of recommended solutions. To find ENERGY STAR Home Performance professionals near you, visit www.focusonenergy.com and go to *Where you Live - Home Improvement*, then click on *Find a Consultant*.





KEEP Staff Corner

Ten Years of Energy Education

Guess what happened in 1995 that resulted in you holding this newsletter in your hands? KEEP was born! Yes, KEEP is ten years old now and much has happened. You can read about these activities in our report that will be posted on our Web site.

Over the years, staff have joined our team and helped make KEEP a success and some have moved on to other opportunities (we still "KEEP" them involved though as much as possible!). We are having more staff changes as Carrie Hembree will explain in her article in the spotlight.

We are also experiencing changes in our adjunct faculty; several of our teaching staff have moved out of the state so we are welcoming new individuals to the team this spring. Please visit our Web site, www.uwsp.edu/keep, to learn about who is coming and going.

We at KEEP are proud of our accomplishments, but we couldn't have done it without Wisconsin teachers. You are our audience. You decide if what we do is effective, and you help us chart our course for the future. We hope that you have come to recognize KEEP as a reliable, consistent program that you know you can turn to for help with your energy education efforts.

You are invited to contact the KEEP office to provide suggestions and ideas for further design and advancement of Wisconsin's K-12 energy education program. We look forward to hearing from you and working with you in the years to come.

KEEP Staff

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Carrie Hembree
Outreach Specialist
Sara Windjue
Resource Specialist
Carrie Bea Zolkowski
Program Specialist
Jill Weiss
Program Assistant

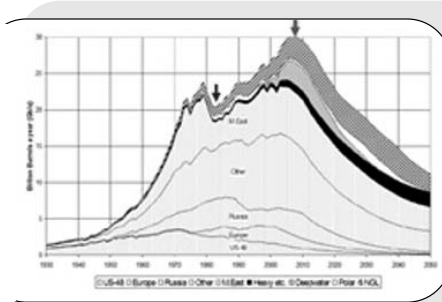
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Saving Energy in School Buildings

Is energy a major budget item for schools in Wisconsin? Absolutely! In many school districts, energy costs are second only to salaries, exceeding the cost of supplies and books. Nationally, K-12 schools spend more than \$6 billion a year on energy, and according to the U.S. Department of Energy, at least a quarter of that could be saved through smarter energy management. Energy improvements could cut the nation's school bill by \$1.5 billion each year. In Wisconsin, the Focus on Energy Schools Program is the answer for school districts interested in conserving energy and saving their energy dollars. A recent study by the Focus Schools Program indicates that schools are spending an average of \$0.93/sq. ft. or \$177/student annually on energy costs. With an average school building size of 86,700 sq. ft., that's over \$80,000 each year! And with energy costs on the rise, those figures will only go up.

So what's a school district to do? Check in with the Focus Schools Program to see how your district compares to these state averages. An energy advisor may be available to work with your district to recommend energy-saving measures or improvements for your school buildings. You can contact them at 800.762.7077 or edinfo@focusonenergy.com. KEEP also has a graduate course and Web pages devoted to school building energy efficiency. Simply visit the KEEP Web site and navigate to *School Energy Education* for more information.



Peak Oil?

What is peak oil? Do you agree that global oil production has reached its peak already or will soon? Do you feel there is too much hype about this particular topic and that we shouldn't worry? What are you doing to minimize your oil consumption?

If you have opinions, questions, or comments regarding the topic of Peak Oil, or if you just want to learn more, go to the KEEP Web site at www.uwsp.edu/keep and click on *Networking*. You can download two articles with opposing viewpoints and decide where you stand.

This is a great topic for your students to learn more about. Get them involved in the debate. The discussion board that is on the KEEP Web site is open to anyone who wishes to discuss this topic and is checked daily. KEEP staff and oil experts will answer your questions and direct you to more information.

We look forward to seeing you online!

Fundraising Update

Students all over Wisconsin are selling community members on ENERGY STAR qualified compact fluorescent light bulbs (CFLs). KEEP is working with Wisconsin schools and clubs to raise money for their organizations and teach students about energy efficiency by selling energy efficient CFLs. Students sell the bulbs for \$3 and earn \$2 for every bulb they sell. Students who sell over 100 bulbs earn a \$50 savings bond and are invited to the Energy Awards Ceremony on April 24, in Madison.

To date, twenty-eight organizations are working with KEEP to sell CFLs. The top selling groups are students in Lake Geneva School District who sold 1,704 bulbs and Lincoln Elementary School in Madison, Wisconsin, who sold 1,568 bulbs. Students have sold over 7,500 bulbs to residents which save over \$425,000 and reduce the amount of carbon dioxide, a greenhouse gas, by over 13,500,000 pounds!

Housing Form



Central Wisconsin Environmental Station (CWES)

KEEP course participants are invited to stay in Walker Lodge (pictured at right) at the Central Wisconsin Environmental Station (CWES). Walker Lodge provides guests with cozy bunk bed style accommodations. Two bay areas hold 11 bunk beds each and are adjoined by two separate restroom and shower facilities. Between the two sleeping areas is a shared common space for socializing. Participants who choose to stay at CWES will receive a continental breakfast each morning. Accommodations are available for the evenings of Friday, June 23, and Saturday, June 24. KEEP staff will arrange housing at CWES for interested course participants. Guests at CWES must provide their own bedding and towels. If interested in taking a course and staying at CWES, please mark the nights you would like to stay below and return this form, along with the registration form, to the KEEP office at the address provided on the registration form.

Cost per night: \$21.50

Several nearby hotels in Stevens Point can also provide a pleasant home base while attending the Energy Fair. Course participants who choose one of these fine establishments will need to make their own arrangements.

Fairfield Inn	800.228.2800
Baymont Inn	800.301.0200
Best Western Royale Inn*	877.811.0217
Hawthorne Inn & Suites	715.341.8100
Comfort Suites	800.221.2222
Holiday Inn Express Hotel and Suites*	888.465.4329
Country Springs*	800.998.2311

*The Best Western Royale Inn, Holiday Inn Express & Suites, and Country Springs Hotel will be serviced by frequent shuttle service to the Fair.

Visit the MREA Web site at www.the-mrea.org for additional lodging, camping, and transportation information.

1) REGISTER FOR A COURSE

Please fill out the registration form on the reverse side of this sheet and send the appropriate payment to KEEP.

2) STAY WITH KEEP AT CWES

Indicate below your accommodation needs. Please make a copy of the housing and registration form for your records.

Walker Lodge, Friday, June 23 (\$21.50)

Walker Lodge, Saturday, June 24 (\$21.50)



In the Spotlight

Carrie Hembree

Greetings, energy educators! This spring, it is my honor to write to you from this prestigious column: In the Spotlight. Each newsletter, the KEEP staff shines the spotlight on a spectacular teacher, a dedicated Adjunct Faculty member, or a stellar energy education supporter – someone who inspires each of us at KEEP with their dedication and enthusiasm. They remind us that KEEP is so much more than graduate courses, CFLs, and activity guides; it has become a synergetic network of delicious energy education goodness!

This issue of our newsletter highlights some of the best KEEP has to offer. You'll find details about professional development opportunities at the 2006 Renewable Energy & Sustainable Living Fair, a guaranteed good time for those seeking alternative ideas for renewing their classroom spirit. Through our *Bright Idea* Fundraiser, schools can raise eco-friendly dollars to support a favorite project. The KEEP Web site is exploding with new information every day, and you won't believe what a recent study by the Focus Schools Program has shown about school building energy use.

So, if In the Spotlight is for the shining stars of KEEP, then what in the world am I doing here? After four fortunate years as part of the KEEP team, I will be moving on to new adventures this spring. Although I will miss student-built homes, steamy school boiler rooms and being "Tech Ed Carrie," I am confident that KEEP will continue to provide the quality energy education support teachers have come to expect. Thank you to all of the teachers and friends who have made these past four years an amazing journey to the ENERGY STAR and back again.

Are Your Students Building Homes?

"Hello, this is Rosie from the Wisconsin K-12 Energy Education Program. We are conducting a survey of high schools across Wisconsin to learn more about student-built home programs....." This fall, the KEEP staff undertook an ambitious challenge: to clearly identify the number of high schools in Wisconsin where students are involved with home building activities. Whether the high school carpentry class volunteered for a few days at a Habitat for Humanity® work site or an advanced building trades class constructed an entire home from foundation up, KEEP wanted to know about it!

The purpose of this survey was ultimately to assist KEEP in planning future outreach and professional development for Wisconsin's technology education teachers. As one of KEEP's target teacher populations, technology education teachers and their students are building the future of Wisconsin through quality construction and building science initiatives. The preliminary results of the survey indicate that at least 60 high schools across the state are building complete homes, while another, larger group of high schools are involving their students in other types of structures, such as garages, decks and sheds. By connecting these teachers with the Wisconsin ENERGY STAR Homes Program and other professional resources, KEEP hopes to increase the energy efficiency and educational value of these projects.

Earn Graduate Credit at the Energy Fair

This information applies to each of the two courses offered at the Energy Fair

Credits: One graduate credit

Location: Custer, WI - Midwest Renewable Energy & Sustainable Living Fair

Housing: See housing form on page 6

NR 610 - Exploring Renewable Energy

Date: Sixteen hours at the fair for one graduate credit

Friday, June 23, Saturday, June 24, and/or Sunday, June 25

There will be required sessions on Saturday.

Cost: \$50* The NRES 610 package (for up to 30 educators) includes one graduate credit, weekend entry into the fair, and course materials.

Details: This 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.

Apply: Send \$50 along with your housing fee (if applicable) and course registration forms (see page 5 and 6) to reserve your spot (non-refundable after June 1).

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

Date: Friday, June 23, Saturday, June 24, and/or Sunday, June 25

Cost: \$50* Includes course materials, graduate credit, and fair admission (for up to 10 teachers)

Details: This course will focus on introducing educators 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.

Apply: Send \$50 along with your housing fee (if applicable) and course registration forms (see page 5 and 6) to reserve your spot (non-refundable after June 1).

*The in-service actually costs \$425; 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 \$50). Tuition costs cover one graduate credit from UWSP, entrance into the fair, and all materials.

Contact Information

KEEP: 715.346.4651, www.uwsp.edu/keep

MREA: 715.592.6595, www.the-mrea.org

CWES: www.uwsp.edu/cwes



"Great experience and opportunity to learn more about renewable energy and class activities."



"I think I learned more attending a fair that was designed for everyone, not just teachers, [because] there were so many choices."



"Teacher workshops were the most valuable to me as an educator."

UWSP EXTENSION Registration and Data Form

Continuing Education • 012 Main, 2100 Main Street • Stevens Point, WI 54481-3897

Social Security No.	Last Name	First	Middle	Work Phone
Home Address	Street & No.	City	County	State/Zip
School Name	School Address (Street & No.)		City	District
				State/Zip

Grade Level(s) _____ **Subject area(s)** _____ **Email** _____

Check an item in each of the categories below. All official records and reports are compiled based on date from this form.

Birthdate _____ Adviser's name (if known): _____

Month Day Year

SEX
 (M) Male
 (F) Female

RACE
 (W) White
 (B) Black
 (N) Amer Indian
 (O) Asian/Oriental
 (S) Spanish

MARITAL STATUS
 (S) Not Married
 (M) Married

CITIZENSHIP
 (C) Citizen
 (N) Nonresident Alien
 (P) Permanent Immigrant
 (Q) (Alien Registration No. _____)

ENROLLMENT STATUS
 (N) _____ NEW STUDENT:
 a. First time enrolled in any college, university or technical school.
 b. Grad student taking grad courses at UW-Stevens Point for the first time.
 (C) _____ CONTINUING STUDENT: Enrolled at this university (on campus or outreach) during the previous semester. Exception: See (N) b., above.
 (T) _____ TRANSFER: Earned college credit at another college, university or technical school prior to enrolling here. UNDERGRADS ONLY.
 (R) _____ RE-ENTERING: Last college credit earned at this university, but not during previous semester. Exception: See (N) b., above.

VETERAN BENEFITS STATUS
 (2) Receiving VA Benefits
 (9) Not Receiving VA Benefits
 (0) Not a Veteran

CLASSIFICATION (Check one of 1-11 or 20) [NOTE: Most teachers in KEEP classes check the Grad Special box]
 UNDERGRADUATE (1-8) working toward first bachelor's degree.
 Indicate the number of credits you will have at the start of the semester.
 Exclude F credits; include transfer credits.
 (1) _____ 0 - 14 1st sem. freshman (5) _____ 60 - 73 1st sem. junior
 (2) _____ 15 - 29 2nd sem freshman (6) _____ 74 - 89 2nd sem junior
 (3) _____ 30 - 43 1st sem sophomore (7) _____ 90 - 103 1st sem senior
 (4) _____ 44 - 59 2nd sem sophomore (8) _____ 104 + 2nd sem senior
 (9) _____ UNDERGRAD SPECIAL: Taking undergrad courses, but not toward a degree at UWSP, or a student with a degree taking undergrad courses for teacher certification, additional majors or degrees, self improvement, etc.
 (10) _____ GRAD SPECIAL: Taking grad courses, but not seeking a degree from UWSP.
 GRAD SPECIAL 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.
 (11) _____ GRAD REGULAR: Applied and accepted to a master's program at UWSP.
 (20) _____ HIGH SCHOOL STUDENT

HIGH SCHOOL INFORMATION

High School _____ Year of Graduation _____

City/State _____

GRADUATE STUDENTS - INDICATE
 PROGRAM OF STUDY: _____
 Intended Degree: MA, MEPD, MMED, MS, MSE, MST

RESIDENCE AND OCCUPATIONAL HISTORY
 INDICATE THE DATES YOU HAVE LIVED AT YOUR PRESENT ADDRESS: _____ MO/YR FROM _____ TO _____
 LIST FORMER ADDRESSES (STREET, CITY, STATE, COUNTRY) WITHIN LAST TWO YEARS: _____ FROM _____ TO _____
 _____ FROM _____ TO _____

OCCUPATIONS AND ACTIVITIES DURING THE LAST TWO YEARS - LIST OCCUPATIONAL ACTIVITY/SCHOOL OR EMPLOYER AND ADDRESS
 _____ FROM _____ TO _____
 PARENT'S NAME _____ ADDRESS (CITY AND STATE OF RESIDENCY) _____ FROM _____ TO _____

HAVE YOU, YOUR SPOUSE OR PARENT(S) RECENTLY MOVED TO WISCONSIN TO ACCEPT PERMANENT EMPLOYMENT?
 DO YOU CLAIM LEGAL WISCONSIN RESIDENCE FOR TUITION PURPOSES?
 YES NO YES NO

Office Use Only:
 N R

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

CIRCLE ONE TO INDICATE WHICH COURSE YOU WOULD LIKE TO REGISTER FOR:
 ___ NRES 610 SEC 88 MREA ENERGY FAIR 1 GRAD CREDIT SUMMER 2006
 ___ NRES 731 SEC 88 EXPLOR ENERGY TECH 1 GRAD CREDIT SUMMER 2006

*SIGNATURE _____ DATE _____

HAVE YOU PREVIOUSLY TAKEN COURSES OFFERED BY UWSP, EITHER ON- OR OFF-CAMPUS?
 ___ Yes ___ No If yes, when? ___ 1st sem; ___ 2nd sem ___ summer 19/20 _____ LAST (OR MAIDEN) NAME (IF DIFFERENT) _____

MAIL OR FAX THIS REGISTRATION FORM TO:
 KEEP, WCEE, 407 LRC, UWSP, STEVENS POINT, WI 54481, FAX: 715.346.4698