In this issue:

Renewable Energy Systems on the Rise at Wisconsin Schools ....1

KEEP Staff Corner.........................2

NASA’s Global Climate Change Website: Tips ‘n’ Tricks for Teachers........................................3

World’s Largest Energy Fair Right Here in Wisconsin...............3

In the Spotlight -
Dr. Kenneth Walz .........................4

Climate Wisconsin: Stories from a State of Change..................4

WoodLINKS ...................................5

Energy Educator of the Year Awards Call for Nominations.......5

Electrathon....................................6

Calendar of Events .................6

---

Renewable Energy Systems on the Rise at Wisconsin Schools

In 2009, KEEP surveyed each school district in Wisconsin to learn which schools have renewable energy systems installed on their buildings. This survey found that over 120 schools in Wisconsin utilize renewable energy. To download the complete list and a map, visit the KEEP website at www.uwsp.edu/keep and click on Renewable Energy Education. Please help us ensure this resource is accurate and complete. If you have any additions or corrections to make, contact KEEP at energy@uwsp.edu or call 715.346.4770.

An Example of Renewable Energy: Wind at Random Lake High School

A wind turbine was installed at Random Lake High School on Sept. 15, 2010, to generate electricity for the school and to be used as an educational tool. This project was implemented after the District received funding through the Wisconsin Environmental Education Board (WEEB) for a wind study project. The Endurance 50 kW system was installed by Kettle View Renewable Energy, LLC from Random Lake, with funding from two grants: one from We Energies and one from Focus on Energy. A wind turbine was chosen over a solar electric system because a wind turbine is much more visible than solar panels and was expected to foster student excitement more than a static solar system would. Many teachers in the technology education, science, and math departments use the wind turbine for their lessons. For example, math teachers are converting wind speed from meters per second to miles per hour. According to Tom Malmstadt, Random Lake Superintendent, energy expenditures are down 10 percent from four years ago, even though the district has added more technology (such as 200 additional computers) and energy

Continued on page 5
We at KEEP hope that 2011 is turning out to be an energy efficient year for everyone and that you are renewing your commitment to use energy wisely!

Speaking of renewing, it was exciting to learn that so many schools are installing and using renewable energy resources (cover story). We hope this complements their ongoing efforts to reduce energy consumption through efficiency and conservation. Our spring newsletter also announces our continuing partnership with the Midwest Renewable Energy Association and their annual Energy Fair. We hope to see many of you in the Educator Tents for fun and networking.

Speaking of efficiency, KEEP continues to promote energy efficiency through our partnerships with Focus on Energy, Wisconsin’s statewide program for energy efficiency and renewable energy, and utilities throughout the state. This spring, we hired a new School Energy Education Specialist who will work with the Focus on Energy Schools Program to provide teachers with opportunities and strategies to save schools energy and increase student energy literacy.

There are many new opportunities for KEEP in 2011, and that means opportunities for teachers who participate in our programs and services. We have received funding from the Wisconsin Climate Change Action Initiative to increase and improve our sustainable energy education initiatives; including funding service-learning opportunities that reduce carbon emissions. This spring, we also hired a Sustainable Energy Education Specialist who will lead this effort.

As many of you know, KEEP is a program of the Wisconsin Center for Environmental Education (WCEE). We are working with other programs of the WCEE to build a comprehensive and collaborative Education for Sustainability initiative. One of our first steps will be to conduct sharing and visioning sessions for sustainability around the state. One purpose of these sessions will be to gather feedback on what participants believe students need to understand, think, and do to be sustainability literate. We anticipate that energy efficiency and renewable energy will be key to these discussions!

We look forward to continuing to work with you to foster energy literacy and to help build more sustainable communities in 2011.
NASA’s Global Climate Change Website: Tips ‘n’ Tricks for Teachers

NASA’s Global Climate Change website is devoted to educating the public about Earth’s changing climate, providing easy-to-understand information about climate change and how NASA studies it. NASA recently released Tips ‘n’ Tricks for Teachers—an interactive PDF focused on six ways to use NASA’s Global Climate Change Website in your classroom.

The six tips offer easy to follow step-by-step instructions on how to navigate specific website features with clear goals and outcomes. The highlighted features include: Climate Time Machine, Sea Level Viewer, Images of Change, Global Ice Viewer, Climate Reel, and Eyes on the Earth 3D.

Link to Tips ‘n’ Tricks for Teachers by going to http://climate.nasa.gov and clicking on For Educators.

World’s Largest Energy Fair Right Here in Wisconsin

Have you attended the annual Energy Fair in Custer, Wisconsin, yet? Consider joining us June 17-19, 2011, for a wonderful professional development and networking event. KEEP will be hosting the Educator Workshops and Resources Tents where you have the opportunity to win hands-on materials and learn about the most up-to-date ways to integrate energy into your classroom!

KEEP will also be offering the following 16-hour graduate courses at the Fair:

NRES 610-Exploring Renewable Energy
This course provides K-12 teachers with a unique opportunity to learn more about renewable energy technologies and applications, and also receive hands-on activities, project ideas, and information on renewable technologies, while networking with other teachers.

NRES 731-Exploring Energy Technologies (for Technology Education Teachers only)
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.

To learn more about these courses and to download a registration form, visit www.uwsp.edu/keep and click on Professional Development.

Would you like to share a project or activity with other educators at the Fair?
If you have an activity or project that you would like to share with other educators who attend the Fair, we invite you to submit a session proposal for the Educator Workshop Tent. We encourage you to share your successes with your peers and challenge them to integrate energy education into their curriculum. Contact KEEP at energy@uwsp.edu if you would like to be considered for a 50-minute session.

Rainbow’s End - Children’s Tent
If you are interested in leading a children’s workshop during the Energy Fair in the Rainbows End Tent, you can contact Abbie Enlund with your idea. You can create your own workshop or choose from a variety of standard formats and activities. This is a tremendous opportunity to educate future generations about renewable energy (and free entrance into the fair!). For more information, please contact Abbie at alenlund@hotmail.com.
In the Spotlight - Dr. Kenneth Walz

Dr. Kenneth Walz is a Chemistry and Engineering Instructor at Madison Area Technical College (MATC), the Director for the Consortium for Education in Renewable Energy Technology (CERET), an Adjunct Professor of Civil and Environmental Engineering at the University of Wisconsin-Madison, and one of 17 KEEP Adjunct Faculty located throughout the state.

Recently, Walz was named the 2010 Wisconsin Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education (CASE). Dr. Walz was selected from more than 300 top professors in the United States. The U.S. Professors of the Year program salutes the most outstanding undergraduate instructors in the country—those who excel as teachers and influence the lives and careers of their students. It is recognized as one of the most prestigious awards honoring undergraduate teaching. KEEP congratulates Walz and is proud to have him as part of our program. To read the full press release honoring Dr. Walz, visit http://matcmadison.edu/classroom/madison-colleges-ken-walz-named-wisconsin-professor-year.

Walz has taught ten KEEP courses to 135 teachers since 2008. His extensive background in science and technology has made him a wonderful asset to KEEP. Walz received his Bachelor of Science degree in Science Education (1995) and his Doctoral degree in Environmental Chemistry and Technology (2006) from the University of Wisconsin-Madison. His graduate work focused on the development of novel lithium-ion batteries for applications in hybrid cars. During the summers, Walz continues to be engaged in scientific research at the National Renewable Energy Lab with the Department of Energy Academies Creating Teacher Scientists Program.

In his spare time, Walz is an avid mountain biker and marathon skier. If you are fast enough, you might be able to find him on the trails at the Chequamegon Fat Tire 40 or the American Birkebeiner 50K.

Climate Wisconsin: Stories from a State of Change

From warming trout streams to decreasing ice cover, from lower lake levels to extreme heat, Climate Wisconsin tells stories from a rapidly changing state. These nine stories were produced to support teaching and learning about climate change in Wisconsin. All stories are supported by research in collaboration with the Wisconsin Initiative on Climate Change Impacts. Background essays and teaching tips accompany each video.

The website includes two interactive maps of Wisconsin. One map graphs the ice cover on Lakes Mendota and Monona in Madison from mid-1800 to the present. The other map allows you to investigate observed and projected temperature change by selecting two different decades and comparing maps using the temperature color scale.

You can access these video stories and interactive Wisconsin maps at http://climatewisconsin.org/.
Renewable Energy Systems
Cont’d.

costs have risen. Malmstadt credits the actions of the faculty, staff, and students along with the efficiency measures they’ve implemented, such as using vending misers on vending machines and turning off lights and computers when not in use. Students in the technology education department are also charged with constructing motion sensors to be used throughout the district.

A partnership with Lakeshore Technical College (LTC) will enable students in the Wind Technician program at LTC to maintain the turbine after the five-year guarantee through Kettle View Renewable Energy expires.

WoodLINKS
Technology Education Teachers, are you a member of the WoodLINKS program? If you are, look for the new Forest Management Curriculum Outline on the WoodLINKS website at www.woodlinksusa.org. WoodLINKS and the LEAF K-12 Forestry Education Program teamed up to create this outline to infuse forestry into your “woods” classes. The outline helps broaden curriculum to introduce students to what takes place before the lumber arrives. It identifies key concepts to include and will offer suggestions of LEAF activities that can be used to teach those concepts. Those LEAF lessons are included on the WoodLINKS website, so you’ll have everything you need.

Energy Educator of the Year Awards
Call for Nominations

KEEP is proud to be launching the third year of the Energy Educator of the Year awards program. This award recognizes educators who take the extra step to improve energy literacy in Wisconsin. Nominations for motivated and motivating formal and non-formal energy educators are welcome.

Nominations are encouraged to highlight applicant’s exemplary actions and experiences in one or more of the following areas:

- Professional Development Experiences (leadership, teaching courses, taking workshops, etc.)
- Curriculum and Resource Development (developing curriculum, creating teaching aids, using resources effectively, etc.)
- Networking and Outreach (presentations, organizing conferences and events, creating websites, etc.)
- Student Involvement (leading clubs and after school projects, involving students in the Bright Idea Fundraiser, career development, etc.)
- Fundraising (grant writing, organizing fundraisers, conserving energy, etc.)

Nominating someone or yourself involves completing an entry form and submitting a one page narrative that details the nominee’s energy education initiatives and outcomes. If this is a self-nomination, a letter of reference is also required. The nomination form can be found on the KEEP website: www.uwsp.edu/keep and click on Networking. The due date for nomination form and narrative is February 21, 2011. Nominations must be submitted or postmarked on this date.

Award Categories

The Formal Energy Educator of the Year Award recognizes a Wisconsin K-12 classroom teacher, public or private, for his or her efforts and dedication to energy education. Teachers of all subjects are eligible.

The Non-Formal Energy Educator of the Year Award recognizes a Wisconsin resident who works with the community, outside of a school setting, to promote energy education in one form or another. Professional and volunteer educators who teach in non-school settings are eligible.

Awards

Both Formal and Non-Formal Energy Educator of the Year Award recipients will be awarded $1,000 and additional resources (worth up to $250) to be used to further their energy education efforts. Award winners will be notified March 18, 2011, via email. Winners will be announced on KEEP’s website and newsletters and will be recognized at KEEP’s Annual Energy Awards Ceremony.

For More Information

For questions regarding the 2011 Energy Educator of the Year Awards Program, please contact Jennie Lane at 715.346.4770 or email jlane@uwsp.edu.
Calendar of Events
Look for KEEP at some of the following events.

To see a current listing of KEEP courses, please visit www.uwsp.edu/keep and click on Professional Development.

February
10: 4-H Educator Workshop in Stevens Point, Wis
12: WEEB grant applications due
21: Energy Educator of the Year nominations due to the KEEP office

March
2: Renewable Energy in Building Science Framework Workshop in Wisconsin Dells, Wis
3-4: Better Buildings, Better Business Conference in Wisconsin Dells, Wis
4: Central Wisconsin Education Association (CWEA) Convention in Schofield, Wis
9-12: Wisconsin Technical College Green Energy Summit in Milwaukee, Wis
10-11: WTEA in Wisconsin Dells, Wis
11: Northeastern Wisconsin Education Association (NWEA) Convention in Green Bay, Wis
21-22: Wisconsin Council for the Social Studies (WCSS) in Middleton, Wis

April
7-8: Wisconsin Charter School Conference (WCSA) in Sheboygan, Wis
27: KEEP Energy Awards Ceremony in Stevens Point, Wis

May
11: Solar Olympics in Green Bay, Wis
24-27: WASBO Spring Conference in Wisconsin Dells, Wis

June
12-14: National STEM Conference in Wisconsin Dells, Wis
17-18: NRES 610 and NRES 731 courses in Custer, Wis
17-19: Midwest Renewable Energy Association’s (MREA) Energy Fair in Custer, Wis

Electrathon

The goal of the Wisconsin Electrathon Program is to bring attention to the environmental problems of conventional cars and demonstrate the viability of electric vehicles. Through this hands-on and team-oriented project, students design and build an energy-efficient vehicle. This experience helps foster problem solving skills and encourages students to evaluate transportation alternatives and make sustainable lifestyle choices.

The Wisconsin Electrathon Program is a program of the Wisconsin Energy Efficient Vehicle Association (WEEVA) and has been coordinated by the Wisconsin K-12 Energy Education Program (KEEP) since 2007. Since its inception in 2005, the number of schools participating in the Wisconsin Electrathon Program has increased significantly.

Each year, approximately 150 students participate in designing and building an energy-efficient electric vehicle. While designing these vehicles, each student researches energy-efficient technologies and the importance of efficient transportation options. These students also attend endurance competitions where they learn to drive efficiently. Since driving habits are developed early in life, the experiences these students receive are preparing them for a lifetime of energy-efficient choices.

KEEP’s goal of improving and increasing energy education in Wisconsin’s K-12 schools continues through the coordination of the Wisconsin Electrathon Program. The Electrathon introduces energy-efficient transportation options to youth, preparing them to be responsible energy consumers and preparing them for future careers in an energy industry.

www.wielectrathon.org