



**Minnesota Renewable Energy Society**

connecting minnesotans with renewable energy resources

# The Solar Flare

e-Bulletin from the Minnesota Renewable Energy Society

January 2010

## Member & Board Meeting

### January 2010 Member & Board Meeting

Thursday, January, 14, 2010

5:30 PM – Pizza and Networking

6:00 PM – Guest Speaker Presentation

7:00 PM – Board Meeting

Location: Flannery Construction

[1375 St. Anthony Avenue, St. Paul, MN](#)



### A Utility Perspective on Feed in Tariffs

Mike Bull, Senior Resource Analyst with *Xcel Energy* will be the guest speaker at the January MRES meeting.

Mike will speak about the two dominant policies for promoting renewable energy development globally, which are Feed in Tariffs (FIT) and Renewable Energy Standards (RES).

Under an RES, policy makers establish a requirement for the amount of renewable energy desired, and let the market determine the price utilities will pay for that amount of renewable energy. A FIT is the mirror opposite of an RES -- policy makers establish the price utilities will pay for renewable energy, and let the market determine the amount of renewable energy that will developed at that price. In this presentation, Mike will: (1) describe the utility's concerns with FITs generally, and with attempts to superimpose a FIT onto Minnesota's RES; and (2) provide an update on Xcel Energy's renewable energy achievements, activities and plans.

Mike Bull is Senior Resource Analyst at Xcel Energy. In that position, Mike is responsible for strategic evaluation of resource alternatives

to meet customer demand in Minnesota, North Dakota, South Dakota, Wisconsin and Michigan. Prior to coming to Xcel Energy, Mike was Regional Policy Manager for *Wind on the Wires*, the Midwest regional partner for the *American Wind Energy Association*.

He also has held a number of positions in Minnesota state government, including Senior Policy Advisor for Energy & the Environment for Governor Tim Pawlenty, Deputy Director of the *Minnesota Office of Energy Security* and Assistant Commissioner for Renewable Energy at the Minnesota Department of Commerce. In those roles, Mike helped to develop and implement a number of Minnesota's nation-leading renewable electricity and bio-fuel programs. Mike also acted as staff co-chair of the Midwestern Governors Association energy steering committee to develop and implement the MGA Energy Security and Climate Stewardship Platform (2007).

Mike earned a Juris Doctor degree, cum laude, from the *University Of Minnesota* Law School in 1993, and a Master of Public Policy degree from the Humphrey Institute of Public Affairs at the University of Minnesota in 1994.

## Highlights - (Click on link below to see details in the following pages)

### Upcoming Events

- [January 2010 Member and Board Meeting - January 14](#)
- [Regional Competitiveness and Energy Efficiency Summit - January 14](#)
- [Solar vs. Wind: Which Energy is Right for You? - January 26](#)
- [Introduction to Renewable Energy Options & Opportunities - January 30](#)
- [Solving Renewable Energy Problems - February 9](#)
- [Solar Skies - Solar Thermal Heating Training - February 11](#)
- [Everything You Always Wanted to Know About Photovoltaics - February 13](#)
- [MRES 30th Anniversary Celebration Gala and Symposium - February 19](#)
- [Starting and Growing a Solar Business - February 24 & March 3](#)
- [Everything You Always Wanted to Know About Solar Water Heating - February 27](#)
- [Careers in Renewable Energy - March 13](#)

### News

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- [Funding for Energy Efficiency, Solar, and Small Wind - p.12](#)
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### Renewable Energy Careers and Networking

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## Upcoming Events

### Solar vs. Wind: Which Energy is Right for You?

Tuesday & Thursday: January 26 & 28, 2010

Century College

3300 Century Avenue N.

White Bear Lake, MN

Phone: (651) 779-3341

6:00 p.m. to 8:00 p.m.

Room: Century East Campus 2311



There are a multitude of renewable energy options available today including solar thermal, solar photovoltaic, wind, and geothermal systems. The correct choice for your situation can be confusing. The purpose of this class is to introduce you to the most accurate information currently available on wind and solar systems so you can understand, compare, and make the best possible decisions. Fee: \$75.

Join [Mouli Vaidyanathan](#), PhD, PE, an international leader in renewable energy systems, on this quest to compare and contrast wind and solar energy systems. Mouli holds a PhD in Metallurgical Engineering from the University of Wisconsin and is a certified professional Engineer.

Register on the [Century College course webpage](#) or call (651) 779-3341. Course ID: 002081

# Regional Competitiveness and Energy Efficiency Summit

Join U.S. Senator Amy Klobuchar, US Department of Energy officials, area businesses and policy-makers

Thursday, January 14, 2010

10:00am to 2:30pm

Registration begins at 9:30am

3M Auditorium, Carlson School of Management

University of Minnesota—Minneapolis Cities



The Energy Efficiency Summit is free and open to the public. Please RSVP to: [cstpp@umn.edu](mailto:cstpp@umn.edu). Make sure to include your name, title, organization, and whether you plan to stay for lunch.

U.S. Senator Amy Klobuchar welcomes policy makers, businesses, entrepreneurs, and interested members of the public to participate in this Regional Competitiveness and Energy Efficiency Summit.

The purpose of the Summit is:

- To provide information on policies and resources at the federal, state, and local levels that support energy efficiency;
- To highlight products and programs available to Minnesota businesses and citizens to increase competitiveness and save money through developing and adopting energy efficiency measures;
- To highlight Minnesota companies and organizations leading the way in energy efficiency and innovation.

The Energy Efficiency Summit is co-sponsored by the Center for Science, Technology and Public Policy at the Humphrey Institute and the Center for Integrative Leadership—a center jointly operated by the Carlson School of Management and the Humphrey Institute of Public Affairs.

## AGENDA:

9:30am-10:00am - Registration

10:00am-10:10am - Welcome and Opening Remarks by :

- Sri Zaheer, Associate Dean, University of Minnesota Carlson School of Management
- Dick Hemmingsen, Director, Institute on the Environment's Initiative for Renewable Energy and the Environment.

10:10am-11:00am - Panel 1: Everyday Actions towards Energy Efficiency

- Leo Raudys, Senior Director for Environmental Affairs, Best Buy Co., Inc.
- Lee Gabler, Director of Energy Efficiency Marketing, Xcel Energy
- Mark Blaiser, Executive Director of the Minnesota Chamber of Commerce's Waste Wise Program (MN Waste Wise delivers strategic environmental consulting to help businesses save money through waste reduction)
- Sheldon Strom, Executive Director, Minnesota Center for Energy and the Environment

11:00am-11:10am - U.S. Senator Amy Klobuchar

11:10am-11:40am - Keynote Speaker, Cathy Zoi, Assistant Secretary for Energy Efficiency and Renewable Energy, U.S. Department of Energy

11:40am-12:30pm - Lunch

12:30pm-1:20pm - Panel II: Made in Minnesota: Energy Efficient Products

- Michael Roman, Vice President and General Manager, Renewable Energy Division, 3M
- Steve Tourek, Senior Vice President, Marvin Windows
- Steve VanTassel, CEO, Packet Power (produces a management system to reduce data center power consumption)

1:20pm-1:30pm - Break

1:30pm-2:20pm Panel III: Energy Efficiency and Policy Making

- Gilbert Sperling, Program Manager, Weatherization and Intergovernmental Program, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy
- Minnesota State Senator Ellen Anderson, Chair, Senate Finance Committee—Environment, Energy, and Natural Resources Budget Division
- Hennepin County Commissioner Peter McLaughlin, Chair, Hennepin County Public Works, Energy & Environment Committee

2:20pm-2:30pm - Closing Remarks by U.S. Senator Amy Klobuchar

## Introduction to Renewable Energy Options & Opportunities

Saturday, January 30, 2010, 8:30 AM to 5:00 PM (8:00 a.m. check-in)

Location: Flannery Construction, 1375 St. Anthony Avenue, St. Paul, MN

MRES offers *Introduction to Renewable Energy (RE) Options & Opportunities*: the course includes technology alternatives and options, including Solar PV (solar electric), Solar Hot Water & Space Heating, Passive Solar Hot Air Heating, Wind Energy, Energy Efficiency, RE environmental issues, RE costs, rebates & incentives, finance options, and RE career opportunities.



- Learn about energy efficiency and why it is important.
- Learn how RE impacts the environment.
- Learn basics about RE technologies and options, including solar PV (electric), solar hot water and space heating, passive solar and active solar hot air heating, and wind energy systems.
- Learn about RE costs; environmental issues; rebates, incentives, and financing options; and RE resources.
- Learn about RE installations in Minnesota: lessons learned and success stories.

This MRES class is intended for homeowners, community leaders, business owners, green and RE career seekers, people interested in RE, and the general public (intended for age 18 and over). Don't wait too long to register; this class has been very popular and has filled well before it begins.

[Course registration](#) and details are on the MRES website.

\$55 MRES members; \$75 non-members

## Solving Renewable Energy Applications Problems

Tuesdays: February 9 - March 2, 2010

Century College

3300 Century Avenue N.

White Bear Lake, MN

Phone: (651) 779-3341

6:00 p.m. to 9:00 p.m.

Room: Century East Campus 1377



This 24-hour, eight-week course is for people who would like to improve their skills in being able to solve problems associated with the application of renewable energy technologies. Many situations arise in Renewable Energy applications where calculations have to be made in order to position or size a system, or to determine a correct answer. Examples are to determine the area that should be allotted to the collector for sizing a Solar Domestic Hot Water (SDHW) system or the distance apart that the array rows of a solar PV system should be separated to prevent shading in wintertime. Many other examples also arise in wind, biomass, transportation and conservation applications. These calculations require that the solver be familiar with the mathematical branches of algebra and trigonometry. This class will help you in a non-threatening way to improve your comfort level with these disciplines as applied to real life Renewable Energy applications. Students should have completed Math 0030 (Intro to Algebra) or equivalent, or speak with instructor before registering. The course fee is \$195.

Roger Aiken is the instructor for the class. He is one of the original MRES members, and Roger is a [CREED](#) workshop instructor and founder of CREED. Register on the [Century College course webpage](#) or call (651) 779-3341. Course ID: 002321

## **Solar Skies - Solar Thermal Heating: How we implement it. How we integrate it. How we market it. How easy it is to install.**

Kurt Koegel and Solar Skies Mfg. LLC, a leading manufacturer of solar thermal heating collectors, invite you to attend their 1-day solar thermal training class. The next class will be held on Thursday, February 11, 2010 at the Solar Skies manufacturing facility in Starbuck, MN. This class is intended for solar installers and solar business people and is open to the public.

Instructor of the class is Kurt Koegel, a master plumber with 20 years of plumbing and heating experience, and a certified NABCEP solar thermal installer. Kurt's presentation will cover:

- \* Basics of Solar Thermal Energy
- \* Site Evaluation and Site Survey
- \* Domestic Hot Water System Sizing
- \* Drain back and Pressurized Glycol Systems
- \* Residential and Commercial Installations
- \* Collector Mounting Examples
- \* Collector Mounting and Roof Penetrations
- \* Radiant and Forced Air Heating Integration
- \* Controls
- \* Introduction to RET-Screen Analysis Tools
- \* Marketing of Solar Thermal Systems



Gain the knowledge and expertise you need to grow your business in the solar thermal heating industry, now particularly valuable with the growing demand of cost-effective and reliable solar thermal heating resources.

To make your reservation, contact Solar Skies Mfg, LLC at 877-765-2757 or by email: [deb@solarskies.com](mailto:deb@solarskies.com). Included with the training, is a technical workbook of the presentation, certificate of completion, lunch, and refreshments. The cost for this comprehensive training is \$200 - prepaid by credit card or company check. Payment needs to be received 10 days prior to class date. No Refunds. Ask about other dates.



Solar Skies' Solar Thermal panels on the [Wellstone Center](#) in St. Paul, MN  
Photo Credit by Craig Tarr - [Energy Concepts](#)

# MRES 30th Anniversary Celebration Gala and Symposium – February 19th, 2010

Location: [Crowne Plaza Hotel](#)

Address: 11 East Kellogg Boulevard  
St. Paul, Minnesota 55101

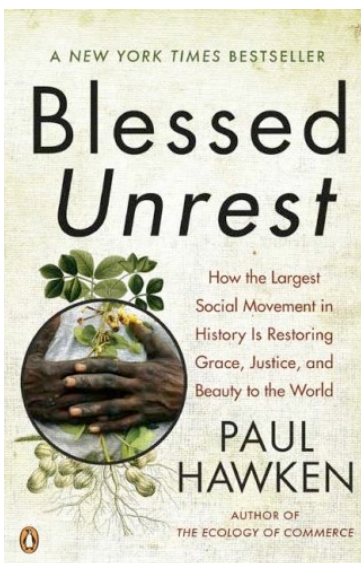
[www.MRESgala.org](http://www.MRESgala.org)

We have big plans for our celebration! Celebrate a year of accomplishments and join with us as we take a retrospective look at a number of milestones in our history and layout our vision of unity of purpose for the future. There will be fun for all at this festive event. During the evening we will commemorate our 30th anniversary and inaugurate our 4th decade of public service.

The aim of our [30th Anniversary Gala and Symposium](#) is both to celebrate 30 years of accomplishments and to create progressive dialogue around the challenges we face as a society; and, from this platform, to launch the next 30 years -- during which society must address these formidable problems. To achieve our aim, we will join in partnership with a diversity of organizations to share the work of creating synergistic solutions to severe energy, climate, security, natural resource, economic and social problems, and to work for a better and more sustainable world.



Paul Hawken



[Paul Hawken](#), author of many best selling books including [Blessed Unrest](#), [Ecology of Commerce](#), and [Natural Capitalism](#) will be the *Keynote Speaker* at the evening gala event. You will not want to miss this evening of fun and as we launch the theme: *Working together in this Blessed Unrest: Creating the next steps to a sustainable society.*

The gala celebration will also recognize and highlight the winners of our First Annual Excellence in Renewable Energy Awards Program. We hope you will join us for this amazing evening.

Paul Hawken Meet & Greet reception: By invitation or Partnership.

Dinner & program ticket price: \$45 members; \$75 non-members (Tickets are \$55 for members and \$85 for non-members after January 31, 2010). **[Please Buy gala Tickets online Now!](#)**

[Don Shelby](#), WCCO 4 TV News anchor, will be the *Master of Ceremonies* at the evening gala. Don Shelby has anchored the WCCO 4 News at 10:00pm since 1985. He has won all five of the nation's top journalism awards, many of which he has won multiple times. These include three national Emmys, the Columbia-duPont Citation, the Scripps-Howard Award for Excellence, two George Foster Peabody Awards (the broadcast equivalent of the Pulitzer Prize) and the Society of Professional Journalist Distinguished Service Award. In May 2007, Don was honored with a Leadership Award by Conservation Minnesota, for his creation of WCCO TV's Project Energy.



Don Shelby

# MRES 30th Anniversary Celebration Gala and Symposium – February 19th, 2010

## Afternoon Symposium

*“The Way Forward: Cooperation and Collaboration in the Age of Climate Shift”*

In a panel format, speakers from several groups with diverse points of view on energy and climate will offer their views on imaginative, longterm-thinking-based ways for organizations to interface and to work together on the overarching environmental issue of our times. Following the panel presentation (about an hour), the floor will be open for interaction between audience and panel members. Creative, innovative, out-of-the-box ideas for interactions among groups -- including heretofore unseen combinations of groups with different foci -- are strongly encouraged.

Symposium speakers will include **Eric Utne** - Founder of Utne Press and Senior Fellow at Center for Spirituality and Healing, **John Harmony** - Director of the Center for Sustainable Building Research, **Michael Noble**, Executive Director of Fresh Energy, and several other distinguished speakers have been invited. The [symposium](#) will be moderated by MRES boardmember **Christopher Childs**, author of “The Spirit’s Terrain: Creativity, Activism, and Transformation” (Beacon Press, 1998). The symposium is **free** and open to the public. It begins at 2:00 p.m. at the Crowne Plaza Hotel, in *Governors Hall*, St. Paul, MN.

### **30th Anniversary afternoon and evening (Feb. 19) events schedule at the Crowne Plaza Hotel:**

- 2:00 to 4:00 pm Afternoon [Symposium](#) with prominent guest speakers in *Governors Hall*
  - 3:00 pm Exhibits Open in Garden Court
  - 4:30 pm Doors Open for Early Registration for gala activities in the Garden Court
  - 5:00 pm Cocktail Hour, *Meet & Greet* (by invitation only) with [Paul Hawken](#), Silent Auction, Electric Vehicle Raffle Tickets on sale, and Poster Contest winners on exhibit
  - 6:00 pm Begin Registration for [Gala Celebration](#) – Table assignments
  - 7:00 pm Announcements and Welcome from [Don Shelby](#) in the [Great River Ballroom](#)  
*Dinner - Accompanied by music from [Michael Monroe](#)*
  - 8:00 pm Message from MRES Chairperson and remarks from Guest Dignitaries
  - 8:15 pm Video – MRES 30th Anniversary
  - 8:30 pm Keynote speaker introduction and Keynote Address by Paul Hawken
  - 9:00 pm Awards Presentations
  - 9:40 pm Raffle Winner Announced
  - 9:45 pm Closing Remarks – with Guest Dignitaries
  - 10:00 pm Silent Auction Winners’ Pick-Up
  - 10:00 pm to 1:00 am Networking, Mingling, and Cash Bar
- This schedule is subject to change, so please [check the MRES website](#) for updates.

### **Musical entertainment during the evening by [Michael Monroe](#).**

Michael Monroe’s unique musical creation leaves his audiences mesmerized as he blends his rich vocals, guitar, bamboo and glass flutes, combining musical styles of acoustic folk and jazzy reggae. Michael’s original music and compelling energy bring a powerful style that is as much fun as it is innovative music and technology working together powered by creativity... and he recycles his music on stage with his “live” layering/looping technique by sampling and mixing his voice and musical instruments in real-time live during his performance. Check out [Michael’s music on MySpace](#).



Michael Monroe  
Photo by Jim Brandenberg

# MRES 30th Anniversary Celebration Gala and Symposium – February 19th, 2010

## Electric Scooter Raffle and Silent Auction

Silent Auction items will be open for bid, beginning at 5:00 p.m. on February 19th.

### Win an Electric Scooter!

Commute and tour emission free! Raffle Tickets will be on sale at the [MRES gala](#) for an eGO Cycle 2 LX electric scooter. Check our website for updates for more cool stuff: [www.MRESgala.org](http://www.MRESgala.org)

#### eGO Cycle 2 LX

The eGO LX electric scooter is designed for daily commuters and errand runners who will be driving in moderate to heavy traffic. The LX is fully equipped for registration in any state and includes front and rear turn signals, left grip lighting, turn signal and horn controls, backlit speedometer/odometer. The eGO is built on an anodized aluminum chassis and delivers 20 - 25 miles of range at a top speed of 24 miles per hour.



e-GO Cycle 2 LX

## First Annual MRES Awards

*Minnesota Renewable Energy Society 2010 Excellence in Renewable Energy Awards*

### ELIGIBILITY

The awards are equally open to architects, designers of all disciplines, engineers, manufacturers, researchers, and students.

### PUBLICATION

The winning entries will appear in the March 2010 issue of SOLAR FLARE, both in print and online.

### DEADLINES

Thursday, February 4, 2010: regular submission deadline (postmark)

Monday, February 8, 2009: late submission deadline (postmark, additional fee is required)

### ANNOUNCEMENT AND PRESENTATION

Friday, February 19, 2010 at:

Minnesota Renewable Energy Society 30th Anniversary Gala Awards Presentation at the Crowne Plaza Hotel, St. Paul, Minnesota (for tickets visit: [www.MRESgala.org](http://www.MRESgala.org))

### FEES

First entry: \$25 for MRES Members or \$50 for non-members.

Visit the [MRES awards webpage](#) for more detailed information about the *MRES 2010 Excellence in Renewable Energy Awards*, categories, rules, entry forms, and entry fee payment info.

## Solar Energy: Everything You Always Wanted to Know About Photovoltaics

Saturday: February 13, 2010

Century College

3300 Century Avenue N.

White Bear Lake, MN

Phone: (651) 779-3341

9 a.m. to 3:45 p.m.

Room: Century East Campus 2313



Century College and the Minnesota Renewable Energy Society have co-developed this one-day introductory course for homeowners and people interested in learning the basics of how to design a solar photovoltaic (PV) system for residential applications.

The essentials of creating electricity from sunlight are covered. You will learn to evaluate solar site resource, when solar PV is the right solution, the economics and incentives for solar PV, and system design principles. System components, system sizing, PV panels, inverters, grid connected vs. non-grid connected systems, electrical connections, will be all explored.

Ralph Jacobson, a 25 year veteran of solar system installations, is the course instructor. He is a materials engineer, NABCEP certified in both solar PV and solar thermal installation. Ralph is currently involved developing a strategy for growing the solar industry in Minnesota and developing training programs for the building trades. He is also on the Board of Directors of the Minnesota Renewable Energy Society and the owner of [Innovative Power Systems](#). Course ID: 001978

People interested in taking the solar PV course may **register** on the [Century College website](#).

## Starting and Growing a Solar Business

Wednesdays: February 24 & March 3, 2010

Century College

3300 Century Avenue N.

White Bear Lake, MN

Phone: (651) 779-3341

6 p.m. to 9:00 p.m.

Room (Feb 24): Century East Campus 2561

Room (March 3): Century East Campus 2311



Century College and the Minnesota Renewable Energy Society have co-developed this two-evening introductory course for people interested in learning the basics of starting and growing a solar energy business. Solar thermal or photovoltaic installation businesses are just one choice for starting a solar energy business; while these business options will be reviewed; there are many other creative possibilities for a solar entrepreneur, such as solar energy product manufacturing.

Skills you will learn in the course will include planning for a sustainable competitive advantage, writing a preliminary business plan, and the course will also include management and leadership theory. Resources provided in the course will include handouts of business, finance, and marketing plan outlines and examples, reference lists and sources of additional information for starting a solar business. Instructor: Jan Hubbard has over 30 years of experience working in the electronic manufacturing industry. He is a founding Board member and the Treasurer for the Minnesota Solar Energy Industry Association ([MnSEIA](#)). Jan is a Board member for [MRES](#). He has an MBA from St. Cloud State University, a BS in economics and economics from the U of MN, an electronics diploma from Anoka Tech, and several certificates in wind and solar energy. Course ID: 002394.

People interested in this solar business course may register on Century College [course webpage](#).

[www.mnRenewables.org](http://www.mnRenewables.org)

## Solar Energy: Everything You Always Wanted to Know About Solar Water Heating

Saturday: February 27, 2010

Century College

3300 Century Avenue N.

White Bear Lake, MN

Phone: (651) 779-3341

9 a.m. to 3:45 p.m.

Room: Century East Campus 2313



Century College and the Minnesota Renewable Energy Society have co-developed, this one-day introductory course for homeowners and people interested in learning the basics of how to design a solar hot water heating system for residential applications.

The essentials of creating domestic hot water from the solar radiation are covered. You will learn to evaluate solar site resource, when solar hot water is the right solution, the economics and incentives for solar hot water, and system design principles. System components, system sizing, solar thermal panels, storage tanks, heat exchangers, and plumbing connections, will be all explored.

Ralph Jacobson, a 25 year veteran of solar system installations, is the course instructor. He is a materials engineer, NABCEP certified in both solar PV and solar thermal installation. Ralph is currently involved developing a strategy for growing the solar industry in Minnesota and developing training programs for the building trades. He is also on the Board of Directors of the Minnesota Renewable Energy Society and the owner of [Innovative Power Systems](#). Course ID: 001979

People interested in taking the solar thermal course may **register** on the [Century College website](#).

## Careers in Renewable Energy

Saturday, March 13, 2010

Century College, 3300 Century Avenue N.

White Bear Lake, MN

Phone: (651) 779-3341

8:00 a.m.–12:00 p.m.

East Campus, Room 2313



Century College and the Minnesota Renewable Energy Society have co-developed a new half-day course for people interested in exploring renewable energy careers.

One of the most common questions people ask about renewable energy is “How can I be involved in this rapidly expanding field?” Find out the answer to this question and a multitude of others in this 4-hour session. Careers involving solar and wind site assessment, design of systems, installation of systems, and many other aspects of solar PV, solar thermal, and wind power applications will be discussed.

Ralph Jacobson, a 25-year veteran of renewable energy system installations and owner of IPS (Innovative Power Systems), one of this area’s largest solar installers, is the course instructor. He is a materials engineer, NABCEP certified in both solar PV and solar thermal installation. Ralph is currently involved in developing strategies for growing the solar industry in Minnesota and developing training programs for the building trades. He is also on the Board of Directors of the Minnesota Renewable Energy Society. People interested in taking this careers in RE course may [register](#) on the Century College website. Course ID: 001980

## MRES Board Member Receives WCCO Radio “Good Neighbor” Award

APPLE VALLEY, Minn. – Dec. 30, 2009 – WCCO Radio (830 AM) awarded MRES Board member Doug Shoemaker the Popp.com “[WCCO Good Neighbor](#)” award. Good Neighbors are recognized on the air at 7:52 a.m., 12:40 p.m., and 5:50 p.m. on WCCO 830AM radio. “A Good Neighbor is respectful, trustworthy and volunteers to do good deeds.”



Doug Shoemaker - WCCO Good Neighbor

## MRES Member & Board Meeting Moving to UAW-Ford-MnSCU Training Center

**Beginning Thursday, February 11, 2010**, MRES will hold monthly Member and Board Meetings at the [UAW-Ford-MnSCU Training Center](#): 966 South Mississippi River Boulevard, St. Paul, MN 55116 (Phone: 651.696.0557).

Directions to the UAW-Ford-MnSCU Training Center:

Coming from Minneapolis:  
Travel Highway 94 east to the Cretin/Vandalia exit.

Coming from the east of downtown Saint Paul:  
Travel Highway 94 west to the Cretin/Vandalia exit.

From the Cretin/Vandalia exit: Proceed south on Cretin Avenue approximately 2.6 miles. Make a right turn at Cretin Avenue and Ford Parkway and go west. Travel approximately 0.1 miles on Ford Parkway and take first available left into the Ford complex.

Parking at the Training Center:  
Parking space is available in the parking lots on either side of the Training Center.



Auditorium at UAW-Ford-MnSCU Training Center

## **Funding for Energy Efficiency, Solar, and Small Wind Commercial and Industrial Energy Grants**



Jan. 4, 2010 – ST. PAUL, Minn. – The Office of Energy Security (OES) is requesting proposals for:

### ***Energy Programs in Commercial and Industrial Buildings***

The purpose of these competitive grants is to provide funding for cost effective projects that maximize energy savings, displace fossil fuel energy inputs and reduce the total energy demand of commercial and industrial buildings by developing, implementing and installing energy programs in commercial, industrial and nonprofit facilities.

***Deadline:*** Friday, February 12, 2010

For more information and to download a copy of the RFP, go to our website [www.energy.mn.gov](http://www.energy.mn.gov) and click on “[Request for Proposal \(RFP\)](#)”.

If you have questions about this RFP, please contact [energy.contracts@state.mn.us](mailto:energy.contracts@state.mn.us).

Note that this grant program is a one-time opportunity. For 501(c)3 organizations and businesses with more than 20 full-time equivalent employees, this is the only state funding appropriated this fiscal year for solar and small wind projects

## **Minnesota Rebate Funds for Solar**

Dec. 17, 2009 – ST. PAUL, Minn. – The Office of Energy Security (OES) has announced its intention to Launch Solar Programs in January 2010.

The OES announcement stated plans to release the newest round of solar rebate programs in January. The source of the \$3 Million in funds is the American Recovery and Reinvestment Act (ARRA). The programs are subject to federal rules, and therefore are slightly different from previous programs. New residential and business applications and guidelines should be posted later in January at [www.energy.mn.gov](http://www.energy.mn.gov) for the following programs:

- Minnesota Solar Electric Rebate Program
- Minnesota Solar Hot Water Rebate Program
- Minnesota Solar Air Heat Rebate Program

OES is planning to make an announcement as soon as the program is ready to launch.

## **Klobuchar promises to press for answers why stimulus money is still stalled**

Jan. 11, 2010 – MINNEAPOLIS – U.S. Senator Amy Klobuchar has been on a four-day tour of the state meeting with renewable energy leaders to see what they need to further grow the industry.

\$5 million in federal stimulus rebate money was supposed to help Minnesota’s push for more green energy projects. Instead, that money is tied up until the U.S. Energy Department can approve the state’s energy assistance plan. In a [WCCO story](#) published on Tuesday, reporter Bill Hudson quoted Klobuchar: “That money has got to get out there and that’s what I want to hear on this tour. To find out their frustrations with what government is not doing right and how we can make it better.”

Klobuchar promised to press the Energy Department for answers into why the stimulus money is still stalled for renewable energy projects.

## Westwood Renewables Completes Largest Solar Installation in Minnesota

Jan. 9, 2010 – COLLEGEVILLE, Minn – A recent KARE 11 TV broadcast covered the largest solar photovoltaic (PV) installation in Minnesota. The site has over 1800 solar panels mounted on 455 pole mounted trackers, yielding 400 kilowatts of solar electric power, which is enough to power 65 homes.

The [KARE 11 story](#) highlighted the fact that solar PV operates more efficiently in cold weather, making Minnesota a better than warmer climates in the winter. “In Fact, we can produce more energy on a cold winter day, on a per kilowatt basis, than in Texas or California and other places,” said Mario Monesterio, co-owner of [Westwood Renewables](#).



**St. John's University 400 Kw Solar PV Farm**

Minneapolis is at the same latitude (45 degrees) as Milan, Italy. Germany, the world's leading producer of solar power (~ 4,000 Mw) has much less solar resource than all of Minnesota and nearly all of the lower 48 United States. The solar energy striking the earth in Seattle, Washington, and most of Alaska, is similar to the [solar resource of Germany](#), as indicated by National Renewable Energy Labs (NREL) [solar resource maps](#).

The cloud cover is a significant factor for solar energy production, and lower ambient temperature improves PV efficiency. “We have the same solar energy potential here as Houston, Texas, and Jacksonville, Florida,” said Doug Shoemaker, vice chairman of the Minnesota Renewable Energy Society.

Solar hasn't caught on in Minnesota as widely as wind energy, largely because solar PV has been more expensive. However, with the 30% federal tax credit and the new State rebate programs on the horizon, solar is now more affordable than ever, you can locate it anywhere the sun shines, and it's clean. Most of the electricity in Minnesota is still generated by burning coal.

The [St. John's solar project](#) was funded by a \$2 million Xcel Energy Renewable Energy Development Fund (RDF) grant.

Photovoltaic solar modules consist of thin wafers made of silicon or other conductive material. When sunlight hits the wafers, a chemical reaction occurs, resulting in the release of electricity. Solar resources are available everywhere, although some areas receive less sunlight than others. The greatest solar resources are located in the Southwest, where sufficient solar energy falls on an area of 100 miles by 100 miles to provide all of the nation's electricity requirements.

— U.S. Environmental Protection Agency.

## MPCA Selects Westwood Renewables to Design 2 Mw Solar Site

Jan. 7, 2010 – ST. PAUL, Minn. – Finance & Commerce magazine published a [story](#) about what should be the largest solar photovoltaic (PV) installation in Minnesota.

The Minnesota Pollution Control Agency (MPCA) has selected [Westwood Renewables](#) to engineer the largest solar installation in Minnesota. The MPCA will donate a closed land fill site in Olmsted County near Rochester for the project, and Westwood will seek an economic stimulus funding to complete the construction.

“The idea is to do as much solar as the site will permit, and we estimate that we should be able to install about 2 megawatts of solar PV,” said Mario Monesterio, co-owner of Westwood Renewables.

The construction could begin as early as early 2011.

## Riverland College Offers 16 Scholarships for New Solar Installer Program

Jan. 6, 2010 – ALBERT LEE, Minn. – [Riverland College](#) begins its [new Solar Installer program](#) on January 11, 2010. The college is [offering scholarships](#) for 16 students in the program.



For more information about how to register for these classes, please contact Heiny in the admissions office at 507-433-0517 or Steve Bowron, dean of academic affairs career and technical education at 507-379-3317.

## Xcel Energy Plans for Solar Rewards

Dec. 19, 2009 – MINNEAPOLIS – Finance & Commerce magazine recently [reported](#) that according to John Wold, product manager for Xcel Energy’s Minnesota Solar Rewards program, Xcel could roll-out its Solar Rewards program in Minnesota as soon as late January 2010. Xcel is reportedly waiting for approval from the Minnesota Public Utilities Commission (MPUC). Xcel has Solar Rewards programs in Colorado and New Mexico already.



The Finance & Commerce [story on Solar Rewards in Minnesota was republished by AllBusiness.com](#).

The June 2009 issue of the MRES [Solar Flare](#) reported on the original public filing with the Minnesota Office of Energy Security (OES), which included the Xcel Solar Rewards program. The new program is intended to help customers save money by using less energy with a comprehensive series of new and expanded programs under its proposed 2010–2012 Conservation Improvement Program (CIP). Minnesota legislators agreed during the 2008 Session that solar energy resources, which meet certain energy efficiency requirements, may be included within public utilities’ CIP plans.

In the original filing with OES, Xcel proposed that participating customers would agree to sell the RECs to Xcel Energy in exchange for a one-time payment, not to exceed \$2.25 per Watt, which is an estimated per kWh REC cost of 8.2 cents.

The public filing also included new features and technologies for a number of existing business programs, as well as developing more individual advisory services for business customers.

## New and Retiring MRES Board Members

Dec. 10, 2009 – SAINT PAUL, Minn. – The MRES Annual Member meeting began with Board member elections. The new Board members are elected to a 3-year term: Tim Bethke, Rebecca Lundberg, and Eric Jensen - congratulations!



Tim Bethke



Rebecca Lundberg



Eric Jensen

There are nine elected MRES Board members, and each year, three Board member terms expire. The Board may appoint four Board members for a one-year term, which together makes a total of up to thirteen possible Board members. At the January Board meeting, the Board may appoint new Board members. MRES members interested in an appointment should attend the January meeting.

We want to thank Stephen Jenkins, Christopher Childs, Loren Abraham, and Brad Boyd for all their hours of volunteer service and contributions of the advice, talent, and money, as departing MRES Board members. We wish them well and hope to see them often.



Stephen Jenkins - Christopher Childs - Loren Abraham - Brad Boyd  
Retiring MRES Board Members

## 2009 Annual Meeting Ends with Solar Jeopardy

Dec. 10, 2009 – SAINT PAUL, Minn. – This year, at the Annual Member meeting, we decided that we'd do something fun and play a game. Loren Abraham prepared solar questions and equipment, and in the role of Alex Trabeck, he quizzed the contestants - Stacy Miller, James Darby, and Marcus.



Stacy, James, and Marcus anticipate the next tough Solar Jeopardy answer as Loren presents the question



Stacy Miller finishes the year as the 2009 MRES Solar Jeopardy Champion; a good effort, but better luck next time James and Marcus

## Wisconsin Legislature Looking at Feed in Tariff

Jan. 6, 2010 – Madison, Wis. – Representatives Spencer Black (D-77th, Madison) and James Soletski (D-88th, Green Bay), along with cosponsors Senator Mark Miller (D-16th, Monona) and Senator Jeffrey Plale (D-7th, Milwaukee) introduced AB 649 on January 6th, 2010, as reported by Paul Gipe ([Wind-Works.org](http://Wind-Works.org)), international expert on renewable energy and Feed in Tariffs (FIT).

Gipe reports that the comprehensive revision of laws governing energy and electric utilities in Wisconsin, was referred to the Special Committee on Clean Energy Jobs, and the bill ([AB649](#)) includes a section creating a system of feed-in tariffs for renewable energy. The bill must pass both the assembly and the senate and be signed by Governor Doyle before it becomes law. It includes provisions for wind, solar PV, biogas, and “other” renewable technologies. The bill’s objective is “to maximize the development and deployment of distributed renewable energy generation technologies . . . without unreasonable impacts on electric utility rates.” The Public Service Commission is to set limits on the amount of generation permitted under the program for each technology. As a consequence, Gipe predicts that there will be a rush by commercial developers to seize as many contracts as possible, potentially squeezing out homeowners, farmers, and small businesses from developing their own resources.

Gipe’s [Wind-Works.org](http://Wind-Works.org) website has numerous [articles and information on FITs](#) in U.S. states.

## Gustavus Programs Collaborate to Help MRES deliver Gala and Symposium

ST. PETER, Minn. - Gustavus Adolphus College’s [Environmental Studies Program](#), [Johnson Center for Environmental Innovation](#), and [Center for Vocational Reflection](#) have collaborated to become a Gold Partner at the [MRES 30th Anniversary Gala and Symposium](#).



MAKE YOUR LIFE COUNT

Their generous support and collaboration have helped make the symposium and appearance of Paul Hawken possible at the [MRES Gala](#) event on February 19, 2010 at the Crowne Plaza Hotel in downtown St. Paul. Paul Hawken will also speak to students and faculty on Thursday at Gustavus.

“Colleges should be leading the movement to transform society, not just teaching about it,” said James Dontje, the Johnson Center’s Director. Dontje stresses the importance of involving students and the St. Peter community in environmental initiatives. The center will seek ideas and support to enable students to participate in campus sustainability to improve society. “Gustavus does not exist in a vacuum and will need to work together with the community for sustainability,” said Dontje.



James Dontje

Every October, Gustavus hosts the [Nobel Conference](#), the first ongoing educational conference of its kind sanctioned by The Nobel Foundation of Stockholm, Sweden. Recent year’s Nobel conferences have included ‘Heating Up: The Energy Debate’ and ‘H2O Uncertain Resource’. The theme for the 2010 Nobel Conference at Gustavus is ‘Making Food Good’.

Gustavus Adolphus College is located 60 miles southwest of downtown Minneapolis and 10 minutes north of Mankato on U.S. Highway 169. Gustavus is a private liberal arts Lutheran-affiliated college on 340 picturesque acres in the heart of the Minnesota river valley.

MRES 30th Anniversary Celebration Gala and Symposium – February 19th, 2010

*Gala and Symposium Partners*

We want to thank our Partners for helping us make the gala and symposium events possible.

*Gold Partner*



MAKE YOUR LIFE COUNT

*Silver Partners*



Mechanical and  
Electrical Engineers



*Bronze Partners*



## Renewable Energy Careers and Networking

### MRES Hosts Green Drinks

MRES hosts Green Drinks at:

Trotters Cafe

[www.trotterscafe.com](http://www.trotterscafe.com)

232 Cleveland N. Ave, St. Paul MN 55104

Cleveland and Marshall, parking behind Midway

Cleaners, or consider TAKING THE BUS!



Host Group:

Minnesota Renewable Energy Society (MRES)

Contact: Laura Cina <[LauraC@mnRenewables.org](mailto:LauraC@mnRenewables.org)>

612-963-4757 (cell)

[www.mnRenewables.org](http://www.mnRenewables.org)

Wednesday, January 13, 2010 / 6-7:30-ish

#### **Solar Trivia!**

We are going to try something a little different for Green Drinks this month. We wanted to have Solar Jeopardy, but the equipment used for that was too big for the space. So we have decided on a more interactive game of Solar Trivia!

We will have teams of 3 that will compete in three rounds of Solar Trivia. Prizes include a ticket into our [30th Anniversary Gala Event](#) Dinner with Keynote Speaker Paul Hawken, a Solar Flashlight and Guatemalan Coffee from [www.50lanterns.org](http://www.50lanterns.org). Fifty Lanterns is a non profit that provides solar to third world countries.

TC Green Drinks: <http://greendrinks.org/index.php?region=USA&city=Minneapolis/St.%20Paul>

The Twin Cities Green Drinks (TCGD) is part of a global non-movement to charge your eco spirit, make some new connections, and learn a thing or two. All of our haunts offer a variety of organic food and beverages for ALL ages. Green-Drinkers from other cities are always welcome!

### Network with MRES on Facebook and LinkedIn



Just click on these buttons to be an MRES Facebook Friend and join our LinkedIn Group.

## Rent Solar Cart



Rent portable solar power @ \$50

## Rent Solar PathFinder



Solar PathFinder - \$25 rental to MRES members

## Rent Solar Trailer

[IPS Solar](#) and MRES have joined efforts to build the most versatile power supply in the state. The Solar Power Trailer is both an educational tool and a fully functioning power source that can provide quiet, clean, renewable solar power to any site. Use it for remote power at family reunions, picnics, church, or school events. [Minnesota MPCA](#) donated the PV panels to upgrade the Solar Trailer to 1.664 Kw, and [Mario Monesterio of Westwood Renewables](#) donated the labor to install the recent upgrade with the new PV panels.

Examples of What the Trailer Can Power:

- A concert for 5,000 people
- A small carnival
- Up to 25 trade show booths
- Temporary telecom sites
- About 5 concession stands
- About 200 laptop computers

Trailer Specifications:

- PV array rating 1664 watts (newly upgraded)
- 2 Trace SW4024 inverters (4 Kw at 48 volts)
- Battery bank rating 440 amp-hours = 21,120 Kwh
- 40 amp max at 110 vAC capacity
- Usable total battery capacity: 16,896 Kwh
- 10-volt 30-amp circuit breaker for larger concert equipment
- Approximate trailer weight: 3,000 pounds



MRES Solar Trailer

To [rent the solar trailer](#), solar cart, or solar pathfinder - contact David Boyce at (651) 324-1642 or [DavidB@mnRenewables.org](mailto:DavidB@mnRenewables.org)

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Minnesota Renewable Energy Society  
2928 5th Avenue South, Minneapolis, MN 55408  
612-308-4757 or 612-963-4757



[www.mnRenewables.org](http://www.mnRenewables.org)

MRES Solar Flare  
Editor: Jan Hubbard  
Associate Editor: Doug Shoemaker  
For comments, suggestions, or  
story submissions, contact:  
[JanH@mnRenewables.org](mailto:JanH@mnRenewables.org) or  
[DougS@mnRenewables.org](mailto:DougS@mnRenewables.org)