



Minnesota Renewable Energy Society

connecting minnesotans with renewable energy resources

The Solar Flare

e-Bulletin from the Minnesota Renewable Energy Society
October 2009

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- Solar and Wind Energy Courses at Century College - beginning Oct. 10 to Nov. 7, pp. 3, 4-6
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Upcoming Events

October 2009 Member & Board Meeting

Thursday, October 8, 2009

5:30 PM – Networking and Pizza - Note new Time!

6:00 PM – Expert Guest Speaker

7:00 PM – Board Meeting

Location: Flannery Construction

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

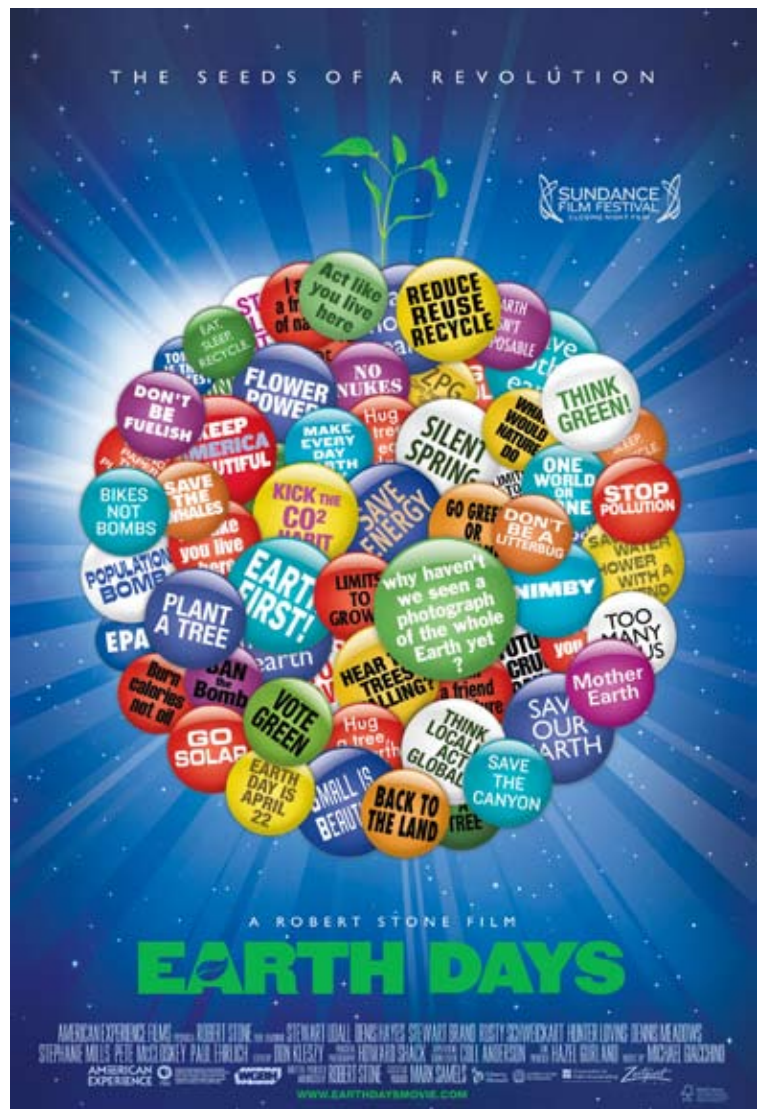
Lynn Hinkle, the new *Minnesota Solar Energy Industry Association* ([MnSEIA](#)) Director of Policy Development, will discuss how the new MnSEIA group. MnSEIA will help grow the Minnesota solar industry in a process that already includes installers, manufacturers, utilities, contractors, labor, and public entities.



Minnesota has needed a concerted voice for the entire solar industry and the Minnesota Solar Energy Industries Association (MnSEIA) and has formed recently to meet that need. Lynn Hinkle, MnSEIA's new Director of Policy Development will discuss how MnSEIA will help grow the Minnesota solar market in a process that already includes installers, manufacturers, utilities, contractors, labor, and public entities. Lessons from other state Solar Energy Industry Associations, notably Colorado's [CoSEIA](#), and the link to the national [SEIA](#)'s well developed national policy framework will be highlighted. MnSEIA will be presented as a key to Minnesota's solar industry realizing its potential as a major solar center nationally. Well known members of MRES, Ralph Jacobson, Doug Shoemaker and Jan Hubbard are founding MnSEIA Board Members; they will share their vision for MnSEIA and talk about roles in its formation.

Earth Days film to Screen in Minneapolis at Lagoon Cinemas Oct. 9 - Oct. 15

Environmental film EARTH DAYS plays in Minneapolis Friday, October 9th - Thursday, October 15th. After playing to great acclaim at the 2009 Sundance Film Festival, this powerful documentary is coming to movie theaters. Called “rapturous and enlightening” by *Entertainment Weekly*, EARTH DAYS explores the dawn of the environmental movement. In personal testimony, the era’s pioneers -- including Whole Earth Catalog founder Stewart Brand, Population Bomb author Paul Ehrlich, Apollo Nine astronaut Rusty Schweickart and renewable energy pioneer Hunter Lovins – reveal what originally motivated them to act, the political and social changes that have taken place over the years, and how they are moving forward now to forge positive change. Directed by acclaimed documentarian Robert Stone, EARTH DAYS is both a poetic meditation on humanity’s complex relationship with nature and an engaging history of the revolutionary achievements -- and missed opportunities -- of groundbreaking eco-activism. EARTH DAYS will play at Landmark Theatres Lagoon Cinemas (1320 Lagoon Avenue).



It is now all the rage in the Age of Al Gore and Obama, but can you remember when everyone in America was not “Going Green”? Visually stunning, vastly entertaining and awe-inspiring, Earth Days looks back to the dawn and development of the modern environmental movement—from its post-war rustlings in the 1950s and the 1962 publication of Rachel Carson’s incendiary bestseller *Silent Spring*, to the first wildly successful 1970 Earth Day celebration and the subsequent firestorm of political action.

Earth Days’ secret weapon is a one-two punch of personal testimony and rare archival media. The extraordinary stories of the era’s pioneers—among them Former Secretary of the Interior Stewart Udall—are beautifully illustrated with an incredible array of footage from candy-colored Eisenhower-era tableaux to classic tear-jerking 1970s anti-litterbug PSAs. Directed by Stone (*Oswald’s Ghost*, *Guerrilla: The Taking of Patty Hearst*)

Watch the film trailer at: www.earthdaysmovie.com.

Solar Energy: Everything You Always Wanted to Know About Photovoltaics

Saturday: October 10, 2009

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. \$10 discount for MRES members.

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](#).

Class **registration** and information on the Century College [CECT Solar PV class](#) webpage.

Course ID: 001722

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

Saturday: October 24, 2009

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. \$10 discount for MRES members.

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](#).

Class **registration** and information on the Century College [CECT Solar Thermal class](#) webpage.

Course ID: 001723

MIDWEST

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SOLUTIONS FOR ENGINEERING, MANAGEMENT AND OPERATIONS

EXPO



October 28 & 29, 2009 - Minneapolis Convention Center - Minneapolis, MN

Midwest Facilities Expo - October 29 & 30

Minneapolis Convention Center

October 28, 2009

Exhibit Hall: 9:00am - 2:00pm

Conference: 8:00am - 2:30 pm

October 29, 2009

Exhibit Hall: 9:00am - 2:00pm

Conference: 8:00am - 2:30pm

Facilities Expo is a two day tradeshow floor full of cutting edge products and services and free educational sessions. This year, Facilities Expo features Managing Green Buildings.

The Midwest Facilities Expo connects you with regional suppliers, allowing you to experience hands-on product demonstrations and have your questions answered on the spot. Facilities Expo showcases a wide array of products and services along with educational sessions. Explore new technology at Facilities Expo while saving time and money. The Midwest Facilities Expo serves the full spectrum of facilities. Facilities can include, but are not limited to: commercial, industrial, educational, energy management, electrical/lighting, government, health care, hotel and resort, mechanical maintenance, solar, security, distribution and warehousing.

Facilities Expo has always been *the* annual source of solutions for building engineering, management and operations. Now Facilities Expo will host GREEN solutions among its exhibitors and educational seminars. MRES will exhibit at this event.

- * Get your Hands-On the latest technology, products and services from leading companies.
- * Find Solutions to solve your facility challenges
- * Retain Knowledge by attending the educational sessions led by experts
- * Connect with industry professionals just like you
- * Grow your knowledge, industry connections and opportunities

You are invited for FREE, if you are a Building Owners/Property Manager, Chief Engineer, Directors of Facilities, Electrical & HVAC Engineer, Energy Manager, Facility Engineers & Manager, Maintenance Engineers & Manager, Operations Manager, Plant Engineers & Manager, Purchasing Manager, Safety/Environmental Manager, Warehouse Manager, or anyone who is responsible for one of the many facets of a facility.

Check it out online at: <http://www.facilitiesexpo.com/femw/index.po>

Wind Energy Site Assessor Class

October 26 -29, 2009
Century College
3300 Century Avenue N.
White Bear Lake, MN
Phone: (651) 779-3341
East Campus, Room 2371



Century College is offering a Wind Site Assessor Training workshop in partnership with the Minnesota Renewable Energy Society ([MRES](#)). To enroll in this course, you must have attended MRES's Intro to Wind class taught by Clay Sterling for MREA or the workshops taught by Roy Butler for MRES over the past year.

This Wind Site Assessor Training workshop will help participants learn how to evaluate a site's wind energy potential, determine wind speeds at proposed heights, make a load profile for a client's energy needs, determine appropriate tower heights and estimate energy output for a system based upon wind resources. Prerequisite: Completion of the MRES 3-day Small Wind Turbine Installation Workshop taught by Roy Butler for MRES over the past year or MRES's Intro to Wind workshop taught by Clay Sterling of the MREA.

Mick Sagrillo, the instructor, has over 20 years experience with wind technology and installation. He has been involved in over 700 projects in 46 U.S. states and 29 foreign countries. He is also an author of many articles published on small-scale wind technology. Sagrillo is the wind editor and a regular contributor of wind power articles to Home Power Magazine; monthly columnist for the American Wind Energy Association's Windletter; he's a columnist for Solar Today magazine and has written various articles on wind power for PV/Wind Energy News and Backwoods Home magazine. Sagrillo is a founding member of the Midwest Renewable Energy Association and has served as president of the board since 1991. He is currently the owner of Sagrillo Power and Light, a consulting firm specializing in home-sized wind turbine technology and educational workshops.

Registration and class information is now on the [Century College CECT](#) Wind Assessor webpage.
Course ID: 002255

Correction: This class is not being offered by or in association with the Midwest Renewable Energy Association ([MREA](#)) who are based in Wisconsin. We apologize: this fact was published in error in the September 2009 Solar Flare. The curriculum, content, and instructor are the same or similar to a Wind Site Assessor training offered in cooperation by MRES and MREA in 2008; however, MREA is not participating in the current class offering at Century College.

Go Green Expo

Business-to-Business Expo
Friday, November 6th • 10am - 5pm
Business-to-Business & Business-to-Consumer Expo
Saturday, November 7th • 10am - 6pm
Sunday, November 8th • 10am - 5pm



Minneapolis Convention Center
1301 Second Avenue South
Minneapolis, Minnesota 55403
(612) 335-6000
www.minneapolisconventioncenter.com

Tickets: Friday: Complimentary to Business Buyers (please bring your business card for admission)
Saturday & Sunday: \$10 for a full weekend pass; \$5 for Students & Seniors with proper ID;
Children 12 and under are Free

Careers in Renewable Energy

Saturday, November 7, 2009

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. \$10 discount for MRES members.

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.

Class **registration** and information on the Century College [CECT Careers in RE class](#) webpage. Century College website. Course ID: 001725.

Introduction to Renewable Energy Options & Opportunities

Saturday, Nov. 14, 2009, 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.

Class information on the [MRES classes and workshops](#) webpage.

\$55 MRES members; \$80 non-members

E3: The Midwest's Premier Energy, Economic and Environmental Conference

Tuesday, November 17 at the St. Paul River Centre



How do we provide sustainable fuel, food, fiber and fresh water to a global population of 9 billion people in our lifetime? That's one of the critical issues we'll explore during E3 2009. New this year, the conference features a lunchtime panel discussion with national experts, track sessions focused on the big questions of the 21st century, and a series of "Green on the Ground" workshops.

Hosted annually by the University of Minnesota's Initiative for Renewable Energy and the Environment, a signature program of the Institute on the Environment, the E3 conference showcases current technologies, environmental benefits and market opportunities in renewable energy. Each November, scientists, movers and shakers, and policymakers from across the Midwest and beyond join together to share knowledge and discoveries.

Student Registration \$20

Early bird rates available through Friday, October 16, 2009.

UMN Faculty and Staff: \$60

External: \$80

Regular registration prices available October 17 - November 13, 2009

UMN Faculty and Staff: \$80

External: \$100

Onsite Registration November 17, 2009

UMN Faculty and Staff: \$90

External: \$110

More information and registration: www.iree.umn.edu/e3



SOLAR THERMAL '09

National Solar Heating & Cooling Conference
DECEMBER 3rd & 4th, 2009
Madison, Wisconsin
Monona Terrace



SOLAR THERMAL '09 is a national conference and expo for the solar thermal professional. The Midwest Renewable Energy Association (MREA) invites you to the only professional level conference devoted to solar heating and cooling. It is the only professional level Solar Thermal Conference of its kind in the nation.

Installers, manufacturers, site assessors, dealers, distributors, state agency representatives, and policy makers will not want to miss this one-of-a-kind conference.

The MREA is currently calling for presenters, exhibitors and sponsors for the conference. Please visit <http://www.the-mrea.org/shwconference.php> for more information and to register for the conference. If you have any questions, please contact Kirsten at 715-592-6595.

CONFERENCE TOPICS INCLUDE:

- Solar hot water, solar hot air, and solar space heating sessions
- Manufacturer and dealer updates
- Best practices on residential and commercial applications
- New control and balance of system options
- Structural considerations
- State policy and incentive updates

REGISTRATION EXHIBITOR & SPONSORSHIP DETAILS

Register online, Paypal, Visa, and Mastercard accepted. If you cannot register online, contact the MREA at 715-592-6595 or www.the-mrea.org. You can also register at the REI here in Custer.

Whether you are new to the solar thermal industry or an experienced veteran, this conference will show you how to tap into the growing demand for solar water heating systems - and greatly expand the success of your business.

Supporting the Solar Thermal Conference

Interested in supporting the 2009 Solar Thermal Conference? Click [HERE](#) for a list of sponsorship opportunities. We are not limited to these opportunities so if you are interested in discussing other unique opportunities please contact Kirsten at kirsten@the-mrea.org.

Show off your company and connect with professionals from around the country. A limited number of exhibit spaces are available for the conference \$500 for 10 x 10. All exhibitors must also register for the conference. Contact Kirsten Olson at 715-592-6595 or kirsten@the-mrea.org with exhibitor questions.

MRES matches Electric/Plug-in Hybrid Cars with Renewable Energy

MINNEAPOLIS – Oct. 2 – Over 150 people faced the cool wet weather by attending the “Electric/Plug-in Hybrid Cars and Renewable Energy: A Critical Marriage” event. It illustrated the vital importance of wedding renewable energy (RE) -- especially solar power and wind power -- to an ever-expanding fleet of electric vehicles (EVs) and plug-in hybrid vehicles (PHEVs). The evening event was part of MRES’ 30th-Anniversary-Year celebrations. MRES produced an [EV + PV video](#) to celebrate and promote the event.

The EV & RE event started in the light rain before 5 p.m. with a display of electric vehicles on the Church Street mall on the University of Minnesota East Bank campus. Vehicles shown by members of the [Minnesota Electric Auto Association](#) included Dave Peichel’s [Geo Metro electric conversion](#), Stew Roberts’ [Ford Ranger electric conversion](#), Chris Simon’s [Ford Focus electric conversion](#), and Michael Shoop’s [Chevrolet Corvette electric conversion](#).

Anniversary Committee Chair, Loren Abraham introduced the speakers and served as emcee. Michael Noble, Executive Director of [Fresh Energy](#), and Eric Jensen, [Izakk Walton League](#) Energy Coordinator, spoke about environmental impact and importance using renewable energy with electric vehicles.

Minnesota State [Senator Scott Dibble](#)’s (District 60 in Minneapolis) spoke about renewable energy and electric vehicle legislative initiatives and the importance of citizen involvement.

Christopher Childs, author/activist and MRES boardmember, introduced the featured speaker Marc Geller, co-founder of [Plug In America](#) (PIA) and California solar installer. Geller stressed the importance of vehicles with plug-in electric or plug-in electric hybrid engines. With the fuel mix used in electric power generation today and the increasing use of renewable energy, electric plug-in vehicles are cleaner than internal combustion engine vehicles. According to the U.S. EPA,



Electric Vehicles on Church Street at EV Show

The [Electric Vehicle Store](#) displayed a [Miles ZX40ST](#) electric truck and a [Wheego Whip](#) electric car.

After 7 p.m. the program began with [College of Design](#) Dean Thomas Fisher making introductory remarks. MRES Board Member and 30th

transportation is now a leading cause of carbon dioxide pollution, lead only by commercial and residential buildings, and a leading cause of global warming in the U.S. More information about EVs can be found on the [PIA website](#).

14th Annual Minnesota Solar Tour Shines on Cloudy Day

MINNEAPOLIS – Oct. 3 – MRES hosted the statewide 14th annual American Solar Energy Society's [National Solar Tour](#) in Minnesota on Saturday. The [Minnesota Solar Tour](#) had more than 50 solar homes and commercial buildings participating again this year and about 1800 people attending.



EVs at Phillips Eco-Enterprise Center



Carl Samuelson (left) gave tour of green roof at Phillips Eco-Enterprise Center



E-Farm Greenhouse in Lake City



Boyce-Olson Residence in St. Paul



Solar Trailer at Green Institute



Ralph Jacobson on AIA Tour on Oct 2 at Merrick

Lakeville Energy Fair & Bike Rally

LAKEVILLE, Minn. -Sept. 20 -130 people attended & MRES displayed the Solar Trailer with an exhibit.



Austin RE-Fest Energy Fair

AUSTIN, Minn. - Sept. 19 - 1200 people attended [RE-Fest](#) held at Riverland College at Austin. The Solar Trailer Powered Eco-Stage all day and for the 2-1/2 hour performance by After School Special band made up of area school teachers and administrators. Joe Bowman spoke about Passive House.



Tim Bethke "Super Volunteer" assisted attendees Solar powered *After School Special* band on stage

Solar Decathlon Icon Solar House

St. Paul, Minn. - Sept. 17 - Open House event was held prior to U of MN Icon Solar House being shipped Washington D.C., for the [Solar Decathlon](#) event. See the [High-Resolution Photos of the Day](#) on the Solar Decathlon website.



University of Minnesota Icon Solar House in St. Paul

Duluth Harvest Festival and Energy Fair

DULUTH - September 12 - 2500 people attended [Harvest Festival & Energy Fair](#) at MRES exhibit.



Tom Koehler (right) & David Boyce (background) speaking with visitors

Renewable Energy Careers and Networking

GREEN JOB - EMPLOYMENT OPPORTUNITY

Job Title: Fleet Account Sales Manager

Position Description:

The Electric Vehicle Store, www.pluginmn.com, is looking for a Fleet Account Sales Manager who will be responsible for contacting fleet buyers, arranging demos and taking care of logistics, building and updating the customer relationship management system and taking care of the whole Electric Vehicle Store fleet sales operations. Compensation will be a combination of monthly base + commission.



Job Qualifications:

- Track record of success in sales
- Highly flexible with respect to time and place of work
- Basic knowledge of vehicle mechanical and electrical systems
- Proficiency with Microsoft Office programs and some experience with CRM systems
- Experience successfully balancing multiple tasks and meeting deadlines
- Interest in environmental protection issues
- Comfortable in loading, unloading and towing a car trailer behind a truck
- Electric car knowledge and fleet management experience a plus

Interested candidates should submit a cover letter and resume no later than 5 p.m. October 16th to: The Electric Vehicle Store, Suite 200, 4419 Excelsior Blvd. St. Louis Park, MN 55416. E-mailed applications will be accepted at cg@visi.com Please include "Fleet Account Sales Manager" in the subject line of your e-mail.



Miles Electric Truck



Wheego Whip - All electric car

MRES Host Green Drinks

MRES hosts Green Drinks at:
Heartland Restaurant's Wine Bar
www.heartlandrestaurant.com
1806 Saint Clair Ave / St Paul, MN 55105



Host Group:
Minnesota Renewable Energy Society (MRES)
Contact: Laura Cina <LauraC@mnRenewables.org>
www.mnRenewables.org

St. Clair & Fairview, St. Paul. Street parking, or consider TAKING THE BUS!

Dates:

October 14 / 6-7:30-ish

Rebecca Lundberg from Powerfully Green will discuss solar electricity. How it works, what homes it works on and which ones it doesn't and the different PV technologies. Solar Panel vs Thin Film? Are there really Solar Shingles?

November 11 / 6-7:30-ish

Speaker or theme to be announced.

December 9 / 6-7:30ish

Solar in the Third World! We will discuss the benefits of Solar Energy in Third World countries, how it's a benefit and what we can do to help. Linda Cullen Weiley will be there to discuss her non-profit, Fifty Lanterns.

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

Loren Abraham of Abraham + Associates Architects will discuss the basics of passive solar and how it can be implemented in a home in order to use less energy and Joe Gransee Bowman will discuss the Passive House design approach that is being used in Europe to create ultra efficient homes.

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 our 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



Solar Trailer

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

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