



# CRES NEWS

Newsletter of the Colorado Renewable Energy Society

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April 2006

## April Meeting Topic - Distributed Generation: a New Paradigm?

### PUC Issues Final Rules on Amendment 37 Despite CRES/WRA Objections

On March 30, the Colorado Public Utilities Commission (PUC) adopted rules for Colorado Qualifying Retail Utilities (QRU) to follow in compliance with Amendment 37. This order formally establishes the rules by which Amendment 37 will be implemented. In several respects this is a good thing; in other respects the rulings do not address all of the requisites of the citizen approved Amendment - so contend CRES and WRA (Western Resource Association). Both organizations formally submitted their objections to the PUC before the rulings were released, unfortunately to little avail. On the positive side:

- Interconnection standards for connecting on-site generators were approved.
- Net metering was mandated for utilities serving homes and businesses that employ PV systems.
- Utilities will offer a standard rebate to solar projects to help defray high capital costs.
- Rules for the acquisition of renewable energy credits were issued.

On the negative side, the new rulings fail to address six of the seven policy goals included in the citizens' approved amendment. Specifically, the new rules require that "least cost" should be the only consideration in the acquisition and implementation of renewable energy systems. The other six policy goals, and their related benefits, have been disregarded. These are: "to attract new businesses and jobs, to promote the development of rural economies, to minimize water use for electricity generation, to diversify Colorado's energy resources, to reduce the impact of volatile energy prices, and to improve the natural environment."

According to Ron Lehr, CRES member and attorney, "each of these potential benefits of Amendment 37 policies has value to Colorado citizens and to utility ratepayers. Although they might be hard to pin down in precise dollar terms, difficulty in calculation is not an excuse that justifies the PUC rules that essentially write them out of the statute altogether."

It should be pointed out that these rules do not circumvent the principal provision of the Amendment; i.e., that the seven largest Colorado utilities acquire 10% of their electric generation capacity from renewable sources by 2015. This is going ahead as directed. The failure to fully implement all seven rules in the original amendment, however, do have a negative impact. Refer to the blog by Ron Lehr on the CRES website ([cress-energy.org/newhtml.news\\_blog.html](http://cress-energy.org/newhtml.news_blog.html) for full details

The next meeting of the Colorado Renewable Energy Society will take place at **5:30pm** on Wednesday **April 26**. It will be held at the **NREL Visitor Center** located a couple of blocks past the Marriott Hotel in the Denver West office complex. (Take exit 263 from I-70, or turn north at the Marriott sign on Colfax between Simms and Indiana.)

Our guest speakers will be Dr. Jan F. Kreider. Currently he is a professor at the University of Colorado - Boulder, and President of K & A, LLC, an energy consulting firm. His talk will outline "Distributed Energy" technologies and give us the status of the DE industry today. He will show how the technology increasingly steers the electricity sector away from the old paradigm of large electric generating plants, long distance transmission, and local distribution. The new paradigm provides more on-site generation and a two-way intelligent grid.

Dr. Kreider is the Founding Director of the University of Colorado's Joint Center for Energy Management and is a Professor of Engineering. He is a co-founder of the Building Systems Program at the university and has written seven textbooks on energy, two books on building systems, and nearly 200 technical papers.

Beginning in 1980, he created several distributed generation systems involving wind, solar and internal combustion engines; the first system was connected to the Public Service Company of Colorado grid in 1981. From that time onward, he has specialized in hybrid and renewable energy research and development.

## COLORADO SNAP SHOTS

This column features dates for meetings and other events relevant to Coloradans interested in renewable energy.

**April 24-29... Photovoltaic Design and Installation Workshop.** Presented by the Center for Resource Conservation (CRC) and Solar Energy International (SEI). This is a workshop for beginners looking to install their own PV solar system, or those seeking knowledge of PV for possible future employment in the solar industry. For full details call 303-441-3278.

**April 27, 28, 29... Solar and Radiant Systems Design Workshop.** A 3-day intensive training program offered by Solar Energy International. Presented by Peter Biondo of USA Solar. *Location:* Carbondale, CO. *Fee:* \$595.00. For further information call 970-963-8855 or visit [www.usasolar.net](http://www.usasolar.net).

**April 28-29... Solar Thermal Training Workshop.** A 2-day training program offered by the Colorado Solar Energy Industries Association. Presented by Bill Guiney of the Water Heating Division of Solargenix. Covers Fundamentals and Applications (April 28) and Design and Installation (April 29). *Location:* Vitamin Cottage, 12612 W. Alameda Pkwy, Lakewood, CO. *Fee:* \$150 - single day; \$200 - both days. For further information call 303-333-7342 or visit [www.info@coseia.org](http://www.info@coseia.org).

**May 2 ... Home Energy Rating System, Energy Tax Credits and Solar Rebates Workshop.** Explains home energy scale change and eligibility for federal tax credits and Colorado Amendment 37 rebates. Presented by Built Green, Home Builders Association. *Location:* HBA Education Room, 1400 S. Emerson St., Denver, CO. *Fee:* \$35 for HBA or Built Green members; \$45 for nonmembers. For further information call 303-328-2324 or visit [www.jlyng@hbadenver.com](http://www.jlyng@hbadenver.com).

**May 12... 2006 ASHRAE Technical Committee Research 2 Reality Review.** Covering fundamentals of system design, building automation, and energy and the environment. *Time:* 7:30am - 5:00pm. *Location:* Shearton West Hotel (6th Ave. & Simms), Lakewood, CO. For further details call 720-889-1500, x110 or e-mail Brian Lynch at [brian.lynych@york.com](mailto:brian.lynych@york.com).

## Xcel to Build Solar Power Plant

Xcel Energy Inc. is soliciting bids to build a massive solar power plant capable of supplying power to as many as 1,800 homes during daylight hours. Xcel said it is building the facility in order to comply with Amendment 37 which mandates that the company have 50 megawatts of combined rooftop and central solar power systems installed by 2015.

Xcel requested bids for companies to build, own and operate the solar plant and sell the electricity to the utility for the next 20 years. Xcel is Colorado's largest utility, with about 1.3 million electricity customers in the state. Initial capital costs are expected to be around \$50 million to \$60 million and ultimately will be borne by Xcel customers in Colorado, according to the utility.

The plant is to be built in the San Luis Valley, about 20 miles north of Alamosa along State Highway 17, and generate about 13,700-megawatt hours of electricity a year, according to Xcel, which will buy the land and rent it to the successful bidder for \$1 a year. That's roughly akin to about eight megawatts of power when the sun shines. The plant will not have any air emissions or use water to generate electricity, Xcel said.

Construction is expected to begin this year. Xcel wants the plant operational by the end of 2007 in order for the successful bidder to take advantage of 30 percent federal investment tax credits for solar power facilities. "This facility will put the San Luis Valley on the map for solar power production and will also add significantly to the region's economy," said Pat Vincent, president and CEO of Xcel's Colorado subsidiary, Public Service Company of Colorado, in a statement. "This plant combined with Xcel Energy's Solar Rebate program will help bring us closer to meeting the state's Renewable Energy Standard."

Construction of the plant would generate between 45 and 75 jobs, but the plant would be fairly self-sustaining during operation, with only a handful of jobs associated with it, said Tom Henley, Xcel spokesman. Xcel said proposals are due by May 17. The company said it plans to have a contract by Sept. 1.

## DOE Swears in New EERE Ass't Secretary

On March 16, 2006, the U.S. Senate confirmed Alexander "Andy" Karsner as DOE's Assistant Secretary for Energy Efficiency and Renewable Energy. This is an extremely important position within the federal government with respect to the renewable energy community. In his new capacity, Mr. Karsner will manage the Department of Energy's \$1.17 billion EERE office which funds and directs all federal research and development activities dealing with energy efficiency and renewable energy. This includes all funding for the National Renewable Energy Laboratory in Golden with which CRES maintains a very close working relationship.

Mr. Karsner will lead DOE's efforts in carrying out the new *Advanced Energy Initiative (AEI)*, announced by President Bush in his 2006 State of the Union address, which calls for a 22 percent increase in clean-energy research.

### FINAL CALL FOR BUILDING AWARD ENTRIES

The deadline for entries for the *2006 Renewable Energy and Sustainable Design in Buildings Award* is **May 15, 2006**. The awards will be presented at the CRES/ASES Conference, July 8-13, 2006 at the Adam's Mark hotel in Denver. Media releases announcing the award winners will go to all local media outlets as well as to the buildings trade press. Awards will be given in several areas under two main categories: Residential and Non-Residential Buildings. For full details and entry forms visit the CRES web site at [www.cres-energy.org](http://www.cres-energy.org) or call Werner Duecker at 720-214-1550.

## CRES CORNER

**CRES Benefit Bash...** Mark the date and plan to attend the *Microbreweries for the Environment* benefit party on Friday, April 28, 2006 at the Boulder Theater. Proceeds from the event are pledged to CRES. Twenty microbreweries will serve their best beers for only \$1.00 per glass. The famed **Motets** will present three sets offering a unique blend of Afro-Beat, Afro-Cuban, and Jazz traditions. In addition they will play the tunes of Prince, Stevie Wonder and Michael Jackson. The party will start at 8:00pm and go on until 1:00am. Admission is \$17.50 but CRES has a limited number of tickets which will be offered to CRES members at a discounted rate. Contact Robin Hubbard at 303-233-2619 or robin@uwalumni.com.

**March Meeting Report** by *Morey Wolfson*... On March 29th, eighty people packed into the NREL Visitor's Center to attend CRES' monthly educational meeting featuring NREL scientist, Art Nozik. Dr. Nozik provided the audience with an understanding of the need for a massive global solar initiative in order to meet the worldwide demand for clean energy in the light of the greenhouse effect and fossil fuel depletion. He discussed the research developments pointing in the direction of developing highly efficient and inexpensive photovoltaic material. Using nanotechnology, the photovoltaic material is developed from the atomic level and can be applied to plastics, glass, and other surfaces.

**CRES/CESC Workshops a Success...** Over the last several months CRES has teamed up with the Colorado Energy Science Center (CESC), under the auspices of DOE's *Solar Powers America* program, to organize a series of workshops on solar topics. All have been well received. On January 10, some 65 people attended a PV workshop discussing rebates available through Xcel Energy and the \$2,000 tax credit. On February 7, 60 people attended a workshop on Solar Domestic Hot Water Systems. Then on March 25, over 120 people attended a Passive Solar Design workshop. In the months ahead, two additional educational events are being planned. Mark your calendar to attend the *Energy Expo* on **June 10** at NREL, and the free and open *Public Day Solar Workshops* which will be held on **July 9** during the CRES/ASES Conference at the Adams Mark Hotel.

**Plan Now to Attend the**  
**CRES/ASES 2006 NATIONAL**  
**SOLAR CONFERENCE**  
**July 8-13, Adam's Mark Hotel, Denver, Colorado**  
**Renewable Energy:**  
**Key to Climate Recovery**

CRES and the American Solar Energy Society (ASES) will co-host a detailed discussion on "climate change," as well as a multitude of technical sessions and forums on all RE subjects. Some key plenary speakers are:

- James E. Hansen, NASA Climate Scientist
- Dan Arvizu, Director, National Renewable Energy Lab
- Warren Washington, NCAR Climate Change Scientist
- Denis Hayes, Chair, International Earth Day Network
- Dennis Dimick, Assoc. Editor, *National Geographic* Magazine
- Frank Kreith, ASME Fellow and noted solar energy author
- Robert H. Socolow, Princeton U. Professor Mech Engineering

## CRES NEWS

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## CRES MEETINGS

*Unless otherwise specified, CRES meetings will begin at 5:30pm and be held at the NREL Visitors Center located off the Denver West exit of I-70, just past the Marriott hotel.*

**April 26 - Monthly Meeting.** Our feature speaker will be Dr. Jan F. Kreider. See page 1 for details.

**May 25 - Monthly Meeting.** Three panelists will discuss three important aspects of wind power; i.e., technology, markets, and policy. The panel members are Robert Thresher, National Wind Technology Center; Tom Feiler, ClipperWind; and Rohn Lehr, AWEA.

## CRES "HOTLINE"

**303-806-5317**

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## RE BRIEFS

**Wirth Chair Honors CRES Members and Whole Foods...** The prestigious *Tim Wirth Chair in Environmental and Community Development* administered by the University of Colorado at Denver held its 9th Annual Awards Luncheon on April 12. At the luncheon, **Citizens Environmental Leadership Awards** were bestowed upon these CRES members for their enormous contributions to the campaign for passage of Amendment 37: **Matt Baker, Stephanie Bonin, Rick Gilliam, Robin Hubbard, Ronal Larson, Ken Regelson, and Morey Wolfson.** Also honored at the luncheon was **Whole Foods Markets, Inc.** which was awarded the **Business Environmental Leadership Award** for its commitment to use 100% renewable energy to meet all of its electricity needs (see story following). The luncheon was held at Denver Marriott City Center and was attended by some 350 guests.

**Whole Foods Commits to Wind Energy...** Whole Foods Markets, Inc. has announced that it is now relying exclusively on wind energy to meet all of its electricity needs. The Austin based company said it is purchasing 458,000 megawatt-hours of wind energy credits a year. Based on these figures, Whole Foods becomes the top wind energy user in the U.S. surpassing past leaders, the U.S. Air Force (312,416 MW-hours) and Johnson & Johnson (241,398 MW-hours).

**New Version of Energy-10 Building Design Tool Released...** The Sustainable Building Industry Council (SBIC) has just released Version 1.8 of the award-winning *Energy-10* software. This is the modeling tool for architects and building designers first developed by former CRES Chair, Doug Balcomb, when he was at NREL. This new version will give users a easy to use tool to help them integrate photovoltaics and solar domestic hot water into efficient buildings.

Thousands of building architects and designers use *Energy-10* to make informed decisions about energy performance on commercial buildings and homes they are designing. The new software package helps identify the best combination of nearly a dozen energy-efficient strategies, including daylighting controls, passive solar heating, high-efficiency mechanical systems, and more. *Energy-10*, Version 1.8 is now available for purchase from SBIC at [www.Energy-10.com](http://www.Energy-10.com).

**Shell Takes a Lead Position in Biofuels...** The Royal Dutch Shell company has announced that it has become the world's largest marketer of biofuels, as well as a leading developer of advanced biofuel technology. In the latter respect, it has become a leader in the production of ethanol from cellulosic matter. In Shell's partnership with Iogen of Canada, cellulose ethanol is being successfully produced from plant waste.

### CRES EcoArts Exhibition Gets Even Better

Great News! A fabulous new exhibit on climate change has been confirmed for *EcoArts*, the event that CRES is collaborating on July 6 - 16 as reported in the last CRES NEWS issue. As part of the exhibit, the Museum of Contemporary Art/ Denver and Denver's British Consulate will present "NorthSouthEast West: 360 Degrees of Climate Change," a new photographic exhibition that chronicles the impact of climate change across the globe as seen through the lenses of the world's top photographers.

This FREE outdoor exhibition, developed by the British Council in partnership with the Climate Group and Magnum Photos, features the art of award-winning Magnum photographers including Ian Barry, Alex Webb, Chris Steele-Perkins, and Bruce Gilden. The exhibition also highlights ways to reduce carbon emissions in communities around the globe. It will be open dawn to dusk, outdoors, near Confluence Park on the Lower Platte River in Denver. For more information visit [www.ecoartsonline.org](http://www.ecoartsonline.org) or call 303-325-5637.