



# CRES NEWS

Newsletter of the Colorado Renewable Energy Society

VOL. 10 • NO. 8     A Chapter of the American Solar Energy Society     NOV./DEC. 2005

## November Meeting Topic - Today's Outlook for Concentrating Solar Power

### What's Happening With Amendment 37?

*Sorry—no electronic graphic available.*

#### *96% Utility Scale Wind    2% Central Solar    2% Distributed Solar* **Mix of Renewable Energy Contribution Under Amendment 37**

On October 7 the Colorado Public Utilities Commission (PUC) held a deliberative meeting to establish rules for implementation of Amendment 37 which was passed by a vote of the Colorado electorate in November 2004. After much deliberation they came up with a tentative set of rules upon which all parties are pretty much in agreement. A written decision is expected to be issued in mid-November. An opportunity will then exist for suggestions for clarification of the rules. Following this, the utilities involved (mainly Xcel and Aquila) are expected to present their implementation plans to the PUC about the first of the year. The PUC must complete the rule making process by no later than March 1, 2006.

Based on this, Xcel Energy and Colorado Aquila will likely begin offering rebates to customers installing PV systems on their homes and businesses in the first quarter of 2006. Other utilities in Colorado are not obliged to offer rebates under Amendment 37 but many may well do so. It is expected that the rebate will be somewhere between \$4 and \$5 per watt for residential size systems. A minimum rebate of \$2 per watt is expected for systems between 10 kW and 100 kW. To help achieve A37's solar output requirements, the rebates will apply to systems that were placed in service after January 1, 2004.

In addition, several other significant items were incorporated in the rulings. For one, the rules call for true net metering (a single bidirectional meter) for systems under 10kW. For another, the rules set reasonable interconnection standards. Solar systems that are "UL" or similarly rated can be interconnected to the electric grid without expensive studies. Several other rulings, including issues related to the wind power component of the Amendment and the timing of implementation, were also adopted.

While the process may seem slow, it is moving forward. We must offer our deep appreciation to the Core-37 Team, of which CRES is an important member, for their staunch efforts in working with the utilities and the PUC to keep the process on track.

The next meeting of the Colorado Renewable energy Society will take place at **5:30pm** on Wednesday **November 16**. It will be held at the **NREL Visitor Center**, 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 Mark Mehos, Program Manager and Senior Engineer at the National Renewable Energy Laboratory (NREL). Mark will talk on how concentrating solar power can become a major contributor to our nation's future need for a new, clean source of energy. He will describe the latest advances in this technology that are aimed at making concentrating solar power more competitive in the U.S. and global world markets.

He will point out that constraints in natural gas supplies, low hydropower generation due to drought, and increasing demand for electricity has led to enormous volatility in the power market. The ability of concentrating solar power technologies to provide dispatchable power during periods of peak demand establishes them as a viable energy source to help meet this demand.

Mark Mehos has led the high-Temperature Solar Thermal Team at NREL since 1998 and has managed the Concentrating Solar Power Program since 2001. Mark's technical skills include thermal and radiative transport computer modeling and analysis, combustion research and engineering, and engineering of photocatalytic systems. He earned a M.S. from Univ. of California, Berkeley and a B.S. from CU, both in Mechanical Engineering.

# COLORADO SNAP SHOTS

This column features meeting dates, short news items, personality profiles and other energy matters relevant to Coloradans.

## CALENDAR OF LOCAL EVENTS

**November 22... Clean Tech Initiative/ Colorado Clean Technology Business Alliance.** Conducted by the Colorado Alliance of Sustainable Business Association. *Location:* Metro Denver Chamber of Commerce. For further information contact Jeffrey Nathanson at 303-870-4975.

**December 1... Built Green Colorado Monthly Meeting.** Conducted by the HBA Environmental Committee. *Topic of Discussion:* Built Green Colorado Program. *Time:* 9:00-10:15am. *Location:* HBA Denver Office at 1400 S. Emerson St. For further information visit [www.builtgreen.org](http://www.builtgreen.org).

**December 1-3... CoSEIA PV Certification Workshop.** Conducted by the Colorado Solar Energy Industries Association (CoSEIA). Day 1: PV basics including electrical fundamentals. Day 2: system sizing, design and pricing suggestions. Day 3: common design issue problems. *Time:* 9:00am - 5:00pm. *Location:* Vitamin Cottage, 12612 W. Alameda Pkwy. For further information call Leslie at 303-333-7342 or visit [www.coseia.org](http://www.coseia.org).

**December 13... NCRES Monthly Membership Meeting.** *Topic of Discussion:* Emerging Technologies. *Time:* 7:30pm *Location:* Ft. Collins Office Building, 215 S. Mason Street. For further information e-mail your inquiry to [info@ncres.org](mailto:info@ncres.org).

### MARK YOUR CALENDAR

#### CRES 9th Annual Meeting & Party

Saturday, February 11, 2006

Wellshire Inn  
3322 S. Colorado Blvd., Denver

Cocktails, Dinner, Live Music,  
Annual Report to Members,  
Awards Ceremony,  
**Fun, Fun. Fun!**

## CRES CORNER

### A Few Last Thoughts from Your Departing President...

CRES' Annual Tour of Solar Homes held in early October had **five times** more people attend throughout Colorado than just last year. The October 24 issue of Time magazine had a full spread titled "Going Green: Inside the Home that Cools and Heats Itself for Free." And solar companies hit all-time-highs on the stock market. What is going on here? Hurricanes Rita, Katrina, and Wilma? A desire to be grid-independent due to blackouts? Increases in natural gas prices (45% to 90% in much of the country according to the October 7 issue of USA Today)? A cold winter forecasted to require more fuel? For whatever reason, the buzz on solar is turned all the way up. Many are convinced that the scarcity and expense of fossil fuels will only continue to increase and that the solar market will grow at a tremendous rate.

As you may remember, voters passed Amendment 37 (A37) last year which requires wind power and solar electricity (photovoltaics, commonly known referred to as PV) to be part the mix for investor owned utilities in Colorado, mainly Xcel Energy and Colorado Aquila. There is an option for rural electric cooperatives and municipal utilities to opt out of the solar electricity requirement which unfortunately the Intermountain Rural Electric Association (IREA) has chosen to exercise. On the other hand, if you are in the Xcel service area ( serving 60% of all Coloradans) or the Aquila area (serving Pueblo and Canyon City), you will receive a rebate of at least \$2 per Watt or more for commercial PV systems and an estimated \$4 to \$5 per Watt for residential PV systems (*to put this in perspective, a typical PV system costs about \$8 to \$10 per Watt installed*). Final details on the rebates should be finalized by the end of the year. For further information on Amendment 37 see the article on page 1 of this issue.

Add to this the Federal Energy Policy Act (EPACT2005) signed into law on August 8, 2005. For commercial users, there is a tax credit of 30% off the cost of a solar system (PV, concentrating solar power, solar hot water) for 2006 and 2007. The amount of the credit reverts to the typical 10% after 2007. Plus you can write off your depreciation faster using the Modified Accelerated Cost Recovery System (MACRS) over five years. As for residential units, there is also a 30%tax credit off the cost of a solar system (PV or hot water) for 2006 and up to \$2,000 for 2007. The Federal tax credit takes place after the state incentives are taken out. In simple terms, if a typical \$10,000 1 kW PV system is installed on a house, the homeowner ends up paying about \$4,200. If a \$6,000 solar hot water heating system is installed, the homeowner will pay \$4,000.

As pointed out above, for the next couple of years there will be significant tax incentives for the purchase and installation of solar systems. I hope you seriously consider installing a solar system on your next building project, and do so while the incentives last. And while you are at it, I also encourage you to install efficient appliances such as compact fluorescent lights, Energy-Star appliances, and energy efficient electronic equipment. Reducing energy use will reduce the size of the solar system required as well as save fuel in the future.

In closing, it has been my pleasure to be your president this year and I thank all those on CRES committees and on the Board of Directors for making this year so successful! We had a great Solar Tour, Conference, and our monthly meetings have been extremely well attended all year. Also, we were very effective in the Amendment 37 rule making process thanks to the Core-37 Team.... And please give my warm hearted welcome to Tim Olsen, our 2006 CRES President.

Sincerely, *Renee Azerbegi*

# VOTE TODAY

Please return the ballot below before **December 1, 2005**. Vote for up to **SIX** Board members from the nominees listed on pages 6 and 7. Return the ballot by mail *with your name and address clearly shown on the outside of the envelope* (do not identify yourself on the ballot itself). Return the ballot - *along with the Membership Survey (optional)* - to CRES Secretary, Jeff Scott, c/o CRES, P.O. Box 933, Golden, CO 80402

## 2005 CRES BOARD ELECTION BALLOT

- |  |                                       |   |
|--|---------------------------------------|---|
| <input type="checkbox"/> John Avenson  | <input type="checkbox"/> Nate Blair   | <input type="checkbox"/> Lynn Greene      |
| <input type="checkbox"/> Susan Innis   | <input type="checkbox"/> Walt Kaesler | <input type="checkbox"/> Tom Konrad       |
| <input type="checkbox"/> Pamm McFadden | <input type="checkbox"/> Mona Newton  | <input type="checkbox"/> Patricia Roberts |

## MEMBERSHIP SURVEY

The CRES Board of Directors is seeking answers from the membership in order to better meet their needs. Please take a few minutes to answer the following survey and return it either by mail with the election ballot above, or by FAX (without the ballot) to 303-377-0711. Also for your convenience, you may respond online to the survey via the next issue of *CRES CLIPS*.

- How do you get your notices of CRES Events?  
\_\_\_ CRES NEWS      \_\_\_ CRES CLIPS      \_\_\_ WEBSITE  
Other (specify) \_\_\_\_\_
- Should we continue to publish CRES NEWS on a near-monthly basis in advance of CRES meetings and events?  
\_\_\_ Yes      \_\_\_ No
- Should we reduce the frequency of CRES NEWS to: \_\_\_ monthly \_\_\_ quarterly \_\_\_ not at all?
- Should we rely exclusively on our e-mail newsletter, CRES CLIPS to inform you of coming meetings and news?  
\_\_\_ Yes      \_\_\_ No
- Would a post card reminder of meetings and events, plus notices in CRES CLIPS, suffice to keep you informed of events and news. \_\_\_ Yes      \_\_\_ No
- Do you have an e-mail address and is it current in the CRES data base? \_\_\_ Yes      \_\_\_ No  
If not, and you have one, please provide it here \_\_\_\_\_
- How often do you visit our web site? \_\_\_ weekly \_\_\_ monthly \_\_\_ quarterly \_\_\_ not at all
- Did you know that we have updated our web site significantly and that there is now a MEMBERS ONLY section offering valuable information to members? \_\_\_ Yes      \_\_\_ No      Have you used it? \_\_\_ Yes      \_\_\_ No
- Did you attend the following this year? \_\_\_ Monthly Meetings (show number attended) \_\_\_ CREC  
\_\_\_ Solar Home Tour      \_\_\_ Annual Meeting and Party
- For our monthly meetings, what subjects would you like to see covered? \_\_\_\_\_  
\_\_\_\_\_
- For our monthly meetings would you like a short pre-meeting social hour (5:30-6:30pm) with hors d'oeuvres and drinks for a fee of \$10? \_\_\_ Yes      \_\_\_ No
- Would you prefer that the Annual Conference (CREC) be held?: \_\_\_ during the week \_\_\_ over the weekend  
Would you prefer a mountain retreat or a metro location for CREC? \_\_\_ mountain retreat \_\_\_ metro
- Do you have any other suggestions or comments? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## CRES BOARD CANDIDATES

*It is time for CRES to elect new members to the CRES Board of Directors for the coming year. The current CRES Board of Directors has approved the following slate of candidates for consideration by the membership to fill the vacancies on the Board effective January 1, 2006. The nominees are listed in alphabetical order following. Please select six, enter your choices on the ballot on page 6, and post it before midnight, December 1, 2005.*

**John Avenson...** John has been a member and contributor to CRES since 2000. He has been a volunteer committee member for the National Tour of Solar Homes several times and his solar home (designed by SERI) has been on the Tour three times. This is John's second solar home (he added solar water heating panels to his previous home in 1978). He has worked 34 years for Lucent Technologies (formerly AT&T). His job has involved travel to 42 states and 6 countries and location in S. Korea for 8 years. John has ideas for increased CRES knowledge sharing with the public for the National Tour of Solar Homes and the CRES web site.

**Nate Blair...** Nate has been a Senior Energy Analyst at the National Renewable Energy Laboratory (NREL) since the fall of 2002. Prior to this he worked in renewable energy for ten years at several organizations, but primarily at the Solar Energy Lab at the University of Wisconsin-Madison. Nate works primarily with economic and technical computer models of current and future energy systems. In the past he has also worked with building energy, PV systems, concentrating solar power, solar hot water systems, and geothermal. He has a B.S. in physics, a M.S. in mechanical engineering and an MBA in technology management. Nate also has been an active volunteer with CRES both with the Tour of Solar Homes and the CRES annual dinner and party. He is excited about this opportunity to get even more involved with CRES.

**Lynn Greene...**Lynn, currently a member of the Moye White law firm, has been an attorney for 25 years, . For many years her work has focused on land and water management to achieve smart growth. Since the early 70s, however, she has also studied and specialized in the legal and business aspects of producing electricity from renewable resources. Lynn has worked on public and private offerings of securities, often on behalf of energy companies. Her work on privatization of utility companies in South America led to years of bringing emerging telecom technologies to market, similar to bringing new energy technologies to market in this country. She has been active and has lent her legal expertise to CRES projects for several years and has been actively engaged in the recent effort to promote adoption of Colorado's Amendment 37.

**Susan Innis...**Susan is the Green Power Marketing Director at Western Resource Advocates (WRA), a regional environmental law and policy center. She works with stakeholders in the Rocky Mountain region to develop and implement community-based strategies for selling clean energy, and to develop state-level policies to encourage the use of renewable energy. She sits on the Steering Committee for the National Wind Coordinating Committee and is a board member of Green-e's national Green Power Board. Prior to joining WRA in 1999, Susan worked as an Urban Park Ranger in New York City and as a researcher with Project Seahorse, an international marine conservation organization. She has a B.Sc. in biology from McGill University in Montreal, Canada and is currently pursuing an MPA at the University of Colorado - Denver. She looks forward on working with other Board members to pursue strategies to increase our outreach activities.

**Walt Kaesler...** Walt has been the sole proprietor of his own architectural practice for 22 years, the last 15 of which were in Colorado. As a longtime CRES member, he has been chair of the Buildings Committee for several years and was the originator of the **CRES Renewable Energy in Buildings** award project which he has managed for the last four years. The awards are presented annually at the CRES Conference and has won CRES wide recognition and respect from architects, builders and developers throughout Colorado. Prior to his years in Colorado, he was president of the Dallas/Ft. Worth Solar Energy Society and Vice-President of the Texas Solar energy Society. He was also the first chairman of the Committee on the Environment for the Denver Chapter of the American Institute of Architects. His goal for serving on the ASES Board is to encourage closer relationships with the architectural and building communities.

**Tom Konrad...** Tom has been a private portfolio manager since 1999 with a special interest in companies involved in renewable energy and energy efficiency, both public and private. His passion is moving renewables from their niche market status supported by subsidies into the mainstream where they will be broadly adopted because of their economics and public appeal. He has been a long time supporter of organizations such as CRES and the Rocky Mountain Institute who share this common goal. Tom has a Phd in mathematics (complex analysis) from Purdue University and a BS in physics and economics from Harvey Mudd College in Claremont, CA. He currently is studying for a CFA (Chartered Financial Analyst) charter. He states, "I feel I can contribute to CRES as a bridge between the science/engineering and financial communities, since I am looking at the world from both those perspectives."

*continued on following page*

## CRES BOARD CANDIDATES - *continued*

**Pamm McFadden...**Pamm is a long time CRES and ASES member. She heads her own firm, the Elements Design Group, that has specialized in the design of passive solar and energy efficient buildings for 30 years. In this capacity she has been responsible for the design and construction of numerous sustainable living structures in the area. She served on the ASES Board of Directors for several years and performed many services for the Society as a volunteer. She brings a wealth of experience and acquaintanceships with many top professionals in ASES and the solar field which would be invaluable to CRES. During her first term on the CRES Board she has served on the Buildings Awards Committee, helped to edit the CREC Policy Manual, and has Chaired the 2005 Tour of Solar Homes.

**Mona Newton...** Mona has over 20 years experience in project management in the energy efficiency and renewable energy areas. She is currently working with Sun Electric Systems and has been marketing the company and solar systems. She also is working with the Boulder Community Hospital to develop a community owned wind farm. Additionally she is the Colorado Marketing Director for Community Energy, Inc. Among her responsibilities there she is brokering renewable energy credits for a wind farm in Southeastern Colorado. She is past Executive Director of the Boulder Energy Conservation Center (formerly the Boulder Energy Conservation Center). Biking, running, traveling, and yoga are some of the activities that she is passionate about besides renewable energy.

**Patricia Roberts...** Patricia's original training was in languages and education, however, she has spent the last 20 years working as the administrative half of a two person millimeterwave components manufacturing business. In the energy field she has been reading books like Hubbert's Peak, Solving Sprawl, Natural Capitalism, The End of Oil, Energy Revolution, Winning the Oil Endgame, and Twilight in the Desert. She has also taken energy efficiency classes by CESC and NREL, incorporated energy efficiency in her home and replaced her cars with hybrid electric vehicles. She leafleted for Amendment 37 and twice testified at PUC hearings regarding its implementation. Currently she is attending monthly energy policy meetings at NREL. She states, "I am committed to renewable energy and sustainable living and try to take steps in that direction every day."

### Departing Board Members

The terms for the following Board members will end December 31, 2005 and they have declined or are ineligible to run for another term: **Susan Bilo, Dave Bowden, Kimberly Peterson, Wendy Parker, and Phil VonHake.** Pamm McFadden has completed her term and is running for a second two-year term. For their devotion to our cause and their many hours of service on the CRES Board we owe them our deepest gratitude.

### CU Wins Solar Decathlon Again

**Great News!** In a competition with 18 other collegiate teams, the University of Colorado (CU) won the 2005 Solar Decathlon on Friday, October 14. This is the second time that CU has taken home top honors in the competition to build the most efficient and attractive solar house on the National Mall in Washington D.C. Details on this tremendous accomplishment will be forthcoming in the next CRES NEWS and in our online newsletter CRES CLIPS. Congratulations CU Solar Decathlon Team.

### CRES NEWS

*CRES NEWS is the official publication of the Colorado Renewable Energy Society (CRES).*

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### CRES MEETINGS

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

**November 16- General Meeting.** Our feature speaker will be Mark Mehos, Program Manager, NREL. See page 1 for detailed information.

**December -** There is NO meeting nor CRES NEWS scheduled for December.

**CRES**

**"HOTLINE"**

**303-806-5317**

**CRES**

**INTERNET**

**NOS.**

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Web: <http://cres-energy.org>

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## All CRES Members Are Urged to Become ASES Members

Effective January 1 of 2005 the ASES Board of Directors instituted a new membership plan **aimed primarily at Chapter non-ASES members.** The Directors felt that an expanded membership base would enable ASES to command greater influence in energy related legislative matters and to attract more advertisers and sponsors for ASES activities. Consequently it created a new membership category that is more attractive to advocates of renewable energy who are not necessarily professionally involved. Many chapter members today fit this description. We strongly encourage CRES members who are not already ASES members to consider joining ASES, at the very least, as a BASIC member. On the other hand, we certainly encourage them to join as PROFESSIONAL member if that suits them better. Chapter members are assessed a reduced dues fee for either category. *It is noteworthy that since its inception the new plan has already netted 890 new ASES members, a 29% increase.*

### BASIC MEMBERSHIP

ASES Basic membership is intended for, but not limited to, nonprofessional individuals who have an interest in using renewable technologies in their homes or businesses, or advocates who wish to support the change-over from a fossil fuel economy to one based on the use of renewable energy and energy efficiency.

**Annual Dues:** \$39.00 (**\$34.00 if Chapter Member**)

**Benefits:**

- o SOLAR TODAY magazine
- o SUNBEAM e-newsletter
- o Solar Action Network (SAN) alerts
- o Listing in ASES online Membership Directory
- o Access to the BASIC MEMBER section of the ASES web site
- o Discounts on Publications
- o Voting rights and eligibility to serve on ASES Board and committees

### PROFESSIONAL MEMBERSHIP

ASES Professional membership is an upgraded version of ASES' previous regular member grade. This membership offers benefits more appropriate to individuals who work directly in fields related to renewable energy but is not limited to only those who consider themselves as "professionals."

**Annual Dues:** \$89.00 (**\$79.00 if Chapter Member**)

**Benefits:**

- o All benefits listed under BASIC membership
- o Access to the PROFESSIONAL MEMBER section of the ASES web site
- o Discount on annual National Conference fee
- o Membership in ASES topical Divisions
- o Listing in ASES online "Yellow Pages"
- o Listing in ASES Renewable Resources Directory
- o Access to online "Advances in Solar Energy"
- o Access to online National Conference proceedings

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## ASES MEMBERSHIP APPLICATION

Please enroll me as a \_\_\_ BASIC member or \_\_\_ PROFESSIONAL member of ASES when my CRES membership next comes up for renewal, and bill me accordingly.

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

Submit to: CRES, P.O. Box 933, Golden, CO 80402; or E-mail to: [info@cres-energy.org](mailto:info@cres-energy.org)