



CRES NEWS

Newsletter of the Colorado Renewable Energy Society

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A Chapter of the American Solar Energy Society

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Deep Time Climate Change: Its Relation to Global Warming - Featured Topic for Next Meeting

1.75 Megawatt Solar Array Dedicated in Lakewood Colorado



On October 22, Continuum Lakewood Development Company, in association with MMA Renewable Ventures, Oak Leaf Energy Partners and SunPower Corporation dedicated a 1.75-megawatt solar power system that has been constructed on three parking garages at the Belmar mixed-use development in Lakewood. It is one of the largest solar parking structures in the Western U.S.

At the dedication, Colorado Gov. Bill Ritter said, "This solar project delivers on the Colorado promise of the 'New Energy Economy,' which is establishing Colorado as a leader in renewable energy and creating jobs throughout the state."

The Belmar solar parking structure was designed and installed by SunPower, using more than 8,000 SunPower solar panels, which are the highest efficiency panels on the market today. The solar parking structure supports Colorado's commitment to environmental sustainability by reducing carbon emissions into the atmosphere by almost 4 million pounds each year.

The Belmar solar project is part of the Xcel Energy Solar Rewards Program and will receive a rebate to offset the upfront construction costs. Xcel Energy will purchase the renewable energy credits from the clean electricity produced in support of Colorado's Renewable Energy Standard, which requires large utilities to generate 20 percent of their power from renewable energy sources by 2020.

The next meeting of the Colorado Renewable Energy Society will take place at **5:30pm** on **Thursday, November 20**. The location is the **Jefferson Unitarian Church** at 14350 W. 32nd Ave. In Golden. (You can take I-70 to exit 264, and then go west on 32nd Ave. for about 1 mile... or you can go north or south on any intersecting street and go west on 32nd Ave. about 1 mile past the I-70 interchange).

The featured speaker will be Ian Miller, PhD who is the Curator of Paleontology at the Denver Museum of Nature and Science. The topic of his address will be *Deep Time Climate Change and Its Relevance to our Understanding of Global Warming*. He will discuss how paleontologists view climate change over the past 100 million years, using lessons from the Earth's long history to put climate change into an understandable context.

Dr. Miller received his PhD in geology and geophysics from Yale University and is now employed at the Museum as a postdoctoral fellow. His research focuses on how fossil plants can be used to estimate paleoclimate, using that information to determine how the earth has changed on geologic time scales. He is also a taxonomist who studies Late Mesozoic and Early Cenozoic fossil floras from North America.

CRES Monthly Meeting Now Accessible via WEBCAST

To attend a meeting via webcast go to www.instantlyglobal.com/cresmeeting1. Please log on in this order:

1. CRES Chapters - **5:00pm** or earlier
2. 3+ CRES Membs - **5:10pm** or later
3. All others - **5:20pm** or later (until all connections are exhausted-15 max)

Colorado Calendar

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

November 15 ... Advanced PV Solar Code Course. Sponsored by CoSEIA and presented by master PV installer, Ken Thames. *Time:* 8am - 5pm. *Location:* Vitamin Cottage, 12612 W. Alameda Pkwy., Lakewood. *Fee:* \$150 (CoSEIA members), \$185 (nonmembers). For details contact Luke Rickard at 303-333-7342 or info@coseia.org.

December 1-2 ... The ENERGY STAR Summit 2008. Focuses on how to rebuild your business using energy efficient and green building strategies. *Location:* Hyatt Regency - Denver Tech Center, 7800 E. Tufts Ave., Denver. For details contact Julie Porter at 1-612-232-7598 or julie.porter@centurytel.net.

December 3 ... Energy Service Companies and the Forces Shaping the Energy Market. Part of the Boulder Green Building Guide's Brown Bag Series. Discusses how local and national forces are shaping and changing the energy market and identifies strategies that can be used to improve energy efficiency in buildings. *Location:* REI Community Room, 1789 28th Street, Boulder. For details visit www.bgbg.org.

December 6-7 ... CU-Boulder Continuing Education Workshop: Passive Solar Design. An in-depth and hands-on exploration of passive solar heating and passive cooling for homes and businesses. *Location:* University of Colorado, Boulder. For details visit www.colorado.edu.

December 9 ... Home Energy Efficiency and Modeling Software Differences. Part of the BoulderGreen Building Guide's Residential Brown Bag Series. Provides an overview of energy modeling software and offers special training in the energy field. *Location:* REI Community Room, 1789 28th Street, Boulder. For details visit www.bgbg.org.

New Report Cites Huge Upsurge in Renewable Energy Electricity

According to the latest "Monthly Electricity Review" issued by the U.S. Energy Information Administration (October 3, 2008), net U.S. generation of electricity from renewable energy sources surged by 32 percent in June 2008 compared to June 2007. Renewable energy (biomass, geothermal, hydropower, solar, wind) totaled 41,160,000 megawatt-hours (MWh) in June 2008, up from 31,242,000 MWh in June 2007. The bottom line is that renewables accounted for 11% of net electricity generation in June 2008 compared to 8% in June 2007.

In June 2008 as compared to June 2007, wind power grew by 81.6%, solar by 42.6% and hydropower by 34.7%. Geothermal and biomass (the burning of wood and waste) remained relatively unchanged.

Renewable energy sources now account for 37% of the non-fossil net electricity generation in the United States - the remainder being produced primarily by hydropower. Net electricity generation from wind, solar, geothermal and biomass now accounts for just under 3% of total net U.S. electricity generation.

Federal Solar Tax Credit Bill Passed

On October 3, 2008, Congress passed and President Bush signed into law HR 1424 - Emergency Economic Stabilization Act. Of critical importance to the solar industry, this bill extends the Solar Investment Tax Credit and makes other significant changes that affect the industry. All of the changes are effective January 1, 2009; i.e., they take effect for taxable years starting after December 31, 2008. The highlights of the bill are:

- It extends for 8 years, through December 31, 2016, the placed-in-service deadline for solar property eligible for the 30% investment tax credit.
- It allows taxpayers to use the investment tax credit for energy property to reduce the his/her Alternative Minimum Tax liability.
- It provides a 10% investment tax credit for combined heat and power system property placed in service before January 1, 2017. The credit is phased out for projects with capacities in excess of 15 megawatts or 20,000 horsepower (or a combination of the two), and the credit is eliminated for projects with capacities in excess of 50 megawatts or 67,000 horsepower.
- It eliminates the \$2,000 per taxable year limit with respect to credits generated by qualified solar electric property expenditures effective for taxable years beginning after December 31, 2008. It does not change the existing \$2,000 per taxable limit for solar hot water systems.

Solar Energy Project Planned for Aurora

Northeast Aurora is set to become a major center for solar energy research and testing under a public-private partnership plan disclosed in late October. The *Solar Technology Acceleration Center* (STAC) will become the first development in the newly designated 1,762 acre Aurora Campus for Renewable Energy.

The solar research project will start as a \$5 million, 74-acre development that could eventually expand into hundreds of additional acres at the Aurora site and generate another \$20 million in development over the next several years. The site is 3 miles south of the Denver International Airport near the Watkins exit off Interstate 70. STAC partners include the city of Aurora, Abengoa Solar, Colorado Renewable Energy Consortium, Midwest Research Institute, SunEdison and Xcel Energy.

Call for Board Nominations

It is that time of year to think about CRES board members for next year. CRES is dedicated to sensible adoption of cost-effective energy efficiency and renewable energy technologies by Colorado businesses and consumers. There will be 4 board openings for the coming year and we are seeking energetic, passionate people to help continue to grow the organization and educate the public. Although the existing board will make the final appointments, we are soliciting volunteers and nominations for board members. We are looking for people that bring their own unique perspective and contribution on renewable energy, energy efficiency, policy or other areas. So, please, feel free to nominate yourself or others for these board positions (be sure to confirm with your nominee his/her willingness to serve). We need a one-page vita and a brief statement of interest in serving on the CRES Board which you can send to info@cres-energy.org electronically or to P.O. Box 933, Golden, CO 80402 by mail. We always look forward to welcoming the energy of new members to our board.

Nate Blair, Secretary

Member Editorial by Joel Leventhal, PhD

The words **conservation** and **efficiency** are often used in the energy dialog, along with renewable energy. Usually conservation and efficiency are mentioned as the "low hanging fruit," meaning they can be done relatively easily, quickly and at low cost. But what do these words really mean? Let me propose my own 21st century definitions:

CONSERVATION... In energy terms it means choosing to do with less. For example, turning off unneeded lights and turning down water heater thermostats; turning down room thermostats in winter, raising thermostats in summer. It means choosing a sedan instead of a van or SUV, choosing a vehicle with a 4-cylinder engine instead of a 6 or 8-cylinder engine. It means caulking windows to stop air leaks, using daylight in place of electric light wherever possible. Basically, conservation involves low-tech choices that result in less energy usage with minimal lifestyle inconvenience.

EFFICIENCY... In energy terms it means obtaining the same output or useful results with less energy input. This usually involves using different (new) technology. It means using electric motors instead of internal combustion motors; using hybrid electric cars rather than conventional internal combustion engine autos. Better yet, it means replacing your current conventional car with plug-in hybrid vehicles when they become available. It means using an evaporative cooler instead of a refrigeration system for air conditioning. It means using compact fluorescent light bulbs rather than incandescent bulbs. It means using double-glazed (argon filled) windows instead of single glazed windows. And all of these changes can be made without appreciably influencing lifestyle.

Congratulations President-Elect Obama

We are pleased with most elements of the energy policy that you have outlined in your campaign dialog; in particular those initiatives dealing with renewable energy and energy efficiency. We look forward to working with you on these matters in the future.

CRES NEWS

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COMING CRES MEETING

There will be no Monthly Meeting, nor an issue of CRES NEWS, in December. The date and details of the January meeting will be announced in the January edition of CRES NEWS.

NOTICE**Paperless CRES NEWS Coming**

If you prefer to receive your CRES NEWS electronically beginning with the January 2009 issue, please send your request to infor@cres-energy.org.

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RENEWABLE ENERGY BRIEFS

U.S Leads World in Wind Power... Total U.S. wind power capacity now stands at 19,549 MW, up 2,726 MW from the end of 2007. This makes the U.S. the world leader in wind electricity generation, according to the second quarter 2008 market report issued by the American Wind Energy Association (AWEA). It is to be noted that Germany did install more generating capacity (about 2300MW) but the U.S. produced more electricity because of stronger prevailing winds. AWEA also reported that a strong increase in domestic investment in wind turbine and associated component manufacturing facilities over the past 18 months.

PV Production Facility to be Launched in Colorado in 2010... Ascent Solar Technologies, Inc. has announced that equipment will shortly be installed at its new manufacturing plant in Thornton, Colorado to produce photovoltaic modules by 2010. Ascent Solar is a developer of thin-film photovoltaic modules designed to be more flexible and affordable than most traditional solar panels.

Thin-Film Solar Forecasted to Take Major Market Share From Crystalline Solar PV... A new report from Greentech Media and the Prometheus Institute forecasts that worldwide thin-film solar production will grow eight-fold by 2010, with amorphous silicon leading the way. It states that thin-film solar production is expected to double in each of the next three years to reach 4.18 gigawatts worth of equipment in 2010, The forecast represents a 65 percent increase from projections made just 18 months ago.

DOE and EPA Issue a 2009 Fuel Economy Guide...The Department of Energy and the Environmental Protection Agency in late October unveiled its *2009 Fuel Economy Guide*. The guide provides consumers with detailed information about the fuel economy, carbon footprint, and air pollutions score for model year 2009 vehicles, as well as information about hybrids, alternative fuel vehicles, electric vehicles and fuel cell vehicles. For information on how to obtain the report, contact Cathy Milbourn of EPA at (202) 564-4355 or milbourn.cathy@epa.gov, --- or Jennifer Scoggins of DOE at (202) 586-4940 or Jennifer.Scoggins@hq.doe.gov

ROSTER OF CRES BUSINESS MEMBERS

We thank the following organizations for their continuing support

Adobe Solar	Delta Montrose Rural Electric Assn.	Progressive Asset Management
Alpine Geothermal Drilling	Ecostream USA.	REC Solar
Astralux Environmental Solutions	EMC Engineers	Rocky Mountain GeoExploration
Balanced Construction	Enermodal Engineering	SELA - Smart Energy Living Alliance
Bella Energy	Golden Solar	Shumei International Institute
Black Hills Energy	Hart Project Design	Simply Efficient
Blue Son Biodiesel	ICAST	Smart Wheels, Inc.
Burdick Technologies Unlimited, LLC	Innovative Energy	SolSource, LLC.
CH2M Hill	Jefferson Unitarian Church	Solar Energy Quest
Challenge International, Inc.	Jim Logan Architects P.C.	Solar TEK Energy of Denver, Inc.
City of Fort Collins - Climate Wise	Kurowski Development Company	Starfire Energy, LLC
CO Homefinder.com	Kyocera Solar, Inc.	Sustainable Solutions, Inc.
Colorado Springs Utilities	Low Energy Systems	Standard Renewable Energy
Community Office for Resource Efficiency	Metro Solar Inc.	The Neenan Company
Conundrum Energy	Mi Cocina Mexican Restaurant	Western Cultural Resource Mgmt.
Cool Energy, Inc.	Namaste Solar	Western Resource Advocates

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