



# CRES NEWS

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A Chapter of the American Solar Energy Society

JULY 2003

## PRODUCING ELECTRIC POWER FROM BIOMASS

### LOVINS ASSESSES HYDROGEN'S VALUE AS A PRACTICAL RENEWABLE FUEL

In a white paper issued on June 20, 2003, renowned scientist Amory Lovins has analyzed hydrogen's pluses and minuses to determine whether it is a viable answer to the world's future energy needs. In an exhaustive examination of the findings of many research and economic studies, he has concluded that hydrogen has indeed a major role to play in the world's effort to replace fossil fuels within the next decade.

In his paper he carefully analyzes and refutes some 20 "myths" commonly espoused by critics of hydrogen. He admits that some of them have strong arguments in their favor but upon close examination are readily discounted and dispelled.

*Shown above is Amory Lovins, cofounder and CEO of the Rocky Mountain Institute.*

Lovins acknowledges that several renowned scientists and authors have openly criticized hydrogen energy, some severely. "Some fear that working on hydrogen would divert effort from renewable energy sources. Some are skeptical of hydrogen because the President endorsed it, others because environmentalists did." There also are some who have based their criticism on assumptions that are disputable. To address these critics, Lovins commissioned his staff to do an exhaustive study of the subject taking particular care to be as objective as possible. The results of the study are published in a 47 page white paper that addresses the most common arguments by critics and concludes that hydrogen - which in the long run is best produced using renewable energy power - is indeed the energy of the future. The full white paper may be downloaded from the web at [www.rmi.org](http://www.rmi.org) or can be obtained by submitting a request for "Twenty Hydrogen Myths" to [media@rmi.org](mailto:media@rmi.org).

### CRES MEMBER RECEIVES ABBOT AWARD

**Byron Winn**, one of the founding CRES Board members, the former head of the Mechanical Engineering Department at CSU, and one of the pioneers in solar energy research and education was awarded the *Charles Greeley Abbot Award* at the 2003 ASES Annual Awards dinner. This prestigious award is given each year to a person who has made a significant contribution to the American Solar Energy Society or to the field of solar energy. *Congratulations Byron!*

The next meeting of the Colorado Renewable Energy Society will be at **5:30pm** on Wednesday, **July 23**. It will be held at the **NREL Visitor Center**, located about two blocks west of 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 Robb Walt of Community Power Corporation (CPC) of Littleton Colorado and John Scahill of the National Renewable Energy Laboratory (NREL). They will discuss a new technology for producing electric power from biomass. In this regard, they will explain the technical challenges facing small biomass gasifiers and why this electric power-producing Colorado-developed technology is promising and innovative. Also, they will describe the first installation of this type of gasifier at a school in Walden, Colorado.

Robb Walt is the cofounder and president of CPC, a company focused on the development and supply of renewable energy-based power generation systems. Over the past 30 years he has served with the U.S. government, Westinghouse Electric Corporation, and the World Bank. John Scahill is a research scientist at NREL. Since 1980 he has been doing process development work in thermochemical biomass conversion and has been the task leader for a hot gas filtration project. His most recent work has been in the development of small modular biomass power systems for off grid applications.

### NOTICE

**We are taking a vacation in August. Therefore, there will NOT be a CRES NEWS issue nor general CRES meeting next month.**

## Colorado Snap Shots

This column will feature short news items, meeting announcements, personality profiles and other energy matters of interest to Coloradans.

### CALENDAR OF LOCAL EVENTS

**July 26-30... 2003 NEED Conference for Educators.** The conference provides teachers with the most up-to-date information on all aspects of energy, including the science of energy, sources of energy, consumption, efficiency, and environmental impacts. Conference participants receive instruction and materials to implement innovative hands-on energy units in their classrooms. Denver location to be announced. Registration fee: \$800 (customarily paid by school district sponsors). For more information visit [www.need.org](http://www.need.org) or contact Mary Spruill at [mspruill@need.org](mailto:mspruill@need.org).

**October 11-12... Hydrogen Consumers Tour and Expo.** The Colorado Convention Center, Denver, Colorado. Sponsored by *Hydrogen Works*. Aims to promote the hydrogen economy and to build the hydrogen marketplace. For more information, visit [www.hydrogen.com](http://www.hydrogen.com) or contact Katie Hoffner at 303-534-2500 or [katie@hydrogen.com](mailto:katie@hydrogen.com).

## Colorado Scores Poorly on National Assessment of States' Renewable Energy Progress

Colorado has been rated "F" in its efforts to adopt renewable energy in its overall power mix. Colorado has been named as one of 12 states receiving a failing grade from the Union of Concerned Scientists for its lack of commitment to obtaining its energy from wind, PV or other renewable energy sources. Specifically the group faulted Colorado for its subpar performance in two areas:

- ♦ "Failing to produce more than 1 percent of the state's power from renewable energy resources such as wind and sun; and
- ♦ Failing to enact state-level policies to drive renewable energy generation."

While acknowledging that Colorado has one of the most successful "green power" wind-energy programs in the U.S., it says that this does not make up for the fact that the state is woefully lacking in all other aspects of renewable energy application. According to the U.S. Department of Energy, only 0.6 percent of Colorado's total power generation comes from renewable energy. Coal and natural gas account for 95 percent of our total power mix, the rest comes mainly from hydro.

The report also notes that the State Legislature has defeated three bills in the last two years that would have required a portion of the state's electrical power to come from renewable resources. This is certainly a black mark on our record. There was a slight consolation for Colorado in the report. It did list Colorado as a state "most likely to improve," largely because of the 162-megawatt wind farm currently under development near Lamar, Colorado.

It also acknowledged that Xcel energy ranks second in the nation for the number of customers enrolled in its voluntary renewable energy programs (*Windsource*) and ranks third in the amount of green power sold.

## Final Report - 6th Annual Colorado Renewable Energy Conference



**June 27 -29, 2003**  
Montrose Pavillion  
Montrose, Colorado

**Renewable Energy Now!**

**Community Prosperity  
through  
Self Sufficiency**

Record Attendance - 289; Record Number of Sponsors - 53

CREC 2003 was the most well attended of any conference ever conducted by the Colorado Renewable Energy Society. Much credit must be given to our principal sponsor, the **Delta Montrose Electric Association** which was responsible for the widespread radio, television and newspaper publicity we received on the western slope. We offer our special thanks to **Tom Polikalas** for making the arrangements with DMEA.

Special thanks also to **Renee Azerbegi** who chaired the Organizing Committee, **Samantha McDonald** who was the program chair, and **Doug Seiter** who headed the Awards Committee. In addition, our thanks to **Steve and Brenda Metheny** for opening their home and hosting a wonderful CREC party attended by over 150 conference registrants. Our Executive Director, **Sheila Townsend** and Conference Registrar, **Pat Grossman** also deserve much credit for the success of the event, as well as subcontractors, **Susan Westfall** and **Chris Crouse**. Our thanks also to the other numerous CRES volunteers who helped out.

The conference was highlighted by our featured speakers, **Randy Udall, Auden Schendler, Ed Marston, Dan McGuire, Wes Perrin and Todd Bartholf**. The pre-conference workshops and post-conference tours were also well attended and informative to all who participated. A parade of hybrid and electric autos opened the event and each were displayed and open to inspection throughout the conference.

## CRES CORNER

**ASES Names Four CRES Members as FELLOWS...** At the 2003 ASES Conference on June 24, the following CRES members were honored as *ASES FELLOWS*: Craig Christensen, Dave Renne, Larry Sherwood, and Byron Winn. The title of Fellow is bestowed on longtime ASES members who have provided exceptional service to the Society. A maximum of six new Fellows are added to the roll each year.

**CRES Strategic Plan Launched at CREC...** CRES Board member, Pat Keegan moderated the CREC Sunday special member session on June 29, 2003, and Carol Tombari assisted. In the session the audience was engaged to brainstorm ideas for the future direction for CRES. CRES, under Pat's leadership, is putting together a "CRES Strategic Plan" for this purpose. Five main areas were identified for major emphasis; i.e., education, legislative issues/policy, collaborations with other organizations, business/industry interface, and subchapter roles and activities. Separate groups were formed for each of these areas. Discussions followed and suggestions were recorded which will be evaluated and incorporated into the final CRES Strategic Plan as appropriate.

**New Subchapter News...** On Sunday, June 29, a dozen CRES members from different parts of the state met at CREC to discuss the possible formation of three new CRES subchapters. They reviewed the history of N-CRES, the Northern Colorado Renewable Energy Society, and were encouraged that similar subchapters could be formed to serve the West (around Montrose), the Southwest (near Durango) and Southeast (the Pueblo area). Input is requested from interested members from these areas by e-mail to these respective organizers:

**West** - Johnny Weiss: [johnny@solarenergy.org](mailto:johnny@solarenergy.org), Steve Clark: [solarspike@yahoo.com](mailto:solarspike@yahoo.com), or Wes Perrin: [wes@telluridecolorado.net](mailto:wes@telluridecolorado.net)

**Southwest** - Mark Stetz: [mstetz@transedge.com](mailto:mstetz@transedge.com)

**Southeast** - Judy Fosdick: [tierra@tierraconcretehomes.com](mailto:tierra@tierraconcretehomes.com)

**CRES Awarded 2006 ASES Conference...** On June 27, 2003 the Board of Directors of the American Solar Energy Society (ASES) approved Denver Colorado as the site for its 2006 *National Solar Energy Conference*. Chuck Kutscher and Ron Larson made the proposal to the ASES Conference Selection Committee. The Committee's approval was unanimous as was the follow-up Board consideration. This means that in 2006 CRES will hold its annual conference as part of the ASES meeting. CRES will share the profits from the Conference and the exhibits but will retain all of the income from any workshops and tours that it will conduct along with the Conference.

### **Colorado Renewable Energy in Buildings Awards 2003 Winners**

**Recognizing excellence in design, construction, and use of  
renewable energy in buildings**

**Commercial Buildings** - North Boulder Rec Center - **Barker Rinker  
Seacat Architects & City of Boulder**

**Residential Buildings** - The Lister-Straw Residence - **Balanced  
Construction, Inc.**

**Off-Grid Applications** - Broken Heart Ranch House - **Sandra L.  
Mortensen**

## CRES NEWS

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## CRES MEETINGS

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

**July 23 - General Meeting -**

Guest Speakers: Robb Walt, President of Community Power of Littleton and John Scahill of NREL. Topic is "Producing Electric Power from Biomass. Refer to page 1 for full details.

**August - General Meeting -**

Vacation month. There will be NO CRES general meeting during the month of August. There also will be no CRES NEWS issue during the month.

## CRES "HOTLINE"

**303-806-5317**

**CRES INTERNET NOS.**

e-mail: [info@cres-energy.org](mailto:info@cres-energy.org)

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

# ENERGY SECRETARY REVEALS NEW DIRECTION

In a surprising account published in the July 2nd edition of Denver Post it was reported that U.S. Energy Secretary, Spencer Abraham, said "America's long-term energy needs will be better met by government support for renewable energy than by tax breaks for fossil-fuel producers." This is a decided departure from the energy policy that seemed to have been the norm for the current administration over the past years.

Abraham said during his visit On July 1 to the National Renewable Energy Laboratory (NREL) in Golden: "we have been very clear in our energy plans as well as in our comments on energy legislation that we do not support broad, expansive tax incentives for energy development, except in the areas of energy efficiency and renewable energy."

This is very good news for renewable energy and NREL. There has been speculation that the budget for the lab would be cut in future years and that DOE's emphasis would shift to fossil fuels and nuclear power at the expense of renewable energy.

The prevailing belief, for example, has been that most of the President's promised hydrogen research money would go towards developing means to better produce hydrogen from natural gas. Allaying this fear Abraham said, "we know today that the amount of stored natural gas is not sufficient to meet the challenges we expect over the months ahead..." If we are interpreting his comments correctly, it appears that he is saying we should be looking for other ways to produce our hydrogen...say from renewable energy?

## RENEWABLE ENERGY BRIEFS

**Democratic Presidential Candidate Espouses Strong Renewable Energy Support...** Sen. John Kerry (D-Mass) has unveiled an energy plan that would, among other things, tighten fuel-economy standards for automobiles and push the U.S. toward getting 20 percent of its electricity from renewable sources by 2020. He wants to clean up our power plants and end U.S. dependence on Middle East oil imports within a decade.

The senator recently told his audience in Cedar Rapids, Iowa: "the threats that America faces today don't just come from gun barrels, they come from gas pumps - and we need to disarm that danger. No foreign government can embargo clean renewable sources of energy and no terrorists can seize control of them." He proposed launching a new fund that would finance renewable energy research and spending \$1 billion a year to help the U.S. auto industry build more eco-friendly vehicles. He said his plan would create 500,000 new jobs over a decade.

*Comment: CRES does not favor any Democratic candidate. Others have indicated their general support for renewable energy but not yet in as specific terms as Sen. Kerry.*

**NREL Lets Two Major Contracts for Solar Energy Development...** The National Renewable Energy Laboratory (NREL) has announced that it has awarded the Spire Corp. of Bedford, MA. a three-year, \$5.2 million, cost-shared contract to develop automated manufacturing processes for fabricating large-scale solar-electric modules. Spire will assume almost one half the cost of the project, \$2.5 million.

In a separate action, NREL also awarded Energy Conversion Devices, Inc. (ECD) of Rochester Hills MI a contract to develop a new solar cell technology aimed at lowering the cost of manufacturing PV cells. This is also a cost-shared program with each party contributing about \$3 million.

**Lower Auto Fuel Efficiency Revealed...** U.S. EPA has reported that the nation's cars and trucks hit a 22 year low in fuel efficiency in the 2002 model year (20.4mi/gal). The statistic stands in mark contrast to significant improvements in other automotive areas. Environmentalist say that the figures prove that auto fuel economy must be mandated by the federal government.

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