



# COLORADO BUILDING GREEN

January 2006

The official newsletter of the U.S. Green Building Council - Colorado Chapter

## Green Leaders

### Colorado's Thought Leaders Speak Out on Green Design

#### David Johnston, What's Working

by Rita Mann

In 1992, realizing he could not change the world fast enough by building one house at a time, David Johnston left his job as a residential home builder at a company he founded many years before. He reset his sights and tried another approach. It's working. Or, as David named it, "What's Working," his

nationally recognized consulting firm with a primary purpose: to transform the residential design and construction marketplace.

It's a lofty goal that would be overwhelming to many. But David, who learned home building from a third generation carpenter in Colorado,

## It's Working

wanted to make a difference — and get results. And he's getting them, whether training corporations how to green their business for bottom line results or writing award winning "how to books" for do-it-yourself types. His latest book, titled "Green Remodeling: Changing the World One Room at a Time," won the Nautilus Book award in 2005.

David's green building team works the "acupuncture points" in the market that influence the way homes are designed and built. He began his career as a "solar guy," founding several companies and working with clients to use passive solar in homes. His later work in construction exposed him to the home building industry and natural resource devastation like clear-cutting in northern California. These experiences left an indelible mark on him — one of outrage and a desire to make a difference in his industry.

If David has a bone to pick, it's been the slow uptake from builders to adopt sustainable design and construction methods. "Home builders have been the slowest to pick up the ball on sustainable design." He explains that production builders strive to meet financial goals. Yes, they are concerned about what's



David Johnston

# Green Leaders

## David Johnston, What's Working

Continued



David Johnston and Kim Master's book, "Green Remodeling: Changing the World One Room at a Time"

attractive to buyers, but the bottom line is how much profit can be earned per house multiplied by x number of houses in a large development. That age-old equation is changing as consumers become more educated about the differences between a "green home" built with green materials and a more sustainable home that incorporates green into every part of the design and build process, everything from site selection, to air quality and the use of renewable energy sources.

Once people begin to realize their choices can make a difference in the healthfulness and beauty of their homes, they begin making different purchase decisions. That gets a builder's attention and influences the way builder's build. "The key to sustaining change is to change beliefs, not just behaviors, and to focus on people, not just products or processes," David said.

As an example, he explains that the

EPA sets standards for formaldehyde emissions within "acceptable ranges" based on OSHA standards. The agency recommends limiting exposure from one sheet of particle board to 100 parts per billion. California defines exposure another way — 27 parts per billion should be the total maximum allowed for the entire house — that's one quarter of what the EPA allows for one product.

"I find little resistance from people once they receive adequate information about what constitutes a 'healthy home.'" And working the system can differ from state to state and household to household, depending on their situation. For example, in Minnesota residents are more concerned about energy and gas conservation, in Colorado its water and for mother's around the country, its air and food quality for their families.

Regardless of the client and the focus, David enjoys working the pressure points that will turn our building industry around in this country. Like teaching 100 sales people at a lumber company in California how to be "Green Consultants." David's reward was learning from the SKU results — green products became the fastest growing segment of their business, leading to more profits and greater employee satisfaction.

The What's Working team also works with government officials invoking policy change at its source. He designed the Denver Metro Home Builders Association's Built Green program and Boulder's Green Points program. He is also the founding designer and consultant for the Alameda County Waste Management Authority's Build It

Green program to stimulate sustainable design across California. His systems based approach includes collaborating with public agencies (state and local) to develop state-wide programs and standards for sustainable design. He has templated his approach and adapted it to meet the needs of each area. In California, he said the approach included teaching collaboration among municipal and state agencies which had rarely worked together on common initiatives. And in Colorado, the approach is very different because the advocacy is often times led by building officials and inspectors at the local level.

Working the pressure points, with home buyers, architects, builders or government agencies, that's "what's working" in the home building industry.



What's Working's office

# LEED Update

## Five Green Resolutions to Start off the New Year!

by Renée Azerbegi, Ambient Energy, Inc. – Solar and Sustainable Design Solutions



Wondering what to do for your new years resolutions this year? If you can't think of anything - because you've been so good lately- and if you are designing or constructing buildings, why not apply your resolutions to a green building project? Here is a listing of a few ideas to help you come up with ideas of your own.

**Try Something New.** Tired of LEED for New Construction? There are so many other versions of LEED these days – Existing Buildings, Core and Shell, Commercial Interiors. Be daring, try something new! Try on-site power generation from a fuel cell, microturbine, or photovoltaics. There are tax incentives associated with each of these. You can capture the heat from a fuel cell or micro-turbine to use both the heat and the power as cogeneration. Be Innovative. Every project should easily achieve the four possible innovation credits since there are so many possibilities for these credits. For your next project try an educational display, reduce water consumption by 50%, and use

30% recycled content materials for example. Go Beyond LEED. Think outside the box. Instead of starting with the LEED scorecard, brainstorm environmental goals that will make your client or building owner happy.

**Use Less Energy.** The energy standard LEED requires your project to be designed to meet, ASHRAE 90.1, is still no more than the minimum energy code. Design all your projects to be at least 20 to 30% better than this code. There's a new energy guideline for office buildings developed by ASHRAE that is gets you to 30% better than code. And if you reach 50% savings compared to the 2001 energy standard, you'll get a \$1.80 per square foot tax credit from the Feds! You would need an energy modeler to show this savings. There are a multitude of ways to capture waste heat. In a climate such as Colorado, where outside air brought in for ventilation has a huge impact on energy usage, use every opportunity to preheat incoming outside air.

**Conserve Water.** It is very easy to achieve a 30% water savings from water conserving plumbing fixtures. Strive for 50% savings and you'll even get two extra innovative credits for four LEED credits total!

**Work Outside.** People love being outdoors. Everyone, especially those trapped in windowless cubicles, needs a dose of that natural Vitamin D from sunlight everyday. Think about how to include some "outdoors" in your project and how the indoor and outdoor spaces might complement each other. For your next project, give people the means to happily work outside – wireless internet service with power outlets on a bench with some shade for example. You can even power the station with solar energy! See how much building program space may be pushed outside of the building envelope. This was demonstrated at the Zion National Park Visitor Center with beautiful outdoor displays.



Outdoor display at Zion Visitor Center

**Think Solar.** It is the dawn of a new solar age hailed by utility rebates and tax credits. Take advantage of these incentives by adding photovoltaics, transpired solar collectors, or solar hot water heating system to your next building project. But don't wait, the favorable economics depend on the incentives which are for 2006 and 2007 only. Your clients are concerned about rising fuel costs and pollution and solar technology is ready to deliver an alternative. The Boulder Rec Center LEED project for example uses solar hot water panels to heat its facilities. This 5,700 square feet system is estimated to reduce natural gas consumption of the facility by 50% and provide year-round heating for the two indoor swimming pools.



Solar water heating panels at North Boulder Recreation Center

These are just some ideas to get you started... write your New Years Resolutions down and post them as a reminder. Then get on with the business of a happy new year.



Cool tower at Zion Visitor Center



# Emerging Green Builders Forum



## Emerging Green Builders Launch Local 2006 Design Competition

by Ashley Muse

In 2003 the National Emerging Green Builders (EGB) Committee created and launched the first Natural Talent Design Competition with the intent to provide an applied learning experience in the principles of integrated design, sustainability, innovation, and social consciousness; all components of the LEEDTM Green Building Rating System.

Over the last year the number of local EGB groups around the country has skyrocketed from just five to over 40, so for the first time this year's competition is going local. The competition is open to all university level students of any discipline and level as well as individuals with less than five years experience in the building industry. Participants will compete to be one of five local finalists and the top winner will move on to compete for a national award at Greenbuild. All designs submitted will be exhibited during Greenbuild at the Greening Colorado Challenge event.

For Colorado's competition we have chosen a local project, the Sustainable Settings Whole Systems Learning

Center, which truly encompasses the beauty and challenges of building sustainably in Colorado. Sustainable Settings is a non-profit organization which owns a 244 acre historic Thomson Creek Ranch located on the Western Slope in the Crystal River Valley, just South of Carbondale. The organization's mission and work centers around establishing an experiential learning environment for the cultivation of a sustainable future. Participants in the Colorado Natural Talent Design Competition will design a LEED Platinum building, or group of buildings, for their rural campus, a place where permanent staff and visiting guests of all ages will be inspired to teach, learn, and embrace integrated solutions for sustainable development. The project will utilize LEED guidelines to generate creative and artful designs while considering real-world construction and economic contexts.

To find out more or to get involved contact EGB chair, Ashley Muse, at [amuse@rmi.org](mailto:amuse@rmi.org).

### Important Upcoming Competition Dates:

- **January 1, 2006:** Registration goes live on the National USGBC website [www.usgbc.org\egb](http://www.usgbc.org\egb)
- **June 15, 2006:** Latest date for local judging to be complete.
- **October 15, 2006:** National deadline for those chosen to compete at Greenbuild 2006



### Design



### Sustainability



### Innovation



### Social Consciousness



# Colorado LEED Projects

## Certified Projects

BUILDING	CITY
Sundeck Restaurant (1.0 Bronze)	Aspen
CH2M Hill South Building (V2 Certified)	Englewood
CH2M Hill West Building (V2 Certified)	Englewood
CH2M Hill North Building (V2 Certified)	Englewood
North Boulder Recreation Center (V2 Silver)	Boulder
Boulder Community Hospital (V2 Silver)	Boulder
U.S. Department of Transportation (V2 Silver)	Lakewood
Denver Place (LEED-EB 1.0 Gold)	Denver
Russell T. Tutt Science Center (V2 Certified)	Colorado Springs
Snowmass Golf Clubhouse (V2 Silver)	Aspen
Colorado Springs Utilities Laboratory (V2 Silver)	Colorado Springs
Fossil Ridge High School (V2 Silver)	Fort Collins
University of Denver, College of Law (V2 Gold)	Denver
Belmar 2M3 (V2 Silver)	Lakewood
State of CO Dept. of Labor and Empl. (V2 Cert)	Denver
Boulder Associates, Inc. (LEED-CI V2 Gold)	Boulder

\* New!



University of Denver's LEED-NC Gold College of Law Building  
Featured in the November/December 2005 issue of CBG

# Membership Update

## Welcome New Colorado Chapter Members!

### December

Cynthia Ortlieb  
Joan Gregerson  
Peter D'Antonio  
Lyn Nicks

## Welcome New Member Organizations!

### December

Brookie Architecture And Planning,  
*Durango*  
Pahl Pahl Pahl Pc Architects/Planners,  
*Denver*  
Modern Built Homes, Llc,  
*Peyton*  
Robert Hawkins Architect,  
*Steamboat Springs*  
Castle Rock Industries, Inc.,  
*Englewood*  
Joan Gregerson Consultant,  
*Longmont*  
Lawrence Architecture, Inc.,  
*Littleton*  
The Jacober Brothers Construction  
*Carbondale*

## Chapter Calendar

### USGBC-Colorado Evening Program

February 6, 2006

Sustainability and Education Forum  
Speakers: Panel of Educators, Students  
and Industry Professionals

[www.usgbc.org/chapters/colorado](http://www.usgbc.org/chapters/colorado)

Contact committee chairs for individual  
committee meeting schedules.



## VISION

Promote responsibility for Colorado's environmental legacy.

## MISSION

Advance and promote sustainable planning, design, construction and operation of the built environment through education, improving industry guidelines, policy advocacy, and information and resource sharing.

## BOARD OF DIRECTORS

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# Get Involved!

## Join a Committee

The USGBC Colorado Chapter needs your help to create high-quality educational programs, events and communications to take the Chapter to the next level. We have established a number of committees that meet monthly to provide direction and input to the Board of Directors and help advance the goals of the Chapter. If you are interested in participating, please contact the appropriate committee chair listed below:

Committee	Chair	E-Mail
Advocacy	Peter D'Antonio	<a href="mailto:peter@pcdengineering.com">peter@pcdengineering.com</a>
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Learn more about Chapter committees by following the "committees" link on our Chapter website at [www.usgbc.org/chapters/colorado](http://www.usgbc.org/chapters/colorado). If you have additional questions, feel free to contact any of the committee chairs listed above or the President of the Board, Annette Stelmack, at [annette@associates3.com](mailto:annette@associates3.com).

## Sponsors

Your 100% volunteer staff has been working hard and long to see this goal of a local Colorado USGBC chapter. Your donation helps green building move from innovative idea to factual reality. Much more is needed to meet our goal. Support from our members and sponsors will enable us to expand current programming while developing additional funding (including grant) opportunities.

**Thank you to these sponsors for in-kind donations during December!**

