

"Nobody in their right minds should be building a coal plant."

- Vinod Khosla, Venture capitalist and founder of Sun Microsystems quoted in a Business week article on Coal: Could Be The End Of The Line. *Prices would soar if the U.S. clamped down on carbon emissions.*

Congratulations Boulder!

Climate Action Plan Tax Passes with 60% of the Vote.

News coverage on 202 has been worldwide.

Denver Post:

http://www.denverpost.com/news/ci_4571501

USA Today:

http://www.usatoday.com/printedition/news/20061101/a_carbontax01.art.htm

Interview on KCFR's Colorado Matters:

http://www.kcfr.org/index.php?option=com_content&task=view&id=94&Itemid=234

and click on "Boulder Proposes Energy Tax."

New York Times. *City Approves Carbon Tax in Effort to Reduce Gas Emissions.*

<http://www.climateark.org/shared/reader/welcome.aspx?linkid=63905>



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(News coverage on 202 continued)

This Washington Post article on industry giants Duke Energy, Shell Oil, and maybe even Exxon-Mobil advocating for a national carbon tax refers to Boulder: *California is drawing up its program. Other states are also contemplating limits. Even the city of Boulder, Colo., has adopted its own plan -- a carbon tax based on electricity use.*

"We cannot deal with 50 different policies," said Shell's Hofmeister. "We need a national approach to greenhouse gases."

http://www.stopglobalwarming.org/sgw_read.asp?id=10334611252006

Interview requests have come from as far away as Australia and Italy.

The Italian Headline was *Inquino, Quindi Pago* ("I Pollute, Therefore I Pay"). *Gli abitanti di Boulder, nel Colorado, votano per decidere se autoimporsi una "carbon tax"*

http://www.peacereporter.net/dettaglio_articolo.php?idc=16&idart=6653

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In addition to providing information on moving to a sustainable energy future, SE News serves as the newsletter for BREEE – Boulder Renewable Energy & Energy Efficiency Working Group.

<http://www.boulderenergy.org>



From Boulder & Colorado:

DMEA Challenges Tri-State's Plans for 3 New Coal-Fired Power Plants

Delta Montrose Electric Association's (DMEA) Board of Directors is questioning Tri-State's plans to build 3 massive new coal-fired power plants. *...the board believes the plants could be delayed or shelved altogether through an "aggressive pursuit" of energy conservation.*

http://www.gjsentinel.com/news/content/news/stories/2006/11/27/11_27_1A_Montrose_energy_use.html

DMEA sent a brochure to its members describing why rates are going up, why coal is getting to be expensive and risky, and what alternatives exist to building new coal generation:

<http://www.dmea.com/news/BoardMailer10302006.pdf>

.....we strongly disagree with some of the decisions Tri-State is making as it expands its electric generating system. We are unhappy that Tri-State is choosing to borrow money for this expansion from Wall Street bond houses, rather than from the federal government. Money from the federal government would be substantially cheaper than money from Wall Street. We also do not back Tri-State's choice of only building traditional coal-fired power plants, while ignoring the possibility of getting future power from new-technology coal-fired power plants, wind powered generation, and efficiency.

Colorado Short Takes

October 23. Denver. More than 50 people attended a march and protest against Xcel's Comanche 3 coal-fired power plant. Many people stayed to testify at the PUC against the rate hikes needed for Comanche 3. Website with information, slide-show, and Denver Post article:

<http://cleanenergyaction.org/>

<http://www.youtube.com/watch?v=K9LG9gr-7AY>

http://www.denverpost.com/search/ci_4539202

Ken Regelson's testimony to the PUC suggesting the extraordinary action of freezing construction of Comanche 3. *To summarize, Comanche 3 is going to cost us much more than projected in 2004, and there are now alternatives to building Comanche 3 (renewables and efficiency) that are much cheaper for us customers.*

http://www.fivestarconsultants.com/Other%20Docs_files/C3%20testimony.pdf

The Durango Herald: *Tri-State Funds Global Warming Skeptic* to the tune of \$50,000.

http://durangoherald.com/asp-bin/article_generation.asp?article_type=news&article_path=/news/06/news060922_1.htm

(I find this particularly interesting in light of the Washington Post reporting that even Exxon-Mobil is considering ending its funding of a think tank that has sought to cast doubts on climate change - quite possibly the same think-tank and Patrick Michaels that Tri-State is giving \$50,000 to. Ken)

http://www.stopglobalwarming.org/sgw_read.asp?id=10334611252006

Denver Post: Xcel Energy's Chief Executive Dick Kelly supports plan to increase renewable energy on a national level. *My personal philosophy is we're done discussing it. We need to move to action," Kelly told The Denver Post... legislation proposed by Sen. Norm Coleman, R-Minn. ... would require utilities to generate up to 10 percent of their power from sources that don't emit carbon by 2020, increasing to 20 percent by 2025. Utilities would receive carbon-offset credits for renewables such as wind and solar power, coal-gasification plants, nuclear power and programs that encourage efficiency and conservation by consumers... Matt Baker, of Environment Colorado, said he sees merit in the proposal... although he's concerned about provisions that would eliminate state regulation of carbon dioxide and that specify that carbon dioxide would not be considered a pollutant under the federal Clean Air Act.*

http://www.denverpost.com/search/ci_4544528

Daily Camera: Xcel Energy's Chief Executive Dick Kelly said his utility company is working with legislators to develop a mandatory federal climate change policy to reduce greenhouse gas emissions. *"The time for action is now," Kelly said.*

<http://www.dailycamera.com/news/2006/nov/11/utility-supports-clean-energy/>

(On the one hand, this is an important statement, and Xcel and Kelly are showing strong leadership. On the other hand, it is important to know that any carbon taxes or regulation will not cost Xcel a dime, but will cost us ratepayers - you and me. Further, Xcel is now perhaps a quarter of the way through building Comanche 3 in Pueblo. C3 will be by far the largest coal-fired generator in Colorado producing more than 1 ton more of carbon dioxide per man, woman, and child in Colorado per year. - Ken).

Study: Wind on the Public Service Company of Colorado System: Cost Comparison to Natural Gas. (note that Public Service of Colorado (PSCo) is also known as Xcel Energy)

- *The cost savings for wind generation that PSCo has already acquired will produce more than \$251 million in fuel and emissions costs in savings for PSCo ratepayers.*
- *Had PSCo decided to acquire (reasonable) additional wind generation, this study calculates that Colorado ratepayers would have saved \$438 million over the life of these contracts,....*
- *Wind generation will prevent 19.2 million tons of carbon dioxide in the base case; adding the wind generation suggested in this study would further reduce carbon dioxide emissions by 14.7 million tons.*

http://www.interwestenergy.org/interwest_backcast.pdf

Interview on KCFR's Colorado Matters. Go to the website

http://www.kcfr.org/index.php?option=com_content&task=view&id=94&Itemid=234

and click on the interview: *Colorado's Solar Business Booming*

From Elsewhere:

Short Takes

Policies, Programs, Challenges, and Campaigns

Gambling With Coal. Report and presentation by the Union of Concerned Scientists outlining the financial risks of building new coal-fired power plants.

http://www.ucsusa.org/assets/documents/clean_energy/big_stone_II_presentation_REAMP.pdf
http://www.ucsusa.org/assets/documents/clean_energy/gambling_with_coal_final_report_sept_06.pdf

Study: Trans-Mediterranean Interconnection for Concentrating Solar Power. Using a mix or renewables including wind, and biomass located in Europe and concentrating solar power located in the deserts of North Africa, combined with a high voltage direct current transmission system, this study presents a plan to close all European nuclear power plants and provide 80% of Europe's electricity by 2050 at a cost of 5 Euro-cents per kWh. News article, executive summary, and full report.

<http://www.upi.com/NewsTrack/view.php?StoryID=20061031-043931-3790r>

http://www.dlr.de/ft/institut/abteilungen/system/projects/all_projects/Projektbeschreibung_TRANS-CSP/Executive%20Summary_english/TRANS-CSP-Executive%20Summary_Final.pdf
http://www.dlr.de/ft/institut/abteilungen/system/projects/all_projects/Projektbeschreibung_TRANS-CSP/Final%20Report%20in%20PDF/TRANS-CSP_Full_Report_Final.pdf

Change a Light, Change the World campaign for replacing incandescent lightbulbs with compact fluorescents. Their goal is 500,000 changed bulbs.

http://www.energystar.gov/index.cfm?fuseaction=cal.showpledge&%3Bcpd_id=1324

Gateway website for California's solar initiative. *California has set a goal to create 3,000 megawatts of new, solar-produced electricity by 2017. This site provides consumers a "one-stop shop" for information on rebates, tax credits, and incentives for solar electricity systems in California.*

<http://www.gosolarcalifornia.ca.gov/index.html>

Best Practices Project in Sonoma County, California. Report on what voluntary measures businesses in Sonoma County are taking to improve the environment, reduce energy and water use, and to improve their bottom lines. Includes the Voluntary Environmental Practices Self-Assessment survey they used.

http://www.fypower.org/pdf/SCBEA_Best_Practices_Report.pdf

Report: Getting Ahead of the Curve: Corporate Strategies that Address Climate Change. Prepared for the PEW Center on Climate Change. Summary and full report:

http://www.pewclimate.org/global-warming-in-depth/all_reports/corporate_strategies/index.cfm
<http://www.pewclimate.org/docUploads/PEW%5FCorpStrategies%2Epdf>

ACEEE Report: *Aligning Utility Interests with Energy Efficiency Objectives: A Review of Recent Efforts at Decoupling and Performance Initiatives*. Summary (Full report available for viewing off of the summary page, but a free registration and login are required).

<http://aceee.org/pubs/u061.htm>

New book: Lives Per Gallon: The True Costs of Our Oil Addiction. Review from the Daily Camera. *At a minimum, (the true cost of gasoline) should be about \$10 a gallon.*
<http://www.dailycamera.com/news/2006/nov/27/official-talks-lives-per-gallon/>

Seattle's Climate Action Plan for meeting Kyoto:
http://www.seattle.gov/climate/docs/SeaCAP_plan.pdf

Washington State voters pass initiative 937 a renewable energy initiative following in the footsteps of, and building on, Colorado's Amendment 37 - 15% new renewables by 2020 and require utilities to support cost-effective energy efficiency.
http://en.wikipedia.org/wiki/Initiative_937

Building Technology

Presentation at Greenbuild 2006: German Examples of Green Building Design by Dr. Fred Sick. A number of interesting points and pictures from Germany including observing that 75% of building stock was built before heat protection legislation, and pictures and diagrams for German low and zero energy buildings. Slides 17 through 20 provide information on Germany's Energy Performance Certificate, a standard rating for buildings that is *mandatory for all buildings which are newly erected, newly rented, or being sold... Valid for 10 years... for residential and non-residential buildings... and in public buildings (must be) "placed in a prominent place clearly visible to the public"*
General website and presentation.
<http://www.ib-sick.de/English/>
http://www.ib-sick.de/Downloads%20und%20Links/greenbuild06_Sick.ppt

Renewable Technology

CLFR - Compact Linear Fresnel Reflector technology for Concentrating Solar Power (CSP). This has the potential for providing low cost solar electricity that can be dispatched (delivered) during peak loads. Story, website, and picture.
http://www.solarpaces.org/CLFR_COAL.HTM
<http://solarheatpower.veritel.com.au>
<http://solarheatpower.veritel.com.au/press/DSC00596.html>
Study of a proposed 240 MW CLFR generation plant with energy storage in the form of metal lined underground hot water storage.
<http://solarheatpower.veritel.com.au/Eurosun240CLFRFinal2.pdf>

The Department of Energy's Energy Information Administration (DOE EIA) has released its annual report on solar thermal and solar photovoltaics for 2005.
<http://www.eia.doe.gov/cneaf/solar.renewables/page/solarreport/solar.html>

Guide to understanding and evaluating Agricultural Anaerobic Digestion from Colorado's Office of Energy Management and Conservation. Strong and clear on concepts of manure digestion for producing methane and electricity. But does not include any specific companies nor products.

http://www.state.co.us/oemc/programs/agriculture/hog_wastes/aad_book.pdf

Energy Storage

(no articles this issue)

Transportation

(no articles this issue)

Contributions from Blake Jones, Christopher Juniper, Craig Eicher, Ron Freshman, Howard Geller, Doug Grinbergs, Rob Hall, Robin Hubbard, Andrea Ray, Steve Szabo, Jake Meffley, Leslie Glustrom, Morey Wolfson, and others.

Greenbuild 2006

by Ken Regelson

<http://2006.greenbuildexpo.org/>

http://energypriorities.com/entries/2006/11/greenbuild_2006_perspective.php

The US Green Building Council's (USGBC) International Greenbuild Conference and Expo was held in Denver in November. Almost 14,000 people attended - up from 10,000 attendees in 2005.

USGBC is the developer of the LEED (Leadership in Energy & Environmental Design) standards for buildings. Much of the conference was directed at LEED certification, financial, environmental, and energy results from LEED buildings, and the future of LEED standards.

LEED standards are in various stages of development from the newly released 3rd version for commercial buildings, to new standards for residential buildings, multi-family residential buildings, and schools.



Many sessions were standing room only.

Climate Change was recognized as the problem we must all address and there were numerous sessions addressing various aspects of the problem and building technology to address energy use and reducing greenhouse gas emissions from buildings.

Ira Magaziner, Chairman for the Clinton Climate Initiative (referring to climate change): *Every day, we must work with great urgency to solve this problem... We are moving as if this is a crisis because it IS A CRISIS. These are not the times for strategizing. This is the time for acting. We will make mistakes - let s make them quickly, learn from them, and move on.*

I continue to be in awe of William McDonough, keynote speaker for Greenbuild, and author with Michael Braungart of Cradle to Cradle: Remaking the Way We Make Things (highly recommended). Some quotes from Bill:

Regulation is a symbol of design failure.

What is our intention as a species? We are the dominant species on this planet, what are our intentions? Shouldn t we devote ourselves to answering the question: "how do we love all the children of all species for all time?"

Our goal is a delightfully diverse, safe, healthy, and just world, with clean air, water, soil, and power - economically, equitably, ecologically, and elegantly enjoyed. Period. No exceptions.

We need to learn design humility. It took us 5000 years to put wheels on luggage - we are not that smart.

Consider Mozart, or a cherry tree in bloom. We do not celebrate efficiency, we celebrate abundance.

Nature s design principles:

waste = food

use current solar income

celebrate diversity

Commercial buildings should be a life support system for people working not a work support system for people that don t have a life.

Steven Strong, President, of Solar Design Associates, presented hundreds of pictures of building that integrated photovoltaics into the roof or structure:

We advocate a cut & run philosophy - cut your energy use with efficiency and run what is left with photovoltaics.

What we have here is a grossly underutilized resource. Yes, its your roof - an important resource that needs to be harvested.

Speaker after speaker addressed the costs of obtaining LEED certification. The consensus seemed to be about 1 to 2 per cent additional costs - costs that were far outweighed by the savings and benefits in terms of reduced energy and other resource use, and improved pro-

ductivity and absenteeism. Harvard University reported that, after 16 LEED projects, certification is no longer viewed as a cost but is seen as an asset.

Colin Coyne from Melaver, Inc, a real-estate investment firm, viewed the independent verification from LEED certification as a strong benefit, particularly when applying for loans, and in attracting desirable tenants..

David Winstead, Commissioner for the federal Government Services Administration (GSA) said that GSA would require LEED on all major renovation projects and any new GSA buildings must meet LEED silver requirements. There are 36 lease construct buildings in progress for the FBI alone. GSA manages 8600 buildings in 2100 communities.

At the exposition hall, hundreds of exhibitors presented thousands of products. As you would expect there were many companies covering all of the things that make up or go into buildings including flooring, walls, windows, fixtures, carpets, office equipment, air conditioning equipment, and roofing. There were quite a few vendors with different kinds of green roofing systems.

While there were many worthy products, the product that struck me as having the most potential for changing buildings dramatically was C-Grid - a carbon fiber replacement for steel mesh for reinforcing concrete. C-Grid is significantly stronger than steel, will not corrode, and allows a concrete wall to be as much as 3" thinner than a standard steel mesh wall, radically changing the overall cost and weight of wall sections and supporting foundations.

<http://www.netcomposites.com/news.asp?3114>

As Greenbuild 2006 was ending, I asked a number of people what they were taking away from the the conference. I think Elizabeth Wheeler from Denver may have been speaking for many of us when she replied, "I'm taking home hope."



Solar roofing tiles.



Phillips innovative Aurelle LED "candles".