

TGIF Taking Great Ideas Forward



Improving Northern Capital - Sustainable Development in the Northern Tier

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“Never mistake motion for action.”

-Ernest Hemingway-

MEETINGS and EVENTS:

Links will provide additional information. Dates for recent additions are in **bold**.

<i>What</i>	<i>Date</i>	<i>Time</i>	<i>Where</i>
Inventors and Entrepreneur's Club	Dec. 4 th	6:00 pm	Cassablanca Coffee House – Ashland Hwy 2 & 63
BCEDC Board Meeting	Dec. 8 th	10:00 am – Noon	Washburn Library
Sustainable Business Conference	Dec. 8th	All Day	Verona, WI
Inventors & Entrepreneur's Club	Jan. 8 th	6:00 pm	Cassablanca Coffee House – Ashland Hwy 2 & 63
B CEDC Board Meeting	Jan. 12th	10:00 – noon	Washburn Library
Engineering Professional Development	Jan. 21 – 22	All Day	Madison
Inventors & Entrepreneur's Club	Feb. 5th	6:00 pm	Cassablanca Coffee House – Ashland Hwy 2 & 63
BCEDC Board Meeting	Feb. 9th	10:00 – noon	Washburn Library
Great Lakes Days	Feb. 23 – 25	All Day	Washington DC
Superior Days	Feb. 24 – 25	All Day	Madison
Conservation Lobby Day	Feb. 25th	All Day	Madison

The Myth of Clean Coal

Coal is dirty and it isn't going to be clean. The worst dirt is carbon dioxide. A close second is the dirt removed to extract coal from the earth's crust. Sequestration is claimed to clean up the carbon dioxide. Nothing will clean up the mess from extraction. The dirty reality is that cost effective and permanent sequestration of CO₂ is about as likely as cold fusion, or adjustment in the sunrise.

Coal contributes other dirt. Mercury injections into the atmosphere are continuing in spite of decades of power companies attempting to scrub their stacks. Lower mercury levels? Yes.

Acceptable mercury emission levels? No! NOX (Nitrogen Oxides) and SOX (Sulfur Oxides) emissions are lower but not zero.

The clean-coal folks have been featuring ads with a pretty-face, pleasant-voice actress poised in front of clever green screen graphics to green-wash the industry and soften up the American public for a political push supporting their financial interests. Check out the web site, www.energytomorrow.org for a taste of their strategy. And if you need more, try www.americaspower.org, which is also tooting the bull-s___ bugle for clean coal. **Richard Conniff**, [writing](#) in *Yale University's environment360* blog, examines the motive for the advertising campaign and points out that “Clean Coal” is little more than an advertising slogan created by R & R Partners with a budget exceeding \$50 million. With that revenue flowing through the corporate media till, don't expect major networks to question “clean coal” propaganda.

A [Fact Sheet](#)_(pdf) has been prepared by **Nancy LaPlaca** and published by **Energy Justice** as a short 2-page version and a [longer fully footnoted version](#)_(pdf). LaPlaca emphasizes that the touted hope for “clean coal” is *Integrated Gasification Combined Cycle* (IGCC). This technology gasifies coal to syngas to power a gas turbine and then takes heat from the turbine to generate process steam sufficient to turn a steam turbine generator. In addition to high costs and very undeveloped technology, the dependence on capture of CO₂ creates a very unlikely scenario requiring storage of the CO₂ as a liquid for thousands of years. Leakage seems inevitable even if geological instability is discounted. It is estimated that the storage requirement could exceed 10-12 billion tons every year. The largest CO₂ storage project worldwide, according to LaPlaca, is in Norway where **Statoil** is pumping about one million tons of CO₂ / year into a North Sea reservoir. So far, since 1996, barely spitting in the ocean.

Two additional dirty realities of “clean coal” are mountain top removal and water contamination. Highly profitable mining in Appalachia dynamites and levels entire mountains to extract coal. The dirt is social disruption, blighted landscapes, and surface and groundwater that is a mess. Cleaning syngas generates wastewater with high alkalinity and nitrate contamination. Gasifier ash has multiple metallic and non-metallic contaminants that complicate the cost of storage because improper storage can lead to leaching of contaminants like sulfates, chloride, arsenic and selenium to groundwater.

A jury should be deliberating how the election-driven endorsement of “clean coal” by President-elect **Obama** and candidate **John McCain** will play out in the new 111th Congress. Fortunately there is little economic stimulus adhering to “clean coal.” Retrofit of existing plants is not considered even possible let alone cost effective. New IGCC plants are at least one election cycle in the future. Meanwhile there are massive problems with IGCC to be solved. Industry demands for research subsidy may rise toward the top.

The coal lobby is dirty and bipartisan. Former Representative and Democrat Majority Leader **Richard Gephardt** has been hired by coal giant **Peabody Energy** to help make the case for “clean coal.” U.S. Representative **Nick Rahall** (D-WV) is chairman of the House Resources Committee and an outspoken champion of “clean coal.” He and coal executives march to the politically attractive distant drummer of coal as a path to energy independence. Exhortations cite wildly unrealistic figures suggesting that there is enough coal to supply all of the US energy needs for 450 years, even though the **National Academy of Science** estimates are 100 years.

Estimates too frequently assume current use levels and no exports. Rahall's proposals to subsidize "clean coal" will sap the treasury of billions – precious dollars that could be directed toward really clean or much cleaner solutions.

A prudent path for economic advancement, social justice and environmental stewardship will be to keep our fiscal resources focused on best practices and better alternatives; conservation, solar, wind and hydrogen.

LIGHTER SIDE:

As with most jokes the original author is unknown. Whoever you are; "Thanks!" Names, when added, are intended to tease the innocent.

A Game?

A lawyer and a Norwegian are sitting next to each other on a long flight. The lawyer is thinking that Norwegians are so dumb he could put one over on them easy. So the lawyer asks if the Norwegian would like to play a fun game. The Norwegian is tired and just wants to take a nap, so he politely declines and tries to catch a few winks. The lawyer persists, that the game is a lot of fun. "I ask you a question, and if you don't know the answer, you pay me only \$5; you ask me one, and if I don't know the answer, I will pay you \$500."

This catches the Norwegian's attention and to keep the lawyer quiet, agrees to play the game. The lawyer asks the first question. "What's the distance from the Earth to the moon?" The Norwegian doesn't say a word, reaches in his pocket pulls out a five-dollar bill, and hands it to the lawyer.

Now, it's the Norwegian's turn. He asks the lawyer, "What goes up a hill with three legs, and comes down with four?" The lawyer uses his laptop, searches all references. He uses the air phone; he searches the Net and even the Library of Congress. He sends e-mails to all the smart friends he knows, all to no avail. After one hour of searching he finally gives up. He wakes up the Norwegian and hands him \$500. The Norwegian pockets the \$500 goes right back to sleep.

The lawyer is going nuts not knowing the answer. He wakes the Norwegian up and asks, "Well, so what goes up a hill with three legs and comes down with four?"

The Norwegian reaches in his pocket, hands the lawyer \$5 and goes back to sleep.

Take care and enjoy a great weekend!

Bruce

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Bruce Lindgren is Principal of [B.Lindgren CONSULTING](#). The consulting practice serves small business, local government, school districts and non-profits providing support for research, grant development, technical writing, marketing

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In addition Bruce maintains many affiliations including: [Bayfield County Economic Development Corporation](#), (BCEDC) Director, [IDEA Consortium LLC](#), Owner, [Inland Sea Society](#), (ISS) Director, [Lake Superior Binational Forum](#), (LSBF) US Co-Chair, [Northwest Wisconsin Workforce Investment Board](#), (WIB) Member, [Raindrop Garden Gallery](#), (RGG) Co-owner

The encircled fractal triangle represents an integrated cluster of seven ideas – economics, ecology, equity, ethics, experience, education and energy – that may be considered a core for sustainability studies. Bruce is available to present illustrated lectures and facilitate discussions about role of education in Industrial Ecology, Sustainable Development and the Sustainability Revolution.