

**The Future's So Bright:
The Case for Clean Coal Technologies**

**Remarks by
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I'd like to thank Carl Bauer, Mike Eastman and the folks at the National Energy Technology Lab for the opportunity to speak to you today. This workshop has taken on quiet a role - following on some very momentous events in our nation's history.

The first CCPI Workshop was held on September 28th, 2001 – 17 days after the 9/11 terrorist attacks. Today's workshop convenes a mere 12 days following the largest blackout in U.S. history. This is one heck of a track record. Personally, I plan to check in with the conference organizers to see when they schedule the next workshop – and take all necessary precautions in the weeks before.

Actually, both the September 11th attacks in 2001 and the blackout this month have significant implications for the energy industry. In his Keynote Address at this workshop in 2001, General Richard Lawson talked about the critical link between energy security and national security. He pointed out the connection between poverty and access to affordable, reliable energy.

Addressing the basic energy needs of those in developing and lesser developed countries, provides a platform that fosters economic growth, improves lives and reduces crime. The link between terrorist activity, poverty and energy is clear. This should be one of the guiding principals before us as we move forward with our clean coal technology efforts.

Of course, the link between this month's power outage and the need for advanced technology and modernized infrastructure is even more direct. If a day can be dark, August 14th was certainly a dark day in our nation's history. As an industry, we'll be learning lots of lessons from this blackout. Hopefully, it will also provide us with an opportunity to educate our fellow Americans about the critical energy issues we must address in the coming years. As part of that educational effort, we must demonstrate and relate the benefits of clean coal technology.

When I spoke to Mike Eastman regarding this presentation, I asked him what I should talk about today. He told me that I should talk about 20 minutes. Since I've used up about 5 of those minutes already, I'd like to focus the remainder of my time on why I believe we can avoid dark days ahead.

We often hear that "clean coal" is an oxymoron. But I know that just as a day can be dark, coal can be and is clean. In fact, I believe The Future's So Bright.

Back in the mid-1980s, there was a folk-rock group known as Timbuk 3. They were kind of a one-hit wonder – their most popular song was entitled "The Future's So Bright, I Gotta Wear Shades." The chorus of that song included these lyrics ...

"I'm doing all right, getting good grades
The future's so bright, I gotta wear shades."

The utility-coal industry has, in fact, been getting good grades in recent years.

We're getting good grades on:

Coal Production:

In 1970, 320 million tons of coal were used for power generation.

By the year 2000, nearly 1 billion tons of coal were used by our nation's electric utilities.

Today, 9 out of every 10 tons of coal produced in the U.S. are used to generate electricity. Our producers are meeting the demand for coal as a fuel source.

And we'll be able to meet that demand well into the future. Coal represents roughly 95% of America's total fossil energy reserves, compared with 3% for natural gas and 2% for oil.

Our nation's proven coal reserves can last us more than 250 years at current levels of use. We have the fuel resources within our borders to meet our energy needs well into the future.

We're getting good grades on:

Meeting the Demand for Electric Power:

The 1973 energy crisis resulted from price and supply disruptions of imported oil and natural gas.

At that time, the nation called upon coal -- and the utility-coal industry responded.

Between 1975 and 2000, U.S. power requirements doubled – at the same time, coal generation increased by two ¼ times.

Coal supplied 44% of our nation's power in 1975. By the year 2000, it supplied 54%.

Coal serves as the foundation of our nation's power house.

We're also getting good grades on:

Economics:

The U.S. has the lowest cost electricity of any major industrial nation in the world.

The average cost of electricity in the U.S. is about 8 cents compared with over 12 cents in Germany and more than 21 cents in Japan.

One of the primary reasons our power is so affordable is because of the availability of low-cost coal as a fuel source. Between 1984 and 2000, U.S. coal prices have been driven down by 55% in real dollars. It is, by far, the cheapest source of power per million BTU, averaging less than half the price of petroleum and natural gas.

Another oxymoron – cold comfort. The fact that in the U.S. almost all new power generation being brought on line is natural gas, is cold comfort to middle and low-income Americans. Relying on natural gas recently cost low-income Americans about 29% of their income – versus 13% for those who used sources other than natural gas – natural gas users paid double. And these are the folks that can least afford it.

The utility-coal industry's also getting good grades on:

Our Environmental Record:

As I mentioned earlier, coal use by utilities over the last 30 years has tripled.

During those same 30 years, air quality has improved significantly.

SO₂ – down 76%

NO_x – down 58%

PM – down 96%

That's extraordinary – “extra ordinary” – another oxymoron.

As of yet, there's no economic, commercially viable technology to control mercury. This certainly needs to be a continued focus in our future RD&D efforts.

The U.S. has one of the best, most proven track records on environmental stewardship among the industrial nations – this is due in large part to the availability of low-cost electricity.

Unfortunately, public perception is out of sync with reality on this score. In a recent article entitled “Clearing the Air”, Joel Schwartz with the Reason Public Policy Institute comments on this disconnect.

He writes ... “The U.S. has made dramatic progress in reducing air pollution over the last few decades and most American cities now enjoy relatively good air quality. But polls show that Americans believe air pollution has grown worse or will become worse in the future and that most people face serious risks from air pollution ... there is widespread but unwarranted pessimism about the nation's prospects for further air pollution improvement.”

This brings to mind another oxymoron – “clearly confused.” In the disconnect between fact and perception, the public is clearly confused.

The real concern here is that if people overestimate the risk of air pollution, they'll demand stricter, more costly air pollution regulation. The need for balance between economic and environmental health gets skewed in this scenario.

As Schwartz notes ... “by devoting excessive resources to one exaggerated risk, we are less able to counter other genuinely more serious risks.”

The need continues for our industry to provide accurate information on environmental risk issues. We've cleared the air – now we need to clear up the confusion.

Finally, we're getting good grades on:
Developing Clean Coal Technologies

The original Clean Coal Technology program resulted in 20 new, lower-cost, more efficient and cleaner technologies for utility and industrial applications.

The cost? \$5.4 billion – of which industry has provided 2/3s or \$3.4 billion. The benefits will far exceed these costs.

The 1st round of the CCPI launched 8 projects - \$316 million in federal funding and about \$1 billion in industry funding - that's \$3 of industry money for every \$1 of federal government funding. Again, it's expected that the return on investment will be significant.

Much of the emissions reductions I spoke about earlier were made possible as a result of these clean coal technology programs.

The clean coal technology programs are working – they're producing good results and are being strongly supported by industry.

So, we're getting good grades in:

- ≈ Coal Production
- ≈ In - Meeting the Demand for Electric Power Generation
- ≈ In - Economics
- ≈ On - Our Environmental Record
- ≈ And in Developing Clean Coal Technologies

But can coal pass the test?

Well, coal quiet readily passes the test on providing reliable, affordable, abundant electric power. What we need to work on now is making it an even more environmentally sound fuel source – one that respects both our environment and our economic health.

The development of new technology is a vital investment in our nation's economic well being.

There's a well documented parallel relationship between electricity use and GDP.

When Electricity Use up – GDP up

But we also need to be aware that there's an inverse relationship between cheap electricity and GDP.

When the Cost of Electricity up – GDP down

There's a clear link between coal and its role in providing affordable electricity - and the economic well being of our nation.

OK, another oxymoron – CCPI's "nearly impossible" task – that of selecting the most promising technologies to help us achieve a balance between economics and the environment.

First, the CCPI program must look to strike a balance among the various technologies. We need to keep in mind that there are 4 groups of technologies that can and should be addressed.

- ≈ Pre-combustion
- ≈ Combustion
- ≈ Post-combustion
- ≈ And Conversion

Each will have a role to play in meeting our clean coal objectives and none should be overlooked.

Second, we must work to advance state of the art technologies into the marketplace. One of the greatest challenges we face, is to make our technologies commercially viable. Without an investment in systems that can, in the near-term, achieve market penetration, we will not achieve these goals.

Large-scale demonstrations provide us with the best information on the technical and economic capabilities of new technologies. Without this information, industry won't be able to secure financing to build and operate low-cost, environmentally sound powerplants in the future.

Our financial community will support proven, economically viable technologies. We need large-scale demonstration projects to "prove out" the technical and economic feasibility of those technologies.

During today's workshop, you'll no doubt hear various cases presented for how these various needs can be or should be balanced. I don't have a solution ... but I certainly admire the problem ...

And I also admire the people that are charged with making these decisions. A number of good folks have already gotten together to develop a Clean Coal Technology Roadmap that provides timelines, as well as cost and performance targets for our research efforts. DOE, EPRI and the Coal Utilization Research Council (CURC) have established a clear path with their Clean Coal Technology Roadmap. That Roadmap supports President Bush's environmental initiatives and provides a significant return on investment for RD&D dollars expended.

The Clean Coal Technology Roadmap should serve as a valuable tool for CCPI decisionmakers.

Whatever the decisions, I'll reiterate the need for us as an industry to educate our policy and community leaders about our industry's "good grades" to date and about our continued efforts to achieve near-zero emissions.

In his remarks to this group in 2001, General Lawson commented that "the fact that we have made so many advancements so quietly does not speak well for this industry." And "we must begin to develop more aggressively this discussion with our fellow citizens and leaders about the importance, the capabilities and the vital necessity of using American coal."

Coal's promise for the future? Abundant, economic and environmentally sound electric power. It's a bright future indeed ...

As Timbuk 3 sang so many years ago, The Future's So Bright, I Gotta Wear Shades!

Oh, and by the way, these are "plastic glasses." Yet another oxymoron. Thank you for your time.

The American Coal Council (ACC) is the pre-eminent business voice of the American coal industry. The Association is dedicated to advancing the development and utilization of American coal as an economic, abundant and environmentally sound energy fuel source.

The ACC is an alliance of coal, utility, transportation, trading, port/terminal and coal support service companies, advocating a non-adversarial, partnering approach to business.

The Association promotes the lawful exchange of ideas and information regarding the American coal industry. It serves as an essential resource for companies that mine, sell, trade, transport or consume coal, both domestically and internationally. Programs and activities are designed to strengthen the marketing and management capability of its members.

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