



**United States Energy Association  
Eighth Annual State of the Energy Industry Forum  
January 18, 2012  
The Future of Coal  
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Thank you Barry for the invitation to USEA's Annual State of the Energy Industry Forum, and the opportunity to discuss the future of coal.

If the past two years have reinforced the importance of anything, it would be to caution us against making confident predictions about the years ahead. Seismic events—whether naturally, economically or politically induced—have all changed our outlooks.

A year ago, few of us would have predicted the impact on nuclear power from a catastrophic earthquake in Japan ...or the influence of fiscal pressures on emerging energy technologies.... or, with stubbornly high unemployment, that a decision to bring more oil from our northern neighbor—and thousands of jobs with it—would prove so difficult.

When it comes to coal, we tend to focus on the opposition to coal plants ... EPA regulations . . . or unsustainably-low natural gas prices. However, the biggest influence on coal has been the steady march of emerging nations seeking access to modern energy to fuel their economic growth.

While coal has been fighting headwinds here in the U.S, coal's future is being shaped globally. As wealth shifts from the West to the East, so too is energy consumption – especially for electricity, steel, cement and other products. And coal is essential to all. The developing world is throwing a party for all energy sources. And coal remains high up on the invitation list.

Coal accounted for nearly half of the increase in global energy use over the past decade. Coal demand is expected to grow by 600,000 tons every day over the next five years. In 15 years the global demand for coal is expected to jump by over half – and several forecasts project that between 2030-2035 coal will exceed oil as the world's most prominent fuel. Reasons aren't hard to see. The convergence of several trends has positioned us at the epicenter of a historic commodity super cycle:

- We now have 7 billion people on the planet—half live in urban centers. By 2050 we may have 9 billion with almost 75% living in cities.

- We are in the midst of an unprecedented explosion in the ‘world middle class’ and the pace will pick up significantly. Some estimate that 25 percent of China’s population qualifies as middle class—more than the entire US population. And, China’s middle class is expected to double in the next decade. Countries such as India, Indonesia and Brazil will soon follow.
- Technology will make us smarter and more efficient—but a smarter planet requires enormous amounts of energy to produce and operate it. The Internet is not about just the 2 billion people connected today. It is also about the 1 trillion connected objects--- power plants, pipelines, distribution centers, not to mention the 4 billion mobile phone subscriptions.

Urbanization, industrialization and innovation are driving an unprecedented demand for electrification—most of which will be coal-based—and an unprecedented infrastructure build-out requiring massive amounts of steel, cement and other materials—much of which is coal dependent.

At the International Energy Agency’s (IEA) Coal Industry Advisory Board meeting last November, China National Coal shared with us the following projections for coal demand in China:

- Coal for electricity generation in 2010 stood at 1.6 billion tons—by 2030 it will almost double to 3.1 billion tons.
- China’s industrial sector (steel, cement, petrochemicals) accounts for almost 40 percent of the coal demand at 1.2 billion tons—that is expected to almost double as well to 2.1 billion tons by 2030.
- China has already invested \$15 billion in coal conversion infrastructure to transform coal into oil; by 2020 that investment will reach anywhere from \$65-80 billion with a requirement of over 100 million tons of coal.

India will not lag far behind. Now embarking upon a massive electrification plan—with 80 percent of new capacity coal-based--coal will generate 67 percent of electricity. India forecasts a three-fold increase in steel demand by 2020. Together these requirements may push India’s coal imports to 200 million tons per year from around 90 million tons in just five years.

No doubt, projections like these are awfully inconvenient for those who suggest we can prosper without coal. Call them “coal deniers.” But, for the 1.3 billion without electricity and another 2 billion with inadequate access to it, coal is their exit ramp from poverty. According to the International Energy Agency, fully half of the projected reduction in global poverty will be driven by coal. We hear much about coal’s contribution to rising emissions, but little about its contribution to human welfare – like the 500 million people in China lifted from poverty.

Rolling all of this up globally—the 400 GW of new coal generation expected over the next five years will require about 1.4 billion tons of new annual coal supply. The massive infrastructure build-out will spur an additional demand for 255 tons of metallurgical coal by 2015.

Here is where U.S. coal producers come into the picture. Asia's voracious appetite for coal to sustain its growth with affordable power logically benefits the country with the world's largest coal reserves. We have the most of what the fast growing countries want the most of.

You have often heard that the United States is the Saudi Arabia of coal—don't believe it. Montana is the Saudi Arabia of Coal. U.S. proven coal reserves are equal to the proven oil reserves of all of the Middle East, Africa and Russia.

In the immortal words of Mae West, "Sometimes too much of a good thing is wonderful." It has been wonderful for U.S. coal. Seaborne exports of coal are hitting record levels. Last year U.S. mines exported more than 100 million tons of coal, up 40 percent from 2009 -- and the highest level in 20 years. The U.S. is transitioning from a 'swing' to 'base load' supplier to several regions.

Turning to the domestic market for coal finds us again looking at only part of the picture and ignoring the rest. Headlines focus on the coal capacity that has been slowed or stalled. This ignores the 17,000 megawatts of new capacity coming on line by 2014. Clearly EPA's regulations on coal power plants will slow coal's growth. But they won't halt growth. We expect to see:

- greater utilization of the larger and higher efficiency coal plants ...
- sustained offshore demand for met coal from Appalachian coal fields ... and
- expanded access to Asian markets for thermal coal from the PRB.

Turning to our regulatory headwinds, we will continue to raise our principled opposition to policies that deny American households and business reliable and low cost coal electricity necessary to sustain economic growth and job creation.

We agree with the president that the vital goals of economic growth and job creation are fully compatible with continuous environmental improvement – provided certain conditions are met. For example:

- Policies must be examined with a hard look at their cumulative impacts—not by piecemeal analysis that defies how decisions to deploy capital are actually made in the real world. Why is it that EPA can refuse to analyze the cumulative impact of a series of related rules it will be advancing, but then dismiss of third-party assessments that clearly demonstrate the agency's projections are the outliers.

- Regulatory benefits and costs must be honestly accounted for ... regrettably, they sometimes are not. EPA's utility MACT is based on accounting gimmicks that would shame any subprime mortgage lender. They attribute as benefits ones they previously credited to other rules, and then compound their dubious accounting by adding speculative benefits from reductions below any measurable levels in their studies. On the other side of the ledger, EPA's cost estimates are so much lower than all other sources that they invite ridicule.
- Finally, improvements in environmental performance should be achieved on reasonable timelines in view of the cost and availability of technology as well as the physical and capital capacity to meet them. This has not been the case with either CSAPR or the Utility MACT rule.

Thinking we can improve our economic and environmental performance substantially by focusing on a few politically-picked energy sources here in the U.S. is short-sighted. It's like the man who looks for his lost wallet under a street lamp simply because the light there is better.

Long-term solutions to our economic and environmental challenges must start with a global perspective -- and they must start soon.

Allow me to offer two observations about the solutions we must find.

First, no enduring solution will be found using campaigns or surrogates to disparage competing fuels. Such tactics create confusion ... increase misinformation and ... distract us from the real issues at hand. Those who feed wolves to attack their fuel neighbors should beware that they surely will return—and, without any enticement, they will turn on you.

Second, no solution will be possible without recognizing the crucial role that all energy sources and advanced technologies must play in that effort—including efficiency, advanced nuclear and energy storage. For coal—which will continue as the global and domestic backbone of electricity generation—this includes technologies like super critical coal, ultra super critical coal and coal gasification, all technologies that can achieve impressive near-term efficiencies, substantially lower emissions and sustained job creation.

We ignore these advanced coal technologies at our peril:

- I am unaware of any credible assessment about reaching climate targets that does not lean heavily upon a combination of efficiency gains and CCS to drive deep reductions in carbon emissions. That is, CCS not only for coal plants, but gas plants and industrial sources as well.

- Policies that thwart the building of new advanced coal plants today rob us of the operational experience and relinquish technological advantages we will need to create diverse, innovative and reliable energy solutions.
- In short, our pathway for economic growth and environmental progress will be found in energy technology ... not energy substitution.

At an energy conference in Europe last month, we heard IEA's chief economist, Dr. Fatih Birol, call coal "the forgotten fuel." His point is well taken.

Only by acknowledging coal's centrality in the global economy will policymakers reconcile environmental progress with economic growth. Ignoring coal's role – for whatever reason – will make that urgent task only more difficult.