All Fired Up By Coal-Gen

Written by William C. Livoti Wednesday, 02 December 2009 18:25



Two major themes at the recent Coal-Gen conference in Charlotte, NC, were overall coal plant optimization and Carbon Capture and Sequestration.

Takeaways from various sessions included the following:

- Power plant reliability and efficiency are declining.
- Super-critical CFB (Circulating Fluidized Bed) is the technology of choice.
- 32 coal plants are currently under construction; 56 are in the planning stage.
- 5000MW IGCC (Integrated Gasification Combined Cycle) is proposed and/or in early planning; success will be dependent on cost, technology and carbon capture.
- The trend is to upgrade existing facilities; \$15B to \$20B is currently in planning stages or in process.
 - Cap and Trade begins in 2012 and covers 85% of the overall economy.
 - Investment in energy technology will drive our economy for the next 20 years.
 - Regulatory uncertainty is delaying projects.
 - 2009 environmental projects (194) total \$19.4B.
 - Wind is still the largest renewable energy.
 - Fuel prices are driving new natural gas projects; 27,000MW are under construction.
 - Nuclear is moving forward, with 55,000MW proposed.
 - Of 600 coal plants proposed over the past few years, only 83 made it into construction.
 - Interest in supply-side efficiency is increasing.
 - The estimated cost for CCS (Carbon Capture and Sequestration) is \$20 per M/ton CO2.

An MIT study puts the number closer to \$150 per M/ton.

I left Coal-Gen with a clear message: The economic growth of our country will depend on how Washington addresses the climate bill and Cap and Trade. The potential impact could change the U.S. from a manufacturing power to a service provider, in just a few years—do we really want to be relegated to "call center" status?

Imagine, the most powerful nation in the world depending on other countries for manufacturing...

The power industry is undergoing changes like never before. Nikola Tesla would be "walking in tall cotton" if he were alive today—or would he? His work in alternating current and polyphase electrical distribution was a big factor in the second industrial revolution. Will there be a third? I think so, but not like the previous ones.

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The third industrial revolution will be focused around energy, specifically on how we as a nation react to the economic impact associated to the massive changes in the power-gen industry. But, change comes at a price. The cost for plant upgrades, emission controls and new construction will be substantial—and rate increases will be necessary to finance them.

With energy bills on the rise, what will become of manufacturing in the U.S.? In other words, how long can companies afford to absorb higher operating costs before they "throw in the towel" and move operations off shore, as so many others have already done?

The power industry realizes that we are at a crossroads. How it reacts to looming government regulation will determine our economic fate. There is hope, though. The industry apparently has begun to understand the need to boost its overall efficiency—in light of the additional parasitic load from carbon capture and scrubbers, not to mention the strong public resistance to adding fossil power.

What else can the power industry do? Maximizing plant efficiency and increasing existing capacity is the path of least resistance—and the most cost-effective. The question is how will our economy survive the revolution? We are, of course, a resilient nation. Just how resilient, only time will tell.

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