

Beijing's Showcase "Clean Coal" Power Plant

Contributed by Thomas R. Blakeslee, Clearlight Foundation
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About six months ago, I presented a paper at the The China Power & Alternative Energy Summit. It was the first time that geothermal was represented at this important conference, which has so far been dominated by wind and solar presentations.

We assembled an excellent panel of presenters from Australia, Germany, Iceland and the U.S. The title of my paper was Can Geothermal Replace Coal for Baseload Power? I was delighted to find that the program included a field trip to the local coal power plant, which is a model of cleanliness and efficiency.

The Huaneng Beijing Co-Generation plant is a very impressive and clean looking 845-megawatt (MW) coal-fired plant. It features sulfur removal, water recycling and dust control. Efficiency is improved by selling excess heat for district heating. I was particularly interested to see the separate building, where an Australian carbon capture system collects and compresses 3300 tons/year of CO₂ for sale to soft drink manufacturers.

At the end of the tour there was a presentation, which gave the impression that the CO₂ capture solved the global warming problems of coal. I knew that a coal plant of this size emits about 6 million tons of CO₂ per year, so capturing only 3300 tons means that 99.9% of the CO₂ must be released to the atmosphere! When I asked the guide about this he was very embarrassed and had to admit that this was just a test and would have to be expanded. Looking at the large CO₂ capture building, I would estimate that to capture all six million tons would take a building larger than the whole complex. The CO₂ is now delivered in heavy steel cylinders. Hauling away and selling six million tons this way will obviously be impractical.

In the conference hall there was also a stack of free copies of the Carbon Capture Journal available. A strange thing to distribute at a renewable energy conference! The coal business is big money in China as it is here. In the U.S. we have the same problem. A coal industry front group called Americans for Balanced Energy Choices sponsors similar propaganda in the U.S. They ran US \$35 million worth of TV ads during the Presidential debates, which implanted "clean coal" into our unconscious without ever mentioning that it doesn't really exist anywhere in the world

Unfortunately, even Obama seems determined to spend billions more on the dream of "clean coal." The political stranglehold of the coal lobby worldwide is the biggest threat to our climate today. Supporters of sequestration conveniently ignore the staggering volume of the CO₂ that must be disposed of: 10 billion tons/yr worldwide! The largest sequestration project in the world so far is an Algerian plant that stores 1.2 million tons per year in four gas wells. It will be full when 17 million tons have been stored. Many U.S. coal plants emit more than 20 million tons every year!

Somehow we must find the political will to free ourselves from these powerful forces that fight to maintain the status quo. Coal is an environmental nightmare that only appears cheap because we have ignored its hidden costs. Geothermal power is cleaner and cheaper yet we are fooled into wasting precious time and money trying to keep coal alive.

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