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The China Coal Syndrome

Coal has fired the industrial revolution for two centuries and today provides about 25 percent of the world's energy. Coal-fired electricity, which produces more carbon dioxide than petroleum or natural gas to produce the same amount of energy, is increasing worldwide because the fuel is cheap.

Stories about coal pour into my email every week, but the item that really caught my eye was a Dow Jones piece reporting that China was a net importer of coal last year. If the data are correct, China now relies on global markets for all three major fuels—coal, petroleum and natural gas: a remarkable milestone.

China has the world's third most plentiful deposits of coal, according to the U.S. Energy Information Agency, although much of it is low-grade. This coal provides a majority of China's total energy requirements, but, as we all know, the Chinese economy is booming. So while the Chinese have been importers of oil and gas for years, they are now also scouring East Asia for coal.

Australia is the world's largest exporter of coal and wouldn't mind selling more to China. Indonesia is no longer a net exporter of oil but remains the second largest exporter of coal and needs the dough. Other Asian countries like Vietnam and Mongolia are leery of becoming mere suppliers of raw materials for the Chinese.

Meanwhile in the U.S., it is beginning to dawn on politicians hoping to reduce greenhouse gas emissions and limit climate change that our own use of coal is a problem. About 50 percent of U.S. electricity is provided by coal and you don't easily replace half of your electricity supply.

The coal industry is touting "technology development" to eliminate carbon dioxide emissions. The fantasy is that some cheap way can be found to recover the carbon in coal after the energy has been extracted. Carbon recovery techniques are not impossible, but engineers believe commercial applications are many years away. And they won't be cheap. In the meantime, the industry wants to continue building conventional coal-fired power plants.

Putting the carbon from coal back in the ground is a huge problem. Approximately 10 *billion* metric tons of CO_2 are generated worldwide from coal burning every year—and put into the atmosphere to warm the planet. According to my calculations, that's 1,200 *cubic miles* of CO_2 (unpressurized)—and getting bigger every year. Talk about trying to stuff the genie back into the bottle!

Let's face it—to limit global warming, we're going to have to stop building conventional coal-fired power plants. China and India are a long ways from making that decision. Even in the U.S., new coal plants are springing up as the TXU brouhaha showed us.

After we stop building new plants, we're going to have to unplug the ones we have, starting with the least efficient first. That's even farther in the future.

California does not have large coal-fired power plants, but does import one fifth of its electricity from neighboring states. Our choice is simple—stop buying this power and replace it with non-fossil resources. But nationally the problem is more difficult. And internationally the difficulties appear nearly insurmountable.

It's unfair to blame the Chinese for global warming—there is plenty of blame to go around. Western economies grew over the last two centuries fueled with coal. China and India are growing their economies virtually overnight using the same fuel we did. Technologies are much improved, but the sheer mass of coal consumed today is staggering.

The China Coal Syndrome is a sad sign of the times.

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