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**GrandForksHerald.com**

Published June 21 2009

## PRAIRIE VOICES: Cleaning coal

It can be done, and it is being done as engineers learn more about such techniques as "carbon capture," the former chairman of the World Coal Institute says.

By: Tom Dennis, Grand Forks Herald

Herald editorial page editor Tom Dennis interviewed Preston Chiaro, CEO of the energy group Rio Tinto, London, about clean coal.

### **Q. The International Climate Stewardship Solutions Conference is being held June 29-30 in Bismarck. You're giving an address titled "The Future of Coal in a Carbon Constrained World."**

#### **What are your thoughts on that subject?**

A. We believe that coal has a bright future for our energy supply. First, it's abundant, and it's abundant in those countries that have large energy appetites.

It's relatively inexpensive. It's widely distributed. It's easy to store. The technology around using it is pretty well-known.

And on top of all that, energy use around the world is growing, and we just can't rule out any particular energy source.

So, the question isn't whether coal will be used. The question is, can it be used in a way that reduces the environmental footprint?

#### **Q. Can it?**

A. I believe the answer is yes. In fact, we've already demonstrated this. If you look back at the history of coal use, originally there were concerns about particulate emissions — soot — from coal. That was addressed through technology. Then, there were concerns about sulfur dioxide. That was addressed through technology — scrubber systems and so on. Similar concerns were addressed about heavy metals and nitrogen oxide.

These are technologies that are available right now, and any new coal plant that's built in the U.S. will be required to include control systems for these types of emissions. What we need to do is take the next step and develop that technology around carbon capture and storage.

The company I work for, Rio Tinto, was one of the signatories to a project in the U.S. called FutureGen. It's a commercial-scale, coal-fired power plant that actually captures the carbon with the intention of storing it underground.

The site that has been chosen for this particular project is in Illinois. But the type of process that'll be used in this plant already has been employed in other parts of the world — notably, North Dakota, where you've got a coal gasification plant that's shipping CO<sub>2</sub> across the border into Canada. There, that CO<sub>2</sub> is being used for enhanced oil recovery — squeezing more oil out of an existing oil basin.

The question is, can we scale this technology up and then replicate it around the world? That's what needs to be proven and why the U.S. Department of Energy is supporting projects such as FutureGen.

We think this technology will help provide a solid future for coal.

#### **Q. Tell us about "cap and trade," the carbon policy being debated in Washington.**

A. Cap and trade, as the name implies, would impose a cap on the total amount of emissions — the total amount that could be released over a certain time period.

The benefit of a cap is that it provides environmental certainty. If science can tell us what amount of carbon dioxide the atmosphere can tolerate and not produce dangerous effects, then that cap can be established at that level.

The trade part asks for market mechanisms to set a price on carbon. Everyone recognizes that carbon ultimately will have a price attached to it. Basically, that price can come about through a market mechanism, like this trade system; or it can come about through a tax.

Some people claim taxes are simpler to understand and implement, but I would suggest that they haven't taken a look at the U.S. tax code recently.

The beauty of a trade system is that it fits right in with commerce and capitalism, where the market determines a commodity's price. We're comfortable in that environment. We work in it every day, and we'd be just as comfortable working on a carbon trading system.

#### **Q. Wouldn't this raise energy prices?**

A. That's certainly a concern, but I guess you have to ask yourself, "What's the alternative?" The alternative is no action, which means there is indirectly a cost that will end up flowing to everyone around the world as a result of the changes associated with a warmer climate.

Droughts are likely to be more extended, rainfall events likely to be more severe, shifting populations and disease patterns — a changing climate is going to have costs. We can let those costs be applied by the law of the jungle, or we can try to get things under better control with a more rigorous solution that is pre-emptive rather than reactive.

**Q. Are there countries in the world that already have carbon regulations in place?**

A. Europe has had a carbon trading system in place for a couple of years now.

Interestingly, Europe's system was built on a model that came from the U.S. That model originally was built to control sulfur dioxide. So, there is right now a cap-and-trade system for sulfur dioxide in the U.S. It has been operating for many years, and we're quite familiar with it.

**Q. One criticism of cap and trade is that as the U.S. regulates, less-regulated places such as China would have an advantage because their energy costs would be lower.**

**How should the U.S. respond?**

A. Trade distortions are a real concern.

For example, Rio Tinto is a producer of aluminum, and to process the mineral bauxite into aluminum takes a tremendous amount of energy. Now, if a cap-and-trade system were in effect in North America, that would increase the price of our aluminum. If that same tariff is not applied to China (because they haven't signed on to any carbon-regulating approach), that country would be able to produce aluminum more cheaply.

So, aluminum would shift to China.

What we need to do is make sure that our policies recognize these trade distortions and account for them.

**Q. Rio Tinto also is involved in uranium mining. Where does nuclear energy figure into the world's energy future?**

A. Last year, Rio Tinto was, in fact, the world's No. 1 producer of uranium. It's a business we've been in for many decades.

The fact is the world needs more energy. For example, the International Energy Agency says we will need twice as much energy in 2050 as we are using now.

Well, what are the possible sources of that energy? You actually end up with only a handful. You've got a fleet of renewables — hydro, solar and wind. You've got fossil fuels such as coal, oil and natural gas. You've got nuclear power.

And in terms of sources to produce electricity for populations, that's pretty much all you've got to work with.

If we're thinking about doubling the amount of energy we produce within our lifetimes, it doesn't make sense to take any of those options off the table. We need them all, and that includes nuclear.

**Q. What advice would you give energy-producing states such as North Dakota?**

A. We can have both energy security and environmental protection. To solve that equation, we need the application of technology, which is why we've been supporting so strongly the application of carbon capture and storage technology.

So, I would encourage governments to keep selling your fossil fuels but also advocate for the rapid development of technology to address this environmental footprint issue.

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