



## **Climate: Coal research group head says carbon storage over emphasized as near term solution** (OnPoint, 06/19/2008)

With the Department of Energy making an 11th hour decision to rework its FutureGen carbon capture and storage project, and issues with investors mounting, is interest in CCS technology waning? During today's OnPoint, Ben Yamagata, director of the Coal Utilization Research Council, gives his take on how Congress should include CCS in upcoming climate change legislation. He explains why he believes DOE should pursue both the original version of FutureGen and the new version in order to address both near- and long-term issues. Yamagata also addresses some of the key public acceptance and investor confidence issues surrounding CCS technology.

### **Transcript**

**Monica Trauzzi:** Welcome to OnPoint. I'm Monica Trauzzi. Joining me today is Ben Yamagata, director of the Coal Utilization Research Council. Ben, thanks for coming on the show.

**Ben Yamagata:** Thank you for having me. It's a pleasure being here.

**Monica Trauzzi:** Ben, at a recent forum Duke Energy's Jim Rogers said that the idea of carbon capture and storage has been oversold. It's being touted as sort of a magic pill when it's not. Has an accurate picture been painted about the future implementation of carbon capture and sequestration technology?

**Ben Yamagata:** I think there has been a lot of discussion about it and, unfortunately, when you get into situations where you're talking about massive pieces of legislation or whatnot, I think there is a tendency for both sides to over-exaggerate what's possible from a technical perspective. Our view is that it's important for political leaders to think about technology about development as a process of crawling, then walking, then running. And on the one side, I think in context of what Jim Rogers has said, there's too much focus on the running at this point. And we really need to think about taking the first baby steps before we lope into a full-charge gallop on this stuff. And so I would say, yeah, I would agree that at least certain elements of it who want to have this happen very quickly have overblown the possibility of when all of this can happen, not can it happen, which is an important distinction here, but when it's going to happen.

**Monica Trauzzi:** Is that something we saw in the Lieberman-Warner bill with the targets that were there?

**Ben Yamagata:** I think that there was an element of that, sure. You know, we talked about in the context of Lieberman-Warner, like the substitute that Chairman Boxer provided and that was discussed on the Senate floor a couple of weeks ago, there's too much emphasis on the notion that if we give coal enough money it will have a place in the energy universe. And I think the real issue that we have to focus on, and I don't see the Congress yet focusing on this, and that is to think about coal as part of making climate work. And what I mean by that is the discussion, too much, has been on we'll provide enough allowances, for example, and use those allowances to provide enough financial or otherwise incentives to protect the industry. Well, that's really only a piece of the issue here. The real issue is, and you heard it in the debates, seems to be one is what are we going to do with India and China? The second one, which I thought was very illuminating, perhaps even for the entire Senate, was the enormous cost of what we're trying to do here. I mean financially, both to the economy, to jobs, to the manufacturing sector, etc. And in the context of all of that, the way I think we should be thinking about coal and technology is India and China are going to use coal. They need technology to use it to address the carbon footprint question. We're the ones that can help provide that. That is a solution to the climate issue. It's not trying to help coal, to think of it in that context. In the context of the economy, if coal is the least expensive form of fossil fuel right now, which it is, it can remain the least expensive form of electric power generation if we do smart things in developing technology. And so looking at the economy issue, looking at the international issues in the context of the climate debate, if we think about coal as being part of making climate work, it's a better way of thinking about it than simply saying we need to help coal.

**Monica Trauzzi:** So, what's at the top of your agenda heading into the next congressional session then?

**Ben Yamagata:** I think, from our perspective, it is to make certain that the verbiage, if you will, that Jim Rogers and others have talked about is put into context. Not his necessarily, because I thought he was making a fair statement, but that we help policymakers and their staffs understand that we know how to do this. And I think everyone who understands the technology, both the capture piece of it and the sequestration piece of it, would agree that we know how to do it. What we don't know how to do is put it all together in an integrated fashion. And in doing so, and in giving us enough time to do so, we bring down the cost of all of that while we learn how to do it. Again, this goes back to the issue of crawling/ walking/running. If we don't know how to do that, or do it in that sequence, we're either not going to have the technologies ready when they're needed or they're going to cost too much and therefore they won't be used.

**Monica Trauzzi:** Is interest in CCS waning though? And this sort of stems from DOE's decision on FutureGen and all the discussion we've been seeing recently, investors maybe aren't as confident as they were previously. So, are we seeing sort of a step back from CCS?

**Ben Yamagata:** I don't think we're seeing a step back as much as an attempt to be more informed about what can be done and how soon. And to the extent that that's happening,

that's very healthy. We shouldn't be promising something that is going to raise expectations and thinking we're going to accomplish something that we're not going to accomplish, at least not in a timely fashion or in a least cost or least expensive fashion. So, I doubt that we're seeing a waning in CCS. I mean there are environmental groups out there that are also saying that it's overblown and I think that the proof is really on the other side. That is, we know how to deal with CO<sub>2</sub>. The oil industry in particular has been doing it for years. We need to do larger and larger volumes of it. We need to learn how to capture it and still produce economic power. So it's that integration issue, not just in the integration of capturing CO<sub>2</sub> while it's being formed in the electric generation process, but capturing it, compressing it, putting it in pipes, and sending it to some type of geologic storage or enhanced oil recovery. And that's going to take some time and money.

**Monica Trauzzi:** Does the new FutureGen project do that? Do you think that the new project is going to help achieve those goals?

**Ben Yamagata:** I think that both the new FutureGen project and the current FutureGen project, depending on how you ...

**Monica Trauzzi:** Right.

**Ben Yamagata:** ... how you look at that, both of them can address that. They really address different goals, frankly, because what I call FutureGen plan B is really an attempt to say, look, we need to help those entities out there who are ready to do something now. That's different than looking at FutureGen plan A, which said, look, we need to know how to do a million tons a year, lots of electric production, and think about new technology that's going to be applied. I thought, and still do believe, they serve different purposes, both of them are very important. We need to incentivize and assist the type of technology that we know how to do today. At the same time, we need to provide incentives for tomorrow's technology. I thought FutureGen plan A deals with tomorrow's technology, really, and FutureGen plan B deals with technology we should be applying today.

**Monica Trauzzi:** So, is there a better way for the government to be spending their money, A or B?

**Ben Yamagata:** The government should be spending money in both places. We have a plan that is a two-part program and it says we should have a much, much more robust research development demonstration program, really on the order of magnitude of \$17 to \$20 billion dollars over the next 18 or 19 years. Because we want to get to really inexpensive power, coincident with the capture of CO<sub>2</sub>. At the same time, we want a second program that says let's start doing things now. Part of the problem that we've got right now is while Congress and everyone else has this discussion about what are we going to do about carbon capture and control and whatnot, we're losing really valuable time and we should be doing things right now that starts the process of letting us learn by doing. This is part of my crawl/walk/run process. And while we're debating all of this

we're losing a year, two years, four years. And four years from now, unfortunately, we may not be in any better spot knowing what we're going to do with the technology than we are today. And that would be a shame, because we're losing valuable time. The government can help there just by providing the kind of incentives that we've talked about.

**Monica Trauzzi:** And that's a big question now. What do we do in the interim before this technology is commercially viable? You have environmental groups who are opposing the construction of any new coal-fired power plant.

**Ben Yamagata:** Right.

**Monica Trauzzi:** So, what does this mean for the coal industry and electric reliability for the next 10, 15 years, until this technology does exist?

**Ben Yamagata:** Well, I think that we've got to get realistic about that too, and that is coal has a place, like renewables, like nuclear, like energy efficiency. And we need to be developing all of these. When you say what are we going to be doing now? We need to be doing things now. Congressman Boucher just introduced a bill that looks really at imposing a fee on the industry that's self-imposed. Others in the Congress are looking at tax incentives. That's one of the things that we've been proposing. And even in the climate debate that happened a couple of weeks ago several senators, Senator Dorgan and Senator Enzi, had proposals or amendments that I thought were much more realistic in looking at what do we need to do and what could be done right now to do that. So, the real answer to your question is we need to do things now. We need to get it done and we need to get started. We need to at least do that.

**Monica Trauzzi:** OK. So, beyond the technological hurdles there's some major investment and public perception issues at this point. Do you think that these hurdles are going to be more difficult to overcome than the technological hurdles? How do you go to a neighborhood here on tell someone that you want to push carbon under their house or close to their home? You know, are these public perception issues going to get in the way of the implementation of the technology?

**Ben Yamagata:** Well, first of all, I don't know, because I'm not schooled in that particular piece of it, how close you're going to get to neighborhoods as you say. But let's just assume ...

**Monica Trauzzi:** There has been a lot of public opposition.

**Ben Yamagata:** ... that there's opposition or there could be opposition to that, which is, you know, you get scared from things you don't understand. So, you have perceptions about bad things happening if you put pressurized, supercritical CO<sub>2</sub> in a saline reservoir that happens to be a half a mile underneath the earth.

**Monica Trauzzi:** It sounds scary to me.

**Ben Yamagata:** Well, all of the experience, of course, shows that that doesn't come up, where you've had a situation years ago in Africa with a natural occurring CO2 venting. But I think the point here is, is we have to be very careful about educating the public and not leave it to others to do that. The government has to be involved. I think industry has to be involved. I think the environmental and NGO community all have to be involved. If we're truly of the view that we need to use coal and that CCS is viable, which I happen to think it is, then it is all of our obligation to make sure that the public is satisfied that they are secure and safe when we start putting CO2 into deep, geologic formations underground. You also mentioned the financial community. I think it's important that, as I said before we need to convince the financial community. And why would never be skeptics out there for heaven sakes?

**Monica Trauzzi:** It's a big investment you're asking people to make.

**Ben Yamagata:** It's a huge investment that you're asking people to make and so, again, for those folks on Capitol Hill and other places who are saying we need to do this quickly. For example, we've had these large debates about industries can do 85 percent carbon capture right now. And this is one of the things I suspect utilities CEOs are concerned about, I'm concerned about it, and that is, we might be able to do it. It's going to cost the electric consumer 60 to 90 percent more in their electric rates if we try to do that right now. So, it's not a question of can we do it, we can probably do it. It's going to be an enormous cost. That is not something the financial community is going to want to invest in, so we've got to bring that cost down. We can do it, at least that's what our technologists say, we can. And in doing so, we will create a better environment; both an investment environment and we'll create a better societal environment for accepting all of this. It's going to take some time.

**Monica Trauzzi:** I would love to go on, but we're out of time.

**Ben Yamagata:** It's a great pleasure being here.

**Monica Trauzzi:** A fascinating discussion. Thanks for coming in.

**Ben Yamagata:** Thank you very much.

**Monica Trauzzi:** This is OnPoint. I'm Monica Trauzzi. Thanks for watching.