

EOR, carbon capture technologies could form excellent partnerships

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Just days after the United States Supreme Court was asked to declare greenhouse gases an air pollutant the federal government must regulate, a variety of industry representatives sat down at the Waterway Marriott in The Woodlands to discuss carbon management.

Midlander Steve Melzer, who helped organize the fourth annual EOR Carbon Management Workshop, noted that the audience was comprised of diverse corporations, estimating there were about 107 different organizations, from environmental groups to coal companies, utility companies to academics and policymakers.

Part of the objective of the workshop, which focused on carbon management initiatives and worldwide carbon dioxide (CO₂) sequestration projects, is "to get people in the room who don't normally interact with each other and make business happen," Melzer said.

The technology to capture generated CO₂ and both sequester it underground or use it in enhanced oil recovery projects exists, said Barry Petty, managing partner in Trinity CO₂ of Midland. Economics, he explained, remains the hurdle to increased sequestration, which would reduce emissions of what is considered a greenhouse gas.

"The technology is there," Petty said as he watched the workshop, which was being transmitted over the Internet from Houston to Midland College's Petroleum Professional Development Center downtown.

"You have to be near an infrastructure, which we are," he continued. "The biggest hurdle is compression -- it costs so much to compress low-pressure CO₂ to high pressure for injection."

Capture and sequestration technology is increasingly being adopted, he said, and could spread to various industries, from power plants to ethanol plants, but tax incentives are needed to make the technology economic.

Railroad Commissioner Michael Williams, who offered the keynote address at the opening session of the workshop, told the audience of between 190 and 200 that Texas leads the world in enhanced oil recovery projects utilizing CO₂ and that such projects have the potential of being great partners for carbon capture technologies.

He said that last year, over 160,000 barrels of oil per day were produced through CO₂-fueled EOR while the Railroad Commission has permitted over 11,200 CO₂ injection wells, with over 5,400 of those wells currently active, largely in the Permian Basin.

The Bureau of Economic Geology at the University of Texas at Austin estimates that CO₂-fueled EOR recovery outside the Permian Basin has the potential of reaching 5.7 billion barrels.

It is time, Williams said, for Texans, when they think of the state's energy resources, to think past the traditional oil and natural gas to include coal. Texas, the commissioner pointed out, is the nation's fifth largest coal production with 13 lignite mines that yield 45 million tons of coal

a year. The state also houses 20 coal-fired power generation plants and TXU is planning to spend billions to build 12 new coal-fired plants utilizing clean coal technology.

About four years ago, he said, Gov. Rick Perry ordered the creation of the Clean Coal Technology Council and named Williams its chair. The council has been charged with bringing research dollars into the state to develop technology that will make Texas coal not only affordable but clean.

Williams is also active in the state's efforts to attract the \$1 billion federal FutureGen project, a 275-megawatt power generation plant that will utilize state-of-the-art clean coal technology for near-zero emissions.

"I call it a big, giant science project," said Williams, adding that two sites in Texas -- near Penwell in Ector County and at Jewett and two sites in Illinois are the four finalists for FutureGen. A final site will be announced in late summer 2007.

Not only will the plant burn coal to generate power, he said, but the CO₂ and hydrogen that are a byproduct of the gasification process will be captured and the CO₂ stored permanent underground. Local officials working to secure the FutureGen project for the Permian Basin have hopes that they will also be able to offer research into using the hydrogen as an energy source and using the CO₂ in EOR projects rather than storing it permanently.

"I'm excited about taking that CO₂ for enhanced recovery," Williams said, noting that the oil and gas industry is currently operating with a CO₂ shortfall of about 500 million cubic feet per day while consuming about 1.5 billion cubic feet of CO₂ a day. FutureGen would provide a source of CO₂ and alleviate that shortfall, he said.

Williams and Melzer both said there is a possibility, with Democrats assuming control of both the House of Representatives and the Senate when Congress reconvenes next month, that carbon caps may be implemented, setting the stage for a system of trading carbon credits.

The state, Williams said, recognizes that capturing and sequestering a greenhouse gas like carbon dioxide "is the direction we're wanted to go, and we also have to come up with the answer to what to do with all that CO₂."