

THE PLAINS CO₂ REDUCTION (PCOR) PARTNERSHIP: PHASE II ACTIVITIES

Topic: Regional Partnerships to Develop/Deploy Carbon Capture and Sequestration Opportunities

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ABSTRACT

The Plains CO₂ Reduction (PCOR) Partnership is one of the Regional CO₂ Sequestration Partnerships (RCSP) established by the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL). Over 60 partners from industry, government, and nongovernment organizations contribute time, resources, and expertise to the PCOR Partnership. The PCOR Partnership covers an area of over 1.4 million square miles in the central interior of North America, including nine states and four Canadian provinces. The region contains vast energy, agricultural, forest, and water resources and offers significant opportunities for both geologic and terrestrial sequestration. Three geologic field validation tests and one terrestrial test are now underway.

Apache Canada Limited is hosting a combined enhanced oil recovery (EOR)/sequestration activity that is injecting acid gas (approximately 70% CO₂ and 30% H₂S) from the Zama, Alberta, gas plant for use as a miscible flood agent. The plant currently generates about 175,000 m³/day of acid gas (250 t/day of CO₂). As of December 2006, four pinnacles are receiving acid gas, with monitoring activities currently taking place on one.

Two enhanced resource recovery projects and one terrestrial field validation test are in planning stages. An EOR project in the Williston Basin (Beaver Lodge, North Dakota) is being designed to demonstrate the potential of using CO₂ in a tertiary oil recovery operation at depths of over 10,000 feet. The potential for CO₂ sequestration and enhanced-coalbed methane in Williston Basin (Burke County, North Dakota) lignite will also be investigated in a five-spot test that will be drilled in the spring of 2007. A terrestrial field validation test (McPherson County, South Dakota) in partnership with Duck Unlimited Incorporated is working to develop carbon offsets from alternate management of wetlands in the Prairie Pothole Region.

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