

The Plains CO₂ Reduction (PCOR) Partnership: Activities and Results in the Williston Basin

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The Plains CO₂ Reduction (PCOR) Partnership is a diverse group of public and private sector stakeholders working together to better understand the technical and economic feasibility of capturing and storing CO₂ emissions from stationary sources of CO₂ in the central interior of North America. The PCOR Partnership region includes nine states and four Canadian provinces, stretching from Missouri to British Columbia. As a major energy-producing region and home to several thick sedimentary rock formations that may serve as geologic sinks for CO₂, the Williston Basin has been a major focal point for a variety of PCOR Partnership activities. In addition to ongoing characterization of oil fields and saline formations as potential sinks for CO₂ storage, two field-based pilot-scale CO₂ injection tests have been initiated in the Williston Basin as part of the PCOR Partnership Phase II program. The first such test, conducted in March 2009, was the injection of CO₂ into a lignite coal seam in Burke County, North Dakota. The Burke County test was designed to evaluate the ability of lignite to store CO₂. The second injection test was conducted as a CO₂-based huff 'n' puff test on an oil well producing from the Mission Canyon Formation in the Northwest McGregor oil field in Williams County, North Dakota. The huff 'n' puff test will provide previously unavailable insight regarding the effectiveness of CO₂ injection on the productivity of a carbonate reservoir at a depth greater than 8000 ft.

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