



PLAINS CO₂ REDUCTION (PCOR) PARTNERSHIP PHASE II – PROJECT SUMMARY

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PURPOSE OF THE PROJECT

The Plains CO₂ Reduction (PCOR) Partnership is one of seven Regional Carbon Sequestration Partnerships (RCSPs) created by the U.S. Department of Energy (DOE) National Energy Technology Laboratory in 2003 as part of a national plan to mitigate greenhouse gas emissions through carbon capture and storage (CCS). Phase II activities focused on carbon storage field validation projects that were designed to develop the local technical expertise and experience needed to facilitate future large-scale carbon dioxide (CO₂) storage efforts in the region's subsurface and terrestrial settings.

PROJECT RESULTS

These activities included four field validation tests (three geologic and one terrestrial) along with several supporting activities, including 1) continued refinement of the regional characterization of sequestration opportunities, 2) elucidation and clarification of the regulatory and permitting requirements for sequestration, 3) identification of commercially available CO₂ capture technologies, 4) integration of the regional efforts with the other DOE RCSPs, and 5) continuation of local and regional public outreach initiatives. The CO₂ sequestration potential for deep carbonate formations, lignites, and pinnacle reef structures was successfully demonstrated. The terrestrial sequestration potential of prairie pothole wetlands was also demonstrated. Results of the Phase II activities indicated that the PCOR Partnership region has tremendous opportunities for CCS and carbon sequestration in terrestrial settings.

POTENTIAL APPLICATIONS OF THE PROJECT

The PCOR Partnership is led by the Energy & Environmental Research Center at the University of North Dakota in Grand Forks, North Dakota, and includes more than 80 stakeholders from the public and private sector. The PCOR Partnership region includes all or parts of nine U.S. states and four Canadian provinces. The PCOR Partnership region is rich in energy and agricultural resources and as such is poised to become a world leader in the mitigation of greenhouse gases through terrestrial CO₂ sequestration and CCS. The agricultural sector stands to benefit from this strategy through the monetization of carbon credits and offsets from terrestrial sequestration, while the vulnerability of our critical lignite industry is reduced through the implementation of CCS. CCS further offers our coal industry a potential new revenue stream from the sale of CO₂ for enhanced oil recovery and from the sale of carbon credits and offsets. For our oil and gas industry, CO₂-based enhanced oil recovery offers a strategy that can extend the life of our oil fields for decades and greatly increase our domestic oil supplies. This synergistic relationship between our region's two important energy-producing industries is vital to support our present and strengthen our future economy.