

Phase II

CO₂-Rich Gas in a Pinnacle Reef Structure – Acid gas (approximately 70% CO₂, 30% hydrogen sulfide [H₂S]) from a natural gas processing plant in northern Alberta, Canada, will be injected into an oil-producing zone in an underground pinnacle reef structure. Results will help to determine the best practices to support sequestration in these unique geologic structures as well as further the understanding of the effects of H₂S on tertiary oil recovery and CO₂ sequestration.

CO₂ in an Unminable Lignite Seam – CO₂ will be injected into unminable lignite seams in northwestern North Dakota. The injected CO₂ will be trapped by naturally bonding to the surfaces of the fractured lignite. The injected CO₂ also has the potential to displace methane occupying the coal fractures. This validation test will provide valuable information regarding lignites for both CO₂ sequestration and enhanced coalbed methane production.

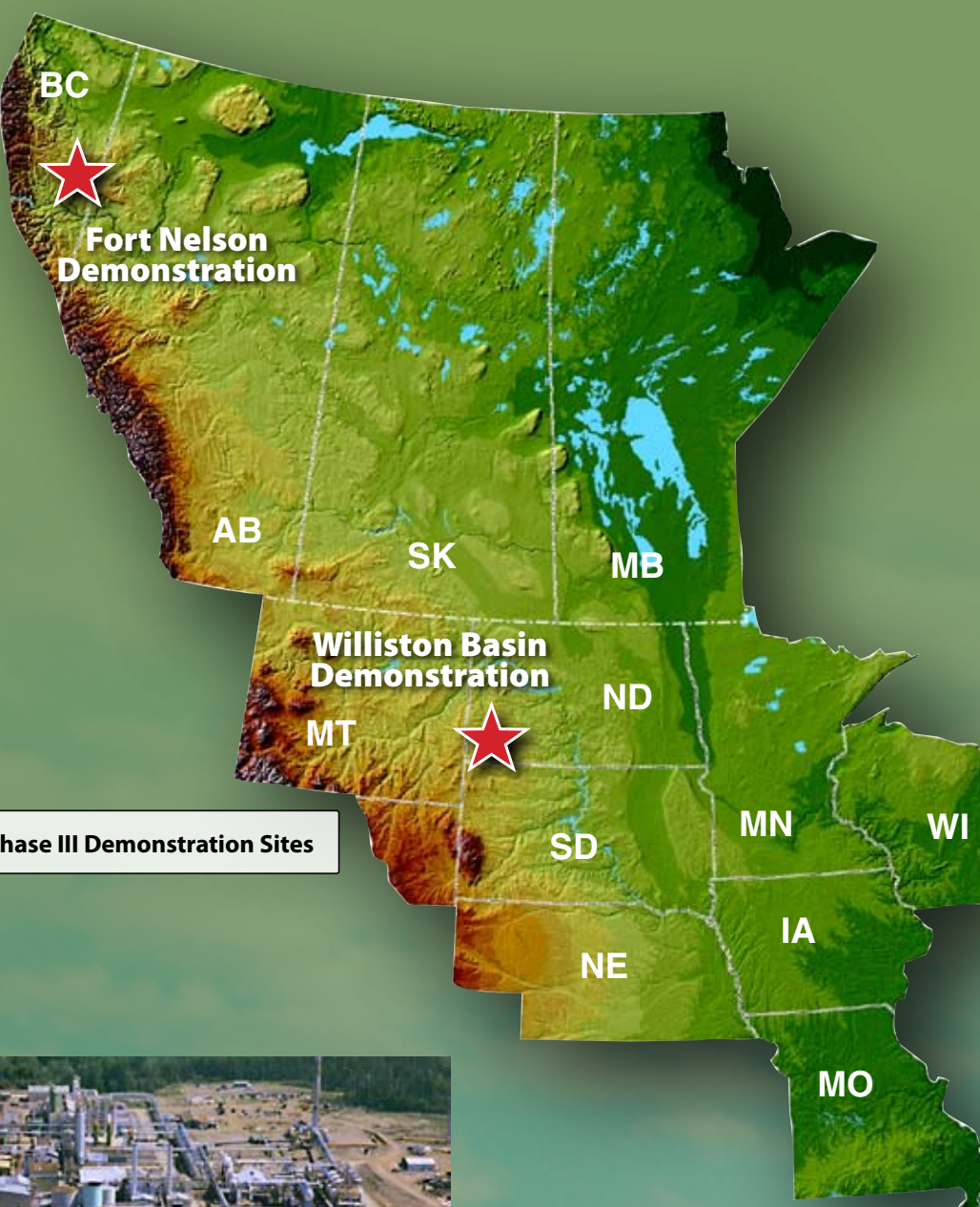
CO₂ in a Deep Oil Reservoir – CO₂ will be injected into an oil-bearing zone at great depth in the Williston Basin in western North Dakota. The activity will be used to determine the efficacy of CO₂ sequestration and the use of CO₂ to produce additional oil from other deep carbonate source rocks.

Wind Energy for CO₂ Compression – An investigation into the use of wind power as a means to offset a portion of the electrical demand of CO₂ compression, thus reducing the CO₂ emissions penalty for CO₂ capture and storage.

CO₂ Management Plan – The EERC is developing a CO₂ management plan for an Excelsior Energy power plant to be built in northeastern Minnesota.

Out of the Air – Into the Soil – A wetland in north-central South Dakota will be managed to demonstrate practices that will improve CO₂ uptake. The results will help to optimize CO₂ storage, monitoring and verification methods, and facilitate the monetization of terrestrial carbon offsets in the region and elsewhere.

Phase III



Fort Nelson Demonstration
Injection of acid gas into a saline formation in British Columbia, Canada, for acid gas disposal, and carbon sequestration.



Williston Basin Demonstration
Injection of anthropogenically sourced CO₂ into a carbonate reservoir in North Dakota for enhanced oil recovery (EOR) and carbon sequestration.



Updates to the PCOR Partnership Decision Support System will include increased analytical capabilities and visual effects built over a refined regional characterization database.



Four 30-minute original television documentaries will be produced for broadcast in the PCOR Partnership region in partnership with Prairie Public Television. Program topics will include CO₂ markets, terrestrial sequestration, and geologic sequestration.



The PCOR Partnership is a collaborative program to assess regional sequestration opportunities. To learn more, contact Edward N. Steadman, Senior Research Advisor, (701) 777-5279, esteadman@undeerc.org.