The PCOR Partnership – Building on Successful Regional, National, and International Partnerships

Carbon sequestration, the capture and long-term storage of carbon dioxide (CO_2), is emerging as a major strategy for addressing climate change concerns, but regional characteristics must be taken into account to ensure successful sequestration projects. The U.S. Department of Energy (DOE) National Energy Technology Laboratory has established seven Regional Carbon Sequestration Partnerships (RCSPs) (Figure 1). The partnerships engage utilities, oil and gas companies, coal companies, industrial groups, nonprofit organizations, universities, and public agencies to create a nationwide network that will help determine the best approaches for capturing, transporting, and permanently storing greenhouse gases (GHGs). These activities have an overall goal of supporting the President's Global Climate Change Initiative (GCCI), which was announced in 2003. The GCCI calls for a reduction in GHG intensity in the United States through the development of new technologies and continued economic growth. The GCCI is a combination of government and private voluntary initiatives focused on realistic and economically secure reductions in emissions per dollar of gross domestic product.

> *"Sustained economic growth is the solution, not the problem – because a nation that grows its economy is a nation that can afford investments in efficiency, new technologies, and a cleaner environment."*
>
> **President George W. Bush**
> **Global Climate Change Policy Book**
> **February 2002**[1]

The Plains CO_2 Reduction (PCOR) Partnership is a collaborative effort of over 80 public and private sector stakeholders who are building the knowledge and infrastructure for the technical and economic feasibility of capturing and storing (sequestering) anthropogenic CO_2 emissions from stationary sources in the central interior of North America. The PCOR Partnership is managed by the Energy & Environmental Research Center (EERC) at the University of North Dakota.

Regional Partnership Integration

In September 2003, the PCOR Partnership and the six other RCSPs began their Phase I characterization activities. Under the umbrella of DOE's RCSP Program, the regional partnerships are working together to bring value to government and private sector partners by sharing lessons learned and valuable information on regional sequestration activities. The partnership offers many benefits including 1) forging links with additional industries and organizations, 2) technology transfer among the regional partnerships, and 3) tracking the development of new technologies. The PCOR Partnership has begun work on Phase III efforts (September 2007 – September 2017) to implement two large-volume sequestration tests within the region. The Phase III projects are running concurrently with the Phase II validation test activities (September 2005 – September 2009).

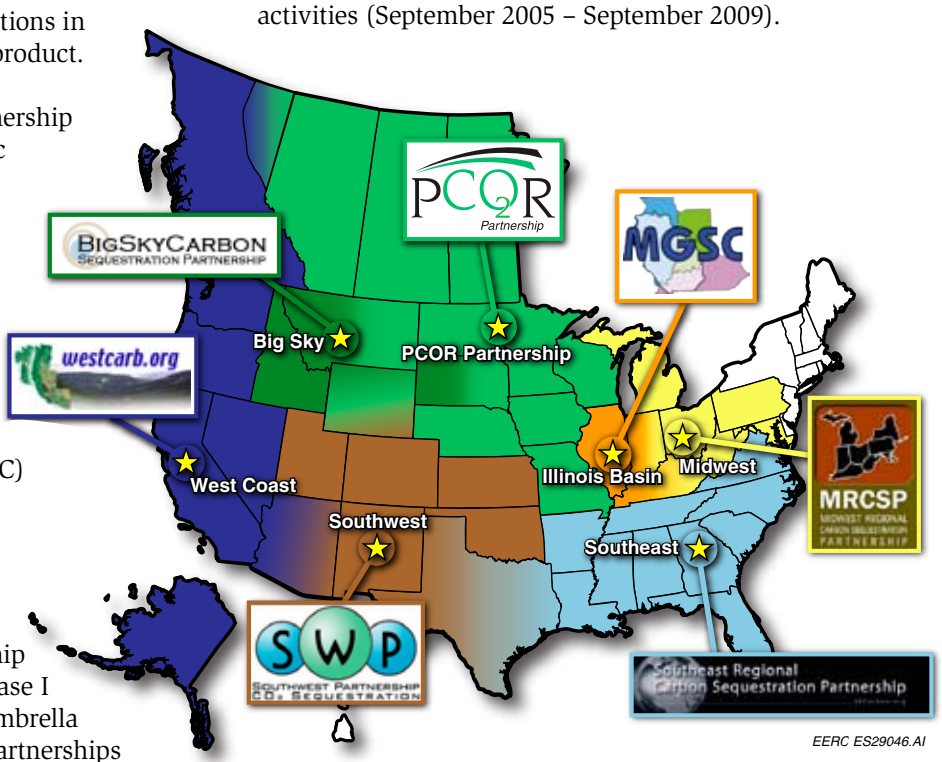

Figure 1. Coverage areas for the seven RCSPs.

Collaboration between the partnerships has already proven to be effective, not only in the PCOR Partnership region, but in North America as a whole, in identifying ways in which GHGs can be reduced while supporting long-term economic growth on the continent.

The PCOR Partnership participates in regular conference calls with other partnerships, attends national and regional meetings, facilitates local Programmatic Environmental Impact Statement activities, supports RCSP working groups, and actively contributes to the Regulatory Working Group of the Interstate Oil and Gas Compact Commission.

RCSP Working Groups

A large component of the RCSP Program's collaboration occurs within four working groups. These working groups have proven to be essential to information continuity, current issues and lessons learned, and data exchange. Regular conference calls have been integral to the successful development of DOE's Carbon Sequestration Atlas[2] of the United States and Canada, a publicly available document outlining the RCSP Program objectives and results. The PCOR Partnership is involved in all of the working groups described below.

- Outreach Working Group – Shares successful outreach strategies and materials, consults with technical experts in the public and private sectors, and maintains a Web presence to ensure consistant interaction within the partnership, stakeholders, and the general public.

- Capture and Transportation Working Group – Identifies CO_2 capture compression, and pipeline technologies and approaches that are suitable and available for large-scale deployment in the RCSP regions.

Figure 2. The Third Annual Carbon Capture and Transportation Working Group Workshop was held at the EERC June 19–20, 2007.

The working group's efforts help to identify appropriate sequestration scenarios that can be disseminated to interested stakeholders.

- Geologic Working Group – Works toward the development, refinement, and application of capacity equations, methodologies, and assumptions in targeted geologic formations (i.e., coal, saline, and oil and gas).

- Geographic Information Systems (GIS) Working Group – Shares information on characterization activities, seeks to minimize data redundancy between partnerships, and works toward consistent reporting of characterization data for upload into the National Carbon Sequestration Database and GIS (NATCARB). NATCARB[3] is a portal containing a national view of carbon sequestration that links directly to partnership GIS databases.

The Monitoring, Mitigation, and Verification Working Group and the Economics and Markets Working Group are currently being assembled. The PCOR Partnership plans to also be involved in these additional groups.

Carbon Sequestration Leadership Forum International Projects

The Carbon Sequestration Leadership Forum (CSLF) is an international initiative in research and development for separation, transportation, capture, and storage of CO_2. The CSLF is made up of technical, political, and regulatory representatives from 21 countries. To date, 19 projects on research, development, and demonstration activities in CO_2 capture and storage technologies have been formally recognized. The RCSP Program is a recognized project of the CSLF for the implementation of sequestration technologies in the United States and Canada.[4] Recently, the PCOR Partnership's Zama Acid Gas Enhanced Oil Recovery, CO_2 Sequestration, and Monitoring Project has joined the RCSP Program and 17 other other projects worldwide in being recognized by the CSLF. The CSLF made the decision at its March 2007 meeting in Paris, France. To date, the CSLF has recognized three other Canadian projects and one in the United States. The PCOR Partnership has given presentations at previous CSLF meetings and will continue to do so upon invitation.

References and Notes

1) www.whitehouse.gov/news/releases/2002/02/climatechange.html (accessed 2006).
2) www.netl.doe.gov/technologies/carbon_seq/refshelf/atlas/index.html (accessed 2007)
3) www.natcarb.org (accessed 2007).
4) www.cslforum.org/links.htm (accessed 2007).

The Plains CO_2 Reduction (PCOR) Partnership is a group of public and private sector stakeholders working together to better understand the technical and economic feasibility of sequestering CO_2 emissions from stationary sources in the central interior of North America. The PCOR Partnership is managed by the Energy & Environmental Research Center (EERC) at the University of North Dakota and is one of seven regional partnerships under the U.S. Department of Energy's National Energy Technology Laboratory Regional Carbon Sequestration Partnership Initiative. To learn more, contact:

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Visit the PCOR Partnership Web site at www.undeerc.org/PCOR. New members are welcome.

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