

PLAINS CO₂ REDUCTION PARTNERSHIP

Quarterly Technical Report

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PLAINS CO₂ REDUCTION PARTNERSHIP

ABSTRACT

The Plains CO₂ Reduction (PCOR) Partnership continues to make great progress. Task 2 (Technology Deployment) activities have focused on developing information on deployment issues to support Task 5 activities by providing information to be used to assess CO₂ sequestration opportunities in the PCOR Partnership region. Task 3 (Public Outreach) activities have focused on developing an informational video about CO₂ sequestration. Progress in Task 4 (Sources, Sinks, and Infrastructure) has included the continued collection of data regarding CO₂ sources and sinks and data on the performance and costs for CO₂ separation, capture, treatment, and compression for pipeline transportation. Task 5 (Modeling and Phase II Action Plans) activities have focused on screening and qualitatively assessing sequestration options. Task 5 activities also continue to be useful in structuring data collection and other activities in Tasks 2, 3, and 5.

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PLAINS CO₂ REDUCTION PARTNERSHIP

EXECUTIVE SUMMARY

The Plains CO₂ Reduction (PCOR) Partnership continues to make great progress. Task 2 (Technology Deployment) activities have focused on developing information on deployment issues to support Task 5 activities by providing information to be used to assess CO₂ sequestration opportunities in the PCOR Partnership region. Task 3 (Public Outreach) activities have focused on developing an informational video about CO₂ sequestration. Progress in Task 4 (Sources, Sinks, and Infrastructure) has included the continued collection of data regarding CO₂ sources and sinks and data on the performance and costs for CO₂ separation, capture, treatment, and compression for pipeline transportation. Task 5 (Modeling and Phase II Action Plans) activities have focused on screening and qualitatively assessing sequestration options. Task 5 activities also continue to be useful in structuring data collection and other activities in Tasks 2, 3, and 5.

PLAINS CO₂ REDUCTION PARTNERSHIP
Quarterly Technical Report
April 1–June 30, 2004

INTRODUCTION

As one of seven Regional Carbon Sequestration Partnerships (RCSPs), the Plains CO₂ Reduction (PCOR) Partnership is working to identify cost-effective CO₂ sequestration options for the PCOR Partnership region and, in future efforts, to facilitate and manage the future demonstration and deployment of these technologies. In this phase of the project, the PCOR Partnership is characterizing the technical issues, enhancing the public's understanding of CO₂ sequestration, identifying the most promising opportunities for sequestration in the region, and detailing an action plan for the demonstration of regional CO₂ sequestration opportunities. This report summarizes the activities for this reporting period. The activities are organized into five tasks.

Task 1 is titled Management, Reporting, and Technical Outreach. Task 2 is titled Technology Deployment and is designed to identify and evaluate technology deployment issues, including regulatory issues, and to facilitate the preparation of Phase II Action Plans. Task 3, Public Outreach, is designed to raise awareness among the public regarding sequestration, one of several means of reducing CO₂ emissions, and provide input for potential Phase II Action Plans. Task 4, Sources, Sinks, and Infrastructure, will compile and assess information on sources, sinks, and options for CO₂ separation and transportation and will develop relational and geographic information system (GIS) databases for housing these data. Task 5 is titled Modeling and Phase II Action Plans. The goal of Task 5 is to identify promising CO₂ sequestration options in a systematic and objective manner using screening tools and a model.

EXPERIMENTAL

Phase I of the PCOR Partnership project is designed to identify promising CO₂ sequestration options for our region. Until the sequestration options are identified, experimental activities will not take place. The experimental portion of this program is scheduled for the U.S. Department of Energy's (DOE's) Phase II RCSP program.

RESULTS AND DISCUSSION

Task 1 – Management, Reporting, and Technical Outreach

Task 1 activities for this reporting period focused on:

- Managing overall project activities.

- Informing stakeholders about DOE's Regional Partnership program and the PCOR Partnership.
- Broadening the partnership by adding new partners.
- Planning the October 2004 PCOR Partnership Advisory Board meeting. The meeting will be held October 14–15, in Billings, Montana, following the Western Fuels Symposium.

The PCOR Partnership program presented at the following meetings:

- Workshop hosted by National Atlas for Carbon Sequestration (NATCARB) in Lawrence, Kansas (April 5–7)
- Interstate Oil and Gas Compact Commission (IOGCC) Geological CO₂ Sequestration Task Force meeting in St. Louis, Missouri (April 5–7)
- Western Governors' Association North American Energy Summit in Albuquerque, New Mexico (April 14–16)
- Williston Basin Horizontal Drilling and Petroleum Conference in Minot, North Dakota (May 2–4)
- 3rd Annual Carbon Capture and Sequestration Conference and regional partnership working group meetings in Alexandria, Virginia (May 3–6)
- Programmatic Environmental Impact Statement (PEIS) Public Scoping Meeting in East Grand Forks, Minnesota (June 10)
- Western Governors' Association (WGA) 2004 Annual Meeting in Santa Fe, New Mexico (June 20)
- Meetings with the North Dakota Industrial Commission Oil and Gas Division and the North Dakota Geological Survey in Bismarck, North Dakota (June 22)
- Meetings with the Exploration and Geological Services division of Saskatchewan Industry and Resources in Regina, Saskatchewan; EnCana Corporation in Weyburn, Saskatchewan; Dr. Malcolm Wilson at the University of Regina in Regina, Saskatchewan; and Michael Monea from the Petroleum Technology Research Centre (PTRC) in Regina, Saskatchewan (June 24)
- Tour of the International Test Centre's pilot-scale amine-based CO₂ separation unit at the Boundary Dam coal-fired power plant near Estevan, Saskatchewan (June 25)

Materials for the meetings have been sent to the DOE Contracting Officer's Representative (COR) under separate notification.

Since the last quarterly report, we have added four new partners: Minnkota Power Cooperative, Inc., Petroleum Technology Research Centre, Saskatchewan Industry and Resources, and the University of Regina. The current list of partners participating in the PCOR Partnership is shown below (as of June 30, 2004). The Nature Conservancy is pending.

\$ Amerada Hess Corporation
\$ Basin Electric Power Cooperative

- \$ Bechtel Corporation
- \$ Center for Energy & Economic Development
- \$ Chicago Climate Exchange
- \$ Dakota Gasification Company
- \$ Ducks Unlimited Canada
- \$ Eagle Operating, Inc.
- \$ Energy & Environmental Research Center
- \$ Environment Canada
- \$ Fischer Oil and Gas, Inc.
- \$ Great River Energy
- \$ Interstate Oil and Gas Compact Commission
- \$ Minnesota Pollution Control Agency
- \$ Minnkota Power Cooperative, Inc.
- \$ Montana–Dakota Utilities Co.
- \$ Montana Department of Environmental Quality
- \$ Montana Public Service Commission
- \$ Natural Resources Trust
- \$ Nexant, Inc.
- \$ North Dakota Department of Health
- \$ North Dakota Geological Survey
- \$ North Dakota Industrial Commission
- \$ North Dakota Industrial Commission Oil and Gas Division
- \$ North Dakota Petroleum Council
- \$ North Dakota State University
- \$ Otter Tail Power Company
- \$ Petroleum Technology Research Centre
- \$ Petroleum Technology Transfer Council
- \$ Prairie Public Television
- \$ Saskatchewan Industry and Resources
- \$ Tesoro Refinery
- \$ University of Regina
- \$ U.S. Department of Energy
- \$ U.S. Geological Survey – Jamestown
- \$ Western Governors’ Association

Task 2 – Technology Deployment

The goal of Task 2 is to identify and resolve sequestration deployment issues for the PCOR Partnership region, including 1) safety, regulatory, and permitting requirements; 2) public perceptions; 3) ecosystem impacts; and 4) monitoring, measurement, and verification requirements. Activities conducted during this reporting period included collection and review of relevant literature relating to the four distinct aspects of this task; participation in the Risk Communication Working Group conference calls; participation in the IOGCC Geologic Sequestration Task Force; review and compilation of state regulatory and permitting requirements related to CO₂ transport and underground injection; participation in monthly internal PCOR Partnership management and general meetings, including Task 2 internal update

and review meetings held on April 8 and June 3, 2004; attendance at the Programmatic Environmental Impact Statement public meeting held in East Grand Forks, Minnesota; attendance at the Third Annual Conference on Carbon Sequestration; and participation in the conference breakout session for Regulatory and Project Design Issues Affecting Capture, Transportation, and Geologic Sequestration. Key meetings requiring travel included the following:

- \$ IOGCC's Geological Sequestration Task Force Meeting in St. Louis, Missouri (April 5–7)
- \$ Third Annual Conference on Carbon Sequestration, Alexandria, Virginia (May 3–6)
- \$ Meeting with representatives of EnCana Corporation at the Weyburn oil field near Weyburn, Saskatchewan, on June 24. The purpose of the meeting was to tour the Weyburn oil field, particularly the aspects of the operations directly related to the CO₂-based enhanced oil recovery (EOR) project.
- \$ Meeting with Michael Monea, Director of PTRC in Regina, Saskatchewan, June 24 and 25. The purpose of the meeting was to discuss potential collaborative efforts between the PCOR Partnership and PTRC, especially with respect to their role in the International Energy Agency (IEA) Weyburn CO₂ Monitoring and Storage Project. The primary result of the meeting was that the PCOR Partnership will have access to key data generated by Phase I of the IEA Weyburn project.

Future activities include the continued review and compilation of pertinent state and provincial regulatory and permitting requirements and liability issues; participation in IOGCC CO₂ Geologic Sequestration Task Force meetings; participation in the Risk Communication Working Group conference calls; and preparation of Task 2 materials for the October PCOR Partnership annual meeting.

Task 3 – Public Outreach

Public education and outreach activities for this reporting period included 1) involvement in the PCOR Partnership and RCSP program meetings; 2) the continued review of critical background documents, particularly those focused on gauging public opinion regarding sequestration and communicating risk; 3) finalization and launching of a public Web site (available at www.undeerc.org/pcor); 4) finalization of a fact sheet intended as an introduction to the PCOR Partnership and its role and the development of a draft fact sheet addressing overall sequestration and a draft fact sheet addressing activities at the Weyburn site; 5) suggested changes to the scope of work; 6) finalization of a poster and other materials for the WGA Energy Summit which is scheduled for April 14–16 in Albuquerque, New Mexico; 6) initiation of activities on the 30-minute general audience information video; 7) initiation of activities on the outreach research activities; and 8) activities that support DOE's overall partnership program effort.

Task 3 personnel took part in monthly internal PCOR Partnership management and general meetings, and Task 3 was the focus of internal Update and Review meetings in April and again in June 2004.

In discussions in May, it was decided to return to the original concept of the Outreach Working Group as a means of keeping partners up to date on the many outreach initiatives, particularly the video, that the PCOR Partnership has under way. The development of the Outreach Working Group will be initiated over the summer. Other changes were suggested to the Scope of Work as outlined in Appendix A.

Task 3 personnel took part in activities to support the overall RCSP outreach activities and program. These activities included taking part in monthly RCSP program outreach conference calls (chaired by Sarah Forbes, National Energy Technology Laboratory [NETL]); reviewing materials and completing exercises focused on developing a consistent approach to risk communications, including a questionnaire on future phone call topics; providing answers to a set of questions provided by the Keystone Group as a means to supporting consistent outreach; and attending and taking part in the outreach workshop that followed the national Carbon Sequestration meeting in Alexandria Virginia in early May. Task 3 personnel also completed a display panel on the PCOR Partnership for the WGA Energy Summit meeting scheduled for April 14 and 15 in Albuquerque, New Mexico. The WGA panel was used, along with information packets containing the PCOR Partnership fact sheet, at the Programmatic Environmental Impact Statement scoping meeting held June 10 in East Grand Forks Minnesota. Task 3 activities for this reporting period focused on:

- Finalizing the panel for display on RCSP activities in the west for the WGA Energy Summit, mid-April, Albuquerque, New Mexico.
- Finalizing a fact sheet on the PCOR Partnership and its role in the RCSP Program and initiating Fact Sheets 2 (sequestration background) and 3 (Weyburn project).
- Finalizing and launching a public Web site.
- Initiating outreach research activities (research plan and draft questionnaire).
- Initiating a 30-minute, general audience video. Details include the following:
 - Video plan, outline, interview and location lists, trip schedules
 - On-location interviews and video footage
 - Completed East Coast trip (interviews and DOE headquarters, National Resources Defense Council, NETL)
 - Four other trips planned
- Continuing RCSP outreach collaboration. Activities included the following:
 - Risk communication workshop attendance
 - Monthly telephone conferences
 - Responses to RCSP outreach questionnaires and outreach support materials

Task 4 – Sources, Sinks, and Infrastructure

Subtask 4.1 – Task Management

Activities under Subtask 4.1 were focused on organizing working groups, assigning specific tasks enumerated under the project work plan, and preparing materials for meetings. The collection and cataloging of relevant literature into the reference manager system continued. Key meetings with partners that required travel included the following:

- \$ Meeting with the North Dakota Industrial Commission Oil and Gas Division and the North Dakota Geological Survey in Bismarck, North Dakota, on June 22. The purpose of this meeting was to provide the North Dakota Industrial Commission with an update of the development of the GIS database as it relates to key characterization data for petroleum reservoirs and coal fields within North Dakota.
- \$ Meeting with the Exploration and Geological Services division of Saskatchewan Industry and Resources in Regina, Saskatchewan, on June 25. The purpose of this meeting was to initiate data collection regarding potential geological sinks in the Saskatchewan portion of the Williston Basin.
- \$ Meeting with representatives of EnCana Corporation at the Weyburn oil field near Weyburn, Saskatchewan, on June 24. The purpose of the meeting was to tour the Weyburn oil field, particularly the aspects of the operations directly related to the CO₂-based EOR project.
- \$ Meeting with Dr. Malcolm Wilson and touring the International Test Centre for CO₂ Capture in Regina, Saskatchewan, on June 24. The purpose of the meeting was to gain an understanding of the activities and capabilities of the International Test Centre and discuss potential partnership opportunities between the PCOR Partnership and the International Test Centre.
- \$ Touring the International Test Centre's pilot-scale amine-based CO₂ separation unit at the Boundary Dam coal-fired power plant near Estevan, Saskatchewan, on June 25. The International Test Centre is using a pilot-scale monoethanolamine-based separation unit to remove CO₂ from a slipstream of flue gas from the power plant. The tour provided insight regarding the technical and economic challenges facing the separation of CO₂ from coal combustion flue gas.
- \$ Attending the Williston Basin Horizontal Drilling and Petroleum Conference in Minot, North Dakota, on May 2–4. David Fischer of Fischer Oil and Gas gave a presentation entitled “The Plains CO₂ Reduction Partnership – What It Can Do For You” which provided an overview of the PCOR Partnership as it relates to the oil and gas industry in the Williston Basin. A paper of the same title was also submitted and published in the conference proceedings.

- \$ Attending the Carbon Sequestration Conference in Alexandria, Virginia, on May 4–7. The conference served as an excellent source of information on a variety of topics focused on the technical, economic, and public outreach aspects of carbon sequestration.
- \$ Participating in the Carbon Sequestration Partnerships Working Group meetings in Alexandria, Virginia, on May 7. The purpose of the meetings was to discuss the status and directions of the various Carbon Sequestration Partnerships and explore potential collaborative opportunities between the Partnerships.
- \$ Meeting with Michael Monea, Director of PTRC in Regina, Saskatchewan, June 24 and 25. The purpose of the meeting was to discuss potential collaborative efforts between the PCOR Partnership and PTRC, especially with respect to their role in the IEA Weyburn CO₂ Monitoring and Storage Project. The primary result of the meeting was that the PCOR Partnership will have access to key data generated by Phase I of the IEA Weyburn project.

Personnel took part in monthly internal PCOR Partnership management and general meetings, and Task 4 was the focus of an internal update and review meeting on May 18, 2004.

Subtask 4.2 – Characterization of PCOR Partnership Regional CO₂ Sources

Activities under Subtask 4.2 were primarily focused on collecting, evaluating, verifying, and validating the readily available CO₂ source data for the states in the PCOR Partnership region. Most data were obtained or mathematically derived from the e-GRID and TTN databases. Source data for Missouri were formally verified, validated, and added to the source-related GIS database in May. The combustion-related source database is now considered to be essentially complete for all states in the region. Data on CO₂ generated by the fermentation process at ethanol plants in the region are also considered to be complete. Gross CO₂ emission data have been obtained for Saskatchewan and Manitoba, Canada. Efforts to obtain site-specific CO₂ emission data for Saskatchewan and Manitoba through Environment Canada have been initiated. Site-specific noncombustion data related to natural gas processing plants are not readily available, but efforts to generate estimates of CO₂ volumes generated at those facilities have been initiated.

Subtask 4.3 – Characterization of PCOR Partnership Regional CO₂ Sinks

Activities under Subtask 4.3 were focused on gathering and evaluating data on the geological sinks in the PCOR Partnership region, including the recently added states of Nebraska, Iowa, Missouri, and Wisconsin. The gathering of readily available geologic data (petroleum reservoirs, deep brine formations, and coal fields) for North Dakota was completed in the previous quarter. Therefore, activities of the past quarter were focused on gathering comparable geologic data sets for Montana, South Dakota, Wyoming, Nebraska, Iowa, Missouri, Wisconsin, Minnesota, Manitoba, and Saskatchewan. To that end the following sets of data were obtained: 1) Petroleum reservoirs, deep brine formations, and coal fields for Montana, South Dakota, and northeastern Wyoming; 2) coal fields for Nebraska, Missouri, and Iowa; 3) deep

brine formations for all states in the PCOR Partnership region; and 4) petroleum reservoirs for Manitoba. The development of a GIS database to manage and utilize the geologic sink data continued.

Subtask 4.3.1 – Evaluation of Alternative Agricultural and Management Practices

Activities continued to be conducted by North Dakota State University under Subtask 4.3.1, which is focused on characterization and evaluation of the potential for terrestrial sequestration in the marginally productive, semiarid lands of the western portion of region. Spring field work was initiated and data collection was initiated.

Subtask 4.3.2 – Carbon Sequestration in Wetlands

Activities to be conducted by the U.S. Geological Survey (USGS) – Jamestown under Subtask 4.3.2, which is focused on characterization and evaluation of the potential for terrestrial sequestration in the prairie pothole wetlands of the region, were initiated.

Subtask 4.4 – Characterization of PCOR Partnership Infrastructure

Activities under Subtask 4.4 were focused on identifying data needs and sources and the review of performance and costs for CO₂ separation, capture, treatment, and compression for pipeline transportation. Highlights for this quarter include the acquisition of significant information on the capture and separation research activities of the International Test Centre for CO₂ Capture, including their operation of a pilot-scale amine-based separation unit at a coal-fired power plant in Saskatchewan. Literature related to CO₂ separation, capture, and transportation continued to be obtained and evaluated.

Subtask 4.5 – Input for Task 5

Activities under Subtask 4.5 included participation in the development of an in-house GIS database to manage and utilize the source and sink characterization data obtained under Task 4 and the dissemination of basic source and sink information to the Task 5 working group through a series of internal meetings.

Subtask 4.6 – PCOR Partnership Information Systems

Much of this past quarter was spent acquiring and processing available digital data representing various components needed to characterize the PCOR Partnership region. These data included the drill hole information from Montana, North Dakota, Wyoming, South Dakota, and Nebraska. The most current available land use data (1992) were downloaded from the USGS Web site. These data were acquired in several tiles and subsequently mosaiked together to form a complete coverage for the U.S. portion of the PCOR Partnership region. The regionwide coverage was subsequently processed into a 30-meter grid in the Lambert Azimuthal projection being used by the PCOR Partnership project.

This data has been integrated into the PCOR Partnership Decision Support System (DSS). A page from the Web site is shown in Figure 1. Thematic maps were created for CO₂ sources by amount, type, and county. An example is shown in Figure 2.

Several members of the PCOR Partnership Information Systems programming team traveled to the USGS in Lawrence, Kansas, for a 2-day workshop hosted by NATCARB. The workshop focused on Web-based tools and applications that may be used by NATCARB and other partnerships. During the workshop, we successfully connected our database with the NATCARB GIS site. In addition to the workshop, we participated in the partnership working group meeting at the National CO₂ conference in Washington, D.C., as well as several partnership working group conference calls.

An update on the estimated completeness of readily available data for the PCOR Partnership by state and province is as follows. A summary of the progress of data gathering is shown in Figure 3.

North Dakota – All CO₂ source data from the eGRID and TTN databases have been collected. The collection of noncombustion CO₂ source data for ethanol plants has also been completed. The collection of noncombustion CO₂ source data for natural gas processing plants has been initiated. All readily available data on petroleum reservoirs, brine formations, and coal fields have been obtained. Additional data are being sought for selected sinks considered to have significant potential for CO₂ storage. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.



Figure 1. GIS page of the DSS Web site for the PCOR Partnership research team.

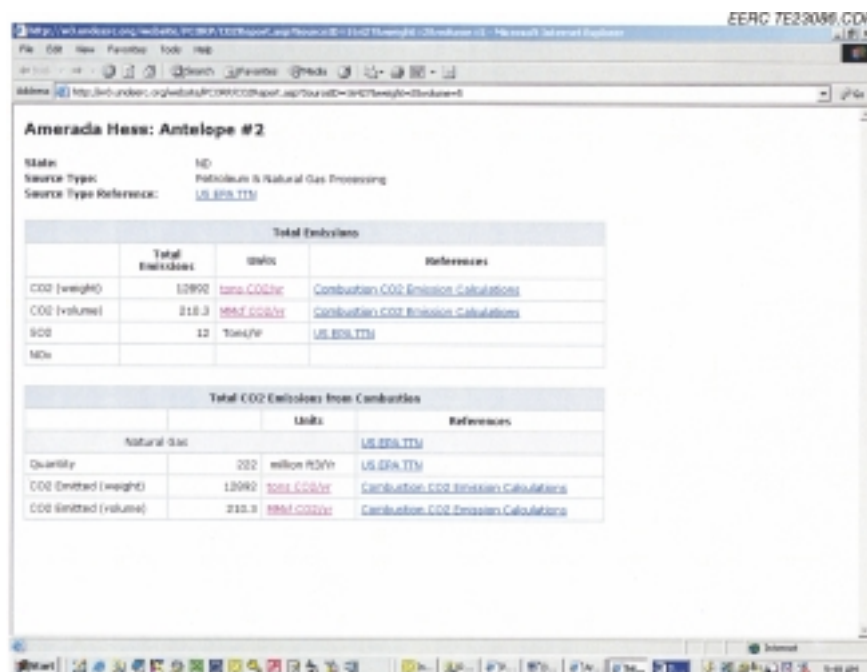


Figure 2. Report generated from the GIS Web site on a selected source.

South Dakota – All CO₂ source data from the eGRID and TTN databases have been collected. The collection of noncombustion CO₂ source data for ethanol plants has also been completed. The collection of readily available data on petroleum reservoirs, brine formations, and coal fields is estimated to be 75% complete. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Montana – All CO₂ source data from the eGRID and TTN databases have been collected. The collection of readily available data on petroleum reservoirs, brine formations, and coal fields continued. Detailed reservoir characterization data for approximately 100 oil fields have been obtained. Additional petroleum reservoir characterization data are being sought. Readily available coal field data have been obtained. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Wyoming – All CO₂ source data from the eGRID and TTN databases have been collected. The collection of readily available data on petroleum reservoirs, brine formations, and coal fields is estimated to be 75% complete. Additional petroleum reservoir characterization data are being sought. Readily available coal field data have been obtained. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Nebraska – All CO₂ source data from the eGRID and TTN databases have been collected. The collection of readily available data on petroleum reservoirs, brine formations, and coal fields continued and is considered to be 50% complete. General location data have been obtained, and the process to collect detailed characterization data has begun. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

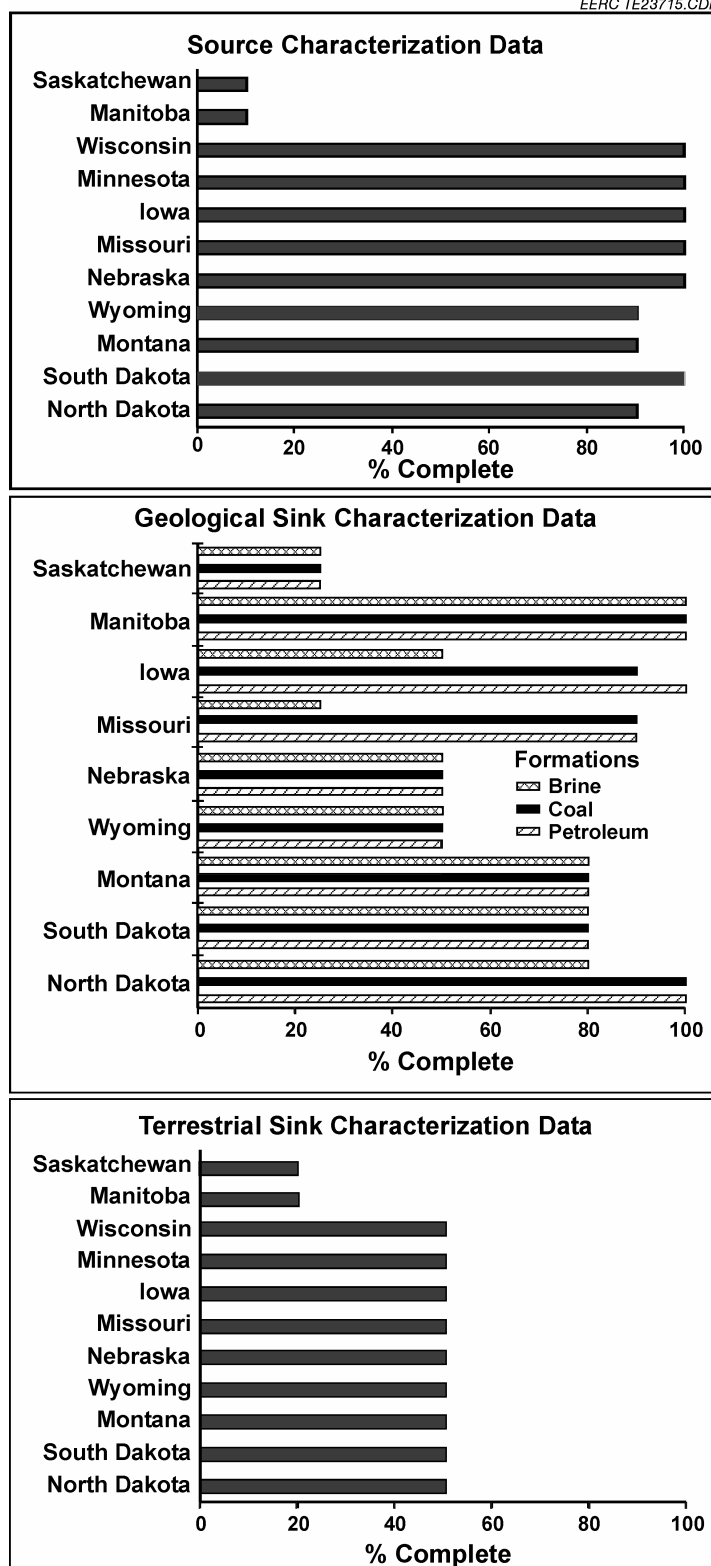


Figure 3. Progress of data gathering.

Missouri – All CO₂ source data from the eGRID and TTN databases have been collected. All readily available data on petroleum reservoirs, brine formations, and coal fields have been obtained. Additional data are being sought for selected sinks that may have potential for CO₂ storage. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Iowa – All CO₂ source data from the eGRID and TTN databases have been collected. All readily available data on brine formations and coal fields have been obtained. Iowa does not have any oil or gas reservoirs. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Minnesota – All CO₂ source data from the eGRID and TTN databases have been collected. All readily available data on brine formations have been obtained. Minnesota does not have any coal fields or petroleum reservoirs. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Wisconsin – All CO₂ source data from the eGRID and TTN databases have been collected. The collection of readily available data on brine formations has been initiated. Wisconsin does not have any coal fields or petroleum reservoirs. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 50% complete.

Manitoba – The collection of CO₂ source data has been initiated. The collection of readily available data on petroleum reservoirs, brine formations, and coal fields has been completed. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 25% complete.

Saskatchewan – The collection of CO₂ source data has been initiated. The collection of readily available data on petroleum reservoirs, brine formations, and coal fields has been initiated. General location data have been obtained, and the process to collect detailed characterization data has begun. Detailed geological characterization data generated by Phase I of the IEA Weyburn CO₂ Monitoring and Storage Project were obtained. The collection of regional-scale data related to terrestrial sinks continued and is estimated to be 25% complete.

Task 5 – Modeling and Phase II Action Plans

One of the goals of the PCOR Partnership project is to match sequestration options with CO₂ sources in preparation for Phase II demonstration projects. A protocol that will be used to reduce and match the large number of CO₂ sources with sequestration options was developed during the previous quarter. The protocol was first explained to the entire group of PCOR Partnership researchers. Specific questions about the protocol with respect to each task were answered during separate meetings held during this quarter with each task leader and the personnel responsible for each task's data collection efforts. During the meetings, the matching/screening protocol was explained in more detail, input was solicited, and the researchers were informed that a beta check of the protocol will be performed using the data from North Dakota. The target date for completion of the beta check is August 31, 2004.

After the basic data-screening protocol was devised and the various researchers' input was incorporated into it, a preliminary method of assigning uncertainty to data was developed so that promising but untested separation technologies or potentially expensive sink–source pairings would not be immediately rejected by the objective screening process. Rather, these data will be included in the scenario rankings and noted as being more uncertain. The method of assigning uncertainty was presented during a PowerPoint presentation made to the rest of the EERC PCOR Partnership researchers during a Task 5 review meeting. Input gathered during this meeting is being incorporated into an updated version.

Task 5 personnel took part in the 3rd National Carbon Capture and Sequestration Conference and regional partnership working group meetings that were held May 3–6, 2004, in Alexandria, Virginia.

Several terms specific to the project were defined as part of a glossary for PCOR Partnership researchers. The purpose of the glossary is to ensure that researchers have the same basis of understanding when discussing issues. Terms will be added to the glossary as necessary over the course of the project.

Close communication with the other PCOR Partnership task leaders has continued during task leader and task update meetings. These discussions ensure that the activities performed in the other tasks will support the model and that important information gathered during other task activities is included in the appropriate model screens.

Future activities include the following:

- Data from North Dakota including geologic sink characterization, CO₂ source characterization, capture and separation technologies, terrestrial sink characterization, and technology deployment will be combined into a single spreadsheet.
- The screening/matching protocol will be beta checked using the North Dakota data.
- The screening/matching protocol will be fine-tuned based on the results of the beta check.
- The regional geologic sink characterization, CO₂ source characterization, capture and separation technologies, terrestrial sink characterization, and technology deployment data will be combined into a single spreadsheet or workbook (depending upon the volume of the data).
- A topical report describing the matching/screening protocol and the results of the beta check will be prepared for the October 2004 PCOR Partnership Annual Meeting.
- Task 5 personnel will participate in the 65th Petroleum Environmental Research Forum Quarterly Meeting on Greenhouse Gases in July and the PCORP Annual Meeting in October.

CONCLUSIONS

The PCOR Partnership has made significant progress in all activities. Information gathering for sources and sinks is progressing in close tandem with deployment issues and final data modeling. Task 5 activities are now using information from Tasks 2 and 4 to begin the objective evaluation of CO₂ sequestration opportunities.

REFERENCES

There are no references.