



Plains CO₂ Reduction (PCOR) Partnership
Energy & Environmental Research Center (EERC)

PCOR PARTNERSHIP ANNUAL MEMBERSHIP MEETING AND WORKSHOP HELD

**Plains CO₂ Reduction (PCOR) Partnership Phase III
Task 13 – Milestone M65**

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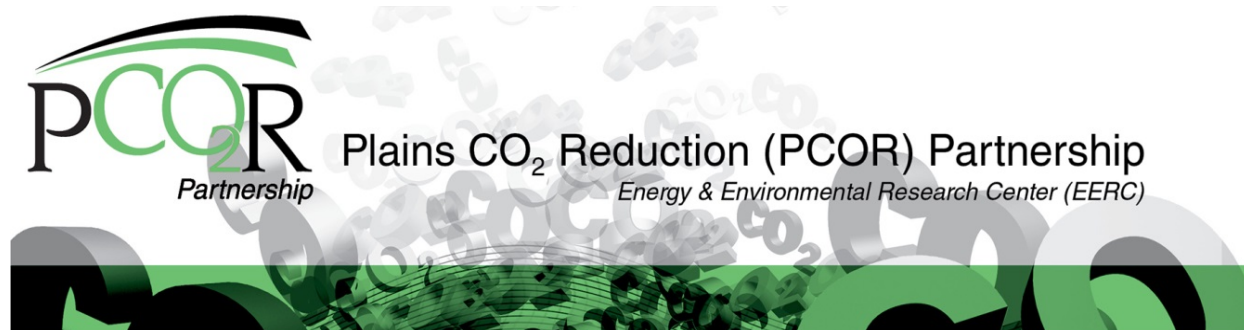
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PCOR PARTNERSHIP ANNUAL MEMBERSHIP MEETING AND WORKSHOP HELD

BACKGROUND

The Plains CO₂ Reduction (PCOR) Partnership is one of seven Regional Carbon Sequestration Partnerships (RCSPs) competitively awarded by the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL) in 2003 as part of a national plan to mitigate greenhouse gas emissions. The PCOR Partnership is led by the Energy & Environmental Research Center (EERC) at the University of North Dakota and includes stakeholders from the public and private sectors. The PCOR Partnership region includes all or part of nine U.S. states and four Canadian provinces.

Phase III, the development phase, extends the characterization (Phase I) and validation (Phase II) phases. Currently, the Phase III efforts of the PCOR Partnership include a large-volume demonstration test in the United States (the Bell Creek project). The demonstration test focuses on injecting commercial-scale volumes of carbon dioxide (CO₂) into deep geologic formations for CO₂ storage.

The PCOR Partnership, since inception in 2003, has had over 120 member organizations (partners), with these partners supporting the efforts of the PCOR Partnership in various ways. The PCOR Partnership hosts an annual membership meeting, often preceded by a technical workshop, each year to provide an update on current activities, as well as solicit input and promote collaboration among its members. The most recent PCOR Partnership Annual Membership Meeting was held in October 2017 in Plano, Texas.

PCOR PARTNERSHIP ANNUAL MEMBERSHIP MEETING AND WORKSHOP HELD

The 15th annual PCOR Partnership Annual Membership Meeting and Workshop was held October 24–26, 2017, in Plano, Texas. This particular meeting and workshop had the highest attendance of non-EERC personnel to date. A total of 98 meeting attendees (71 partners and/or guests) from 46 organizations and 72 workshop attendees (53 partners and/or guests) were in attendance, along with PCOR Partnership task leaders and other key EERC personnel (see Figure 1).

A half-day workshop, entitled “How Much is Enough? Moving Toward a Commercial Approach to Monitoring CO₂ Geologic Storage,” was held on October 24. Presentations given at the workshop focused on best practices for monitoring learned from two ongoing CO₂ storage projects in the PCOR Partnership region: a commercial project led by Shell (i.e., Quest), a research



Figure 1. 2017 PCOR Partnership Annual Membership Meeting attendees.

project led by the Petroleum Technology Research Centre (Aquistore), and a presentation on monitoring, verification, and accounting applications given by an EERC representative. The workshop concluded with an interactive breakout activity on selecting monitoring techniques for different CO₂ storage scenarios.

The PCOR Partnership Annual Membership Meeting was held October 25–26. Partners, guests, and EERC personnel gave presentations updating the attendees on current PCOR Partnership activities and lessons learned from the PCOR Partnership Program. Topics covered included DOE's Fossil Energy Clean Coal Program, Project Tundra, capture technology, North Dakota Class VI primacy, the Petra Nova project, and the Bell Creek project. A panel, moderated by Mr. Chuck McConnell, Rice University, discussed where we are headed with carbon. Panel participants included Mr. Gerald Bachmeier, Red Trail Energy LLC; Ms. Stacey Dahl, Minnkota Power; Mr. Lynn Helms, North Dakota Industrial Commission; and Mr. Dan MacLean, Petroleum Technology Research Centre.

Various booths and posters were on display for the duration of the workshop and meeting that depicted many of the PCOR Partnership project activities. The presentations and display posters from the meeting and workshop are now available in the Products Database of the Partners-Only Web site (Decision Support System).

APPENDIX A

PCOR PARTNERSHIP ANNUAL MEMBERSHIP WORKSHOP AGENDA

2017

PCOR PARTNERSHIP ANNUAL MEMBERSHIP WORKSHOP



OCTOBER 24, 2017

RENAISSANCE DALLAS AT PLANO LEGACY WEST HOTEL
PLANO, TEXAS



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WORKSHOP Preliminary Agenda

Tuesday, October 24, 2017

Workshop: How much is enough?

Moving toward a commercial approach to monitoring CO₂ geologic storage.

12:00 Noon Workshop Registration

12:30 p.m. Lunch (provided)

1:30 p.m. Introduction
Neil Wildgust, Energy & Environmental Research Center (EERC)

1:35 p.m. Best Practices for Monitoring
Kyle Glazewski, EERC

1:55 p.m. Monitoring at a Commercial Scale Project - Quest
Luc Rock, Shell Canada Limited

2:20 p.m. Monitoring at a Research Site
Erik Nickel, Petroleum Technology Research Centre (PTRC)

2:45 p.m. Break

3:15 p.m. Breakout Activity: Selection of Monitoring Techniques
All

4:15 p.m. Summary and Closing Remarks
Neil Wildgust, EERC

4:30 p.m. Adjourn

5:30 p.m. Networking Social at Whiskey Moon (Hotel Lobby)*



WHISKEY
MOON

2017

PCOR
PARTNERSHIP
ANNUAL
MEMBERSHIP
WORKSHOP



APPENDIX B

PCOR PARTNERSHIP ANNUAL MEMBERSHIP MEETING AGENDA

2017

PCOR PARTNERSHIP ANNUAL MEMBERSHIP MEETING



OCTOBER 25-26, 2017

RENAISSANCE DALLAS AT PLANO LEGACY WEST HOTEL
PLANO, TEXAS



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Dear Partners and Guests:

Welcome to the 2017 Plains CO₂ Reduction (PCOR) Partnership Annual Membership Meeting, and thank you for your attendance! We strive to engage all of our partners to ensure the PCOR Partnership provides the most value for your investment. Your input is a key component in determining the future direction of the industry, our program, and future events, and we look forward to hearing from you throughout the course of this meeting.

Annual Meeting

The PCOR Partnership is addressing CO₂ management on a regional level in the upper Great Plains of North America. Through collaborative partnerships with a broad range of stakeholders, we are demonstrating the value of carbon utilization and storage as a viable solution to national energy and environmental concerns. This year's meeting will highlight recent program accomplishments and feature speakers from a wide range of sectors who will describe progress on key projects and discuss the outlook for carbon capture, utilization, and storage and carbon management.

Dinner and Networking Social

This year's evening event is at Lava Cantina – The Colony, a fun, rock 'n' roll-themed Creole–Mexican fusion restaurant and bar. This unique hot spot offers a relaxed, welcoming atmosphere with lots of autographed memorabilia as well as a diverse menu, providing the perfect backdrop for networking. Shuttle buses depart from the hotel lobby beginning at 5:30 p.m. Dinner will begin at 6:00 p.m. Shuttle buses will return to the Renaissance Dallas at Plano Legacy West Hotel beginning at 9:30 p.m.

Special Event Sponsors

I want to personally thank all of our special event sponsors for their incredible support. Without their generous contributions, our evening at Lava Cantina – The Colony would not be possible. This year's special event sponsors include ALLETE Clean Energy; Baker Hughes, a General Electric Company; Ballantyne Oil, LLC; Basin Electric Power Cooperative; Computer Modelling Group Ltd.; Eagle Operating Inc.; Ham's Well Service Inc.; the Lignite Energy Council; the North Dakota Petroleum Council; Red Trail Energy, LLC; and Steiner Oil & Gas, LLC.

Event Services

We wish to make your experience at our meeting as positive and enjoyable as possible, so please contact any of our event team members at the registration desk if you have any questions or need any assistance.

Please feel free to contact me anytime with questions or comments regarding the PCOR Partnership. I can be reached by phone at (701) 777-5355 or by e-mail at cgorecki@undeerc.org. Again, thank you for your support, and enjoy your stay in Plano!

Sincerely,

Charles D. Gorecki

PCOR Partnership Program Manager
EERC Director of Subsurface R&D

Annual Meeting – DAY 1

Wednesday, October 25, 2017

7:30 a.m. Registration and Networking (breakfast provided)

8:30 a.m. Welcome, Introductions, and Housekeeping
Charles Gorecki and Neil Wildgust, Energy & Environmental Research Center (EERC)

8:45 a.m. Welcome to Texas
Dan Cole, Denbury Resources Inc. (Denbury)

9:00 a.m. U.S. Department of Energy's (DOE's) Office of Fossil Energy Clean Coal Programs: Overview and Status
Darin Damiani, DOE Office of Fossil Energy

9:30 a.m. PCOR Partnership Program Highlights
Charles Gorecki, EERC

10:00 a.m. Break

10:30 a.m. Project Tundra Update
Bill Sawyer, ALLETE Clean Energy

11:00 a.m. Focus on Capture Technology
Lynn Brickett, DOE National Energy Technology Laboratory (NETL)

11:30 a.m. Group Photo and Lunch (provided)

1:00 p.m. Class VI Primacy and Carbon Capture, Utilization, and Storage (CCUS) in North Dakota
Lynn Helms, North Dakota Industrial Commission (NDIC)

1:30 p.m. Petra Nova Update
David Greeson, NRG Energy

2:00 p.m. CCUS Update
Chuck McConnell, Rice University

2:30 p.m. Break

3:00 p.m. Panel: Where are we headed with carbon?
Moderator: Chuck McConnell, Rice University
Panelists: Gerald Bachmeier (Red Trail Energy LLC), Stacey Dahl (Minnkota Power Cooperative, Inc.), Lynn Helms (NDIC), and Dan MacLean (Petroleum Technology Research Centre [PTRC]).

4:00 p.m. Pioneer Award Presentation
John Harju, Ed Steadman, and Charles Gorecki, EERC

4:15 p.m. Closing Remarks
Neil Wildgust, EERC

4:30 p.m. Adjourn

5:30 p.m. Buses Depart Hotel for the Evening Event at Lava Cantina – The Colony

Funding for this event is provided by private donations from special event sponsors.

Annual Meeting – DAY 2

Thursday, October 26, 2017

8:00 a.m. Networking Opportunity (breakfast provided)

8:50 a.m. Welcome
Neil Wildgust, EERC

9:00 a.m. Keynote
Chris Kendall, Denbury

9:30 a.m. Bell Creek – Progress
John Hamling, EERC

10:00 a.m. Denbury Perspective
Trevor Richards, Denbury

10:30 a.m. Break

11:00 a.m. Innovative Low-Impact CO₂ Injection Monitoring Methods
Amanda Livers-Douglas, EERC

11:30 a.m. Meeting Summary and Discussion
Neil Wildgust and David Nakles, EERC

12:00 Noon Adjourn

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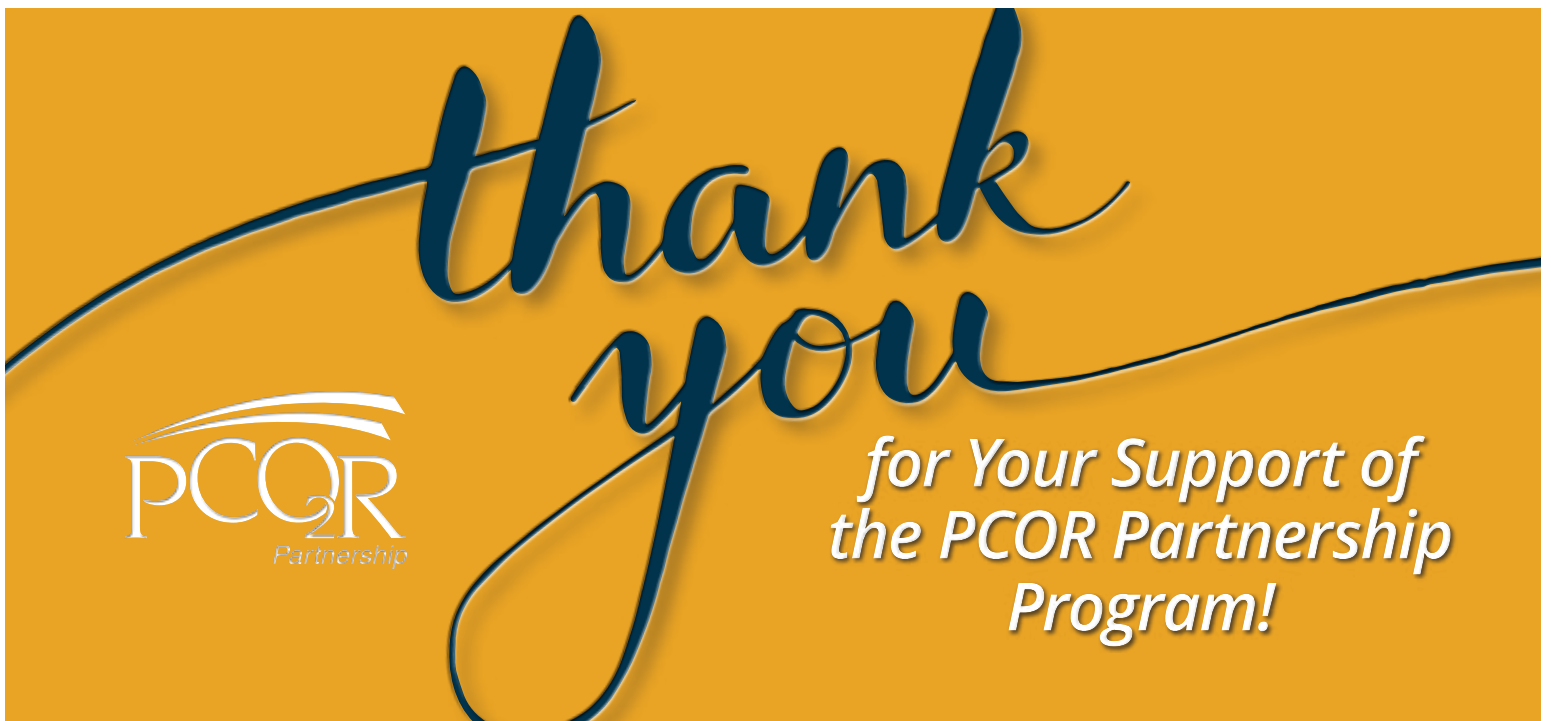
2017
PCOR
PARTNERSHIP
ANNUAL
MEMBERSHIP
MEETING

Evening Networking Event

*Buses Depart Hotel at 5:30 p.m. for
the Evening Event at Lava Cantina – The Colony*



Image courtesy of Lava Cantina



ANNUAL MEETING SPEAKERS



Mr. Gerald Bachmeier is Chief Executive Officer of Red Trail Energy, LLC. Mr. Bachmeier has served as the company's CEO since July 2010 and has been involved in the ethanol industry for the past 26 years. He has served as a Plant Manager of Morris Ag Energy and Chief Marketing Manager of United Ethanol Sales. He was instrumental in the design, formation, and construction of DENCO, LLC, and was the major role player for the acquisition of Morris Ag Energy. Mr. Bachmeier has held various board positions with many industry trade groups, including the Renewable Fuels Association and the Minnesota Coalition for Ethanol. Mr. Bachmeier currently serves on the Executive Board for the Renewable Fuels Marketing Group and is the President of the North Dakota Ethanol Producers Association.



Ms. Lynn Brickett is the Carbon Capture R&D Technology Manager at NETL for DOE's Carbon Capture and Carbon Reuse Programs. Ms. Brickett has been with NETL for 18 years. Her diverse career includes working as the Director of the Capture Division, a federal project manager in the Innovations for Existing

Plants Project Management Division, and a researcher studying the environmental impacts of energy production. Prior to NETL, she worked for the U.S. Bureau of Mines conducting research on bioleaching of copper ores, biooxidation of gold ores, and remediation of acid mine drainage. Ms. Brickett received her B.S. degree in Environmental Science and her M.S. degree in Environmental Science and Management.



Mr. Dan Cole, Vice President – Commercial Development and Governmental Relations, joined Denbury in October 2006. Prior to joining Denbury, Mr. Cole was Director of the Mississippi/Alabama Business Unit for Plains Marketing, LP, since April 2004 and Manager, Gulf Coast Region, for EOTT Operating for the

prior 8 years before it was acquired by Plains Marketing. Mr. Cole has more than 35 years of marketing, transportation, and supply experience in the natural gas and crude oil industry. Mr. Cole received his Bachelor of Business Administration degree from Texas A&M University.



Ms. Stacey Dahl is Manager of External Affairs and Communications at Minnkota Power Cooperative, Inc., in Grand Forks, North Dakota. She is coleading the effort to explore the feasibility of Project Tundra, a proposed postcombustion retrofit project at the Milton R. Young Station in Center, North Dakota. Originally

from Bismarck, North Dakota, Ms. Dahl received her undergraduate degree in education in 2004 from the University of North Dakota (UND). She received her Juris Doctor degree in 2008 from the UND School of Law. Ms. Dahl served in the North Dakota House of Representatives from 2005 to 2012. An attorney, she is also a former private practitioner and prosecutor.



Mr. Darin Damiani is a recent addition to DOE Headquarters, working in the Office of Fossil Energy's Division of Carbon Capture and Storage (CCS) R&D as the Carbon Storage Program Manager. Mr. Damiani began a career focused on CCS in 2007 when he joined DOE NETL in West Virginia, where he managed technology R&D projects in support of DOE's Carbon Storage Program. In particular, Mr. Damiani was the NETL project manager for the Midwest Geological Sequestration Consortium (MGSC), one of the seven regional partnerships that, for over 10 years, has been advancing CCS technologies and infrastructure needed to implement large-scale CO₂ storage in different regions and geologic formations of North America. Mr. Damiani completed his Master's in Environmental Engineering from Manhattan College, New York, and a B.E. in Environmental Engineering from Hofstra University, New York. He now resides east of the belt in Maryland with his wife and two young kids.



Mr. Charles Gorecki is the Director of Subsurface R&D at the EERC, where he develops and manages programs and projects focused on conventional, unconventional, and enhanced oil and gas production; geologic storage of CO₂; geothermal; and other energy and environmental research. He serves as the Program Manager

for the PCOR Partnership, a multidisciplinary team working to develop monitoring, verification, and accounting concepts and technologies for large-scale CO₂ storage (>1 million tons per year) in deep saline formations and oil fields and characterize the geologic formations in the PCOR Partnership region in preparation for implementation of the commercial deployment of CCS. In addition, he also manages/oversees projects related to CO₂ storage capacity estimation; novel reservoir surveillance and CO₂ storage monitoring techniques; and unconventional oil and gas resource modeling, characterization, and testing. Mr. Gorecki's principal areas of expertise include enhanced oil recovery (EOR), unconventional oil and gas research, and geologic storage of CO₂, specifically in the areas of reservoir and simulation engineering. He has also led other projects associated with CO₂ storage, the nexus of water and CCS, and CO₂ EOR. He holds a B.S. degree in Geological Engineering from the University of North Dakota.



Mr. David Greeson is Vice President of Development for NRG Energy, Inc., and heads up NRG's carbon capture program. He led the NRG team that successfully developed, financed, and commissioned the \$1 billion Petra Nova project. Mr. Greeson began his career in the power industry at Houston Lighting & Power

in customer relations over 35 years ago. He has developed five major power projects, which represent over \$3 billion of investment.



Mr. John Hamling is a Principal Engineer, Oilfield Operator Group lead, at the EERC, where he leads operations, reservoir surveillance, and data analytics teams in the development and implementation of new operational, characterization, and reservoir surveillance techniques that benefit the commercial

exploration, development, and production of oil and gas, EOR, and CO₂ utilization and storage.

ANNUAL MEETING SPEAKERS



Mr. John Harju is the Vice President for Strategic Partnerships at the EERC, where he leads efforts to build and grow dynamic working relationships with industry, government, and research entities globally in support of the EERC's mission to provide practical, pioneering solutions to the world's energy and environmental challenges. He represents the EERC regionally, nationally, and internationally in advancing its strategic initiatives focused on conventional and unconventional oil and gas development, zero-emission coal utilization, and CO₂ capture and sequestration, among other areas. Mr. Harju's principal areas of expertise include carbon sequestration, EOR, unconventional oil and gas development, waste management, geochemistry, technology development, hydrology, and analytical chemistry, especially as applied to the upstream oil and gas industry. Prior to his current position, Mr. Harju served as Associate Director for Research at the EERC; served as Vice President of Crystal Solutions, LLC, a firm involved in commercial E&P produced water management, regulatory permitting and compliance, and environmental impact monitoring and analysis; and held positions at Gas Research Institute (now Gas Technology Institute). A graduate of UND's Geology program, Mr. Harju is a member of the National Petroleum Council; a member and former chair of the Interstate Oil and Gas Compact Commission (IOGCC) Energy Resources, Research, and Technology Committee and serves on IOGCC's Carbon Capture and Geological Storage Task Force; and a member of the Rocky Mountain Association of Geologists. He previously served on DOE's Unconventional Resources Technology Advisory Committee.



Mr. Lynn Helms has served as Director of the NDIC Oil & Gas Division since July 1998 and as Director of the Department of Mineral Resources since it was formed in July 2005. He grew up on a cattle ranch in Harding County, South Dakota, where he learned to appreciate prairie ecology, wildlife conservation, and agricultural stewardship. Mr. Helms earned his B.S. degree in Engineering from the South Dakota School of Mines and Technology. His work in the oil industry began as a roughneck, working holidays and summers during college, but his career in the industry provided opportunities for him to work on projects all over the world.



Mr. Chris Kendall is the President and Chief Executive Officer of Denbury, and he also serves as a member of Denbury's Board of Directors. Mr. Kendall joined Denbury as Chief Operating Officer in September of 2015 and was named President in September of 2016. He was appointed to his current role as a Director and CEO effective July 1, 2017. Prior to joining Denbury, he was with Noble Energy, most recently serving as Senior Vice President, Global Operations Services. Over the course of his 14-year tenure at Noble Energy, he held a wide range of international and domestic leadership positions, primarily in the Eastern Mediterranean, Latin America, and the Gulf of Mexico. Mr. Kendall began his career at Mobil Oil in 1989. He earned his B.S. degree in Engineering, Civil Specialty, from the Colorado School of Mines and is a graduate of the Advanced Management Program at the Harvard Business School.



Ms. Amanda Livers-Douglas is a Research Geophysicist at the EERC, where she analyzes the subsurface using geophysical methods and performs advanced processing and interpretation of geophysical data collected in the field. Ms. Livers-Douglas leads the geophysical field data acquisition efforts at the EERC. Her principal areas of expertise include detection and monitoring of near-surface environmental and engineering hazards by developing innovative processing methods and designing specialized data acquisition surveys. She has deployed and been an operator for several large-scale seismic data acquisition surveys, including a semipermanent, autonomous seismic array deployed to monitor the migration of injected CO₂ through the subsurface, and recently managed the acquisition of a 5-mile, 2-D line in North Dakota for the CarbonSAFE project using the EERC's in-house data collection equipment. Ms. Livers-Douglas holds an M.S. in Geology from the University of Kansas and a B.A. in Physics from Concordia College, Moorhead, Minnesota.



Mr. Dan MacLean is CEO and President of PTRC, a position he has held since May 2017. He was the former CEO and President of Tundra Oil and Gas from 2008 to 2014 and previously acquired over 26 years of leadership and technical expertise with Chevron Canada. His background as a reservoir engineering expert has taken him to West Africa, the Middle East, Australia, the United States, and Canada. Mr. MacLean brings with him a keen understanding of the challenges faced by heavy and tight oil operations in Western Canada. He is a graduate of the University of Western Ontario in Chemistry and Chemical Engineering and received his MBA from St. Mary's College in Moraga, California, in 2000.



Mr. Chuck McConnell is Executive Director of Rice University's Energy and Environment Initiative, a university-wide integration of science, engineering, economic analysis, policy, and social sciences to address the diverse issues and challenges associated with energy security, affordability, and environmental sustainability. The effort is designed to partner with industry and external stakeholders and position Rice as an impartial broker that combines technology and policy to create a sustainable energy platform for excellence in resource utilization and environmental stewardship. A 35-year veteran of the energy industry, Mr. McConnell joined Rice in August 2013 after serving 2 years as the Assistant Secretary of Energy at DOE. At DOE, he was responsible for strategic policy leadership, budgets, project management, and R&D of the department's coal, oil and gas, and advanced technologies programs as well as for the operations and management of the U.S. Strategic Petroleum Reserve and NETL. Prior to joining DOE, Mr. McConnell served as Vice President of Carbon Management at Battelle Energy Technology in Columbus, Ohio, where he was responsible for business and technology management, including leadership of the Midwest Regional Carbon Sequestration Partnership. He also spent 31 years with Praxair, Inc., providing business leadership and strategic planning to the global hydrogen business, refining and chemicals markets, EOR, carbon dioxide management, and the full range of energy

ANNUAL MEETING SPEAKERS

technology R&D activities. Mr. McConnell is currently a board member of the EERC Foundation® in North Dakota and a pending member of the National Coal Council and has held a number of board positions including chairmanships of the Gasification & Syngas Technologies Council and the Clean Carbon Technology Foundation of Texas. He holds a bachelor's degree in Chemical Engineering from Carnegie-Mellon University and an MBA in Finance from Cleveland State University.



Dr. David Nakles is a Principal Environmental Engineer at the EERC, where he supports projects related to CO₂ EOR, geologic CO₂ storage, unconventional oil and gas production, and chemical contamination of environmental media (soil, groundwater, and sediment). As part of these efforts, Dr.

Nakles leads programmatic and technical risk assessments, reviews and assesses current regulatory developments, and contributes to the development of best practice manuals. Over the course of his +40-year career in the environmental consulting business, Dr. Nakles has focused on the risk-based environmental management of soil and sediment impacted with residuals generated during the extraction and processing of coal, oil, and natural gas. He has implemented numerous short-term consulting projects for individual companies within the gas and electric utility industry and led several multiyear, multidisciplinary research projects supported by trade organizations such as the Gas Technology Institute, the Electric Power Research Institute, and the American Petroleum Institute. A common theme among these projects is the development of site characterization and remediation strategies for the cost-effective management of risks to human health and ecological receptors. Most recently, Dr. Nakles has been engaged in research focused on the assessment of risk and the monitoring of the geologic storage of carbon dioxide and mixed acid gases. Dr. Nakles holds a Ph.D. degree in Chemical Engineering and Engineering and Public Policy from Carnegie Mellon University and a B.S. degree in Chemical Engineering from Pennsylvania State University. He is a registered professional engineer in the state of Pennsylvania and a Diplomate Environmental Engineer with a hazardous waste specialty through the American Academy of Environmental Engineers. Dr. Nakles is the coeditor and coauthor of several books and author or coauthor of numerous peer-reviewed and other technical publications and presentations.



Mr. Trevor Richards has been employed at Denbury since 2007 and is currently Geophysical Manager. He attended the University of Texas at Dallas where he earned M.S. and B.S. degrees in Geophysics. His current professional interests include the state of the art in time-lapse geophysics

acquisition, including seismic, gravity, and resistivity. Denbury is currently utilizing 4-D seismic, where feasible, for monitoring and characterizing CO₂ EOR reservoirs. Denbury is also evaluating the potential for InSAR and exploring unmanned aerial vehicle capabilities for near-surface mapping and its application to oilfield infrastructure. Mr. Richards is currently President of the Dallas Geophysical Society and coordinates the annual golf tournament.



Mr. William Sawyer is the Manager of Clean Energy Solutions for ALLETE Clean Energy, a subsidiary of ALLETE, Inc. In this role, he is responsible for the development of strategy, technology, and business initiatives to further the advancement and implementation of carbon solutions for the energy industry. Prior

to leading the clean energy solutions area, Mr. Sawyer managed the Hibbard Renewable Energy Center for several years, which is one of five electric generation facilities owned and operated by Minnesota Power, an electric generation and transmission utility in northeastern Minnesota and a division of ALLETE, Inc. The plant supplies steam to an adjacent paper mill and electricity to Minnesota Power's customers. Before managing the cogeneration facility, Mr. Sawyer led the Project Development team for Minnesota Power, which is responsible for the development of new electric generation resources for the company, R&D of new technologies in the energy arena, and support of customer energy requirements and operations. Mr. Sawyer holds an Industrial Engineering degree and an MBA degree from the University of Minnesota and lives in Duluth, Minnesota.

Mr. Edward Steadman is the Vice President for Research at the EERC, where he works for a team of scientists and engineers focused on research, development, demonstration, and commercialization of energy and environmental technologies. He is also the Ranch Foreman and chief cook and bottle washer at the Lazy S Ranch in Pekin, North Dakota.



Mr. Neil Wildgust is a Principal CCS Scientist with the EERC, where he is responsible for managing PCOR Partnership deliverables and managing the CarbonSAFE Nebraska project. Previously, he was the Manager for Geological Storage with the Global CCS Institute, responsible for leading the storage advisory team across the institute and managing relationships with

Canadian members. Mr. Wildgust has also worked for both PTRC, managing the IEAGHG Weyburn-Midale research project, and for the IEA Greenhouse Gas R&D Programme. He holds an M.Sc. in Applied Environmental Geology from Cardiff University and a B.Sc. in Geology from Southampton University; is a chartered geologist; and has 25 years of industrial experience in mining, land contamination, and hydrogeology.



ABOUT THE PARTNERSHIP

The PCOR Partnership is a multiyear collaboration of over 120 U.S. and Canadian stakeholders that is laying the groundwork for practical and environmentally sound CO₂ storage projects in the PCOR Partnership region in the heartland of North America.

Phase I – PCOR Partnership Program

In the fall of 2003, the PCOR Partnership embarked on a 2-year, \$3.3 million Phase I Program focused on characterizing storage opportunities in the region.

Phase II – PCOR Partnership Program

In the fall of 2005, the PCOR Partnership launched its 4-year, \$21 million Phase II Program focused on carbon storage field validation projects. The Phase II storage field projects were designed to build the core local technical expertise and experience needed to facilitate future large-scale CO₂ storage efforts in the region's subsurface and terrestrial settings.

Phase III – PCOR Partnership Program

In the fall of 2007, the PCOR Partnership was selected for a 10-year, multimillion-dollar Phase III program focused on implementing two commercial-scale geologic carbon storage demonstration projects in the region.



The PCOR Partnership is led and managed by the EERC at UND.

CO₂ producers, end users, environmental groups, and regulators. Become a partner!

Since inception in 2003, the PCOR Partnership has included over 120 partners from industry, academia, government, and nongovernmental organizations. The PCOR Partnership is one of seven regional partnerships under DOE's Office of Fossil Energy NETL Regional Carbon Sequestration Partnership Program.

For More Information, Contact:

Charles D. Gorecki, Director of Subsurface R&D
(701) 777-5355, cgorecki@undeerc.org

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PCOR Partnership Partners (Phases I–III)

The PCOR Partnership is a collaborative program assessing, validating, and demonstrating regional CO₂ storage opportunities. Its primary sponsor is DOE NETL, with additional support (for one or more program phases) from over 120 partners.

Abengoa Bioenergy New Technology, Inc.
Air Products and Chemicals, Inc.
Alberta Department of Energy
Alberta Energy Research Institute
Alberta Innovates – Technology Futures
ALLETE
Ameren Corporation
American Coalition for Clean Coal Electricity (ACCCE)
American Lignite Energy
Apache Canada Ltd.
Aquistore c/o Petroleum Technology Research Centre
Baker Hughes Incorporated
Ballantyne Oil, LLC
Basin Electric Power Cooperative
Bechtel Corporation
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Blue Source, LLC
BNI Coal, Ltd.
British Columbia Ministry of Energy, Mines and Petroleum Resources
British Columbia Oil & Gas Commission
C12 Energy Inc.
Chicago Climate Exchange
Computer Modelling Group, Inc.
Continental Resources, Inc.
Dakota Gasification Company
Denbury Resources Inc.
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Fischer Oil and Gas, Inc.
GE Global Research
Great Northern Project Development, LP
Great River Energy
Halliburton
Hess Corporation
Huntsman Corporation
Husky Energy
Indian Land Tenure Foundation

Interstate Oil and Gas Compact Commission
Iowa Department of Natural Resources – Geological Survey
Kiewit Mining Group
Lignite Energy Council
Manitoba Geological Survey
Manitoba Hydro
Marathon Oil Company
MBI Energy Services
McLellan Energy Advisors Inc.
MEG Energy Corporation
Melzer Consulting
Minnesota Pollution Control Agency
Minnesota Power
Minnkota Power Cooperative, Inc.
Missouri Department of Natural Resources
Missouri River Energy Services
Montana Department of Environmental Quality
Montana Public Service Commission
Montana–Dakota Utilities Co.
Murex Petroleum Corporation
Natural Resources Canada
Nebraska Public Power District
Nexant, Inc.
North American Coal Corporation
North Dakota Department of Commerce Division of Community Services
North Dakota Department of Health
North Dakota Geological Survey
North Dakota Industrial Commission Department of Mineral Resources Oil and Gas Division
North Dakota Industrial Commission Lignite Research, Development and Marketing Program
North Dakota Industrial Commission Oil and Gas Research Council
North Dakota Natural Resources Trust
North Dakota Petroleum Council
North Dakota Pipeline Authority
North Dakota State University
Omaha Public Power District
Otter Tail Power Company
Oxand Risk & Project Management Solutions
Peabody Energy
Petro Harvester Oil & Gas, LLC
Petroleum Technology Research Centre
Petroleum Technology Transfer Council
Pinnacle, a Halliburton Service

PCOR Partnership Partners (Phases I–III) Continued

Prairie Public Broadcasting
 Pratt & Whitney Rocketdyne, Inc.
 Praxair, Inc.
 Ramgen Power Systems, Inc.
 Red Trail Energy, LLC
 RPS Energy Canada Ltd. – APA Petroleum Engineering Inc.
 Saskatchewan Energy and Resources
 SaskPower
 Schlumberger Carbon Services
 Sejong University
 Shell Canada Energy
 Spectra Energy
 Statoil
 Strategic West Energy Ltd.
 Suncor Energy Inc.
 TAQA North Ltd.
 Tesoro Refinery (Mandan)
 TGS Geological Products and Services

The CETER Group, Inc.
 Tri-State Generation and Transmission Association, Inc.
 Tundra Oil & Gas Partnership
 U.S. Department of Energy National Energy Technology Laboratory
 U.S. Geological Survey Northern Prairie Wildlife Research Center
 University of Alberta
 University of North Dakota
 University of Regina
 WBI Energy, Inc.
 Weatherford Advanced Geotechnology
 Western Governors' Association
 Westmoreland Coal Co.
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2017

PCOR PARTNERSHIP ANNUAL MEMBERSHIP MEETING



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