







SEPTEMBER 26-27, 2023 Energy & Environmental Research Center Grand Forks, ND



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#### **Dear Partners and Guests:**

Welcome to the 2023 PCOR Partnership Annual Meeting, and thank you for your attendance!

#### **Annual Meeting**

The PCOR Partnership Initiative to Accelerate Carbon Capture, Utilization, and Storage (CCUS) Deployment, funded by the U.S. Department of Energy (DOE) National Energy Technology Laboratory, the North Dakota Industrial Commission (NDIC), and participating member organizations, fosters the deployment of CCUS in the PCOR Partnership region. The Energy & Environmental Research Center (EERC) leads the PCOR Partnership Initiative in collaboration with the University of Wyoming School of Energy Resources and the University of Alaska at Fairbanks Institute of Northern Engineering.

We strive to engage all our partners to ensure we provide 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 and in the coming months.

#### **Tuesday Evening Networking Social Event**

Following Wes Peck's presentation highlighting 20 years of the PCOR Partnership, we invite you to stay at the EERC and continue the celebration in Discovery Hall. Registered attendees (and their guests) are encouraged to attend the social gathering to enjoy appetizers and refreshments and create additional networking opportunities, as well as kick off the next 20 years with friends both new and old.

#### **Wednesday Evening Social and Dinner Event**

Cloud 9 Events is situated on the fifth floor of the soon-to-be-open Olive Ann Hotel in downtown Grand Forks and proudly stands as the epitome of opulence among event venues in Grand Forks. Boasting unparalleled vistas of the cityscape and an impeccable standard of service, it exudes an air of sophistication infused into every facet of its contemporary design. Bathed in an abundance of natural light cascading through its enveloping windows, the venue creates an ethereal ambiance. Join us for a social hour with appetizers at 6:00 p.m., followed by dinner at 7:15 p.m.

#### **Special Event Sponsors**

I want to personally thank our special event sponsors for their incredible support. Without their generous contributions, our evening events at the EERC and Cloud 9 would not be possible. This year's special event sponsors include Air Products & Chemicals, Inc., Alaska Oil & Gas Association, Barr Engineering Co., Basin Electric Power Cooperative, Computer Modelling Group Ltd., CO<sub>2</sub>SeQure (a MicroSeismic, Inc., Company), Eagle Operating Inc., Ham's Well Service, the Lignite Energy Council, Marathon Petroleum Corporation, Minnkota Power Cooperative, the North Dakota Petroleum Council, Rainbow Energy Center, Rockflow Dynamics, SLB, and TC Energy.

#### **Event Services**

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

#### **Following the Meeting**

We value your feedback. Meeting presentations will be available on our partners-only website, and an e-blast containing a link to the meeting evaluation form will be sent in the near future.

Please feel free to contact me anytime with questions or comments regarding the PCOR Partnership. I can be reached by phone at (701) 777-5236 or by email at kconnors@undeerc.org. Again, thank you for your support, and enjoy your stay in Grand Forks!

Sincerely,

Kevin C. Connors

PCOR Partnership Program Manager

Assistant Director for Regulatory Compliance and Energy Policy

### **AGENDA**

#### **TUESDAY, SEPTEMBER 26** | **PCOR Partnership 20 years of Advancing CCUS**

12:00 Noon **Lunch** (provided)

Introduction and Overview: Walk Through the CCUS Value Chain 1:00 p.m.

Kevin Connors, EERC

1:30 p.m. Value Chain Tour

> Join us as we step through the value chain and components of CCUS while touring the EERC. Station stops include capture technologies, transportation and injection infrastructure, core analysis and storage, monitoring technologies, geologic modeling and reservoir simulations,

and outreach.

**Break** 3:30 p.m

4:00 p.m. Presentation: Celebrating 20 years of the PCOR Partnership

Wes Peck, EERC

**Adjourn** 4:45 p.m.

**Welcome Social and Networking Event | EERC\*** 5:00 p.m.



# Cloud 9 EVENTS

**Evening Networking Event Catered by** 



















































### AGENDA

#### WEDNESDAY, SEPTEMBER 27 | PCOR PARTNERSHIP ANNUAL MEETING

**8:00 a.m.** Registration, Networking, and Breakfast (provided)

8:30 a.m. Welcome and Introductions

Charlie Gorecki and Kevin Connors, EERC

8:40 a.m. Presentation: PCOR Partnership Initiative – Building on a Solid Foundation

Kevin Connors, EERC

9:00 a.m. Panel: Experiences Implementing CCUS

Hear from project developers: what is driving economics, what are the key business decisions, what current policies help/hurt commercial CCUS, what are the major project

risks, and what is missing.

Moderator - Mike Holmes, Lignite Energy Council

Gerald Bachmeier, Red Trail Energy Jim Dodson, Carbon Vault Holdings LLC

Charlie Gorecki, EERC

Mac McLennan, Minnkota Power Cooperative

10:00 a.m. Break

10:30 a.m. Panel: Gaining Acceptance for Carbon Capture and Transportation

Moderator – Kara Fornstrom, University of Wyoming School of Energy Resources

Wade Boeshans, Summit Carbon Solutions Jonathan Fortner, Lignite Energy Coal

Chad Schneeberger, ONEOK

Alicia Summers, Frontier Carbon Solutions

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

1:00 p.m. Presentation: Canada's Approach to Carbon Management

Neil Wildgust, Carbon Management Canada

1:30 p.m. Panel: CO, Enhanced Oil Recovery (EOR) – Leveling the Playing Field

Moderator – John Harju, EERC Devin Dennie, Devon Energy

Lynn Helms, NDIC

Steve Melzer, Melzer Consulting

Lon Whitman, Enhanced Oil Recovery Institute

**2:30 p.m. Break** 

3:00 p.m. Panel: Future of Commercialization in the PCOR Partnership Region (new

synergies in CCUS)

Moderator - Lynn Helms, NDIC

Stacey Dahl, Minnkota Power Cooperative

Scott Maxwell, Denbury Resources

Haley Paine, State of Alaska Department of Natural Resources

Stacy Tschider, Rainbow Energy Center

4:00 p.m. Pioneer Award Presentation

Charlie Gorecki, EERC

4:30 p.m. Wrap-Up and Future Vision of the PCOR Partnership

Kevin Connors, EERC

5:00 p.m. Adjourn

6:00 p.m. Evening Networking Event and Dinner | Cloud 9\*



**Mr. Gerald Bachmeier** has been involved in the ethanol industry for the past 33 years. He served as Chief Executive Officer of Red Trail Energy (RTE) from July 2010 through April 2023. Prior to his employment with RTE, he served as Plant Manager of Morris Ag Energy and Chief Marketing Manager of United Ethanol Sales. Mr. Bachmeier has held various board positions with many industry trade groups, including the Renewable Fuels Association, the Minnesota Coalition for Ethanol, the North Dakota Ethanol Council, and the North Dakota Ethanol Producers Association. He currently serves on the Renewable Energy Council.

**Mr. Wade Boeshans** is Executive Vice President of Summit Carbon Solutions. Throughout his career, he has led strategic initiatives to reduce the carbon footprint and improve the competitiveness of the operating companies he has managed, including in carbon capture and storage (CCS). Most recently, he was President and General Manager of BNI Energy. He has served on the North Dakota EmPower Commission since 2014. In 2018, he was named Chairman of the Lignite Energy Council. He is Chairman of the Bismarck State College Foundation Board and was appointed to the National Coal Council by the U.S. Secretary of Energy in 2019.





**Mr. Kevin Connors** is Assistant Director for Regulatory Compliance and Energy Policy at the EERC, where he works with a multidisciplinary team of scientists, engineers, and business professionals to integrate legal and regulatory policy, economics, and tax perspectives with applied research related to incremental oil recovery, unconventional oil recovery, and CO<sub>2</sub> capture and geologic storage. He is the Program Manager for the PCOR Partnership, focused on addressing regional capture, transport, use, and storage challenges facing commercial CCUS deployment. Prior to his position at the EERC, Mr. Connors held several positions with NDIC's Oil and Gas Division, including CCS Supervisor, Pipeline Program Supervisor, Underground Injection Control Supervisor, and Petroleum Engineer.

**Ms. Stacey Dahl** is Vice President of External Affairs for Minnkota Power Cooperative, based in Grand Forks, 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 and is a former private practitioner and prosecutor. She served as a member of the North Dakota House of Representatives from 2004 until 2012. In addition to overseeing public policy efforts for Minnkota, Ms. Dahl serves on the leadership team developing Project Tundra, a proposed carbon capture project at the coal-fired Milton R. Young Station in Center, North Dakota.





**Dr. Devin Dennie** is currently Manager of Geosciences at Devon Energy in Oklahoma City, Oklahoma. He has served Devon as both geologist and leader since 2006. He holds a Ph.D. in Geology and Geophysics from the University of Oklahoma-Norman and an M.S. in Geology from Texas Christian University. Dr. Dennie leads a variety of integrated subsurface technical projects for Devon, involving geoscience and engineering challenges across a wide range of basins and formations. These have included unconventional and conventional field development and optimization, global to regional exploration and appraisal, M&A and growth, strategic innovation, and technical workforce and organizational development. He is currently focused on exploration, appraisal, and development of Devon's Powder River Basin and Williston Basin assets and EOR strategies for those regions. Dr. Dennie is the author of several children's books on geology and produces STEM online educational video series, such as YouTube's "Geology Kitchen."

**Mr. Jim Dodson** is a geologist and a lawyer. He earned his bachelor's degree in Geology from Michigan State University and his law degree from the University of Denver. He was in private practice in Denver and was in-house counsel with Marathon Oil Company and later MCN/Michcon, where he moved to the business side of the oil and gas industry over 25 years ago. He has been with Rampart Energy Company since 2006 and initiated Rampart's move into carbon sequestration in 2018, which led to the creation of Carbon Vault and the Great Plains Sequestration Project.





**Ms. Kara Fornstrom** is the Director of the Center for Energy Regulation and Policy Analysis at the School of Energy Resources (SER), University of Wyoming. Prior to joining SER, she was Director, State Regulatory Policy, at the Southwest Power Pool, focusing on market expansion in the Western Interconnection. Ms. Fornstrom was appointed by two governors to the Wyoming Public Service Commission, where she served for 8 years. She started her career as an attorney focusing on water and natural resources. Ms. Fornstrom received her bachelor's degree in Small Business Management from the University of Wyoming and a Juris Doctor degree from the University of Nebraska-Lincoln College of Law.

**Mr. Jonathan Fortner** is the Vice President of Government Relations and External Affairs at the Lignite Energy Council. Prior to joining the Lignite Energy Council, he worked in a variety of roles as a legislative staffer for the Minnesota House of Representatives and as a lobbyist for the Faegre Baker Daniels law firm in Minneapolis, Minnesota. Mr. Fortner is a graduate of UND, where he received master's degrees in business administration and public administration. He is a Policy Fellow at the Humphrey School of Public Affairs at the University of Minnesota, and his background includes working on many local, legislative, and statewide campaigns in Minnesota politics.





Mr. Charles Gorecki is CEO of the EERC, where he leads a multidisciplinary science, engineering, and support team of more than 275 people focused on leading innovative energy and environmental technologies to demonstration and commercialization. Previously, he served as Director of Subsurface R&D at the EERC, where he developed and managed programs and projects focused on conventional, unconventional, and enhanced oil and gas production; geologic storage of CO<sub>2</sub>; geothermal; and other energy and environmental research. In this role, he served as Program Manager for the PCOR Partnership and the Bakken Production Optimization Program, two major collaborative industry–government programs. Mr. Gorecki also managed projects related to the entire CCUS value chain and conventional and unconventional oil and gas recovery.

**Dr. John Harju** is 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 globally in advancing its core research priorities. Dr. Harju serves on the National Coal Council and National Petroleum Council. He served on DOE's Unconventional Resources Technology Advisory Committee. As an appointee to the Interstate Oil and Gas Compact Commission, Dr. Harju served on its Energy Resources, Research, and Technology Committee and Carbon Capture and Geological Storage Task Force. He also serves on the Board of Governors of Mainstream Investors, LLC.





**Mr. Lynn Helms** is Director of NDIC's Oil & Gas Division and Director of the Department of Mineral Resources (DMR). He grew up on a cattle ranch in Harding County, South Dakota, where he learned the benefits of agriculture, prairie ecology, resources, and conservation. His work in the oil industry began as a roughneck working holidays and summers during college and has taken him all over the world. Most recently, he has served as Director of the NDIC Oil & Gas Division since July 1998 and Director of DMR since it was formed in July 2005. Before moving to Bismarck, North Dakota, to work in state government, he worked as a production engineer, reservoir engineer, and asset team leader on projects in Abu Dhabi, Alaska, Arkansas, Louisiana, Mississippi, Montana, New Mexico, North Dakota, Texas, and Wyoming.

**Mr. Mike Holmes** serves as the Director and Technical Advisor to NDIC's Lignite Research & Development Program. He is also the Executive Vice President for Research & Development at the Lignite Energy Council. Prior to joining the Lignite Energy Council, he served as the director of Energy Systems Development at the EERC, where he oversaw fossil energy research areas. His principal areas of interest and expertise include  ${\rm CO_2}$  capture; fuel processing; gasification systems for coproduction of hydrogen, fuels, and chemicals with electricity; process development and economics for advanced energy systems; and emission control technologies.



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**Mr. Scott Maxwell** currently serves as Denbury's Chief Geoscientist. He joined Denbury in 2015, working on the Development and Design team to plan, optimize, and develop new and existing  $CO_2$  EOR floods. He assumed the role of Chief Geoscientist in 2020. As Chief Geoscientist, Mr. Maxwell has worked closely with the Carbon Solutions team in the screening, selection, and subsurface characterization of Denbury's  $CO_2$  sequestration sites. Prior to joining Denbury, he began his career at ExxonMobil and worked on various projects around the globe in exploration, development, production, and research roles. Mr. Maxwell earned his B.S. degree in Geology from Brigham Young University and completed an M.S. degree in Earth Science at Rice University.

**Mr. Mac McLennan** is the President and CEO of Minnkota Power Cooperative, a generation and transmission cooperative based in Grand Forks. Minnkota provides wholesale electricity to 11 member cooperatives in eastern North Dakota and northwestern Minnesota. A Wyoming native and Jamestown University graduate, McLennan has dedicated his career to serving the rural electric cooperative industry. Prior to becoming Minnkota's CEO in 2011, he served as Senior Vice President of External Affairs and Member Relations for Tri-State Generation and Transmission Association. McLennan has also worked for the National Rural Electric Cooperative Association as Director of Environmental Affairs. In addition to his current role, McLennan serves on various industry boards and committees. He is the General Manager of Square Butte Electric Cooperative and serves on the boards of CoBank, the Lignite Energy Council, BNI Coal, and the Grand Forks Regional Economic Development Corporation.





Mr. Steve Melzer is a consulting engineer in Midland, Texas, specializing in CO<sub>2</sub> injection projects, EOR, reservoir properties, secure geologic storage, and horizontal well reservoir depressuring projects. He provides engineering and business planning services for U.S. and international commercial clients in the oil and gas, industrial gas, and coal and power sectors as well as advises policymakers and nongovernmental organizations about CO<sub>2</sub> EOR and CCS. His landmark work on the origin and distribution of residual oil zones (ROZ) led to their commercial exploitation using both CO<sub>2</sub> EOR and horizontal wells and upcoming utilization in CCS. He has been the director of the annual CO<sub>2</sub> Flooding Conference for 28 years and assists in organizing the EOR Carbon Management Workshop. He was the director of the University of Texas Permian Basin's Petroleum Industry Alliance and has served on the Governor of Texas's FutureGen Board and the PCOR Partnership's technical advisory board.

**Ms. Haley Paine** serves as the Deputy Director for the Alaska Division of Oil and Gas, where she leads its low-carbon initiatives on geothermal energy and CCUS. Most recently, this includes a legislative effort to establish a regulatory framework for CCUS in the state and stand-up of a CCUS statewide workgroup in partnership with the University and industry. Prior to joining the Division in 2015, she held multiple research roles with the Alaska Center for Energy and Power and Idaho National Laboratory. She has a master's degree in Natural Resource Management and Geography from the University of Alaska Fairbanks and a graduate certificate in Environmental Regulations and Permitting from the University of Alaska Anchorage.





**Mr. Wesley Peck** is Assistant Director for Subsurface Strategies at the EERC, where he is involved in subsurface resource development with an emphasis on the Williston and Powder River Basins. He serves as principal investigator on the multiyear DOE-sponsored North Dakota CarbonSAFE (Carbon Storage Assurance Facility Enterprise) characterization and permitting project. Mr. Peck also serves as task lead and principal investigator of the Technical Challenges component of the PCOR Partnership Initiative, which focuses on CO<sub>2</sub> storage challenges in central North America.



**Mr. Chad Schneeberger** is the Director of Renewable Project Development for ONEOK, Inc. ONEOK is a leading midstream service provider and owns one of the nation's premier natural gas liquid (NGL) systems, connecting NGL supply in the Rocky Mountain, Midcontinent, and Permian regions with key market centers and an extensive network of natural gas gathering, processing, storage, and transportation assets. Mr. Schneeberger's role is to evaluate opportunities for ONEOK to develop or invest in projects that leverage its core capabilities and support the energy transformation to low-carbon fuels. He has over 25 years in the midstream industry, with roles in engineering, operations, and project development, and has been with ONEOK for the last 16 years.

**Ms. Alicia Summers** is a founding partner and Chief Development Officer for Frontier Carbon Solutions. Founded in 2021 and headquartered in Dallas, Texas, Frontier's focus is to provide full turnkey solutions to CO<sub>2</sub> emitters through the development of safe and secure CCS. The firm is developing the Sweetwater Carbon Storage Hub in southwestern Wyoming, which is anticipated to be one of the largest open-source CO<sub>2</sub> storage hubs in the United States. Ms. Summers leads the subsurface reservoir and Class VI permitting efforts and was instrumental in drafting and executing the state of Wyoming's first pore space agreements. Prior to Frontier, Ms. Summers was a partner at Open Water Capital Partners, an investment platform that focused on transitional energy opportunities. Ms. Summers acquired her subsurface experience and expertise during her 17 years of employment at NSAI (Netherland, Sewell & Associates, Inc.), one of the top petroleum consulting firms in the world.





**Mr. Stacy Tschider** has strategically built and run a successful business empire across the United States, Canada, and Mexico. His portfolio in the North American markets has over a quarter century of prominent success in leading the wholesale electricity and natural gas, retail natural gas, propane, oil, and real estate industries. He is a founder of Rainbow Energy Center and Nexus Line. He was instrumental in leading the Rainbow Energy Center team in the purchase of Coal Creek Station, which is a 1151-MW power plant. He also played a huge role in the Nexus Line purchase of high-voltage direct current (HVDC) facilities, containing the 436-mile HVDC transmission line. These acquisitions will not only pave the way in CCS technology but, more importantly, save over 600 jobs, with an estimated impact of \$1.5 billion in local North Dakota communities. These foundational developments are near and dear to his heart, as unlocking the potential of his local community brings a great level of purpose in his entrepreneurial journey.

**Mr. Lon Whitman** is Director of the Wyoming Enhanced Oil Recovery Institute (EORI) in Casper, Wyoming. EORI is the only state-funded institute in the country dedicated to collaborative work with the oil industry to improve and enhance oil production at no cost to the operator. Mr. Whitman studied at Colorado School of Mines and the University of Wyoming and has a degree in Petroleum Engineering. He has over 35 years of experience in the oil and gas industry, including Louisiana, Texas, New Mexico, North Dakota, and Wyoming. His professional career includes both offshore and onshore experience in reservoir engineering and business development. Mr. Whitman has extensive background in EOR principles and technologies and worked for nearly 10 years as a private consultant in EOR and incremental oil recovery projects. He also has professional experience in environmental due diligence as a consultant for oil and gas acquisitions and divestitures.





Mr. Neil Wildgust is the President and CEO of Carbon Management Canada (CMC), responsible for leading the organization in supporting industry, governments, and other organizations attempting to reduce emissions and meet their net-zero goals. He has been a champion of CCS technologies for the past two decades, bringing over 35 years of geoscience expertise to the team. Prior to joining CMC, he had left his role as Director for Cordilleran Research at the British Columbia Geological Survey to consult independently on CCS and risk assessment. Mr. Wildgust has held past roles within the IEA Greenhouse Gas (IEAGHG) R&D Programme, the Petroleum Technology Research Centre leading the IEAGHG Weyburn-Midale Program, the Global CCS Institute in Calgary, and the EERC. He also served as an Associate Editor of the *International Journal of Greenhouse Gas Control* between 2016 and 2021 and was a recipient of a PCOR Partnership Pioneer Award in 2015.

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### PARTNF

































































































































































































































































**THE PCOR PARTNERSHIP PROGRAM** was formed in 2003 as part of DOE's Regional Carbon Sequestration Partnership (RCSP) Program, comprising distinct program phases intended to build regional expertise to advance CCUS:

Phase I (2003–2005): **Characterization** of regional CCUS potential to establish a technical foundation Phase II (2005–2009): **Validation** of storage potential through small-scale field validation projects Phase III (2007–2019): **Demonstration** of large-scale field projects storing at least 1 million metric tons

In 2019, the PCOR Partnership launched the Initiative to Accelerate Commercial **Deployment** of CCUS, with support from the University of Alaska Fairbanks and the University of Wyoming. The PCOR Partnership is funded by DOE, NDIC, and over 250 participating member organizations and is addressing regional capture, transport, use, and storage challenges facing commercial CCUS deployment.



### What does it mean to be a PCOR Partnership partner? It means:

- · Your priorities are our priorities!
- You play a key role in identifying and addressing challenges facing commercial CCUS deployment.
- Your expertise is invaluable to our future success.
- You inform the direction of our work!

Want to become a partner or be more involved as an existing partner? Please contact:

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