Driving Innovation & Delivering Solutions

Carbon Management and Oil and Gas Research Project Review Meeting

Carbon Storage

All times designated in Eastern Daylight Time

**Wednesday, August 4, 2021**

**Moderator:** Mark McKoy

**10:00 AM** Welcoming Remarks  
Mark Ackiewicz, U.S. Department of Energy

**10:05 AM** Carbon Storage Program: New Directions  
Darin Damiani, U.S. Department of Energy

**10:40 AM** International Perspectives: IEA greenhouse GHG Update  
Tim Dixon, IEA Greenhouse Gas R&D Programme

**11:10 AM** International Perspectives: DOE Office of Fossil Energy & Carbon Management  
Jarad Daniels, U.S. Department of Energy

**11:40 AM** SMART Initiative Overview  
Grant Bromhal, National Energy Technology Laboratory

**12:10 PM** Carbon Storage’s FAIR Data Repository  
Kelly Rose, National Energy Technology Laboratory

**12:40 PM** LUNCH

**Regional Initiatives**

**Moderator:** Bill Aljoe

**1:40 PM** Regional Initiative to Accelerate CCUS Deployment in Midwestern and Northeastern USA (FE0031836)  
Neeraj Gupta, Battelle

**2:10 PM** Plains CO₂ Reduction (PCOR) Partnership Initiative (FE0031838)  
Kevin Connors, University of North Dakota Energy & Environmental Research Center
Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

2:40 PM  Southeast Regional Carbon Utilization and Storage Partnership (SECARB-USA) (FE0031830)
Susan Hovorka, Gulf Coast Carbon Center, University of Texas at Austin and Brian Hill, Crescent Resource Innovation

3:10 PM  Carbon Utilization and Storage Partnership of the Western United States (FE0031837)
Robert Balch, New Mexico Institute of Mining and Technology

3:40 PM  The Southwest Partnership on Carbon Sequestration (FC26-05NT42591)
Robert Balch, New Mexico Tech and Brian McPherson, University of Utah

4:10 PM  ADJOURN
Thursday, August 5, 2021

10:00 AM Opening Remarks
BEST/ROZ/Associated Storage
Moderator: Andrea McNemar

10:10 AM Phase II Field Demonstration at Plant Smith Generating Station Assessment of Opportunities for Optimal Reservoir Pressure Control, Plume Management and Produced Water Strategies (FE0026140)
Robert Trautz, Electric Power Research Institute

10:40 AM Developing and Validating Pressure Management and Plume Control Strategies in the Williston Basin Through a Brine Extraction and Storage Test (BEST) (FE0026160)
John Hamling and Ryan Klapperich, University of North Dakota Energy & Environmental Research Center

11:10 AM Stacked Greenfield and Brownfield Roz Fairways in the Illinois Basin Geo-Laboratory: Co-Optimization of Eor and Associated CO₂ Storage (FE0031700)
Nathan Webb, Illinois State Geological Survey

11:40 AM Williston Basin Associated CO₂ Storage Field Laboratory (FE0031694)
Steven Smith and John Hamling, University of North Dakota Energy & Environmental Research Center

12:10 PM Developing CO₂-Eor and Associated Storage within the Residual Oil Zone Fairways of the Powder River Basin, Wyoming (FE0031738)
Graeme Finley, University of Wyoming
Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

12:40 PM  LUNCH

Secure Storage

Moderator: Mary Sullivan

1:40 PM  A Highly Sensitive Real-Time Subsurface Sensor for CO₂ Leakage Monitoring (SC0021479)
Shixuan Zeng, Bettergy Corp

2:10 PM  The Role of Chemical Alteration in Arkosic Reservoirs (FWP-FEW0271)
Megan Smith, Lawrence Livermore National Laboratory

NETL RIC

2:40 PM  Modeling the MT and CSEM Response scCO₂ Plume at the Kemper CarbonSAFE Site (FWP-1022403)
Richard Hammack, National Energy Technology Laboratory

3:10 PM  NETL RIC’s Carbon Storage Research Supporting Field Efforts (FWP-1022403)
Dustin Crandall, National Energy Technology Laboratory

3:40 PM  Using SmartParse NLP Tools to Develop a Living Database for Carbon Storage Data
Paige Morkner and Mike Sabbatino, NETL

4:10 PM  ADJOURN
Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

Friday, August 6, 2021

10:00 AM  Opening Remarks

NRAP

Moderator: Lei Hong

10:10 AM  NRAP Phase II - Managing Risks and Reducing Uncertainties: An Overview of Research Objectives and Accomplishments
Robert Dilmore, NETL

10:40 AM  National Risk Assessment Partnership: NRAP Tools and Recommended Practices for Induced Seismicity
Josh White, LLNL, Dennise Templeton, LBNL

Diana Bacon, PNNL

NETL RIC

11:40 AM  Examining Possible CCS Deployment Pathways: Onshore and Offshore (FWP-1022464)
Timothy Grant, National Energy Technology Laboratory

12:10 PM  Novel Geomechanical Signal Methodologies (FWP-1022403)
Ale Hakala and James Gardiner, National Energy Technology Laboratory

12:40 PM  LUNCH
Carbon Management and Oil and Gas Research Project Review Meeting

Carbon Storage

All times designated in Eastern Daylight Time

SMART

Moderator: Kylee Underwood

1:40 PM  SMART: Real Time Visualization for Rock and Fluid Properties
Dustin Crandall, NETL, and David Alumbaugh, LBNL

2:10 PM  SMART: Real Time Visualization for Pressure and Stress
Josh White, LLNL, Sherilyn Williams-Stroud, Midwest Geological Sequestration Consortium, University of Illinois

2:40 PM  SMART: Real Time Forecasting for Carbon Storage
Thomas McGuire, EERC, Catherine Yonkoski, PNNL

3:10 PM  SMART: Virtual Learning for Carbon Storage
Rajesh Pawar, LANL, Jared Schuetter, Battelle

3:40 PM  Carbon Storage Data Integration, Visualization and Application via EDX and GeoCube
Paige A. Morkner and Jennifer Bauer, NETL

4:10 PM  ADJOURN
Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

Monday, August 9, 2021

10:00 AM Opening Remarks
Moderator: Bill O'Dowd

CarbonSAFE Phase II

10:10 AM Wabash CarbonSAFE (FE0031626)
Christopher Korose, University of Illinois

10:40 AM CarbonSAFE Illinois Macon County (FE0029381)
Steve Whittaker, University of Illinois

Plume Detection/Quantification

11:10 AM Robust Carbon Dioxide Imaging Using Joint Tomographic Inversion of Seismic Onset Time and Distributed Pressure and Temperature Measurements (FE0031625)
Akhil Datta-Gupta, Texas A&M

11:40 AM Integration of Seismic-Pressure-Petrophysics Inversion of Continuous Active-Seismic Monitoring Data for Monitoring and Quantifying CO₂ Plume (FE0031544)
Tieyuan Zhu and Eugene Morgan, Pennsylvania State University

12:10 PM New Imaging and CO₂ Storage Technologies for Unconventional Subsurface Reservoirs (FWP-70066)
Quin Miller, Pacific Northwest National Laboratory

12:40 PM LUNCH
Plume Detection/ Monitoring

Moderator: Natalie Iannacchione

1:40 PM Monitoring of Geological CO\textsubscript{2} Sequestration Using Isotopes and PF Tracers (FWP-FEAA045)  
Joachim Moortgat, The Ohio State University

2:10 PM Field Validation of MVA Technology for Offshore CCS: HR3D Seismic (FE0028193)  
Tip Meckel, Gulf Coast Carbon Center – UT Austin

2:40 PM Automated Data Collection and Compression System for CO\textsubscript{2} Monitoring Data (SC0019854)  
Salah Faroughi, Petrolern, LLC

3:10 PM Task 5: Large-N Seismic Monitoring (TCF-19-17754)  
Eric Matzel, Lawrence Livermore National Laboratory

3:40 PM NETL’s SmartSearch Deep Learning Tool, Scalable Data Search and Parse for Carbon Storage Data Discovery  
Vic Baker Mid-Atlantic Technology, Research & Innovation Center (MATRC)  
Jennifer Bauer, Paige Morkner and Kelly Rose, NETL

4:10 PM ADJOURN
Tuesday, August 10, 2021

10:00 AM Opening Remarks

Offshore

Moderator: Kyle Smith

10:10 AM Southeast Regional Carbon Storage Partnership: Offshore Gulf of Mexico (FE0031557)
Jack Pashin, Oklahoma State University and George Koperna, Advanced Resources International, Inc.

10:40 AM GoMCARB – Offshore CO₂ Storage Partnership (FE0031558)
Tip Meckel, Gulf Coast Carbon Center, University of Texas at Austin

Plume Detection/ Quantification

11:10 AM Development of High Sensitivity Engineered Optical Fiber for Distributed Acoustic Sensing (FWP-FEW0246)
Mike Messerley, Lawrence Livermore National Laboratory

11:40 AM Active Seismic Monitoring CO₂ Leakage through a Hydromechanically Reactivated Fault (FP-FP00007630)
Yves Guglielmi, Lawrence Berkeley National Laboratory

12:10 PM Second Generation SOV-DAS (FWP-ESD14095)
Julia Correa, Lawrence Berkeley National Laboratory

12:40 PM LUNCH
Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

Plume Detection/ Monitoring

Moderator: Bill Aljoe

1:40 PM Wireless Microsensors System for Monitoring Deep Subsurface Operations (FE0031850)
Joel Sminchak and Mark Moody, Battelle

2:10 PM Integrated Plume Monitoring Using Joint EM-Seismic and Strain Sensing (FWP-ESD14095)
David Alumbaugh, Lawrence Berkeley National Laboratory

2:40 PM Optical Monitoring Technology (HS-VOS) for Deep CO₂ Injection (FWP-ESD14095)
Michelle Robertson, Lawrence Berkeley National Laboratory

3:10 PM Novel Machine Learning Based Methods to Detect Small Leaks (FWP-FE-1122-19-FY19)
Youzuo Lin, Los Alamos National Laboratory

3:40 PM ADJOURN
Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

Wednesday, August 11, 2021

10:00 AM Opening Remarks

Subsurface Stress

Moderator: Josh Hull

10:10 AM An Approach for Determination of In-situ Stress Distribution in Geologic Formations Considered for CO\textsubscript{2} Storage (FE0031686)
Mark Kelley, Battelle

10:40 AM Improving Subsurface Stress Characterization for Carbon Dioxide Storage Projects by Incorporating Machine Learning Techniques (FE0031684)
William Ampomah, New Mexico Institute of Mining and Technology and Lianjie Huang, Los Alamos National Laboratory

11:10 AM Refining Principal Stress Measurements in Reservoir Underburden in Regions of Induced Seismicity Through Seismological Tools, Laboratory Experiments and Theory (FE0031687)
Laura Chiaramonte, EPRI and Robert Skoumal, USG

11:40 AM Development of Thermal Breakout Technology for Determining In-Situ Stress (FE0031688)
Jay Nopola, RESPEC Inc. and Sam Voegeli, RESPEC Inc.

12:10 PM Identification of Faults Susceptible to Induced Seismicity (FE0031685)
Scott Frailey, Illinois State Geological Survey

12:40 PM LUNCH
Driving Innovation & Delivering Solutions

Carbon Management and Oil and Gas Research Project Review Meeting
Carbon Storage

All times designated in Eastern Daylight Time

Wellbore Integrity

Moderator: Natalie Iannacchione

1:40 PM  Casing Annulus Monitoring of CO₂ Injection Using Wireless Autonomous Distributed Sensor Networks (FE0031856)
David Chapman, University of Texas at Austin, Bureau of Economic Geology, Mohsen Ahmadian, University of Texas at Austin, Bureau of Economic Geology, Axel Scherer, Caltech, Jeff Mecham, Research Triangle Institute, Andrew Wright, Sandia National Laboratories

2:10 PM  Embedded Sensor Technology Suite for Wellbore Integrity Monitoring (FWP-1022435)
Ruishu Wright, National Energy Technology Laboratory

2:40 PM  High-Resolution 3D Acoustic Borehole Integrity Monitoring System (FWP-FE-855-17-FY17)
Cristian Pantea, Los Alamos National Laboratory

3:10 PM  Thermopile Energy Harvesting for Subsurface Well Bore Sensors (FWP-2022728)
Charles Bryan, National Technology and Engineering Solutions of Sandia, LLC

3:40 PM  ADJOURN