

## **Carbon Capture and Utilization for Kansas**

On July 26, 2018 the Kansas Geological Survey (KGS) and the State CO<sub>2</sub> EOR Deployment Workgroup (State Workgroup) hosted its second Carbon Capture and Utilization in Kansas conference. The meeting was held in the Beren Conference Center in the recently opened Earth Energy & Environment Center at the University of Kansas.

Nearly seventy individuals with wide-ranging interests and from different industry sectors participated in the one-day conference, including representatives from CO<sub>2</sub> sources (coal power and ethanol plants), geologic sites (oil and gas industry – four largest oil producers in Kansas and largest CO<sub>2</sub>-EOR company in the U.S.), regulatory and public policy, governmental officials and scientists and researchers involved in two U.S. DOE-funded Phase 1 CarbonSAFE projects. Kansas government dignitaries included Andre Wiens, Chief Policy Office for Governor Colyer, State representatives Tom Sloan and Mark Schreiber, and Commissioner Dwight Keen. On the regulatory and agency side, representatives from EPA Region 7, Kansas Department of Health and Environment, Kansas Corporation Commission, and the U.S. Department of Energy participated.

Four main meeting objectives were accomplished through ten presentations, topical breakout sessions followed by an all-group discussion.

- Report on DOE-funded Integrated Carbon Capture Utilization and Storage (CCUS) for Kansas (Phase I) and plans for Phase II.
- Discuss regional and national CCUS initiatives, anticipated activities related to 45Q, and the State CO<sub>2</sub>-EOR Deployment Work Group.
- Identify economic opportunities from an industry perspective in Kansas and the region.
- Networking for a collaborative carbon capture and EOR initiative in Kansas and surrounding states.

Brad Crabtree provided an update on the recent and future efforts by the State Workgroup and the Carbon Capture Coalition (formerly the National Enhanced Oil Recovery Institute – NEORI). The State Workgroup is an organization managed by Great Plains Institute, a partner in the ICKan project. It is comprised of state officials from 14, mostly central U.S. states, along with private sector stakeholders and experts seeking to accelerate the deployment of carbon capture from power plants and industrial facilities and increase the use of anthropogenic CO<sub>2</sub> in enhanced oil recovery, while safely and permanently storing the CO<sub>2</sub> underground in the process. Crabtree recapped the passage of the FUTURES Act expanding and extending 45Q tax credits for CO<sub>2</sub> EOR and storage, in which the State Workgroup and NEORI were instrumental, and outline additional legislative initiatives that could help facilitate wide-spread deployment USE IT Act and the Carbon Utilization Act.

A highlight of the meeting were presentations by both White Energy (CEO Greg Thompson) and Occidental Petroleum (Al Collins, Senior Director Regulatory Affairs and Charlene Russell, VP Low Carbon Ventures). They discussed their recently announced CCUS partnership. CO<sub>2</sub> from two White Energy Texas Panhandle ethanol plants will be captured, compressed and pipelined to OXY's Permian Basin oil fields for EOR and concurrent storage.

### **CarbonSAFE projects reviewed**

Four presentations provided an update and results of the Kansas Geological Survey managed CarbonSAFE Phase 1 ICKan project and an introduction to the [Phase 2 project](#) in which the KGS will participate:

- Overview of ICKan: Integrated Carbon Capture and Storage in Kansas – Eugene Holubnyak, Kansas Geological Survey
- Known Unknowns: Legal, Regulatory and Public Policy Issues with CCS and CCUS and Possible Solutions – Joe Schremmer, Depew Gillen Rathbun & McInteer, LC
- Economics for CO<sub>2</sub> Capture, Compression and Transportation in the Mid-Continent – Martin Dubois, Improved Hydrocarbon Recovery, LLC
- Integrated Midcontinent Stacked Carbon Storage Hub - Andrew Duguid, Battelle

### **Industry perspective**

Industry point of views from three sectors, oil and gas, ethanol, and midstream, were presented by Dana Wreath (Borexco LLC), Scott McDonald (Archer Daniels Midland) and Keith Tracy (CornerPost CO2 LLC).

### **Breakout sessions and all-group discussions**

Much of the afternoon session was devoted to lively discussions in breakout sessions defined by topic followed by an all-group discussion that concluded with an informal plan for future engagement by the stakeholders in CCUS for Kansas and the region. There were three breakout groups covering 1) CO<sub>2</sub> Sources, Capture and Transportation, 2) Geologic Sites for EOR and Saline Storage, and 3) Legal/Regulatory/Public Policy. The groups discussed challenges and possible solutions specific to the group and identified issues that cross-cut with other sectors. The all-group discussions that followed focused on topics that impact all stakeholders and sectors: 1) Understanding 45Q, 2) Feasibility for large-scale infrastructure project in the Midcontinent, 3) Aggregation of CO<sub>2</sub> from relatively small, disparate sources, Class VI wells. Please see the Summary of Discussions documents for details.