

# The Multi-State CO<sub>2</sub>-EOR Working Group

NASEO Clean Coal/CCUS Workshop

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# Overview

- History
- Goals and Objectives
- Participants
- Policy Papers
- Future Initiatives

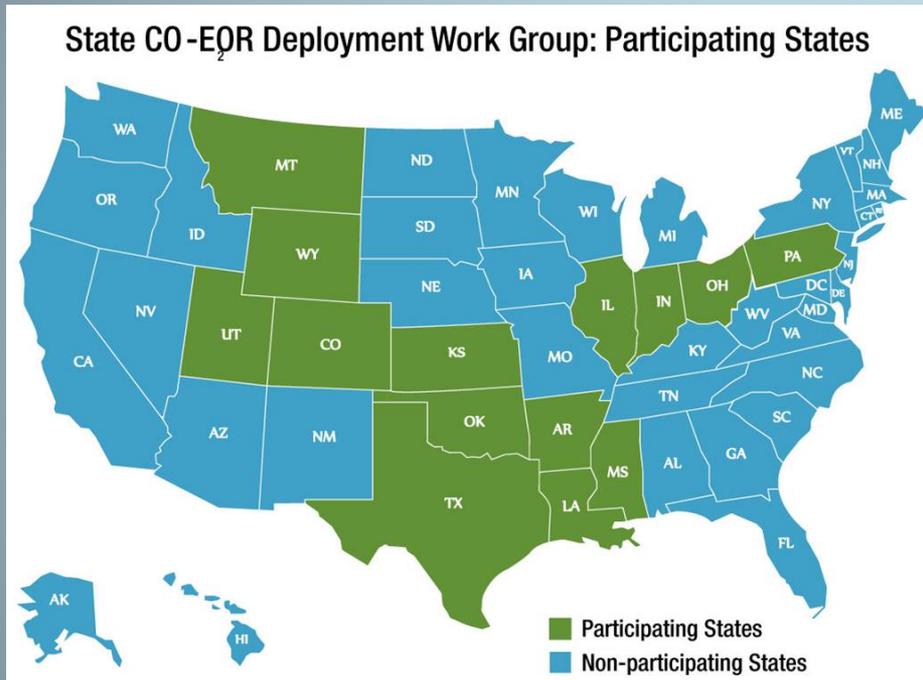
# History

- Western Governors' Association: Policy Resolution 2015-06 – Enhanced Oil Recovery
- Southern States Energy Board Resolution
- Resolutions Generated Broad Interest
- Governors Mead and Bullock Launched Work Group in September 2015
- Staffed and Facilitated by Great Plains Institute

# Goals and Objectives

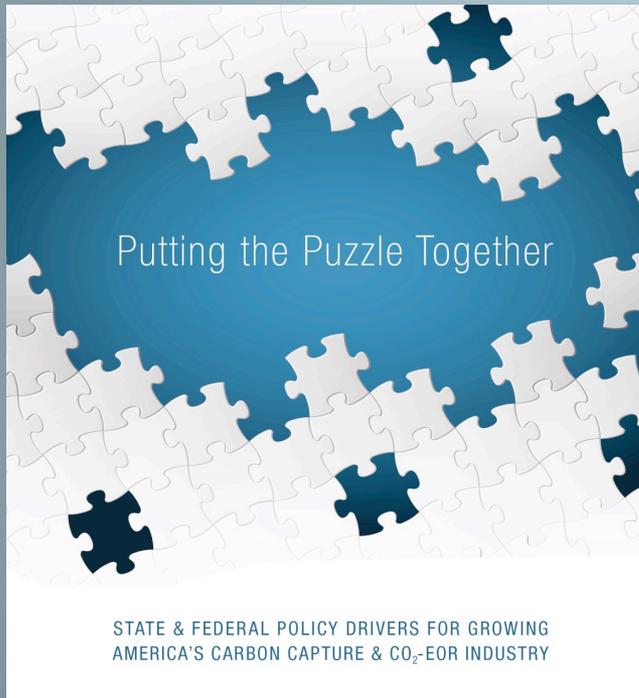
- Help policy makers better understand potential for carbon capture and CO<sub>2</sub>-EOR
- Recommend strategies and policies to states and federal government that promotes project deployment
- Support policy makers in implementing recommendations
- Encourage enactment of federal policies that complement state priorities
- Support efforts to deploy projects – “Turn Dirt and Get Projects on the Ground”

# Participants



- Representatives from 15 states (growing)
- Bipartisan
- Industry
- NGOs
- Finance
- CO<sub>2</sub>-EOR Experts

# Puzzle Pieces



## **Federal Recommendations**

- Extend, expand and reform the Section 45Q tax credit
- Establish federal contracts for differences to help stabilize CO<sub>2</sub> prices
- Make carbon capture eligible for tax exempt private activity bonds

## **State Recommendations**

- Optimize existing state taxes to support carbon capture and CO<sub>2</sub>-EOR project deployment

# Pipeline Networks



## 21st Century Energy Infrastructure:

### Policy Recommendations for Development of American CO<sub>2</sub> Pipeline Networks

White paper prepared by the  
State CO<sub>2</sub>-EOR Deployment Work Group

February 2017

## Recommendations

- Make CO<sub>2</sub> pipelines a component of the broader national infrastructure agenda
- Leverage private capital with federal financing to develop large volume, long distance CO<sub>2</sub> trunk pipeline infrastructure
- Support CO<sub>2</sub> pipeline corridor planning and streamlined permitting processes

# Pipeline Financing



## 21st Century Energy Infrastructure:

Federal Financing Options to Support Buildout of Carbon Dioxide Pipelines

Prepared by the State CO<sub>2</sub>-EOR Deployment Work Group

April 2017

- Provides a menu of potential federal financing options to support buildout of pipeline infrastructure
- Illustrated options for privately owned, publicly owned, and 50/50 private/public owned pipeline infrastructure
- Work Group submitted this work in letters to U.S. Senate and House leadership, and the U.S. President
- Available at:  
<http://www.betterenergy.org/blog/co2-eor-workgroup-outlines-federal-financing-options-co2-pipeline-infrastructure/>

# Electricity Markets



## Electricity Market Design and Carbon Capture Technology:

### The Opportunities and the Challenges

White paper prepared by the  
State CO<sub>2</sub>-EOR Deployment Work Group

- Carbon capture equipped power plants face challenges to commercial viability
- Electricity markets require dispatch of cheapest available power first
- Carbon reduction benefits are neither valued in the market, nor addressed by public policy
- Multiple regulatory entities and mechanisms compound the challenges
- Made policy recommendations that could benefit power plants with carbon capture in order to capitalize on their affordable and reliable power, while accounting for environmental stewardship

# Utilizing CO<sub>2</sub> from Ethanol



## **Capturing and Utilizing CO<sub>2</sub> from Ethanol:**

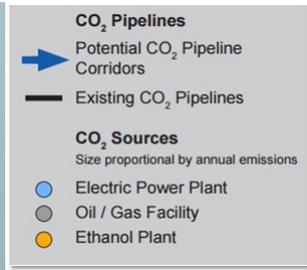
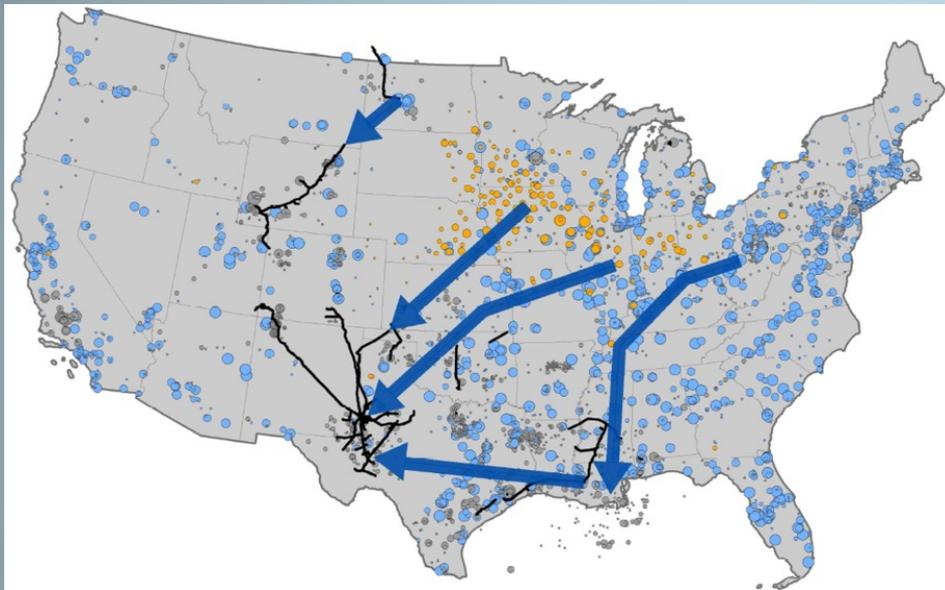
**Adding Economic Value and Jobs to  
Rural Economies and Communities  
While Reducing Emissions**

White paper prepared by the  
State CO<sub>2</sub>-EOR Deployment Work Group

December 2017

- Ethanol industry provides low hanging fruit for carbon capture
- Production process generates relatively pure and easily captured CO<sub>2</sub> that can be used for EOR and/or saline storage
- 45Q tax credit helps bridge the cost gap
- Appropriately implemented low carbon fuel policies can help bridge cost gap
- Pipeline infrastructure is the limiting factor
- Modeled 2 cost scenarios for pipeline project development and made policy recommendations to promote utilization of this resource

# Regional Carbon Capture Initiative



- Initiative will look at opportunities to directly facilitate deployment of carbon capture, utilization and storage projects
- Will take a regional approach, due to resource constraints, then expand over time
- Solid understanding of sources and sinks of CO<sub>2</sub> and general locations of pipeline infrastructure
- Will look at potential corridors to link those CO<sub>2</sub> resources
- Will provide financial analysis to look at potential early movers
- Will make policy recommendations to support deployment of projects, based on results of our analyses

# Conclusions

- Work Group involves collaboration from diverse stakeholders
- Published materials are well informed and have provided valuable and effective material to policy makers
- We are all interested in promoting the deployment of projects
- We will happily accept additional active members to the Work Group
- Work Group papers are available at <http://www.betterenergy.org/>

# Questions?



