

**MGA Renewable Electricity &  
Advanced Coal with Carbon Capture and Storage  
Advisory Group (REACCS)**

**REACCS Day Two Meeting Notes:  
CO<sub>2</sub> Mgmt. Infrastructure Partnership, MGA Energy  
Infrastructure Accord, and the Co-utilization of Coal &  
Biomass**

**May 12<sup>th</sup>, 2009  
Minneapolis, MN**

**MGA**



**Midwestern Governors Association**

# Policy Options Document

- Current text of the policy options document reflects the comments that have been received to date.
- Staff will integrate any additional language related to the renewable electricity policies and send out to the group for final review and approval.
- Greg Powell is finalizing the quantification that will be integrated into the POD in the near-term.

# Policy Options Document Discussion

- Energy Efficiency POD offers example of what a finished Policy Options Document looks like:  
[www.midwesterngovernors.org](http://www.midwesterngovernors.org).
- Greg Powell needs timely assistance with final numbers in order to finish quantification.
- Staff will draft policy recommendations on Storage, Wind siting & FITs for consideration separately; then integrate into POD.

# CO<sub>2</sub> Management Infrastructure Partnership Resolution Implementation Update

- **Carbon Capture and Storage Policy Principles Statement**
  - Completed draft incorporating feedback received in Traverse City.
  - Draft being reviewed by the MGA Steering Committee.
  - Need better basin characterization. This needs to be called out more in the document.
  - What about the basin-wide authority concept? Would like more discussion about this.

# CO<sub>2</sub> Management Infrastructure Partnership Resolution Implementation Update

**Deliverable 1:** report on costs and benefits of CO<sub>2</sub> enhanced oil recovery.

- Developed scope of work with MGA sub-group participants to conduct analysis on:
  - Potential for CO<sub>2</sub>-EOR in the MGA region.
    - Based on analysis and methodology utilized in previous DOE NETL studies.
  - The CO<sub>2</sub> accounting of CO<sub>2</sub>-EOR.
    - Currently reviewing methodology being used in existing CO<sub>2</sub>-EOR projects in the US and Canada.

# Report on lifecycle GHG profile of CO<sub>2</sub>-EOR

- Peter Taglia and graduate student developing white paper on this; available within next 3-4 weeks.
- Michael W. is not yet considering the potentially large differences in carbon-intensity of CO<sub>2</sub>-EOR.
- Should have a recommendation on this in REACCS body of recommendations.
- Will help inform how to treat this oil under a Low-carbon Fuel Standard.
- Will help demonstrate that CO<sub>2</sub>-EOR is a well-established commercial process.

# Report on lifecycle GHG profile of CO<sub>2</sub>-EOR

- REACCS Advisory Group to consider how to integrate data from the CO<sub>2</sub>-EOR Whitepaper (Taglia et al.) into the commercial plan.
- Could have Op-Ed co-authored by environmental NGO and business rep and government rep. articulating the significance of CO<sub>2</sub>-EOR.
- Peter T. will send around draft for comments within next 3-4 weeks (Tom Godbold, Rex, Harvey, Bob).
- Coordinate with BTAG Advisory Group when draft is available.

# Update on pipeline network optimization model

- Jeff finishing up first stage of modeling within next few weeks.
- Investigating whether or not DOE analysis can be incorporated into Jeff's modeling and what the data needs would be.

# CO<sub>2</sub> Management Infrastructure Partnership Resolution Implementation Update

- **Geologic Storage Utility Concept**
  - The sub group has had two conference calls and aims to have design recommendations completed by June 2009.
  - Design recommendations incorporate conference call feedback to date.
  - Side-by-side comparison chart developed to evaluate different options for the structure of the utility.

# Discussion of Geologic Storage Utility Concept

- What is the alternative to establishing a utility of this kind?
  - Developers would be left to manage their own CO<sub>2</sub>.
  - Developers would apply for a Certificate of Need and get regulatory approval for a single project.
- A key challenge is to manage the use of the subsurface among potentially competing projects.
- Would purely commercial EOR projects be covered by such a utility? Might depend on the state.
- Staff will solicit additional Advisory Group feedback via email with a deadline.

# 21<sup>st</sup> C. Energy Infrastructure Accord Discussion

**Goal:** To collect the infrastructure-related elements from across the 3 Advisory Groups and develop a compelling Energy Infrastructure Accord for Governors to sign in October 6-7.

**Objective Today:** To get your feedback on what the Accord should include.

- Add something on rail: inter-urban, inter-city, high-speed, ultra-light, PRT, electric (plug-in).
- Add something on “Electricity Storage” as part of the SmartGrid recommendation (use carbon sequestration instead of storage).

# 21<sup>st</sup> C. Energy Infrastructure Accord Discussion

- Establish one or more “Centers of Excellence” in the Midwest around energy technologies in which this region has a strength or comparative advantage (or needs to develop one). Midwest already has some of these.
  - AEP teaming with Rolls Royce on development of batteries (OH) Get details from Kristy.
  - Could collect Ctrs. Of Excellence case studies from across the Midwest.
- Add something on research infrastructure and manufacturing infrastructure.

# Commercial Demonstration of Co-utilization of Coal+Biomass w/CCS

1. Does REACCS want a policy on this?
2. If yes, what policies are needed to encourage co-utilization of coal+biomass?
3. ID potential demonstration project(s) to highlight in the Roadmap, as way to jump-start biomass supply-chain development and CCS.
  - Fits in with RE 1, 6, and AC-CCS,2
  - Should describe the technologies that can make this work.
  - Combine with CHP.

# Commercial Demonstration of Co-utilization of Coal+Biomass w/CCS

- Include analysis of comparative efficiency (under “Key Issues to Address”). E.g., 20% biomass feedstock is not necessarily more efficient than a Supercritical plant if the co-firing facility is inefficient.
- Secure Energy (see John T. for details).
  - Could be good project example.
- Include potential indirect effects of land use related to biomass use in energy production.
  - ADD: Bullet on direct and indirect land use impacts (both good and bad).
- May oversell the potential for carbon-negative energy, since biomass use will usually have land-use impacts.

# Commercial Demonstration of Co-utilization of Coal+Biomass w/CCS

- Of the finite biomass resources available, what is the best energy use of that biomass?
  - Should know this before committing to using in co-gasification with coal (see LCFS study for information that might help answer this question).
- PROJECT: U of Iowa: co-fire up to 10% oat hulls with coal (Criteria pollutants are lower). See Nathaniel for details.