

# Carbon Capture, Utilization, & Storage (CCUS) Task Force Meeting

Bergen, Norway  
June 11, 2012



# CCUS Task Force

## History

- **At the CSLF Ministerial meeting in Beijing, the CSLF Charter was amended to, among other things, include CO<sub>2</sub> utilization technologies as an important aspect of a CO<sub>2</sub> emission reduction strategy, in addition to carbon capture and storage technologies that have been the focus of CSLF efforts since its inception in 2003.**
- **In response, the CSLF Technical Group included in its Five-Year Action Plan (2011-2016) included Action Plan #12: CO<sub>2</sub> Utilization Options**
- **At the September 2011 Joint Policy/Technical Meeting, the Five-Year Action Plan was approved, and the formation of a task force to implement Action Plan 12 was proposed.**



# CCUS Task Force

## History

- **The United States offered to chair or co-chair the new group**
- **After the meeting, the United States drafted a planning document that contained a draft charter, which was distributed to all delegates on December 8<sup>th</sup> by the CSLF Secretariat, along with an invitation to join the task force.**
- **China identified three technical experts to be involved, and the United Kingdom also expressed their desire to participate.**
- **Today is the first meeting of the CCUS Task Force**



# CCUS Task Force



## Meeting Goals – June 11, 2012

- **Finalize and agree upon CO<sub>2</sub> Utilization Task Force Planning Document and Charter.**
- **Develop and approve work plan and schedule: Deliverables, Milestones and Timeline for Phase I and Phase II.**
- **Develop initial list of CO<sub>2</sub> utilization options for initial evaluation.**
- **Finalize CCUS Taskforce membership.**
- **Make assignments.**



# CCUS Task Force

**Charter  
(See handout)**



# CCUS Task Force

## Purpose:

- **The purpose of the CCUS Task Force is to identify/study the most economically promising CO<sub>2</sub> utilization options that have the potential to yield a meaningful, net reduction of CO<sub>2</sub> emissions.**



# CCUS Task Force

## Deliverables

### Phase I Report: [By: Date]

- Phase I report will provide a summary of existing information regarding CO<sub>2</sub> utilization options,
- A discussion of the state of each relevant technology and application,
- A preliminary assessment of the relative value of the utilization option to make a meaningful impact on CO<sub>2</sub> emission reductions, and
- An indication regarding the economic viability of the technology.



# CCUS Task Force

## Deliverables

### Phase II Report: [By: Date]

- Phase II report will provide a more thorough discussion of the most attractive CO<sub>2</sub> utilization options, based on economic promise and CO<sub>2</sub> reduction potential.
- An assessment of current and potential economic viability,
- CO<sub>2</sub> reduction potential at various price points,
- The potential for co-production, and
- A discussion of RD&D needs.



# CCUS Task Force

## Milestones: Phase I

- |   | Due Date/Lead                |
|---|------------------------------|
| • Develop initial list of CO <sub>2</sub> utilization options for initial evaluation. | June 2012<br>CCUS task force |
| • Conduct literature review and draft report for review and comment by task force.    | [Date]<br>[Lead]             |
| • Final Phase I Report to CSLF Technical Group/Policy Group.                          | [Date]<br>CCUS task force    |



# CCUS Task Force



## Milestones: Phase II

- |  | <b>Due Date/Lead</b>                 |
|--|--------------------------------------|
| <ul style="list-style-type: none"><li>• <b>Selection of technologies for further evaluation (based on economic promise and CO<sub>2</sub> reduction potential). Selection based upon expert elicitation.</b></li></ul> | <p>[Date]</p> <p>CCUS task force</p> |
| <ul style="list-style-type: none"><li>• <b>Identify lead for Phase II Report; identify subject matter experts to author pertinent sections of report.</b></li></ul>  | <p>[Date]</p> <p>CCUS task force</p> |



# CCUS Task Force

## Milestones: Phase II (cont'd)

- |   | <b>Due Date/Lead</b>  |
|---|---|
| <ul style="list-style-type: none"> <li>• <b>Develop matrix for evaluation of selected technology pathways, including state of technology and application; RD&amp;D needs, economics and CO<sub>2</sub> reduction potential, and co-production potential.</b></li> </ul> | <p>[Date]<br/>CCUS task force<br/>or Phase II<br/>report lead</p> |
| <ul style="list-style-type: none"> <li>• <b>Draft Phase II Report for circulation and comment.</b></li> </ul>   | <p>[Date]<br/>CCUS task force</p>                                 |
| <ul style="list-style-type: none"> <li>• <b>Final Phase II report to CSLF Technical Group/Policy Group.</b></li> </ul>  | <p>[Date]<br/>CCUS task force</p>                                 |



# CO<sub>2</sub> Uses



## Hydrocarbon Recovery

- ~~CO<sub>2</sub>-EOR~~
- CO<sub>2</sub>-EGR
- CO<sub>2</sub>-ECBM
- CO<sub>2</sub>-EGHR
- Oil shale recovery
- CO<sub>2</sub>-fracturing

## Non-consumptive

- Fuels & chemicals
- Desalination
- Slurry transport
- Beneficiation
- Working/HT fluid
- Extractant
- Inerting Agent
- Fire Suppression
- Food/Products
- Refrigerant

## Consumptive

- Soil amendment/fertilizer
- Synthetic cementitious materials, building materials
- Chemicals
- Polycarbonates / polymers