

CCS Alliance Update — February 8, 2011

1. DOE Backs State Regulation of CO₂ Pipelines

- ♦ The U.S. Department of Energy (“DOE”) published a report on February 1, 2011 with the recommendation that the federal government should avoid taking over the regulation of CO₂ pipelines. The report states that the government should leave future infrastructure investment to the private sector with primary oversight by states. The framework would allow future networks of CO₂ pipelines developed for carbon capture and storage (“CCS”) to follow the same model that has created a pipeline network for CO₂ use in oil and natural gas recovery. The report was written by the Interstate Oil and Gas Compact Commission and published by DOE’s National Energy Technology Laboratory (“NETL”). The report also suggests that state regulators should implement relevant rules and regulations and should consider forming multi-state agreements and pipeline authorities to facilitate cooperation.

2. NETL Wins CO₂ Capture Process Award

- ♦ NETL has been awarded the Federal Laboratory Consortium for Technology Transfer’s 2011 Award for Excellence in Technology Transfer. The award was given to NETL researchers McMahan Gray and Henry Pennline for their work on NETL’s BASIC Immobilized Amine Sorbent Process (“BIAS”) that separates CO₂ from the flue gas of power plants. Application of the technology reduces the costs and energy associated with conventional scrubbing processes. The BIAS process will be applied to CO₂ capture systems at large-scale fossil fuel burning power plants.

3. California Panel Sees Viable Path for CCS Projects

- ♦ A California review panel has recommended that the State move forward with CCS projects under the umbrella of its new climate change law, A.B. 32, which calls for CO₂ emissions cuts to 1990 levels by 2020. The panel, which was created one year ago and consists of state agencies, scientists, industry officials and environmentalists, states in its report that CCS is a necessary, safe, and viable option for reducing emissions. The panel looked into uncertainties and perceived dangers of CCS and found that the technology should be included in the State’s comprehensive emissions reduction strategy.
- ♦ Among key recommendations, the report provides that California should “recognize CO₂ sequestered by CCS projects as having not been emitted to the atmosphere...with the result that an [emission] allowance is not required to be held for each ton of CO₂ that is captured and geologically stored.” The report recommends that the California Energy



Commission should be designated the lead agency for regulating CCS projects and that the State legislature should “declare that the surface owner is the owner of the subsurface ‘pore space’ needed to store CO₂.” It also recommends that California seek primacy for permitting CO₂ wells under the Environmental Protection Agency’s Underground Injection Control program.

4. Maersk Oil Acquires Oxy-Fuel Technology

- ◆ Maersk Oil has purchased licenses to Clean Energy Systems’ Oxy-Fuel technology that allows zero-emission power generation in combination with oil and gas projects. The technology uses pure oxygen to combust natural gas or other fossil fuels to produce water, electricity and CO₂. The water and power can be provided to consumers, while the CO₂ is captured and can be used for enhanced oil recovery. Clean Energy Systems has spent 15 years developing the technology. Commercial-scale testing will be carried out at a project in California, which has been awarded \$30 million by DOE.

5. Cambridge Carbon Capture and Petroc Win Shell Springboard Awards

- ◆ Two United Kingdom-based companies have been awarded £40,000 (\$64,000 U.S.) each for their work on CCS technologies. Cambridge Carbon Capture won an award for its electrochemical mineral carbonation process which generates electric power from hydrocarbon fuels while permanently capturing CO₂ produced as a solid product. Petroc Technologies received an award for its technology that prevents leaks from underground reservoirs used by providing a self sealing method for the stored CO₂. The Shell Springboard awards are given as a financial boost to small businesses that develop innovative products or services that reduce CO₂ emissions.

6. Australian Company Pursues CO₂ To Cement Technology

- ◆ Calix, a Sydney-based cement and minerals company, has developed technology that it says can scrub up to 90 percent of the CO₂ from the flue gas of a power plant by using specially treated lime. The Endex Reactor technology can then use the captured CO₂ to make construction materials such as cement that would permanently store the CO₂. Calix has stated that each kilogram of lime used can extract up to 40 kilograms of CO₂, and can be re-used 3,000 to 4,000 times before it must be disposed of, making the process highly efficient and cost-effective. Calix aims to have two 10-megawatt demonstration projects for the Endex Reactor up and running at sites in Australia and the United Kingdom later this year.