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Press Release

UNDER STRICT EMBARGO UNTIL 17:15 HOURS, 13TH OCTOBER 2009

Crucial progress made in collaborative push for industrial-scale deployment of Carbon Capture and Storage

London, 13th October 2009: Today, the CO₂ Capture Project (CCP) will brief ministers gathering in London on crucial progress that has been made in addressing some of the remaining technical issues for Carbon Capture and Storage (CCS). The CCP will present breakthrough findings, gained from the last five years of its research, at the third Carbon Sequestration Leadership Forum (CSLF), where it will receive a CSLF Recognition Award for its overall work.

The studies undertaken by the CCP confirm that the safe, long-term geological storage of CO₂ is achievable; they draw on the decades of experience that the oil & gas industry has of storing and monitoring gases and liquids underground. Capture of CO₂ emissions is shown to be technically and economically possible using a range of methods which have undergone thorough testing.

The CCP's findings, from the second phase of its work, are set out in a new book - *Advances in CO₂ Capture and Storage Technology* - part of a series entitled *CO₂ Capture for Storage in Deep Geologic Formations*. Highlights include:

- R&D studies that addressed outstanding issues confirm that CO₂ can be stored underground safely and securely. They include:
 - A **Well Integrity Field Study** shows that selecting the correct drilling and installation procedures is more important than the choice of materials for long term well stability, and thus secure long-term subsurface storage
 - A **Certification Framework**, developed to provide a simple, transparent guide to site certification; essential to help decision makers to manage the CO₂ storage process
- Outstanding technical progress was achieved following an in-depth review of more than 200 capture technologies. About 10 technologies, covering the whole range of techniques (post-combustion, pre-combustion, oxy-fuel), and applicable to varied point sources, were developed from concept and are now being evaluated for potential demonstration:
 - **Identification of a preferred CO₂ capture method for oil refineries** - Oxy-fuel combustion has been shown to offer the greatest potential, both technically and economically, for capturing CO₂ emitted by the largest source in oil refineries, the Fluid Catalytic Cracking unit (FCC). A pilot test in an industrial scale refinery is scheduled for next year



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- **Potential for CO₂ capture from extraction of heavy oil and tar sands** – a novel advanced oxy-firing technology - chemical looping combustion (CLC) - has been developed, which has the technical and economical potential in the mid-term for scaling up to capture CO₂ from heavy oil and tar sand steam extraction processes
- Post-combustion identified as most likely short-term option for capturing CO₂ from **gas fired power stations**, although pre-combustion may be more viable in the medium-term

Speaking ahead of the CSLF ministerial meeting, Gardiner Hill, Chairman of the CCP said, “The CCP is a leading example of how public-private partnerships can work successfully to make rapid progress on closing the technical knowledge gaps that will allow widespread deployment of next generation technologies. Our findings represent a crucial step in the evolution of CCS. However, if CCS is to become part of the solution for managing climate change, governments and industry must not only collaborate on technology development but also on deployment. CCS needs to be met half-way. We have a technology ready for deployment today, and the CCP work will help underpin future reductions in cost and build public confidence of CCS.”

The findings are the result of a major collaborative effort between the members of CCP including eight oil & gas majors and government bodies including the EU, the US Department of Energy, the Norwegian Research Council and 60 academic institutions, industry and leading environmental groups. Over 150 projects have been undertaken by the CCP, to date, to increase understanding of the science, engineering applications and economics of CCS.

The CCP is now entering its third phase – using insights from the first two phases to further test and trial high potential technologies. This work will prepare the ground for widespread deployment of these technologies throughout the oil and gas industry and the power sector. Formed in 2000, the CCP is a respected technical authority on CCS, facilitating the sharing of expertise to advance the development of next-generation capture technologies, the transport of CO₂ and the development of a certification framework for CO₂ geological storage.

For further information please visit www.co2captureproject.org

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Notes to Editors

About the CO₂ Capture Project

The industry members that funded Phase 2 include BP, Chevron, Eni, Petrobras, Shell, StatoilHydro, Suncor. Associate members are: EPRI and Repsol YPF

Phase two has seen collaboration with government organizations including the European Commission, the Norwegian Research Council and the US Department of Energy.

The CCP initiative has completed the second of its three phases:

Phase 1 (2000-2004)

CCP1 (2000-2004) published a collection of authoritative technical findings in 2005 (*Carbon Dioxide Capture for Storage in Deep Geologic Formations – Results from the CO₂ Capture Project volume 1*, (David C. Thomas) and *volume 2* (Sally M. Benson)).

CCP1 identified existing technologies that had the potential to deliver significant reductions in the cost of CO₂ capture and also identified next generation capture technologies that promised to deliver further performance and cost improvements. CCP1 also pioneered a risk-based approach to geological site selection, operation and closure, and developed new CO₂ monitoring tools and the science behind CO₂ geological storage.

Phase 2 (2004-2009)

Phase 2 of the CCP's work continued the development of the most promising capture and storage technologies for CCS identified in Phase 1. The CCP2 program has focused on the advancement of cost-effective, next-generation capture technologies and on establishing the framework for CO₂ geological storage, monitoring and long-term verification.

During this phase, CCP has harnessed the combined expertise of the oil & gas industry and has worked in collaboration with government, industry, world-leading academic institutions and environmental groups to demonstrate the science and steps required to deliver secure CO₂ geological storage. The results from Phase 2 are published in *Advances in CO₂ Capture and Storage Technology, Results from the CO₂ Capture Project volume 3* (Lars Ingolf Eide).

Phase 3 - further technology development and demonstration - began in 2009 and will conclude in 2013.

For more information go to: <http://www.co2captureproject.org> or telephone:

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