Press Release

CO_2 CAPTURE PROJECT BRINGS CLOSE TO 20-YEAR PROGRAMME, CREATES OPEN ACCESS TO RESULTS

31st January 2023: After more than two decades of pioneering research and development in CO_2 capture and storage, the CO_2 Capture Project (CCP) formally closed its programme of work on 31st December 2022, with the completion of the fourth phase of its work (CCP4). Open access to CCP's published work is now available to all via www.co2captureproject.org for a period of up to five years, and all volumes of CCP Results Books (Phases 1-4) are accessible there. General information on CCS continues to be available from www.ccsbrowser.com.

CCP was set up in 2000 as a partnership of eight major energy companies – with the aims of:

- Driving down the cost of CO_2 capture in oil and gas applications through R&D and demonstration
- Advancing knowledge of CO_2 storage and monitoring
- Informing the development of legal and policy frameworks.

Project highlights have included:

- New, technically viable and lower cost capture routes identified and tested
- Perceived uncertainties around subsurface storage addressed
- 150+ projects to increase understanding of science, engineering, application and economics of CCS
- CCP technical and policy insights made available to wider world
- Twice received Carbon Sequestration Leadership Forum (CSLF) Recognition Award.

The programme comprised four phases, each with a distinct theme and focus:

Phase 1: The initial aim was to identify next generation capture technologies at significantly lower cost. Over 200 technologies were screened, with high potential pre-combustion, post-combustion and oxy-firing technologies identified for further development. A risk-based approach for geological storage site selection, operation and closure was pioneered.

Phase 2: The most promising capture technologies were progressed with a specific focus on heavy oil, refining and natural gas power scenarios. A definitive technical volume on CO_2

storage was published, as was an industry-first study on funding mechanisms for CO_2 pipeline networks. CCP also engaged with policymakers, NGOs and media to build awareness.

Phase 3: Much of the activity focused on moving from theory to reality. Two full field demonstrations of FCC (fluidized catalytic cracker) and OTSG (once-through steam generator) oxy-firing capture technologies were carried out, as were field trials of innovative monitoring technologies. A Certification Framework was completed providing a consistent means of storage site assessment.

Phase 4: The fourth phase began in 2015 with natural gas production added to the capture scenarios. Development of a comprehensive approach to manage unexpected leakage of stored CO_2 culminated in a multi-faceted well sealing experiment at an underground laboratory - with testing of four sealants plus fluid transmission and fault slippage studies.

All work was carried out by CCP teams – comprising member company specialists in subsurface geology and chemical engineering – along with partners from research institutions, universities, government bodies and commercial organizations.

CCP Chairman, Tony Espie, commented: “While this is in many senses a sad occasion, we are very proud of the work that CCP has undertaken, laying the groundwork for the future commercialisation of CCS. Our pioneering work has focused largely on addressing gaps in both capture and storage knowledge, as well as evaluating technologies to reduce the cost of capture, especially in the oil and gas environment.

“We could not have done this by acting alone. Partners from academia, industry, research and government have been instrumental in helping us meet our aims. Whether through funding, sharing of expertise, supply of technologies and equipment or contributions in kind, this collaboration has been crucial, and we thank all for their contributions.

”We are delighted to be making our work available to all through the CCP website so that anyone interested in CCS can draw learnings for future development.”

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Notes to Editor

The CCP (CO_2 Capture Project) was a group of major energy companies working together to advance the technologies that will underpin the deployment of industrial-scale CO_2 capture and storage (CCS).

Since CCP's formation in 2000, it undertook more than 150 projects to increase understanding of the science, economics and engineering applications of carbon capture and storage.

CCP worked alongside specialists from industry, technology providers and academia to advance technologies, improve operational approaches and help make CCS a viable option for CO_2 mitigation in the oil and gas industry. CCP worked closely with government organizations – including the US Department of Energy, European Commission and 60+ academic bodies and global research institutes.

The members of CCP's fourth phase are BP, Chevron and Petrobras.

For further information on CCP and its projects, visit www.co2captureproject.org.

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