

Media Release

19 February 2009

MAKING CARBON CAPTURE MORE AFFORDABLE

New research from CO2CRC suggests that the cost of capturing carbon dioxide from Australian power stations could be reduced by 25 percent.

Carbon capture and storage (CCS) has the potential to make deep cuts in global carbon dioxide (CO₂) emissions, a major contributor to climate change, by capturing and storing carbon dioxide emissions from major sources such as power stations. One of the barriers to commercial uptake of the technology is the current high cost, partly due to the amount of extra energy needed, known as the energy penalty, when adding carbon capture to existing power stations.

“Currently about 80 per cent of the cost of CCS systems is in capturing the CO₂,” said Barry Hooper, CO2CRC Chief Technologist. “Reducing capture cost is therefore the most effective way to make significant savings to the overall cost. Process integration is one of several pathways our research teams are pursuing to drive down capture costs.”

The CO2CRC team, which included researchers from Monash University, used process integration studies to identify minimum energy targets. They considered the heat and cooling requirements of the power plant and capture plant holistically, rather than individually, and found that initial energy penalty estimates could be significantly reduced.

This is the first such comprehensive study in the CCS area and the technique is applicable to both retrofitted and new carbon capture plants. While there is still engineering work to be done on capital and operating implications of this research, it offers an encouraging finding to generators as they consider options to reduce their carbon dioxide emissions.

The findings were discussed with Victorian Government and power industry representatives at a recent CO2CRC research showcase in Melbourne. The showcase provided an update on the latest developments in CO2CRC carbon capture and storage (CCS) research and demonstration projects, and issues surrounding large scale CCS projects in Victoria.

This work has been performed by CO2CRC as part of the Latrobe Valley Post Combustion Capture Project (LVPCC) under the Victorian Government ETIS Brown Coal R&D fund and in association with consortium partners International Power, Loy Yang Power and CSIRO.

Further information: Barry Hooper, +61 3 8344 6622, 0408 815 608, bhooper@co2crc.com.au

Media assistance: Tony Steeper, +61 2 6120 1611, 0417 697 470, tsteeper@co2crc.com.au

CO2CRC collaborates with leading international and national CCS experts to conduct world-class research into carbon capture and storage. Organisations participating in CO2CRC research include CSIRO, Geoscience Australia, the Universities of Adelaide, Curtin, Melbourne, Monash and NSW, the Alberta Research Council of Canada and the US Lawrence Berkeley National Laboratory.

Industry and State core partners supporting CO2CRC are ACARP, Anglo American, BHP Billiton, BP Australia, Chevron, ConocoPhillips, KIGAM, Mitsui, NSW Department of Primary Industries, NZ Resource Consortium, Origin, QER, Rio Tinto, Sasol, Schlumberger, Shell, Foundation for Research Science and Technology (NZ), Solid Energy, Stanwell, the Victorian Department of Primary Industries, WA Department of Industry and Resources, Woodside and Xstrata.

CO2CRC is supported through the Australian Government's CRC Program.