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Carbon capture technologies in action

Australia's most comprehensive carbon capture demonstration projects are featured in a new video from the Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC).

"CO2CRC is trialling three technologies for separating carbon dioxide from industrial gas streams, the first step in carbon capture and storage (CCS)," says Barry Hooper, CO2CRC Chief Technologist.

"Separate trials in Victoria are being conducted in a project at International Power Australia's Hazelwood power station and in a project at the HRL Mulgrave gasifier site. The projects have been providing data since 2009, with the aim of establishing the most cost-effective system for post-combustion and pre-combustion applications."

The trials are investigating solvent, membrane and adsorbent systems.

Solvents are the current technology widely used for gas separation but membranes and adsorbents have potential advantages in reduced running costs, reduced capital costs or lower environmental impact.

The video, *Carbon Capture in Action*, describes the projects, shows how each of these technologies separate carbon dioxide from industrial gas streams, and discusses their advantages.

The projects are also allowing scientists to study process improvements, including energy integration, which CO2CRC studies have shown could reduce the cost of capture by 25 per cent.

"Capture costs can be as much as eighty per cent of the total costs of a CCS system," says Barry Hooper, CO2CRC Chief Technologist.

"The two sets of trials are showing us where we can reduce the cost of carbon dioxide capture and therefore make a substantial difference to overall CCS costs."

The projects are part of CO2CRC's comprehensive program of CCS research.

Watch the video at www.co2crc.com.au

CO2CRC capture demonstration projects are supported by the Victorian Government, through its Energy Technology Innovation Strategy (ETIS) funding. The CO2CRC H3 Capture Project is supported by project partner International Power Australia. The CO2CRC/HRL Mulgrave Project is supported by project partner HRL Developments Pty Ltd. CO2CRC is supported through the Australian Government's CRC Program.

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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, Foundation for Research Science and Technology (NZ), INPEX, KIGAM, Mitsui, NSW Industry & Investment, NZ Resource Consortium, Origin, QER, QLD Department of Mines and Energy, Rio Tinto, Sasol, Schlumberger, Shell, Solid Energy, Stanwell, Total, the Victorian Department of Primary Industries, WA Department of Mines and Petroleum, Woodside and Xstrata.