

Carbon storage in action: new Otway Project trials begin

A world-leading series of research trials into geological storage of carbon dioxide, part of the low emission technology carbon capture and storage (CCS), have begun at the CO2CRC Otway Project in Victoria, Australia.

The experiments, led by the Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC), are part of the \$10 million second stage of the project, which is focused on saline formations, geological structures with the potential to permanently store hundreds of years' worth of carbon dioxide emissions.

An international research team has been assembled by the Centre, with researchers from leading Australian research organisations, Lawrence Berkeley National Laboratory (USA), Korea Institute of Geoscience and Mineral Resources (KIGAM), Canada's Simon Fraser University and New Zealand's GNS Science.

The team will use a new 1565 metre well at the site to undertake a complex series of extractions and injections of carbon dioxide and water over the next two months, evaluating storage capacity and security.

A sophisticated and highly innovative 28 metre instrument array, installed 1400 metres underground in the same well into which the carbon dioxide is injected, will measure pressure, temperature and tracer gas concentrations, while a 'U-tube' system allows the team to chemically analyse samples of water and dissolved gas direct from the reservoir, at pressures equivalent to 1400 metres underground.

"The Otway Project has been demonstrating safe storage of carbon dioxide in a depleted gas reservoir since 2008," says CO2CRC Chief Executive Dr Peter Cook, "and the successful first stage provided a great deal of highly useful information on monitoring, verification and regulation of CCS.

"This second stage involves research aimed at tackling some of the key outstanding research questions regarding storage capacity and security in types of rocks found many parts of the world. It will enable CO2CRC to produce practical tools for commercial CCS projects that will make it easier to evaluate a potential reservoir."

The CO2CRC Otway Project involves researchers from Australian universities and research organisations as well as from the United States, Korea, Canada and New Zealand. The project has been financially supported by the Australian Federal Government, the Victorian State Government and the US Department of Energy, as well as CO2CRC members.

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Follow Stage 2 of the Otway Project at co2crc.com.au/otway/whatsnew

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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 Geoscience Australia, CSIRO, the Universities of Adelaide, Curtin, Melbourne, Monash, NSW and Western Australia, and the Lawrence Berkeley National Laboratory. Industry and State core partners supporting CO2CRC are Anglo American, ANLEC R&D, BG Group, BHP Billiton, BP Australia, Brown Coal Innovation Australia, Chevron, Foundation for Research Science and Technology (NZ), GNS Science (NZ), INPEX, KIGAM, NSW Industry & Investment, 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 and Xstrata.