

Carbon dioxide storage in Australia – the current state of play

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Carbon dioxide capture and storage (CCS) is the new paradigm to address the effects of global warming due to the emission of anthropogenic CO₂ into the atmosphere. There are numerous projects and studies currently underway in Australia. The projects are at various developmental stages, ranging from desk top studies to demonstrations at a commercial level. There are three projects in Queensland, four in Victoria, two in each of Western Australia and South Australia and one in New South Wales. They include advanced projects where drilling of exploration, appraisal and injection wells has already taken place, including: ZeroGen in Queensland (six wells), Chevron's Gorgon Project in Western Australia (one well) and the CO2CRC's Otway Pilot Project in Victoria (one well). There are a number of projects which are investigating the capture part of the process first, and will move on to the storage project at a later date. These include Callide Oxyfuel and Fairview CSG in Queensland, and the Coolimba Power Project in Western Australia. There are further projects in various stages of study such as FuturGas and the Moomba Hub in South Australia, three brown coal projects in Victoria and the Munmorah Project in NSW.

In addition, there are a large number of studies being undertaken by gas companies with high CO₂ (>3%) in their gas streams, several power and industrial companies looking to store

CO₂ from their processes, and studies being undertaken by various government departments on the geological storage potential of their states. The state government studies include Queensland (Atlas of all QLD basins in Phase 1), NSW (Sydney and Darling basins) and Victoria (all basins).

Several industry, state and federal government funding mechanisms have been established to assist with the funding of both studies and projects in basins, both in the onshore and offshore. These include:

- COAL21 (\$1 BB over 10 years from the coal industry);
- The NSW Clean Coal Council (\$100 MM);
- The Renewable Energy Fund (\$225 MM, federal government);
- The Energy Innovation Fund (\$90 MM, federal government);
- The National Clean Coal Fund (\$225 MM, federal government); and
- The Clean Business Fund (\$180 MM, federal government).

These build on the allocations of the Low Emission Technology Development Fund (LETDF). This list is by no means exhaustive and is being added to regularly.

All these projects and studies will require a legislative framework within which to assign property and regulatory requirements. This is currently being established for sedimentary basins in Commonwealth waters via the Greenhouse Gas Storage legislation which was introduced into federal parliament in July 2008, whilst the state governments are preparing their own legislation for the onshore regions. One of the main issues with the new legislation will be the development of an agreed framework for the co-existence of the petroleum, coal, geothermal and groundwater industries with the new geological storage industry.

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