

# Large Scale Carbon Dioxide Capture and Storage

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The Latrobe Valley in Victoria has around 50,000 million tonnes of low-cost, brown coal reserves and has been identified as an ideal location for carbon capture and storage (CCS). In order to make deep cuts in Australia's greenhouse gas emissions, CCS proposals could benefit from being part of large emission hub projects that can best utilise economies of scale. The recently completed Latrobe Valley CO<sub>2</sub> Storage Assessment (LVCSA) is effectively a pre-feasibility study for the transportation of up to 50 million tonnes of captured CO<sub>2</sub> per year in the Latrobe Valley to nearby offshore reservoirs for storage.

The Cooperative Research Centre for Greenhouse Gas Technologies (CO<sub>2</sub>CRC) completed the LVCSA, funded by the Australian Government, providing a medium to high-level technical and economic characterisation of the volume and cost potential for secure geosequestration of CO<sub>2</sub> produced by the utilisation of Latrobe Valley brown coal. The LVCSA identified some key issues and challenges for implementing CCS and the findings have been publicly released for use by CCS proponents and other stakeholders.

The LVCSA involved substantial amounts of geoscience work; the work indicated that the geology, chemistry and hydrology are all favourable for CO<sub>2</sub> storage. Techno-economic modelling indicated that storage costs in the Latrobe Valley can be low by world standards. The risk assessments undertaken strongly indicated that the storage sites considered are excellent candidates for safe and reliable containment of CO<sub>2</sub>.

Geological storage sites near the Latrobe Valley can store very large amounts of CO<sub>2</sub>, cheaply, safely and securely and may provide a viable means of substantially reducing Australia's greenhouse gas emissions from utilising brown coal.