



Australian Government
Geoscience Australia



Carbon Capture and Storage at Geoscience Australia

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Presentation outline

Domestic geological storage

Research collaborations

Development of greenhouse gas storage regulatory framework

International engagement

Domestic geological storage

In response to government policy settings

Initial involvement in early 1990s with GEODISC project under the Australian Petroleum Cooperative Research Centre (APCRC)

APCRC led to CRC for Greenhouse Gas Technologies (CO2CRC)

Budget funding in 2007 to support Government in developing regulatory framework including:

- Monitoring and verification

- Assessment of Australia's storage capacity

Additional funding for assessment of storage capacity in specific areas (NLECI and NCIP)

Domestic CCS program 2011-15

Two components

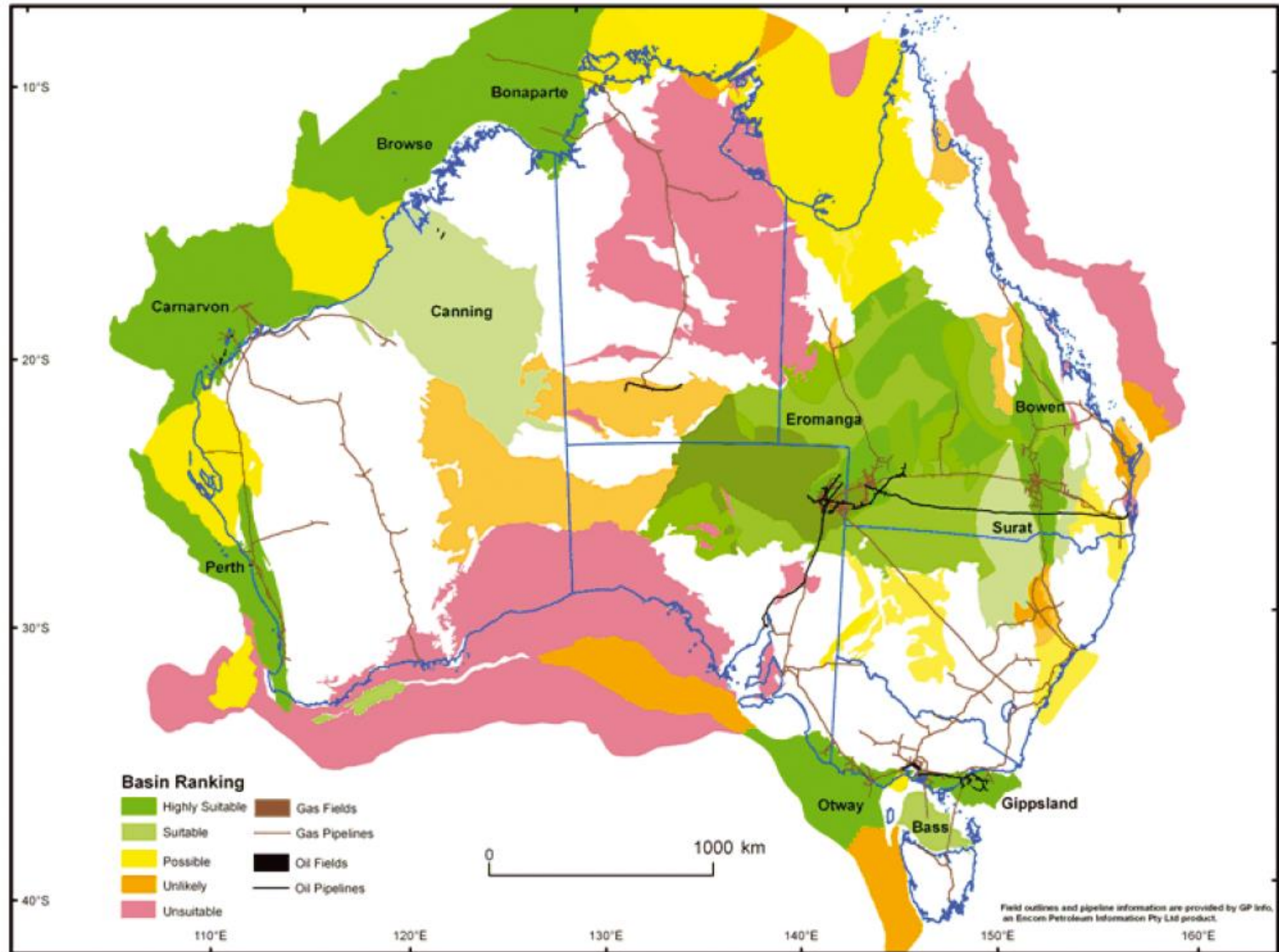
- Onshore basins
 - Western Australia, New South Wales, Queensland (Federal, State, Industry)
- Offshore basins
 - Review of the CO₂ storage prospectivity GHG Storage Assessment Areas released in 2009 (Federal only)

Features

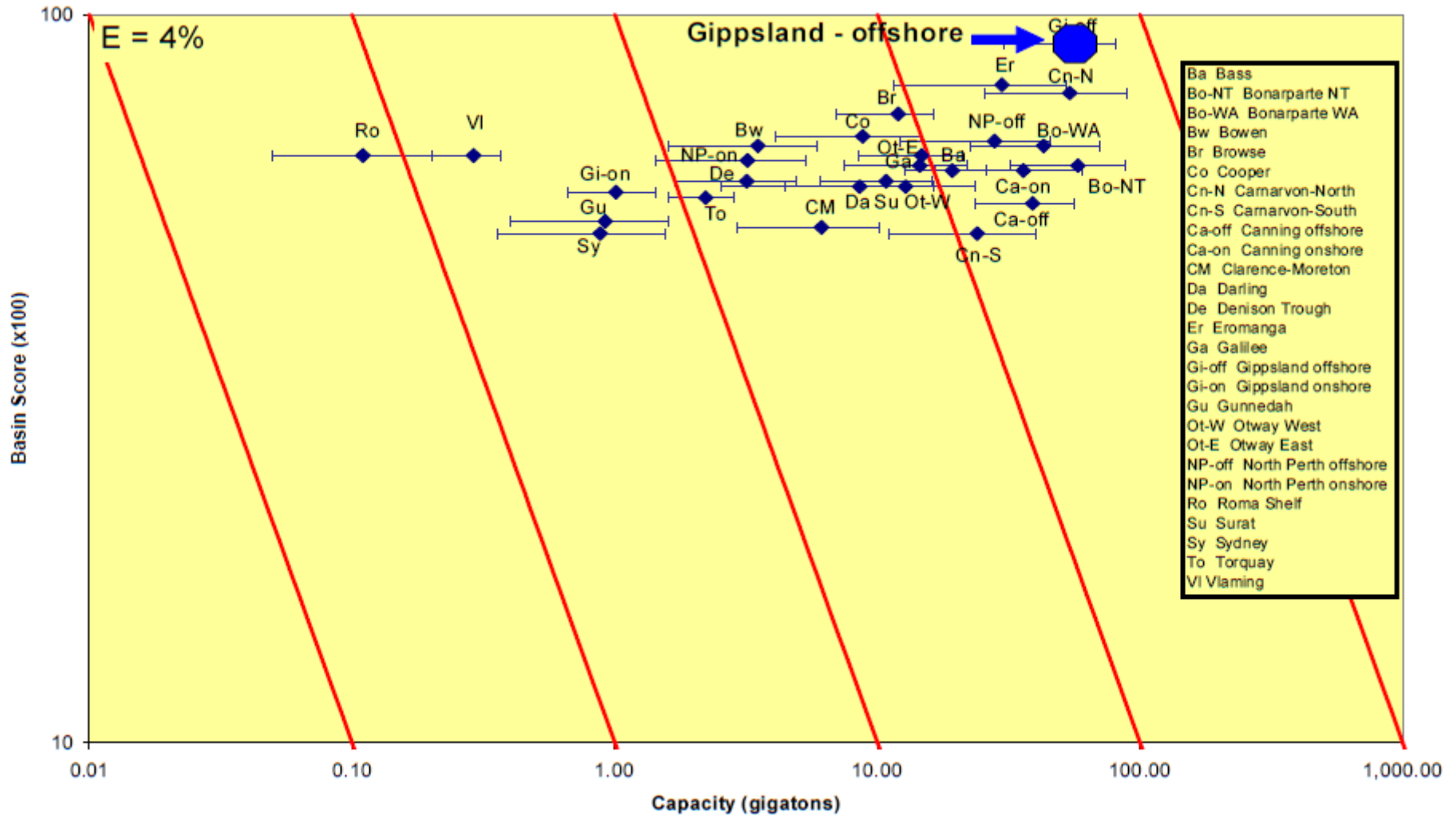
- Multi-basin program (on- and off-shore)
- New pre-competitive data collection
- Integrated geoscience assessment of storage prospectivity
- Facilitate long-term CO₂ storage



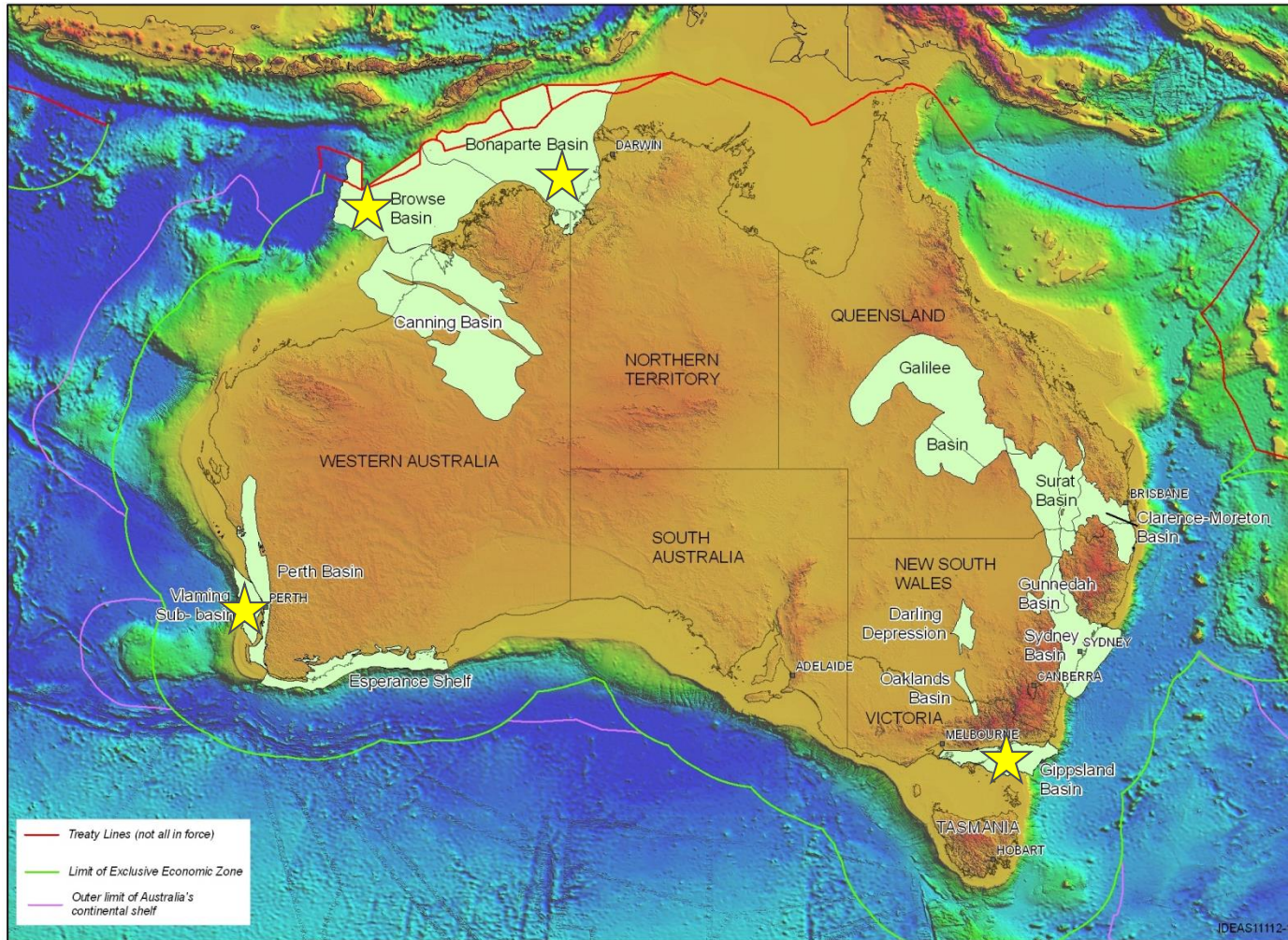
Carbon Storage Taskforce



Carbon Storage Taskforce



GA CO₂ Storage Program Sites



Bonaparte Basin CO₂ Storage Project

Funding (NLECI)

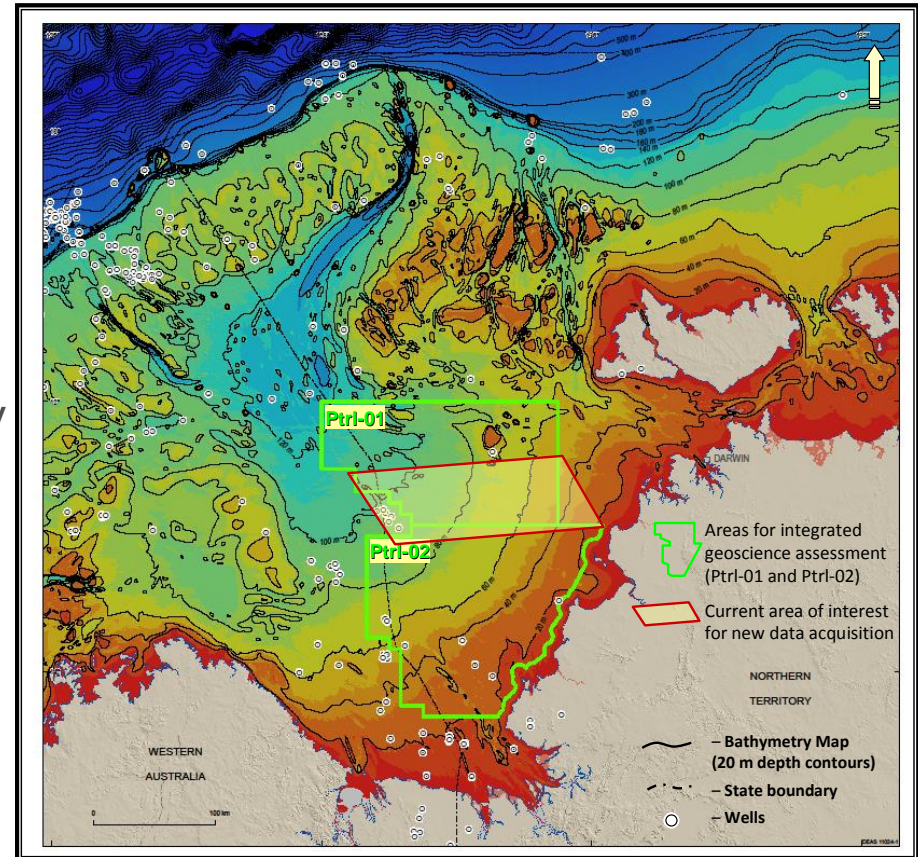
- \$10 million

Program

- 2D seismic survey
- Seabed mapping and sampling survey
- Integrated geoscience assessment of storage prospectivity

Start: July 2011

Completion: June 2013



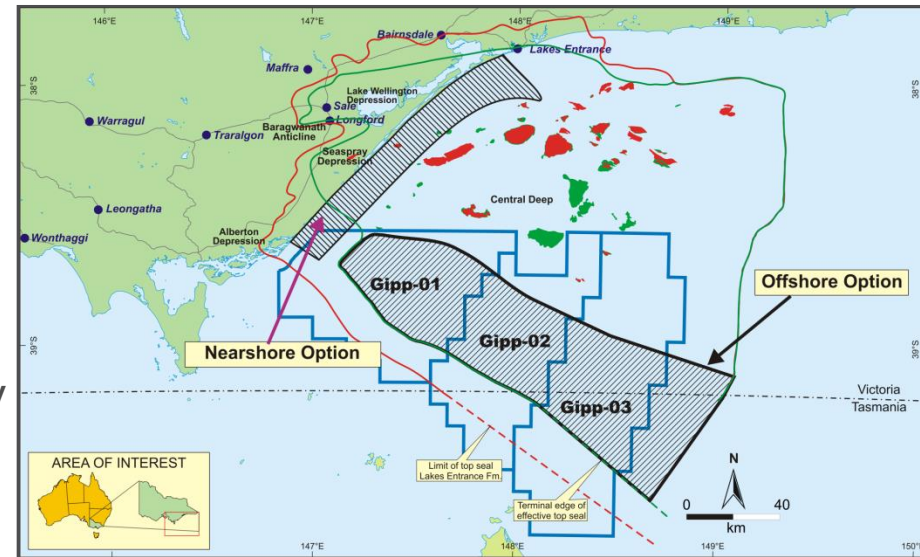
Gippsland Basin CO₂ Storage Project

Funding (NCIP)

- \$10 million

Program

- 2D or 3D seismic survey
- Seabed mapping and sampling survey
- Integrated geoscience assessment of storage prospectivity



Start: July 2011

Completion: June 2015

Undertake in conjunction with:

- Victoria Department of Primary Industries
- University of Melbourne

Browse Basin CO₂ Storage Project

Funding (NCIP)

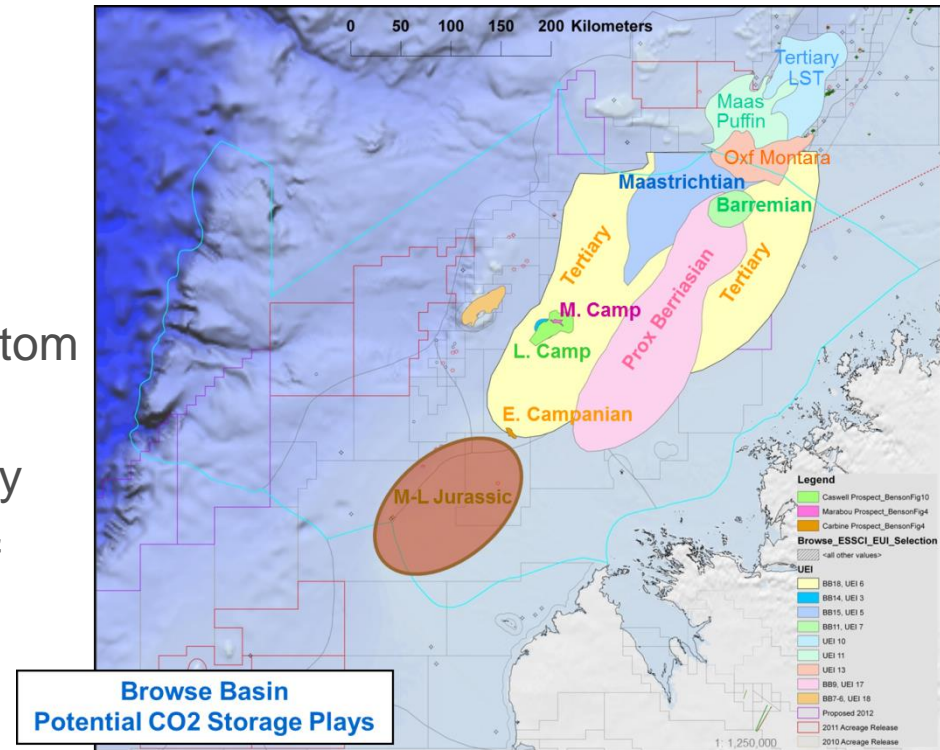
- \$10 million

Program

- Aeromagnetic Survey and Ocean Bottom Seismometer
- Seabed mapping and sampling survey
- Integrated geoscience assessment of storage prospectivity

Start: January 2012

Completion: June 2015



No GHG assessment areas

Program Outcomes

Improved and new knowledge to support uptake of GHG storage assessment areas

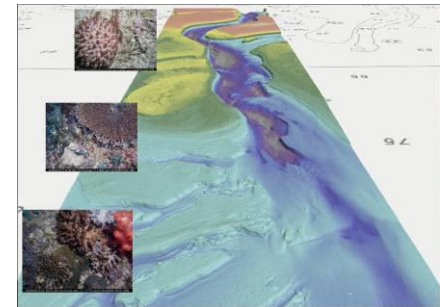
- Review of the CO₂ storage prospectivity of the GHG Storage Assessment Areas

Quantification of CO₂ storage potential for Australia

- Identifying most prospective areas for long term CO₂ storage

Understanding of potential liability

- Quantifying risk of basin's storage prospectivity

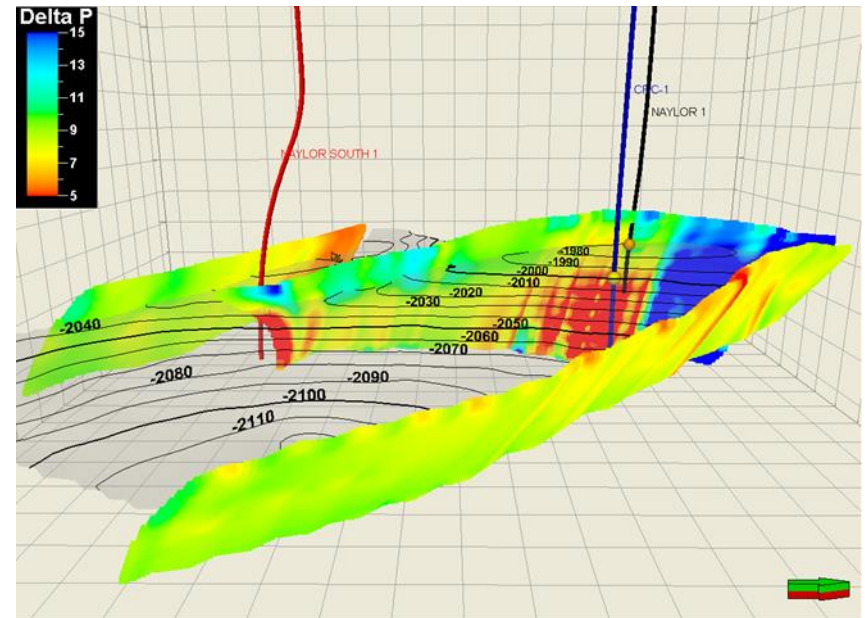


Research collaborations

GA is one of many Research Providers to the CO2CRC

Lead a number of projects

- Controlled release facility, Canberra
- Strong contributor to Otway Project
- Geomechanics project
- Geochemistry projects



Research collaborations

Collaborative project with CSIRO Marine and Atmospheric Research on atmospheric monitoring

Established field monitoring station in central Queensland

Continuous monitoring of greenhouse gases (CO₂ and methane) with data transmitted to office

Assist with development of monitoring and verification standards



Development of GHG storage regulations

Assisted Department of Resources, Energy and Tourism with development of regulations to support *Offshore Petroleum and Greenhouse Gas Storage Act 2006*

Advice provided for Gorgon storage project

International engagement

Support Department of Resources, Energy and Tourism with representation for the Carbon Sequestration Leadership Forum (CSLF)

Manage the China-Australia Geological Storage of CO₂ (CAGS) Project

Engaged with IEAGHG on storage estimation methodology





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