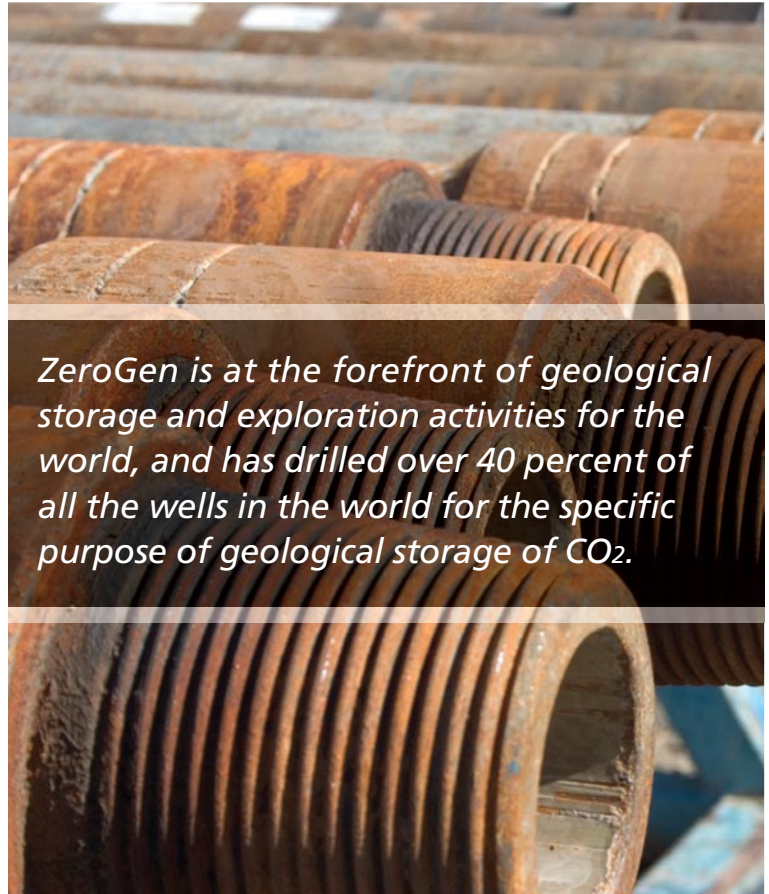


## ZeroGen's drilling program

ZeroGen has been conducting an extensive Drilling Program in the Northern Denison Trough (NDT) in Central Queensland since June 2006, with the aim of confirming the geology's potential to safely, securely and cost effectively store CO<sub>2</sub> for the Carbon Capture and Storage (CCS) component of the project.

Scientific analysis has been undertaken as part of the drilling program to confirm if the geology of deep underground reservoirs found in the NDT is suitable for long-term CO<sub>2</sub> storage, as well as to determine the geology's storage capacity.

The three-phased drilling program is being undertaken by a multi-disciplinary team of leading service providers in the field. These include: geotechnical, reservoir, production technology and completion engineers, and geological and environmental specialists. The program uses established principals, techniques and technologies that have been used by the oil and gas industries for years.



*ZeroGen is at the forefront of geological storage and exploration activities for the world, and has drilled over 40 percent of all the wells in the world for the specific purpose of geological storage of CO<sub>2</sub>.*

## ZeroGen's drilling program involves three phases:

Drilling Program	Details	Completed
1	<p><b>Aim:</b> determine whether the geology is suitable to safely and securely store CO<sub>2</sub>.</p> <p><b>Outcome:</b></p> <ul style="list-style-type: none"> <li>Following extensive analysis, ZeroGen concluded that deep underground reservoirs in the NDT provided suitable geology for CO<sub>2</sub> storage.</li> </ul>	✓
2a	<p><b>Aim:</b> identify potential storage sites with sufficient capacity to store CO<sub>2</sub> from the ZeroGen power plant.</p> <p><b>Outcome:</b></p> <ul style="list-style-type: none"> <li>Confirmed presence of geologic intervals suitable for CO<sub>2</sub> storage</li> <li>Findings warranted proceeding to a short-term test injection of CO<sub>2</sub> and additional delineation wells (DP2b).</li> </ul>	✓
2b	<p><b>Aim:</b> continue the exploration program for suitable CO<sub>2</sub> reservoirs and confirm the reservoir model and calculated injectivity of CO<sub>2</sub> into various rock types.</p> <ul style="list-style-type: none"> <li>Will drill and analyse results from an additional four exploration wells</li> <li>A fifth well will be drilled and used to inject up to 2,000 tonnes of CO<sub>2</sub> and water over a 50 – 70 day trial period</li> <li>Findings will allow the calibration of mathematical models which will determine the rate at which CO<sub>2</sub> can be injected.</li> </ul> <p>The test injection to be undertaken during DP2b is part of normal exploration activity when looking for CO<sub>2</sub> storage reservoirs.</p>	To be completed in 2009



## Environmental & Cultural Heritage considerations

All operations for the drilling program are managed under the environmental requirements specified in the ZeroGen DP2 Environmental Management Plan.

Issues such as landowner relations; dust, noise and waste management; sewage treatment and disposal; storage of hazardous substances; spill and clean up action; weed management; and vegetation protection have all been taken into consideration.

ZeroGen has a business culture that recognises and respects Aboriginal and European Cultural Heritage and the environment.

## About ZeroGen

ZeroGen is at the forefront of global efforts to produce smarter, cleaner power from coal. The first-of-a-kind project is integrating the technologies of Integrated Gasification Combined Cycle (IGCC) and Carbon Capture and Storage (CCS) to produce low-emission, baseload electricity.

It will develop a 530 megawatt (MW) commercial-scale IGCC power plant with CCS, to be deployed in Queensland in late 2015. The project is a world first, and will play a crucial role in

demonstrating the technology at commercial scale to accelerate its uptake in Australia and around the world.

The widespread deployment of IGCC with CCS has the potential to deliver significant cuts in greenhouse gas emissions from coal-based power generation. At maturity, the technology has the potential to capture up to 90 percent of carbon dioxide (CO<sub>2</sub>) emissions for safe storage underground.

## Definitions

- IGCC: a process of converting coal into a gas fuel (syngas) that drives combustion turbines to generate electricity. CO<sub>2</sub> is captured and removed from the syngas prior to combustion in turbines, thereby preventing its release to the atmosphere.

- CCS: involves separating CO<sub>2</sub> from the syngas produced in the power plant, compressing the CO<sub>2</sub>, then transporting and safely storing it underground in deep underground reservoirs.

