CSG projects go-ahead leaves many in doubt

Despite the 300-plus conditions imposed by the federal government on two major Queensland coal seam gas projects, a number of safety and environmental concerns remain.

Story by GRAHAM READFEARN

When Federal Environment Minister Tony Burke gave the go-ahead for two major gas projects in Queensland in October, his thumbs-up came with more than 300 environmental conditions.

Among them, groundwater and species management plans would need to be in place, new habitats would need to be secured and "unavoidable" impacts would have to be offset. Even before Minister Burke's approval, the Queensland State Government had already imposed more than 1000 conditions on the projects.

But while both Burke and the project backers declared impacts on flora, fauna and water would be "minimised", responsible investment advisors and conservation groups are still not convinced.

The Gladstone LNG and Queensland Curtis LNG projects will both extract gas from coal seams before transporting it along pipelines to offshore processing plants on Curtis Island, off Gladstone in central Queensland.

The scale of both projects is nothing short of dizzying.

GLNG is a joint venture between Santos (ASX: STO), which owns 45 per cent of the project, Malaysia's Petronas (35 per cent) and France's Total (20 per cent).

GLNG will drill about 2650 exploration and production wells in the Roma, Fairview and Arcadia Valley areas.

Some 150 compressor stations and 6800 km of access roads will be needed, along with 2000 km of pipes, including a 435 km underground pipeline to transport the gas to a liquefied natural gas (LNG) plant and export terminal at Curtis Island.

The QCLNG project, managed by UK's BG Group-owned Queensland Gas Company, is investing US$15 billion.

QCLNG will drill about 6000 production wells in the Surat Basin over the 20 to 30-year life of the project, with between 1000 and 1500 wells in place by mid-2014. More than 700 km of gas pipeline will be needed.

At least 16 million cubic metres of ocean bottom will also need to be dredged for shipping lanes and loading facilities off Curtis Island, prompting concerns from WWF that this would devastate marine life.

Also awaiting Commonwealth approval is Australia Pacific LNG, a partnership between Origin Energy (ASX: ORG) and the US's ConocoPhillips, which proposes drilling 10,000 wells in the Surat Basin over the next 30 years.

Queensland Premier Anna Bligh announced an LNG "enforcement unit" with 36 staff that would act as a "one-stop shop to respond to safety, land access and environmental concerns".

Water worries

Chief among the concerns are the way the coal seam gas (CSG) extraction techniques could impact on water. To release the gas, millions of litres of "associated water" need to be removed from the coal seams. GLNG has stated that 90 million litres of water from the wells will need to be managed each day.

Jamie Nicol, chief investment officer at Dalton Nicol Reid, says the environmental and water management conditions are certain to add cost to the project.

"Everyone will be looking at that," he said. "The risks might be delays to the projects because of environmental concerns. Obviously there is an element of the community that is very concerned and we were concerned enough to go away and do some research on it.

"We thought there were a lot of investors and analysts out there who were pretty blasé about the issue," he says.

"We're more concerned around the water aspect and the gas extraction because we don't think there's as much science for us to be comfortable. We do feel it would be good to have some more science to give us more confidence."
Nicol says CSG has been operating in the US for a number of years but a documentary film, "Gasland," recently released in Australia, was "not exactly supportive" of the industry.

"Gasland" alleges the fracking techniques have contaminated water supplies and caused health problems.

Fretting over fracking

A QCLNG spokesman said the project expected that 40 per cent of all its wells would at some point be fracked, a process which had been "used safely around the world for more than 50 years".

A major question mark has been raised over a controversial technique known as hydraulic fracturing, or fracking, which involves the pumping of water, sand and chemicals into coal seams hundreds of metres below ground to release more gas.

A Santos spokesman said 30 of the 300 wells already drilled for its GLNG had been "fracture stimulated" adding the practice was part of an industry which was "highly regulated".

The number of fracture stimulations in future development wells would be "dependent on ongoing testing and trials of the technology" but added "extracting more gas from each well reduces the total number of wells required."

Trevor Thomas, managing director of Ethinvest, says investors were still waiting to see if LNG could be produced on a large scale in "a way that's environmentally sustainable". But he describes the fracking issue as "a game changer".

"Some people might decide fracking is a reason to sell out of these companies if they believe the environmental risks around the processes outweigh the potential benefits."

"There's the potential damage to agriculture if fracking chemicals leach into groundwater," Thomas says.

Danger in numbers

Geoff Panton, CEO of not-for-profit resource management organisation the Queensland Murray-Darling Committee, says while he is pleased with the set of conditions imposed by Burke, major concerns remain.

Both projects are required to consider cumulative impacts as part of their groundwater management plans, but Panton questions whether individual projects would be in a position to take the much-needed broad view.

A document issued by Burke's department stated that "cumulative impacts of all known likely coal seam gas proposals" in the southern Queensland and Gladstone area had been considered.

The document stated the 300 conditions imposed on the projects "require the proponents to undertake ongoing regional modelling to ensure that any cumulative impacts from their projects are appropriately minimised or avoided".

Burke's decision was partly informed by commissioned report from Geoscience Australia, which looked at potential groundwater risks.

"We consider that the overriding issue in CSG development is the uncertainty surrounding the potential cumulative, regional scale impacts of multiple developments," the study said.

"We emphasise that this assessment relates to the potential impacts of individual operations on the identified issues and does not consider the likely impacts of multiple CSG operations."

Panton says the impact of multiple CSG projects on groundwater remain a "work in progress" and he is still worried CSG drilling could pollute and deplete aquifers.

"Some aquifers have the potential to leak upwards under pressure. If we are drying out an aquifer above then we have hundreds of hectares of Queensland that rely on that Great Artesian Basin. A large amount of irrigation is derived from groundwater - that could affect a lot of agricultural production."