



Tenure Matters



A column by Sue Slater, Senior Advisor Petroleum, RLMS

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Welcome back. This month Tenure Matters is looking at recent developments in Queensland's underground coal gasification policy and taking a bit of a retrospective look at UCG policy evolution in the State. On April 18, the Queensland Government announced that underground coal gasification (UCG) was banned in Queensland¹. The ban was immediate, with supporting legislation to follow before the end of the year. This ban will include the *in situ* underground gasification of oil shale.

UCG has a long history in Queensland. Linc Energy Limited was granted an Exploration Permit for Coal (EPC 635) near Chinchilla in December 1998 and produced its first syngas by UCG in December 1999².

By around 2008, Linc Energy had 16 granted EPCs and MDL 309. Linc Energy also had Significant Project status under the *State Development and Public Works Organisation Act 1971* for the development of a commercially viable gas to liquids GTL plant producing approximately 40,000 barrels per day of diesel and 200 megawatt of power capacity in a combined cycle power generation plant (subsequently lapsed). They had, however, announced a potential move to South Australia, where the spectre of overlapping tenures did not exist.

By 2008, large numbers of Exploration Permits for Coal were granted, a great many companies acknowledging in their press releases that the target was underground coal gasification, despite the fact that at the time, the *Mineral Resources Act 1989* did not distinguish between EPCs granted for conventionally mined coal resources or underground coal gasification. Most of these were granted after the commencement of the *Petroleum and Gas (Production and Safety) Act 2004* with its complicated overlapping tenure regime and its mirrored provisions in the *Mineral Resources Act*

¹ <http://statements.qld.gov.au/Statement/2016/4/18/underground-coal-gasification-banned-in-queensland>

² Syngas is basically a mixture of hydrogen, carbon monoxide and nitrogen with small amounts of carbon dioxide and methane. Where oxygen, rather than air, is used to sustain the partial combustion of the coal, the syngas has a low nitrogen content.

1989, and arguably should not have proceeded to grant given the exclusive resource use required. Only two EPC's held by UCG companies were granted prior to the commencement of the new legislation, whilst 27 tenures to 4 companies (Linc Energy Limited, Carbon Energy Limited, Cougar Energy Limited and Metrocoal Pty Ltd) have been granted since its commencement.

The major Queensland players and their acreage position at the time are shown in Table 1.

Table 1 UCG tenures circa 2008

Company	EPC's	EPC's under application	Granted MDL's	MDL's under application
Carbon Energy	5	nil	MDL 374	
Cougar Energy	1	2*		1
Linc Energy	16	9*	MDL 309	3
Metrocoal	7	3*		1

Notes: * includes competing applications

The primary purpose of the overlapping tenure regime introduced into legislation with the 2004 Act was to maximise the utilisation of Queensland's vast coal resources and ensure safety for subsequent mining activities. The use of the same resource for underground coal gasification was not factored into these arrangements. But by 2008, almost all prospective coal seam gas tenures were overlapped by applications or granted EPCs. Liberty Resources Limited, for example, had an acreage position of over 64,000 km² in the Surat, Bowen and Galilee basins; and many other companies had lodged exploration applications for UCG exploration.

Although it seems hard to believe now that there are plants exporting CSG-LNG at Gladstone; at the time, the perceived lack of security of the CSG resource, for which their tenure was granted, led the BG Group to announce that its plans for a large LNG plant at Gladstone could be jeopardised without certainty over the reserves it would need to service the plant.

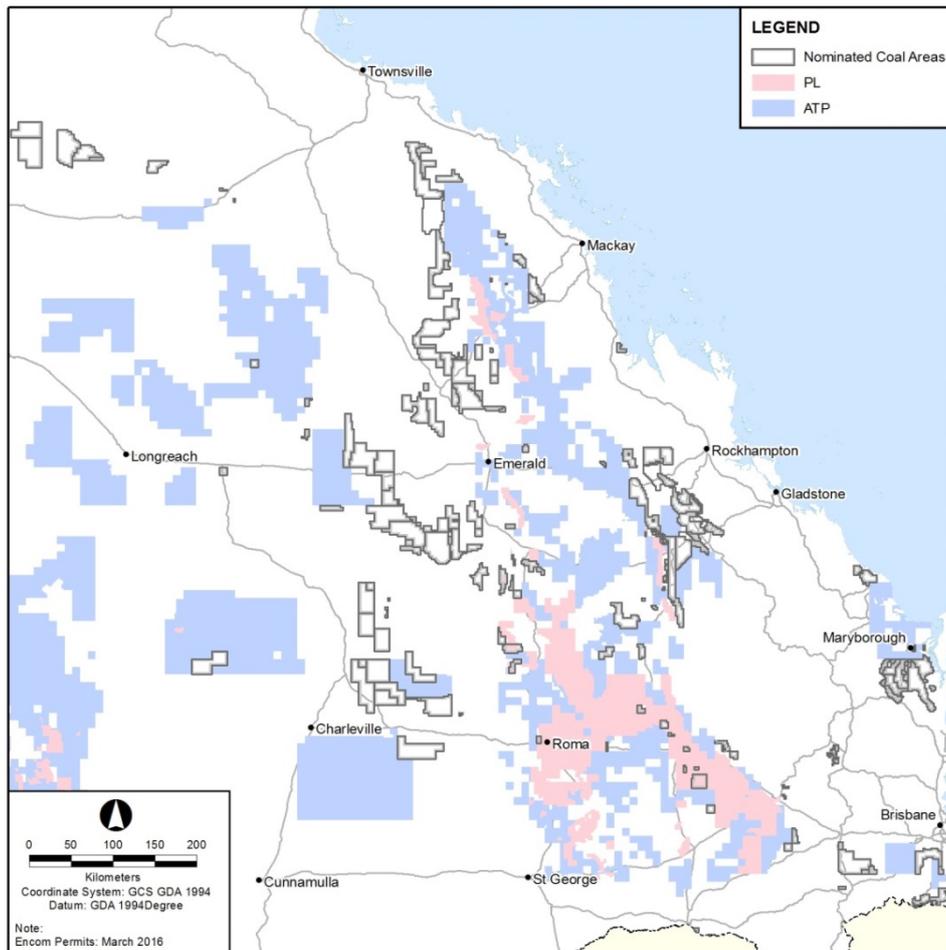
In light of the escalating conflict between CSG and UCG over the overlapping tenure issue, the Queensland Government, in February 2009, released its *Underground Coal Gasification Policy*³. The stated aim of the policy was to "provide UCG pilot projects with the opportunity to demonstrate the technical, environmental and commercial viability of the technology". The three pilot UCG projects being developed by Carbon Energy, Cougar Energy and Linc Energy were the nominated projects under the policy. No further approvals for UCG were to be made until the trials were finalised.

Future exploration for UCG would be on Exploration Permits Special, for the mineral "f", defined in the *Mineral Resources Act 1989* as a product of gasification. A restricted area for the entire State with respect to mineral "f" would mean that any future grants of UCG tenure would be released on a competitive basis. Existing holders of EPCs that were not subject to overlapping petroleum tenure were eligible to nominate an interest in future UCG activity by making an application for an EPS (Exploration Permit Special) for mineral "f. These areas are shown in Figure 1, as "nominated coal areas". Despite some of the underlying exploration permits or applications becoming non-current, the nominated areas remain in place, and cannot be released for tender under the *Petroleum and Gas (Production and Safety) Act 2004* while the nominations remain in place⁴.

³ Underground coal gasification policy – February 2009, Department of Mines and Energy, 18 February 2009

⁴ I have been unable to source any further information about these areas on the DNRM website.

Figure 1 Nominated coal areas



In January 2011, the Independent Scientific Panel for Underground Coal Gasification (ISP) made interim reports to government on each of the three trials. Following environmental breaches and apparent failures of infrastructure, the ISP recommended that the Cougar Energy trial burn not continue and that decommissioning should commence, not as a “clean up” approach, but as a pilot trial moving into decommissioning following an unscheduled permanent shutdown.

Both the Linc Energy and Carbon Energy trials were recommended to continue as planned. Other key points made however, include that there was a lack of sufficient base line information prior to commencement, and that all trials should have had the same initial baseline and monitoring requirements and consistent minimum conditions for Environmental Authorities. It seems inconceivable that this was not the case.

In June 2013, the ISP made its final report on the Carbon Energy and Linc Energy UCG pilot trials.⁵ The panel made three overarching recommendations, these being:

- *“that the Queensland Government permit Carbon Energy and Linc Energy to continue the current pilot trials with the sole, focused aim of examining in a comprehensive manner the ascertain that the self-cleaning cavity approach advocated for decommissioning is environmentally safe”;*

⁵ https://www.dnrm.qld.gov.au/data/assets/pdf_file/0006/291633/isp-final-report-cs-review.pdf

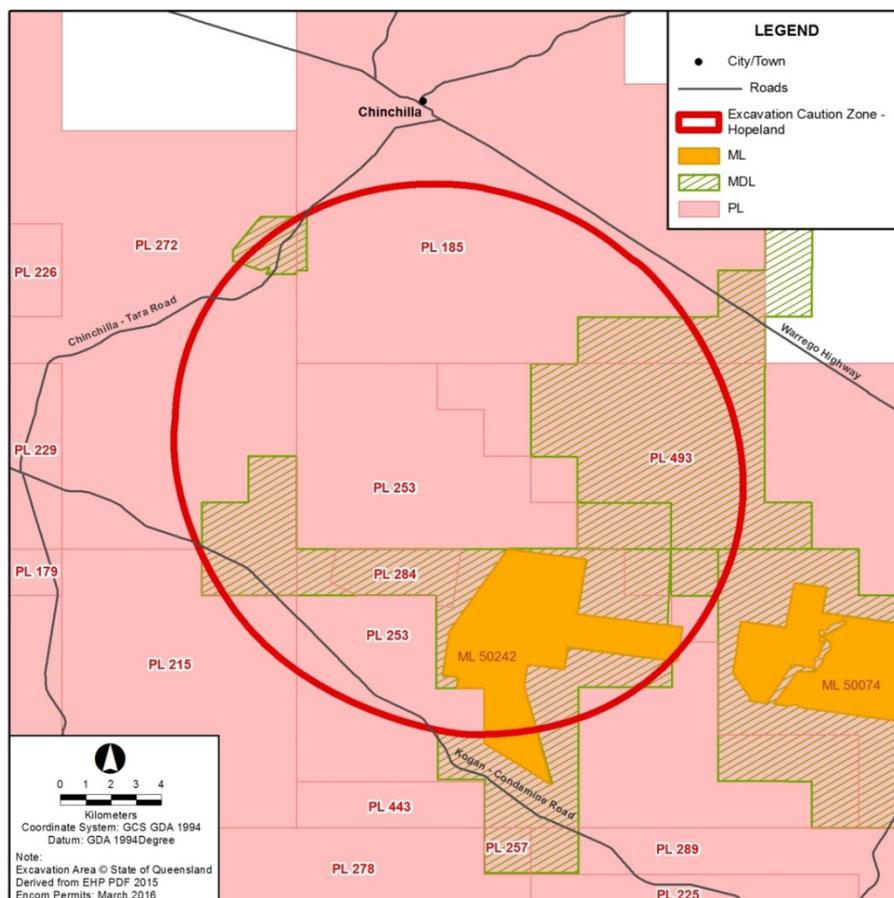
- “that a planning and action process be established to demonstrated decommissioning. Successful decommissioning needs to demonstrate the self-cleaning process and/or any necessary active treatment. To achieve this:
 1. A comprehensive risk-based plan for decommissioning must be produced;
 2. The Plan must take account of the fact that both companies now have connected cavities suitable for demonstration;
 3. The Plan must include at a minimum a conceptual model and relevant numerical models, a sampling and verification/validation strategy, and event-based milestones

Two significant phases are recognised:

 - a) Sampling of the zone surrounding the cavity; and
 - b) Direct cavity access.
 4. The government must establish a process by which the plans and their implementation are assessed for adequacy.”
- “that until decommissioning is demonstrated, no commercial facility should be commenced.”

Fast-forward a few years and Linc Energy has subsequently been charged over causing “irreversible damage to more than one environmental receptor”. Fugitive gases are believed to have polluted a widespread area, which is now an “evacuation caution zone”, in place since March 2015, covering an area of about 320km². This is clearly an environmental disaster, and possibly the biggest investigation undertaken by DEHP. Land owners have been advised to contact DEHP if they plan to excavate to a depth of 2m or more in this area. Several PLs overlap this area partially. The impact of this area on overlapping tenure is shown in Figure 2.

Figure 2 Hopeland excavation caution zone



Meanwhile Linc Energy has gone into administration. Despite this, the newly passed *Environmental Protection (Chain of Responsibility) Amendment Bill 2016*⁶ (date of assent to be advised prior to commencement) may provide a mechanism for the Government to recover costs and penalties.

This history makes the decision taken by the Government on 18 April more comprehensible; notwithstanding the impact it has had on the one project that seems to have met all of its requirements, Carbon Energy. The fact that the decision was taken without consultation with the resource sector in general, or Carbon Energy in particular; does significantly increase the perception of sovereign risk for resource projects as a whole in Queensland. Given that the ISP final report findings were reviewed and endorsed by the Queensland Office of Chief Scientist only three years ago, QRC has called for the Government to make public the complete set of triggering evidence for the decision.⁷

Carbon Energy is in the process of decommissioning and rehabilitating its trial site at Bloodwood Creek, but had proposed to develop its adjacent Blue Gum gas project, using CSIRO keyseam[®] technology.

In response to the announcement banning all future UCG, Carbon Energy's stated⁸ *"This new position has come as a surprise to the Company who only recently had discussions with several Ministerial Staff including staff from the DNRM regarding the next steps in relation to the successful completion of the Independent Scientific Panel (ISP) technology process. This decision is also inconsistent with the Mineral Development Licence Renewal granted in December 2015 which was approved following the Company (having) submitted its Decommissioning Report and Rehabilitation Plan.... Carbon Energy remains the only company to successfully complete the rigorous recommendations for the State Government appointed ISP."*

It seems that not only does a company have to be environmentally responsible and meet its own obligations under its various approvals, but at least when the resource type is "developing" it has to hope that other proponents are similarly responsible so that government and public confidence is not shaken to the extent that extreme measures are taken.

Tenure Matters will return in June. I am happy to hear suggestions about topics you would like covered. Feel free to email me at sue.slater@rlms.com.au with the subject heading Tenure Matters.

In the meantime, remember "Tenures make the Project; the Project doesn't make the Tenures".

RLMS covers the project spectrum from planning through to State and Federal government approvals, including land access, compensation, environmental impact statements and work schedules for clients ranging from entrepreneurs to major corporations, from start-ups to government agencies, and state significant projects such as Queensland's LNG giants. Contact RLMS at:

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⁶ Discussed in the April Tenure Matters

⁷ https://www.qrc.org.au/01_cms/details.asp?ID=3882

⁸ <http://www.carbonenergy.com.au/IRM/PDF/2364/ResponsetoQldGovernmentannouncementonUCGindustry>