

INQUIRY INTO COAL SEAM GAS

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GPSC5 GPSC5 - Risk assessment

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Deedre Kabel

7th Sept 2011

Submission Re: Coal Seam Gas Recycled Water Management Plan and Validation Guideline, including exclusion decision?????

To the Prime Minister Julia Gillard, Federal Ministers and State Ministers,

Have you assessed the risk of Coal Seam Gas policy (Mineral Resources Act), water security? and drawdown on the Great Artesian Basin?, pollution long term?, food security?, agricultural standards?, and health impacts?

<http://www.abc.net.au/news/2011-08-27/clive-palmer-blasts-csg-industry/2858458?section=business>

State environment laws are inadequate and the Queensland environment is being damaged by the unconventional industry (this includes both Coal Seam Gas and Underground Coal Gasification). The safety and health of Australian people is also at risk by non-renewable mining industries, eg. Coal dust from open cut mines and toxic methane gas on farmers land and near towns.

<http://www.bloomberg.com/news/2011-08-22/xstrata-queensland-coal-mine-challenged-in-court-as-threat-to-barrier-reef.html>

Impacts :

- A Coal Seam Gas well explodes in spectacular fashion (Dalby back in late May).
- At least 3 incidents of contamination of groundwater (Cougar's UCG project at Kingaroy; a Dalby incident about 18 months ago and Arrow Energy near Dalby last week) by BTEX chemicals, in the most recent Arrow case (August 28?) contamination was 15 times the ANZECC guideline level.
- Residents near gas-fields are becoming sick, reporting nausea, headaches, nose bleeds, bleeding ears and respiratory problems.
- Residents near UCG plants (Linc Energy at Chinchilla) report offensive, oily smells in the air, burning of the eyes (for 2-3 days) and respiratory problems.

APLNG have proposed to discharge permeate into the Condamine River downstream of the Chinchilla Weir at Talinga and Condabri. APLNG (2010) undertook IQQM modelling to establish the expected changes to flow regime in the Condamine River under a range of release scenarios. This modelling showed that while continuous discharge would significantly alter low/no flow periods, releases could be managed to conform to the Environmental Flow Objectives in the Water Resource (Condamine and Balonne) Plan (2004). Permeate discharge by APLNG only was estimated to be in the range of 20-100 ML/d (APLNG, 2010, Vol. 5 Att. 23) would represent 3 - 17 % of the volumes currently being extracted upstream of the Chinchilla Weir in the Condamine River.

Clearly there are risks and dangers with the industry and our laws are not working to protect us or our environment. What are the results so far of rigorous monitoring?

<http://www.environment.gov.au/epbc/notices/gladstone.html#assessment-report> **There should be no csg water re-injected into aquifers, water bores or over the the land. No discharge into Rivers or creeks either, as proposed by Queensland govt. Absoulutely no degradation of any water**

resources and that an exclusion decision never be given to any mining company.

Surface water quality

The Queensland regulatory framework under the Environmental Protection Act (EP ACT) requires that any CSG water discharged to surface water needs to be of an appropriate quality to ensure the receiving waters environmental values are protected. Discharges will be conditioned through an environmental authority issued under the EP Act. In addition, town water quality requirements to protect public health are addressed under the proposed amendment to the Water Supply Act currently under consideration by the Queensland Parliament.

Some proponents have identified some dissolved constituents in permeate may be present in concentrations that exceed ANZECC/ARMCANZ (2000) water quality guidelines. The constituents of primary concern are Boron and Fluoride (APLNG, 2010, Vol. 5 Att. 22; Santos, 2010, Section 6.5). Conversely, permeate discharge may reduce the concentration of key constituents such as calcium. These impacts can be managed through setting appropriate discharge criteria for aquatic ecosystem protection and in some cases selected ion addition prior to discharge.

Increased erosion and delivery of sediment the streams could result from three activities. These are construction activities, including road construction; changes to stream hydraulics during permeate discharge; and, changes to overland flow paths as a result of subsidence.

All proponents identified increased erosion during construction activities as a risk to stream water quality. Activities include road construction and in some areas waterway crossings. The mitigation activities such as undertaking activities during the dry season and containment of runoff in sedimentation dams should minimise the water quality risk to streams.

Each of the proponents conducted hydraulic modelling to determine possible changes to stream hydraulics during permeate discharge that may result in increased erosion of stream banks or stream meander migration. Mitigation activities including managing discharge volume and conditions at the point of discharge (e.g. rock armouring of streambed etc.) should minimise impacts of these activities.

Each of the proponents estimated compaction of the coal seams and consequent subsidence. The predicted compaction from these studies is similar to predictions from CSG field in the Western United States (Case, 2000). A subsidence bore was established in the Condamine in the early seventies and indicates that there may have been minor subsidence due to water extraction. DERM has recently established a bore line for monitoring subsidence along a transect across the alluvium that will be monitored on an ongoing basis.

Based on current knowledge, subsidence due to dewatering of the coal seams is likely to be significant in spatial extent but minor, by comparison with long wall mining for example, in magnitude vertically. However, consequences of subsidence and small changes to land surface topography in the study region could be important in terms of changing overland flow patterns, which may increase erosion and gully formation.

In addition, proponents did not consider whether compaction of coal seams in the Walloon Coal Measures after dewatering might result in deformation of overlying or underlying aquifers or confining units. This deformation may result in opening of new or existing fractures in these units which would change the hydraulic relationships and may change groundwater flows between aquifers.

Why aren't you protecting the farmers/landholders? The government needs to change the way they issue a petroleum/mining permit to access anyone's land? How can farmers co-exist when their "industries" end purpose competes for same space, same water, because the mining industry has access to the farmers land to access the coal seams? - Gas pipes, fracking wells, salinity ponds approx 28 hectares and roads aren't suspended in air, but on a farmers land?

What's meant by "make good provision" to the farmers? Who pays and when? What's the short and long term solution? <http://beyondzeroemissions.org/media/newswire/the-health-costs-of-coal-110324>

<http://www.theaustralian.com.au/national-affairs/straight-to-renewables-insist-greens-who-say-no-future-in/story-fn59niix-1226116311165>

Federal environment legislation (EPBC Act) is also inadequate because it only allows the Minister to investigate a narrow range of issues (the Matters of National Environmental Significance [MNES] stated in EPBC Act).

If a project requires 1200 conditions it is probably a very bad project.

The Federal government must intervene. The EPBC Act should work to actually protect the environment, not allow damage to occur 'with conditions'. E.g Eastern Star (Santos takeover) at Narrabri in NSW which I haven't received any comment or action to non-compliance.

The Act should require the States to have effective protective environment legislation. It must be amended to include

- protection of groundwater aquifers.
- Assessment of the cumulative impacts of many developments. (E.g Coal Seam Gas/ Energy companies at Wandoan, Chinchilla, Dalby, Darling Downs)
- The Murray Darling Basin as a MNES
- The Great Artesian Basin as a MNES
- Protection of existing Agricultural land uses for Australians

How much profit is returned to Australia and Queensland, on top of royalties or resource tax? 7% for coal is less than adequate? Why not charge higher Royalties on all Minerals? The Mineral Resource Rents tax still sits in limbo, whilst the Mining companies are ramping up quadruple production and profits? How much have we lost so far by inadequate legislation and assessment? <http://www.couriermail.com.au/business/mining-companies-buying-up-prime-farmland-across-queensland-despite-public-opposition/story-e6freqmx-1226109901427>

How many of those 18,000 jobs are employing local Australians or are they jobs for skilled foreigners? How many jobs are being lost because of mining impacts?

Table 1. Summary of CSG tenements within the boundary of the MBD and area of alluvium in the tenements.

Company	Number of Tenements	Area of Tenements (km ²)	Alluvium area in tenements (km ²)
ANGARI PTY LIMITED	2	153	16
ARROW ENERGY	8	1240	819
AUSTRALIA PACIFIC LNG PTY LTD	17	5802	863
AUSTRALIAN CBM PTY LTD	3	667	425
BNG (SURAT) PTY LTD	2	312	4
BRISBANE PETROLEUM LTD	3	357	0
BRONCO ENERGY PTY LIMITED	2	465	46
MOSAIC OIL NL	3	102	24
MOSAIC OIL QLD PTY LIMITED	8	874	30
OIL INVESTMENTS PTY LIMITED	9	1266	415
QGC PTY LIMITED	21	2786	651
SANTOS QNT PTY LTD	26	4771	752
SOUTHERN CROSS PETROLEUM & EXPLORATION PTY LTD	1	108	85
Total	105	18,903	4,130

In the meantime, your legislation is causing losses to farmers, who are unable to continue farming their land because of the health impacts of coal seam gas mining, trespassing and contamination of the air, water and land. The long term impacts are huge to Australia's intergenerational heritage and equity.

http://www.weeklytimesnow.com.au/article/2011/08/24/371661_opinion-news.html

Why is the ALP failing to recognize the value of Australia's life, food security, water security, health security, including wildlife needs over minerals?

All Mining companies equates to 83% foreign ownership. Some mining industries will last 25years, then WHAT? What will happen when the US, British, Indian, Chinese and the other foreign corporations bugger off home in 25-30 years? When Australia has no mineral

wealth left? <http://www.theaustralian.com.au/national-affairs/riding-our-resources-dumb-luck-to-ruin/story-fn59niix-1226108572586>

<http://www.miningaustralia.com.au/news/yanzhou-coal-seeks-more-aussie-mines--1>

There has to be protection of Agricultural lands, the water resources and all Artesian Basins and Rivers.

Your "actions" by changing the Legislation can be what we, as Australians, will see as being the difference to the survival of our high quality of health, fresh fruit and vegetables, meat stocks and an on-going generations of farmers for my future generations.

Yours Sincerely

Deedre Kabel