

**Submission
No 419**

INQUIRY INTO COAL SEAM GAS

Organisation: Lismore City Council

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General Purpose Standing Committee No. 5 Inquiry into Coal Seam Gas

Lismore City Council Submission 21 September 2011, Alstonville

Lismore City Council welcomes the NSW Legislative Council inquiry into the impacts of coal seam gas and the invitation to local government to present at today's hearing.

We acknowledge that this hearing is held on the land of the Bundjalung people who have cared for people, the land and its food and water for tens of thousands of years. We pay our respects to Elders past and present and are committed to working with them to ensure future generations can live in harmony with the land.

At our December 14, 2010 meeting, Council resolved to:

1. Unreservedly support the request of the NSW Farmers Association for a moratorium on all Coal Seam Gas (CSG) mining in NSW.
2. Write to the Premier and the Minister for Environment Climate Change and Water as well as the Leader of the Opposition, the Shadow Minister for the Environment and Local Member to strongly urge a moratorium on CSG mining and particularly the practice of hydraulic fracturing in NSW until an extensive and independent environmental impact statement has been concluded on the effects of CSG mining on the environment and in particular the effects of CSG mining on groundwater.
3. Write to the Prime Minister, Federal Minister for the Environment and the Local Federal Member as in point 2

In January 2011, Council wrote to the then NSW Government calling for a moratorium on CSG and we welcome the decision of this government to uphold that moratorium.

The concerns of Council reflect the diverse concerns of the Lismore community. This submission focuses on the questions which need to be better understood for people and Council to make an informed decision on the future of CSG within our community.

Council's concerns are summarised as follows:

1. Environmental Impact of CSG activities

a. Produced Water:

Council understands that extracting CSG requires the removal of large volumes of generally saline *produced water* from the coal seam. It is further understood that the produced water is either re-injected underground, released into streams, used for irrigation or sent to evaporation ponds. ***How will this 'waste' material be managed in the Northern Rivers? Will it be stored, treated, disposed of and/or re-used?***

CSG water is generally high in sodium and contains many other contaminants. Each megalitre (1 million litres) of associated water brings up 5 - 8 tonnes of salt which was previously stored safely underground.

The Queensland government estimates that 630,000 - 1,728,000 tonnes of salt will be extracted per year from produced water. Queensland has also banned the evaporation of this water from large dams. Evaporation ponds would pose an added high risk in the Northern Rivers due to intense rainfall events and the high probability of evaporation ponds overflowing and contaminating natural watercourses. It is understood that if untreated CSG water comes into contact with high clay-content soils, such as those in the Northern Rivers, the soil becomes impervious to water, rendering the soil useless for agriculture.

In addition to salt, produced water may also contain heavy metals, carcinogens such as benzene, toluene, ethylbenzene and xylene and radioactive chemicals that are naturally present in coal seams. Some of these highly toxic substances bio-accumulate - that is, they are concentrated as they move up the food chain.

What is the commitment to finding proper treatment methods for this water and what are the risks to re-injecting it underground? What are the volumes that will be produced? If any additional water is required at the site for the drilling process, how will that water be sourced and transported?

b. Groundwater:

Council understands that bores and gas wells pierce all geologic layers between the surface and bottom of the shaft, including the aquifers people rely on for drinking water and stock or irrigation supplies. There are over 1000 licensed bores in the Richmond River catchment for domestic use, stock and irrigation.

In terms of groundwater **supply**, Council has concerns that the extraction of associated water can lower water levels in adjoining aquifers, particularly because there is connectivity between different aquifers but the extent to which groundwater sources are connected to surface waters is poorly understood.

Council *believes there is a high chance of groundwater supplies being diminished as aquifers adjacent to coal seams and alluvial groundwater connected to coal seams are drawn down during depressurisation of the coal seam.*

In terms of groundwater **quality**, Council has concerns that groundwater will be at risk of contamination from either the mixing of previously contained aquifers, the use of chemicals in hydraulic fracturing, from the chemicals naturally present in coal seams or even the gas itself. This could happen regardless of the site of the well meaning that ground water may be contaminated at some distance from the well site.

It is understood that 10-40% of wells in Australia are expected to be fracked. Fracking ingredients include acetic and boric acids, bleach, caustic soda, detergents, polish and hydrocarbon derivatives. Many of these cause serious health problems. If the fractures intercept existing fissures or faults, fracking fluids, saline water or gas can move into other geologic layers, risking contamination of groundwater supplies.

What is the value of this water resource to future generations? What do we know about this resource and its current quality? Should we be monitoring existing bores to identify baseline water quality and detect changes? What avenues for compensation will landowners have if their water supply is negatively affected?

c. Methane leakage:

Council understands that SCG mining can result in leakage of methane gas from unsealed or inadequately sealed and maintained mines. As a contributor to greenhouse gas emissions, methane ranks as significantly more dangerous than carbon dioxide. ***What protections would be in place to ensure there was no leakage of methane or other harmful gasses?***

2. Economic impacts of CSG Activities

a. Food Security and Agricultural activity:

Council is concerned that CSG mining will jeopardise this region's moves towards securing its food production future. The Northern Rivers consists of highly productive farmland that produces a wide variety of food crops with the potential to feed this region and those beyond. Our reliable rainfall and rich soils produce good yields. These facts are acknowledged by the State Government through the Local Environmental Plan and State Environmental Planning Policies that actively protect these lands from encroaching development. CSG mining appears to be inconsistent with those protections and controls.

b. Tourism:

The Northern Rivers region relies heavily on tourism. We are also known as the Green Cauldron and use our clean green image in tourism marketing throughout the state and beyond. What are the possible impacts of CSG mining on the tourism industry?

c. Landholder agreements:

Council understands that each gas well requires a 1 hectare pad plus an all weather access road and pipes. Other major infrastructure may include a compressor, a saline water storage or evaporation pond. We understand the current 'access agreements' used by CSG companies do not go into detail about the actual infrastructure required on a property or ensure equitable use of the land. ***What certainty do landholders have over the use of their land and the amount of land required for infrastructure?***

d. Regional infrastructure:

In addition to 'property level' infrastructure, what other major infrastructure is proposed? Where is the gas going and what major pipelines will be built to get it there? What will the impact be on existing roads? ***What will the impact be on our natural environment such as our National Parks and other significant ecological communities?***

e. Weeds:

Weeds are a major problem in the Northern Rivers. The compaction of paddocks by all weather roads and traffic usually leads to the introduction of weeds. ***Could properties be at increased risk from the introduction of new weeds? Could OH&S issues prevent landholders from undertaking weed control? Is weed hygiene taken seriously by CSG companies with machinery movements?***

3. Social Impacts of CSG Activities

a. Landholder Approval:

Council is aware of some confusion among property owners as to their rights in refusing access to mining companies wishing to explore for CSG. Some farmers understand that they have the right to refuse access but that if they do allow exploration, they then have no rights to refuse mines to be constructed for extraction of the gas. ***What rights do landowners have in relation to access and mining exploration and CSG extraction?***

b. Noise/Light:

Council is concerned for landholders being subjected to unreasonable noise from vehicle movements and heavy machinery operating long hours and weekends. Council also concerned that gas-well sites may be flood-lit at night, impacting on the rural amenity and making it difficult or impossible for some to sleep, the loss of privacy and the cumulative impact that may lead to stress-related health conditions. **How will impacts of noise and light spill be managed?**

c. Dust/Fumes:

Council is concerned that individuals and livestock may be subjected to fumes and dust that could affect health. It is understood that typical releases from gas wells include BTEX (benzene, toluene, ethyl benzene and xylene), volatile organic compounds (VOCs) and poly-aromatic hydrocarbons (PAHs). It is understood that all these substances affect the respiratory system, some are carcinogenic and some affect the endocrine, nervous and immune systems. **To what risks are individuals, families and communities being exposed from contaminated air, surface water and groundwater systems?**

d. Landscape Amenity:

The Northern Rivers has a relatively densely populated rural zone compared to western NSW. It is more likely therefore that neighbouring properties will be impacted by any visual, noise or air impacts. How will neighbouring properties be consulted on the impacts of CSG activities?

e. Personal Impact:

Incomes, particularly those of rural residents, are significantly lower than the NSW state average. These residents may be tempted by initial payments, only to suffer long-term financial damage due to a reduction in property values from their proximity to a gas well or the reduction in productive land. **What is the longer term impact of CSG on property prices and land productivity?**

f. Community Harmony:

There is a high potential for division within the community based on those for and against CSG, those who have received payments and those who have not and those who have been indirectly impacted by neighbours' decisions because lateral drilling can result in mining for gas under distant properties.

Lismore City Council is proud that the 2480 postcode has one of the highest take-ups of solar power demonstrating this community's commitment to renewable energy. We are therefore concerned that CSG mining is distracting us and the energy industry from commitment to and investment in renewable energy sources.

In conclusion, Council refers to our resolution of December 2010 and calls for a moratorium on Coal Seam Gas exploration and mining until all questions have been answered and until CSG has been proven safe.

We thank you for the opportunity to raise these issues and wish the committee well for future hearings

Yours faithfully

Cr Jenny Dowell (JP)
MAYOR -- LISMORE CITY COUNCIL