

**Submission
No 291**

INQUIRY INTO COAL SEAM GAS

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Date received: 13/09/2011



UPPER MOOKI LANDCARE GROUP

**Submission to the Legislative Council
Coal Seam Gas Inquiry
General Purpose Standing Committee No. 5.
10th September 2011**

In response to the request for submissions to the inquiry into Coal Seam Gas by the NSW Legislative Councils General Purpose Standing Committee No. 5, the following information is submitted by members of the Upper Mooki Landcare Group, which is auspiced by the Liverpool Plains Land Management Group.

The Upper Mooki Landcare Group has members who are landholders in the Willow Tree district, extending from Chilcott's Creek in the east, to Phillip's Creek in the west, at the headwaters of the productive Liverpool Plains Catchment. Members are focussed on a range of sustainable food & fibre production activities (cereal and oilseed production, beef cattle and fat lamb production, cotton and wool production, poultry and egg production and vegetable production).

Our members, like so many farmers, have a long history in working to continually improve food production technologies in conjunction with effective land management and biodiversity preservation. Members are concerned that our Government be made well aware about the serious risk of degradation to soil, water, air quality, vegetation and native flora and fauna, in addition to the direct impacts on human health from the Coal Seam Gas extractive industry. We welcome this opportunity to present our views to the Standing Committee.

1. Environmental and health impact of Coal Seam Gas activities:

a. Effect on ground and surface water system:

The extraction of large amounts of groundwater is of massive concern to us regarding the sustainability of the existing groundwater resource. It seems difficult to determine who is responsible for the groundwater extracted in Coal Seam Gas production. It appears to be outside the scope of the Murray Darling Basin Authority, Great Artesian Basin or NSW Water Sharing Plans. There are widespread concerns that extraction of water in Coal Seam Gas production may impact through depressurising the higher aquifers, or result in contamination through fracking.

Landcare members have raised concerns for decades, about the interaction between surface and groundwater. In the 1980's, researchers reported that there was no connection between surface water and groundwater aquifers. This is now known to be incorrect. There is connectivity between surface and groundwater, and any development, or over extraction, or contamination, or recharge of one system, affects the other.

We consider sustainable management of water as essential to future food production and we do not see the Coal Seam Gas industry as sustainable managers of water.

In order to gain information from Santos (holders of Exploration licence in this area) about Coal Seam Gas extraction processes, particularly in relation to water issues, Upper Mooki Landcare Group engaged in discussion with staff from Santos at a meeting held 25th March 2010 at the Warrah Creek Hall. Questions from members were presented to Santos staff prior to the meeting, and their responses were provided in writing prior to the meeting. This document is available on request.

Members were not satisfied with the responses to a number of these questions, in particular those dealing with potential damage to aquifers and possible ground water contamination. The group particularly questions the response that "in the highly unlikely event that Santos' operations were to impact the capacity or quality of a useable aquifer, Santos has to adhere to 'make good' requirement". This response was repeated verbally at the meeting by the then Gunnedah Business Coordinator, Katherine Logan.

We do not understand how any Coal Seam Gas company can undertake to 'make good' a resource that is, in effect, not able to be replaced if damaged, as the extent of the aquifer and its relation to ground water has not been quantified. There is no definition of what Santos could "make good" in the event of aquifer damage – can this company replace our underground water capacity? To what geographical extent can the company be forced to 'make good' loss of aquifer water across the region given the interconnectivity? If bores are lowered and irrigation, stock and domestic water is decreased across the catchment, one cannot estimate the extent of the environmental and financial damage to individual landowners involved in vital food production, communities and natural environments with all their biodiversity which are dependent on this water.

For how many generations would Santos or any other company make good" this potential damage? Is the documented damage to water bores and dropping water tables in the Surat Basin of Queensland being "made good" by Arrow Energy?

And all this in the face of climate change and warming environments with predictions that there will be less water in the future.

b. Effects related to the use of chemicals:

Use of chemicals such as benzene, toluene, ethylbenzene and xylene are of major concern. Disposal of drillers mud used in Coal Seam Gas exploration has been an issue for local government, as landfill sites are unable to accept this contaminated waste product.

Waste water from Coal Seam Gas production is an issue in existing developments. Waste water is known to be extremely saline. Any discharge of this water on surrounding farm lands or into our water catchment would be dangerous to our farming lands, our riparian systems and our natural vegetation corridors. Santos staff (Kathryn Logan and Mark Rogers) stated to the writers in March 2010 that they were confident that a range of options could be employed regarding waste water. These included taking the waste water, cleaning it of salts and then piping it to the top of creek systems in the catchment so that this water would then reticulate through the upper reaches of this particular system. However, this process now appears quite unrealistic, with the emerging evidence of additional chemicals in the

discharge water, apart from the question of where massive amounts of saline could be transported to and stored on an ongoing basis.

c. Effects related to hydraulic fracturing:

Of particular concern, is the process of “fracking” which has the potential to impact on both groundwater availability, and quality of discharge water. The chemicals used in this fracking process are of concern, including benzene, toluene, ethylbenzene and xylene. These chemicals are known to contaminate soil, water and air, and ethylene glycol has been described as an endocrine disruptor.

In addition, we note the evidence of Dr Marion Healy of the National Industrials Chemicals Notification and Assessment Scheme at the inquiry into the management of the Murray-Darling Basin, (9/9/2011) when questioned by Senator Phil Heffernan. It would appear from her evidence that only four of the fifty or sixty (the actual number is not determined) fracking chemicals have been assessed by the NICNAS. It appears to us that this is totally insufficient, and that any company using a process which has the potential to discard chemicals with unknown potential into our water system can only be holding that water system, and our environment, in disdain, with no regard as to the negative effect of these chemicals.

d. Effect on Crown Lands including travelling stock routes and State Forests:

Further clearing of native vegetation by Coal Seam Gas companies creating extraction sites and pipelines will reduce habitat and will impact on native flora and fauna. There has been increasing and significant discussion in the public arena of the need to preserve native vegetation corridors in the light of increasing temperatures, so that over the coming decades native animals will be able to retreat to more temperate climates. Further disruption of habitat by industry will only result in further loss of native fauna. In particular, the koala in this area is under threat.

e. Effect on greenhouse gas and other emissions:

Burning fossil fuel contributes to carbon emissions and climate change. While there is robust debate on climate change, there is strong evidence that CO₂ emissions have increased following the industrial revolution. Coal Seam Gas is still a fossil fuel, and while emissions may be lower than from burning coal, widespread, long term impacts across the landscape make it hard to justify use of CSG as a cleaner energy source.

If the Coal Seam Gas industry develops on the Liverpool Plains, air pollution from gas flares, methane gas and salt from evaporation ponds may result. Matthew Wright, from "Beyond Zero Emissions" has stated that the amount of fossil fuel burnt, and hence CO₂ emitted in the process of Coal Seam Gas extraction makes the "clean green energy source" a furphy.

f. Relative air quality and environmental impacts compared to alternative fossil fuels:

The comparison of use of fossil fuels could be considered last century thinking. A huge shift to renewable energy must be the future. What will governments do when all supply of fossil fuel is exhausted? Now is the time for policy, research and investment for the 21st Century.

2. The economic and social implications of CSG activities including those which affect:

a. Legal rights of property owners and property values.

We believe strongly that we have a legal right to protect our properties from incursion by Coal Seam Gas exploration and deny access. It is significant to hear Santos Vice President of Eastern Australia, Mr James Balderstone, announce lately that he would not pursue access to a property where the landowner denies access, and we welcome this announcement and will lobby him directly to ensure this assurance is kept.

However, we believe that our properties have devalued by significant margins due to the threat of Coal Seam Gas hanging over us. There are a number of properties in close proximity to test sites which have been on the

market now for lengthy periods, in an area where land has traditionally been sought after and, once listed, usually sells rapidly. With no correspondence from Santos back to the local community or individual landholders as to the results of testing we are left “hanging” with no information as to what the company plans for its next phase in our area. This is a poor example of this company working closely with local communities as they advertise.

a. Food security and agricultural productivity:

The current direction of “co-existence” of mining and agriculture is a non-sense. There must be allocated areas for mining as well as no-go zones where food is produced. Just 10% of Australia is arable. Any loss of food producing land, through housing development, infrastructure or mining, will reduce our capacity to produce food. NSW needs a government with courage and vision to meet the needs of future generations.

We look in horror at areas such as Tara in Queensland, crisscrossed with pipe and mining access, with farmers still being assured that they can “carry on” financially viable agricultural businesses, while the evidence from those very farmers indicates that their free access to areas of land is disturbed, and there is significant damage to water quality and quantity required for food production, livestock and humans. Once the water is damaged the land becomes less than optimal for food production, with direct impact on food security for domestic and international markets.

We run the risk of leaving an empty quarry for future generations, for decades to come, unless decisions are made to protect agricultural resources which are used for food production.

b. Regional development, investment and employment, and State competitiveness:

We believe that the Coal Seam Gas industry, in comparison to agriculture, is a short term solution to regional development. With expectations that Australia will become the food bowl of Asia in the near future, we believe that fresh investment in agriculture and regional development will occur, if agricultural land is kept safe from extraction industry, with corresponding increases in employment on a stable, long term basis.

c. Royalties payable to the State:

We have been informed that royalties are paid to the State after each Coal Seam Gas well is in production for 5 years. One could be cynical and ask what surety does the State have that royalty payments will occur, and that the Coal Seam Gas miners may extract Coal Seam Gas from well, then shut them down before the 5-year period, and then sink other wells in that area, thus escaping the royalty payment?

3. The role of CSG in meeting the future energy needs of NSW:

NSW deserves leadership and decision making which will build a sustainable future for generations to come.

Renewable energy options are now available throughout the world, eg solar, wind, and we believe that there are examples of local community initiatives and significant investment in renewable energy to meet our future energy needs. We need long term government policies to provide investors confidence in these technologies, (rather than changeable policies on the run), rather than increasing investment in the environmental risks of Coal Seam Gas Extraction. In general, many people describe fossil fuel as “old technology...from the last century”. Surely in Australia, in the twenty first century, we can invest in growth in renewable energy rather than continued reliance on fossil fuel.

The Quirindi Advocate reported on 13 April 2011, that “70% more food would have to be produced by 2050 to feed a population of nine billion including an annual increase in production of 44 million tons per year.” This population growth will result in “a dramatic increase in the demand for energy.” Matthew Wright, Young Environmentalist of the Year stated “we need renewable energy and it’s ready to go now. Reaching 100% renewable energy by 2020-25 is a reality.” More employment opportunities in providing renewable energy could be an exciting future for NSW.

4. The impact similar industries have had in other jurisdictions.

Recent examples of poor management of Coal Seam Gas waste water near the Pilliga Forest in NSW, give the community very little confidence in the industry. Widespread concern about Coal Seam Gas developments in the Surat Basin leave landholders shocked that governments can allow such degradation of the environment to occur. Internationally, the Coal Seam Gas industry in the United States is depicted in the documentary "Gas Lands" with detailed footage of environmental vandalism and resulting damage to water supplies, and human and animal health.

CONCLUSION:

We believe that these risks have now been so well documented in the public arena that there is overwhelming evidence of a need for a moratorium on CSG developments across Australia. The potential impact of current proposed developments is so great, that a comprehensive hazard assessment is required to address the impacts on soil, water, vegetation, air quality and human health. We further believe that there is no place for CSG extractive industries on the Liverpool Plains, as this area is too valuable in terms of current and future food production to put at risk.

Nicola Chirlian (Secretary), Heather Ranclaud, Craig Carter (Committee)
On behalf of Upper Mooki Landcare Group