

**Submission  
No 281**

## **INQUIRY INTO COAL SEAM GAS**

**Organisation:** Keerrong Gas Squad

**Date received:** 6/09/2011

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The Director  
General Purpose Standing Committee No. 5  
Parliament House  
Macquarie Street  
Sydney NSW 2000

Dear Sir,

**RE: SUBMISSION TO THE INQUIRY INTO COAL SEAM GAS – LEGISLATIVE COUNCIL**

We are residents of the Keerrong Valley in northern New South Wales. Arrow Energy invaded our valley in April 2010, during which time an exploratory Coal Seam Gas well was drilled. The first sign of this activity was a huge number of heavy vehicles on our narrow country road followed by noise that went from 7 o'clock in the morning until 7 o'clock at night. Those of us who were directly affected by this activity started asking questions and soon discovered that Arrow Energy held a license PEL445 that entitled them to search for Coal Seam Gas in our valley. No notice was given to any of the residents apart from the landowner on whose land the drilling was done. This really does make us wonder why they are operating under such secrecy. The Coal Seam Gas Industry is not transparent in their dealings with communities – the need to keep us all in the dark for as long as possible suits their agenda.

**Minimal inconvenience for them – major environmental problems for us.**

We all need to think about the future for our children.

We need to have vision and make the right energy choices now.

Coal Seam Gas is NOT the answer

**THE ENVIRONMENTAL AND HEALTH IMPACT OF CSG ACTIVITIES INCLUDING THE:**

**A Effect on Ground and Surface water systems**

**It should be noted the terms of reference of this inquiry have excluded any wisdom held by the original inhabitants of NSW through the elders, with regard to the effects of CSG mining on water. The cover of this submission represents the underground Aquifer System of Australia as seen by Ngarakwal/Gidabul elder Mr Harry Boyd, traditional custodian of the water. We consider this exclusion a grave oversight and another failure by the NSW political establishment to give recognition to original People. Mr Boyd has stated that CSG mining will poison water for the unseen generations to come and has refused to sign any agreement with mining companies.**

The rapid onset of CSG mining in NSW is an experiment being run without due regard for the long-term consequences on ground and surface water systems. Mining companies pay nothing for ground water yet extract it at will.

In the National Water Commission Biennial Assessment of 2009, it states

**“The Commission considers that unless and until it can be demonstrated otherwise, surface water and groundwater resources should be assumed to be connected, and water planning and management of the resources should be conjunctive. This is the reverse of the current situation.”**

On ABC Lateline dated 29/8/2011, Professor Steven Raine of the University of Southern Queensland stated that the effects of CSG mining on groundwater will not be known for some 30 – 40 years after the peak extraction. At this point there is no provision by CSG companies for long term monitoring once a well is deemed unproductive. When this occurs some 30-40 years plus after extraction, it will be too late to repair aquifer systems.

In the same programme, Professor Craig Simmons of Flinders University referred to the quantities of salt that will be produced, some 30 million tons in Queensland alone over a ten-year period. He also referred to the depressurisation of aquifers by extracting large amounts of ground water. CSG companies are touting reinjection of produced water after ‘treatment’ as a way of recharging aquifers. The potential for cross contamination of sweet water aquifers by this method must not be allowed to go ahead.

In a National Water Commission media release, dated 3/12/2010, chairwoman Ms Chloe Munro states that

**“key risks identified by the Commission stem from the large volumes of water being extracted, the depressurisation of coal seam aquifers, and the disposal of large volumes of treated waste water.”**

Potential risks to sustainable water management:

- Extracting large volumes of low-quality water will impact on connected surface and groundwater systems, some of which may already be fully or over allocated, including the Great Artesian Basin and Murray-Darling Basin.
- Impacts on other water users and the environment may occur due to dramatic depressurisation of the coal seam, including
  - Changes in pressure of adjacent aquifers with consequential changes in water availability
  - Reductions in surface water flows in connected systems
  - Land subsidence over large areas, affecting surface water systems, ecosystems, irrigation and grazing lands.
- The production of large volumes of treated waste water, if released to surface water systems, could alter natural flow patterns and have significant impacts on water quality, and river and wetland health. There is an associated risk that, if water is overly treated, ‘clean water’ pollution of naturally turbid systems may occur.
- The practice of hydraulic fracturing, or fracking, to increase gas output, has the potential to induce connection and cross-contamination between aquifers, with impacts on groundwater quality.

The spokesman for the Australian Petroleum Producers and Exploration Association (APPEA), Ross Dunn, stated at a public meeting that

**“Drilling will, to varying degrees, impact on adjoining aquifers. The extent of impact and whether the impact can be managed is the question. The intent of saying that is to make it clear that the CSG industry has never shied away from the fact that there will be impacts on aquifers.”**

Queensland mining magnate, Clive Palmer, told a crowd at the National Party’s Federal Council in Canberra that a leading Chinese firm had raised issues with him about the Australian CSG Industry. The Chinese told him that

**“CSG technology currently used in Australia is lethal and will kill Australians, poison our water table and destroy the land.”**

It is obvious in what is highlighted above, and also recognising that a lot more concerns have been expressed all over the planet, that the precautionary principle must be applied. There needs to be an immediate cessation of CSG extraction in NSW until a comprehensive and independently verified long term study can be made. In an aquifer dependant continent such as Australia, the risk of contaminating our surface and ground water systems must be avoided.

## **1C Effects related to Hydraulic Fracturing**

In a briefing paper by Dr Mariann Lloyd-Smith and Dr Rye Senjen of The National Toxics Network, an independent body funded by public donations, entitled ‘Hydraulic Fracturing in Coal Seam Gas Mining: The Risks to our Health, Communities, Environment and Climate’, dated February 2011 states that:

**“BTEX chemicals (benzene, toluene, ethylbenzene and xylene) are also components of the volatile compounds found in Coal Gas seams. The fracturing process itself can release BTEX from the natural gas reservoirs, which allows them to penetrate into the groundwater aquifers or volatilise into air. As a consequence, people may be exposed by drinking contaminated water, breathing contaminated air or from spills on their skin.”**

As reported in the Sydney Morning Herald dated 30/8/2011, Arrow Energy, jointly owned by Shell and Petrochina, disclosed traces of the BTEX chemicals had been found in testing at 5 drill holes near Dalby in southern Queensland. Whilst Arrow/Shell/Petrochina state they do not use BTEX in drilling. It is obvious they occur naturally and drilling and hydraulic fracturing open the way for cross contamination. It should be noted here that Arrow-Shell-Petrochina has Petroleum Exploration Licenses in the Clarence Moreton Basin which extends through northern NSW and have already done 9 test bores in the flood prone valleys where this drilling has taken place.

The National Toxics Network again states:

**“There has been no comprehensive hazard assessment of the chemical mixtures used in fracking fluids and their impacts on the environment or human health. A number of the chemicals used in fracking fluids would never be permitted as food additives or in household products due to their toxicity. Industry secrecy about fracking fluids means it is impossible to know exactly what chemicals are being used in order to assess their safety. Australia’s industrial chemical regulator, the National Industrial Chemical Notification and Assessment Scheme (NICNAS), has assessed only 2 out of the 23 known compounds used in fracking fluids in Australia.”**

In 2010, a coal seam gas-drilling site near Casino, run by Metgasco was permitted to use fracking after supplying only a generic list of hazardous materials safety Guidelines. (Sydney Morning Herald 18/11/2010)

Once again the precautionary principles apply

## **D. Effect on Crown Lands, Including Travelling Stock reserves and State Forests**

**Crown land including state Forests are part of the integrity of everywhere else. When it comes to water, remembering that surface water and ground are one and the same, this and future governments must consider the ecological health of the ecosystems that sustain us. If the thinking is that a state forest or crown land can safely be mined and there be no effect on adjacent farmland or urban communities then that thinking is deeply flawed. Ask**

**a farmer whose livelihood depends on clean water, if this is so, and the overwhelming majority will tell you they don't want activity that threatens the viability of their enterprise,**

**The same can be said for travelling stock routes. What does it do to stock if the water they drink is salt laden or contains other poisons?**

## **E Nature and Effectiveness of remediation required under the Act**

**Chloe Munroe, chairwoman of the National Water Commission has stated that potential CSG damage to Aquifers would take upwards of 10,000 years to repair if indeed repair is possible.**

**The sheer scale of CSG approvals and applications to mine in NSW begs the question**

**If the subsurface natural integrity is disturbed by CSG activity and cross contamination of aquifers occurs, and the process of sweetwater filtering through the porous layers takes upwards of 10,000 years to repair, is not approval to mine gas for some 35 years criminal?**

- The reinjection of treated wastewater into other aquifers has the potential to change the beneficial use characteristics of those aquifers. (National Water Commission, 2010)

## **1.THE ECONOMIC AND SOCIAL IMPLICATIONS OF CSG ACTIVITIES INCLUDING THOSE WHICH AFFECT:**

### **A. Legal rights of property owners and property values**

CSG mining will affect the rural property market in NSW as it has already done in Queensland.

The Tara Estate on the Darling Downs in Queensland is the perfect example of a community destroyed by coal seam gas mining. Tara is a rural residential estate that has been turned into a CSG hotspot ruining the local environment and the lifestyle that the residents moved there to enjoy. Many residents have been forced to leave everything behind and move away due to ill health. They have left their homes vacant. Those residents still living there suffer from migraines, they cannot sell their land – they are stuck in a gasland covered in gas wells and pipelines

In the Good Weekend (Sydney Morning Herald) dated 13-14/8/2011, David and Megan Baker would like to know if you'd be interested in buying their 1050 hectare property on the Darling Downs.

**“There are a few downsides we need to advise you of. There are 9 gas wells, managed by Arrow Energy, on our property. There are another 198 gas wells nearby, with drills boring 24 hours a day. One km down the road is Tom O'Connor's place where one of his 12 coal seam gas wells erupted sending methane and water spewing nearly 100 metres in the air. It took 27 hours for Arrow Energy to cap the well.”**

As reported in The Land, dated 4/8/2011, Bellata farmers, Natalie and James Tydd, are a part of a family operation that farms thousands of hectares and owns the Bellata Gold

durum and pasta business. They have been approached to sign an access agreement to drill a core hole on their land and they chose to 'lock the gate'. They stated that

**“Rural property agents are warning that the value of properties affected by CSG mining have fallen considerably and they are becoming harder to sell. Any reduction in our equity levels due to falling land values will impact on our ability to meet repayment commitments and access future borrowings. This then impedes our ability to invest and grow.”**

## **B. Food security and agricultural activity**

Australia has been rocked in the past year by natural disasters, which have caused food shortages and higher food prices. If CSG exploration and mining gets the go-ahead in NSW, this could be a taste of things to come. The flooding that occurred in NSW, Queensland and Victoria has highlighted the importance of these regions as the food bowls of Australia.

If our Government supports the profit-driven mining companies and allows the exploitation of prime agricultural land and our water aquifers, the future food security of this nation is not being protected. If the water resources are polluted how will we feed the nation? Import more apples?

We are so blessed to live in a country like Australia as we have it all – clean water, fertile soil, warm climate – perfect for growing all our food requirements for years to come. Let's keep our farmers in jobs and our ability to supply our own homegrown food.

## **5. THE IMPACT SIMILAR INDUSTRIES HAVE HAD IN OTHER JURISDICTIONS**

**The evidence of the dangerous and public health threatening CSG mining including hydraulic fracturing of coal seams is stacking up worldwide. Perhaps this committee might consider kicking the sacred cow that urges more and more economic growth and consider and recommend to the now and future NSW governments, Limits to growth. The grab for more and more investment, royalties and the headlong rush to cash in on mining will come at the expense of that which sustains us. We cannot rebuild our ecological capital if clean water and air are compromised. We recommend the cessation of CSG mining in NSW immediately.**

### **Summing Up**

As David Suzuki stated in the Northern Star 3/6/2011

**“We are biological creatures, with an absolute need for clean air, clean water, clean food and soil, and clean energy. We humans may be heavy hitters but we must remember that nature bats last.”**

### **Keerrong Valley Gas Squad**