**Submission No 486**

# INQUIRY INTO COAL SEAM GAS

**Organisation**: Running Stream Water Users Association Inc

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

RUNNING STREAM
WATER USERS ASSOCIATION

5 September 2011

Dear Sirs,

We regret our inability, due to time constraints, to properly reference many of the comments we make. Putting in a properly referenced submission takes an inordinate amount of time for which we are not paid and which takes us away from our regular duties and commitments. Even this brief submission represents many hours of work. However the Association represents many people who are passionate about preserving our precious water resources for both our benefit and that of future generations. To allow an unproven technology to proceed while there is any risk to water, the foundation of life, is simply insanity and surely will be judged so by future generations. Even more insane because it is not necessary – there are alternative sources of energy, and we can all reduce our use of energy (while still maintaining a comfortable lifestyle) but we cannot live without water. With our limited resources, we offer the following comments on Coal Seam Gas (CSG).

**1.The environmental and health impact of CSG**

**1a.Effect on ground and surface water systems.**

The bottom line is that we don't know. Knowledge of Australia's groundwater systems is still in its infancy. However we do know that altering pressure in one area can impact groundwater in another, even though sometimes this effect may take years to become apparent. Water is crucial to life and it is insanity to risk destroying or polluting it simply to extract a product for which there are alternatives or for multi-national corporations to make big profits. Investment in the alternatives would provide similar economic benefits.

Other issues relating to water are 1) the very high volumes of water used in the extraction process. Where is the water coming from and which industry (agriculture?) will have to compete for a scarce resource which has now become a tradeable commodity and thus goes to the highest bidder. 2) The possibility of cross contamination of aquifers is of major concern.

**b & c Effects related to use of chemicals and hydraulic fracturing**

An article by George Monibot in the Guardian on 31/8/2011 presents the issues succinctly so I reproduce some of it here:

*The Tyndall Centre at the University of Manchester reviewed the impacts of fracking in the only country where it has so far been commercially exploited, the United States. It found that fracking poses "significant potential risks to human health and the environment." "The fracturing and 'flowback' fluids ... contain a number of hazardous substances that, should they contaminate groundwater, are likely to result in potentially severe impacts on drinking water quality and/or surface waters/wetland habitats."*

*Amazingly, fracking fluids in the US are exempt from regulation. Companies are allowed to treat the composition of the fluids as trade secrets. There is little information on what they contain and what risks they might present.*
*But, using data on the chemicals being stored by these companies, the Tyndall Centre has been able to identify at least some of the substances being injected into the rocks there. Of 260 chemicals, it finds that 58 give rise to concern. Some are known carcinogens, some are suspected carcinogens, some are toxic to people, some are toxic to aquatic life, some are mutagenic (which means they can cause genetic defects) and some have reproductive effects.*
*The fluids returning to the surface carry not only the chemicals injected into the rocks, but also those picked up in travelling through them. Among these, the Tyndall report shows, are heavy metals and radioactive materials.*
*Both the fracking fluids and the flowback fluids can contaminate water either through the cracks forced open in the rocks by the fracking process, or through drilling bores passing through aquifers. In the US this has happened repeatedly. The Tyndall Centre found that water supplies have been contaminated not only by the fracking chemicals and dissolved pollutants from the rocks, but also by gas bubbling out through the cracks.*
*The documentary Gasland shows people turning their taps on and setting light to the water. In some cases, gas bubbling up from underground fractures has caused explosions in the basements of people's homes.*

Another concern regarding fracking that has arisen recently is its possible link to seismic activity. I quote Monibot's article again:
*One year ago, a company called Cuadrilla Resources began drilling exploratory shafts into the rock at Preese Hall near Blackpool, in north-west England using the fracking process. In June Cuadrilla temporarily suspended its operations as a result of two small earthquakes in the area, which might have been caused by the fracking.*
Then in August 2011 there were minor earthquakes on the East coast of the US in places totally unexpected, but in areas where fracking is happening. Scientists are beginning to think there is a link. Fracking is a new process and the ecological impact may take a decade or two (a blink of an eye in ecological terms) to become apparent.

**1f. Effect on Greenhouse gas and other emissions**
The claim that burning gas is cleaner than coal rests only on the immediate act of burning and does not take into account the whole of life cycle of producing the gas. When the emissions from all the activities associated with extracting the gas plus the fugitive emissions (of methane which is a much more potent greenhouse gas that $CO_2$) are taken into account CSG has higher emissions than coal. Again we quote Monibot:
*The natural gas produced by fracking is the same simple chemical (methane) as the gas extracted by conventional means. When it is burnt, a given volume produces the same quantity of carbon dioxide as conventional gas does. Even so, the impact of shale gas on the atmosphere could be much greater than the impact of the same volume of conventional gas. Here's why.*
*Methane is itself a powerful greenhouse gas. It does not persist in the atmosphere for as long as carbon dioxide, but during the first 20 years following its release, it is 56 times as effective at trapping heat.*
*More methane is likely to escape from the process of splitting rocks open than from drilling into conventional aquifers.*
*A paper published earlier this year in the journal Climatic Change found that methane emissions from*

*shale gas fracking "are at least 30% more than and perhaps more than twice as great as those from conventional gas." This, it says, boosts the climate changing impact of shale gas to such an extent that it is not just worse than conventional supplies, but worse even than coal, which is the most carbon-intensive fossil fuel. The paper found that, per unit of energy released, burning shale gas produces between 120% and 200% of the emissions produced by burning coal.*

**1g. environmental impacts:** Containment of the saline and contaminated water from CSG wells are a major environmental hazard, especially with the prediction of increase in severe weather events.

**2.Economic and Social Implications**

**2a Legal rights of property owners and property values**

We quote from another submission to the Inquiry which describes clearly the loss of property rights: *The State of public cynicism and concern about CSG expansion and the completely uncontrolled interference with farms and private land is already at crisis point. If more of this development is allowed without public participation in formal inquiries which are not driven by the Government and the miners' desire for filthy lucre, the situation may result in desperate people taking desperate measures. The arrest of a great-grandmother at Tara in Queensland at the end of March 2011, is only a foretaste of what is to come. This is especially shocking when it turned out that the miners themselves were acting illegally because they were in breach of their access agreement. The fact that they were assisted by a large body of armed police to molest innocent citizens trying to protect a neighbour's property is appalling. Some deranged farmer will shoot a police officer or a mining representative, or a police officer will shoot a protester who happens to be carrying an umbrella which the police think is a weapon. No amount of money from mining is worth the risk of anarchy caused by the Government's total disregard for the rights of the people, and its deplorable deeds in legislating away such protection for the people and the environment as existed before the 1992 Mining Act.*

While there are always a few winners, overall any kind of mining and exploration has a negative impact on property values. Nor is there recognition, let alone evalutation, of the huge emotional and social costs associated with agricultural areas becoming industrial mining precincts.

**2c Regional development**

Thinking people are beginning to realise the mining boom is a two edge sword. Some gain, but many others loose as local skilled labour is drained to the new industry where wages are well above what the average small business can afford. The result is small businesses are forced to close (or thinking about it, eg the local garage in Rylstone who loses every apprentice he trains to the mines), the community loses its diversity of industry/businesses and thus its resilience. And then there are the communities that simply disappear (Ulan, Wollar) – how does this contribute to regional development?

**2d Royalties to the State**

**PLEASE DO A PROPER COST BENEFIT ANALYSIS!** Weigh up the value of the royalties against the cost of providing the infrastructure, the health costs, the social costs to the community, the loss of property values. And how do you value the loss of water that cannot be replaced – we do not yet know how to repair aquifers or decontaminate them.

**2e Infrastructure and local government planning**

Why is the infrastructure needed by the multinational companies to produce their huge profits paid for by the ordinary ratepayer and not by the company? That is why the multinational's love doing business in Australia (mining tax or no mining tax) as we provide their infrastructure as opposed to impoverished third world countries where they have to provide it themselves. The ordinary Australin battler tax payer objects strongly to this.

Why does the local community have no input into what happens to their community? Why can we not choose to continue our less lucrative but truly sustainable industries of agriculture, tourism, and lifestyle (read tree changers, retirees) that can still be producing in 50 or 100 years over the shorter gains of a destructive industry?

**3 The Role of CSG in meeting future energy needs of NSW**

The CSG rush is export driven and driven by multinational companies seeking profit. NSW does not need CSG. Our long term future is better secured by preserving our water resources and agricultural land. If the same amount of exploration dollars devoted to fossil fuels were allocated to development of alternative energies, and fossil fuel subsidies (many hidden) were removed thus making it a truly level playing field, alternative energies would be well on the road to fully meeting all our energy needs. Nature has already worked out how to drive the planet from the sun's energy; mankind is still a little behind.

There is much more study to be done and legislation to be changed before the decision is made of whether CSG industry should be allowed to operate in this state.

Sincerely

On behalf of
Running Stream Water Users Association Inc.
Jolieske Lips
President

- CSG presents a major threat to our water resources. The cost of polluting or damaging the Great Artesian basin far outweighs any economic value this industry may bring.
- Knowledge of Australia's groundwater systems is in its infancy, so there can be no certainty at all in the industry's claims that it will not affect groundwater.
- The technology is still unproven and the effects still not fully known.
- When the whole life cycle of producing CSG is taken into account, per unit of energy released, burning shale gas produces between 120% and 200% of the emissions produced by burning coal.
- The extraction of CSG takes huge amounts of water – water that increasingly will be needed to produce food
- Containment of the saline and contaminated water from CSG wells are a major environmental hazard.
- Intensive system of CSG wells (ie 200-400m spacing) are not compatible with agriculture
- The mining boom, of which CSG is a part, has many negative impacts on rural communities (eg drain of skilled labour, pressure on housing & all local infrastructure)
- NSW does not need CSG for its energy needs

Additional comment: we strongly the urge the government to undertake

1. A full moratorium on all forms of coal seam gas drilling until the environmental, social and health impacts have been rigorously and independently assessed.
2. To legislate that all chemicals used in coal seam gas drilling or fracking must be assessed by the chemical regulator for use for that purpose before being approved for use.
3. To legislate that coal seam gas exploration and mining to be made subject to all relevant environmental legislation, including the native vegetation and water management laws.
4. To ensure there is provision of standing to ensure that the community has full legal rights to challenge and enforce environmental laws under which coal seam gas companies are operating.
5. A prohibition on coal seam gas exploration and mining in important bushland, valuable farmland, groundwater aquifers, residential areas and public lands.
6. To ensure the provision of a right in the Petroleum (Onshore) Act to allow landholders to refuse consent for coal seam gas exploration or production on their land.