

## **Stuart Ayres and NSW Government CSG Position - A Geologist's Critique**

*Peter Green, 17th February 2013*

In response to a BMCS approach about the community antipathy to coal seam gas, Stuart Ayres, member for Penrith, presents the standard government letter. I find it inadequate.

He cites toughened penalties for environmental breaches, but can we trust a government that seems intent on hampering the renewable energy industry, and bases all analysis in a purely short term economic framework? Application of penalties requires adequate monitoring. How can we be sure that monitoring is sufficient and impartial; monitoring by the companies themselves is unacceptable, as are any contributions by vested interests.

All too often the mining industry commits itself to programs of rigorous monitoring. But we have seen with Coalpac (careless?) and Whitehaven (deceptive?), inter alia, that they can't be trusted with EISs, so why should we trust the industry generally? Furthermore monitoring is useless when remediation is impossible or effectively so. This has been the case with streambed cracking and cliff collapse. It will be the same for breached aquicludes and consequent mixing of potable and non-potable water.

The mining industry relies on consultants for much of this work. The consultants are chosen and paid by the respective company, so it would be delusional to expect them to produce a report critical of the company. That would effectively terminate the consultant's career. Until the government establishes and manages a pool of truly independent consultants to do this work, chosen by government but paid by the company on a job by job basis, there can be no community confidence on impartiality.

Will the public be provided with full disclosure of the chemical constituents of fracking fluids? Or will we be told that such information is commercial in confidence?

The short term commercial considerations of coal and CSG are the only matters of consequence to this and previous governments. How can one trust a government that promotes, and relies so heavily on, an industry that we know from scientific consensus is driving us to irreversible and self-reinforcing global warming? This government, like all Australian conservative governments / political parties, is firmly in the grip of global warming denial.

We are asked to trust this government. Their behaviour in the Thirlmere Lakes enquiry would suggest that they are not interested in conclusions that contradict their economic policies.

The Ayres / government response claims a perfect record for the CSG industry. What about the Pillaga Forest water escape incident, the Camden water leak, or the reported dumping of hundreds of thousands of litres of contaminated water on Hunter Valley farmland? Was any penalty applied? Apparently not. How many other instances did not reach public knowledge? How does one remediate the damage when saline and toxic water soaks into the ground, down to the water table? It's not possible. This government can't control leaks from controlled environments like surface facilities at Orica's plant in Newcastle, so how can they have any certainty about sites that are out of public view? If this government response misrepresents the situation so easily, no government response can be trusted when it impacts on their revenue.

Mr Ayres did not refer to the matter of the disposal of produced water. Because this formation water contains existing salt and heavy metals, to which is added injected water and its chemical cocktail, its fate is of great concern. How is it stored, how is it moved and what are the ramifications of this disposal process? These questions need to be answered, given the huge quantities involved.

Why did Mr Ayres only state that he had concerns in a handwritten note at the bottom of his reply, rather than in the archived electronic copy?

Finally, mining companies fund political parties for a reason. Is the Coalition, the recipient of most mining company donations, likely to kill the golden goose?

In regard to CSG and shale oil/gas in general, I have some further comments. Recent reports from the USA are starting to demonstrate that there is significant hype in the size of the reserve and the long term projected production. By their geological nature, the rock formations that host CSG and shale gas are low porosity and low permeability formations. Hence the need for fracturing. Compared to conventional oil and gas resources in which the liquid & gas have migrated to pore spaces, mainly in sandstone, from which they flow for many decades, the unconventional oil and gas will only move when an induced crack allows it. Consequently, the flow quickly subsides, with US figures suggesting that after about 5 years the flow is down to about 20% and declining. Thus, these resources are accessed after expensive drilling, yet produce a relatively poor return. We must also differentiate between resources (what is in the ground) and reserves (what is technologically / economically recoverable). I read a recent report on US deposits like the Bakken Shale putting (recoverable) reserves as little as 1-2% of the resource.

The government will have to do a lot better if it is to dispel the real fears generated by the US experience, as shown on documentaries like 'Gasland' and 'Life in the Red Zone', or the extraordinarily nasty experiences of Australians as presented in 'Rich Land; Wasteland'. The environmental and social costs of unconventional hydrocarbons are far too high.

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