Submission
No 388

INQUIRY INTO COAL SEAM GAS

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Submission to the Coal Seam Gas (CSG) inquiry, Committee Number 5.

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Dear Committee Members, Please do not allow CSG extraction to proceed any further because:

1) **CSG is not necessary for Australia's energy needs** – many better alternatives are available, for example see my thesis 'Developing an integrated renewable energy, water supply and carbon management system in Australia as an alternative to fossil fuelled systems' (2008) which can be accessed from:
http://www.solutionstoclimatechange.com/bb002.pdf
Also, please see Melbourne University's 'Zero Carbon Australia by 2020' report which can be accessed from:
http://media.beyondzeroemissions.org/ZCA2020_Stationary_Energy_Report_v1.pdf and please note; my thesis reveals that it is possible for Australia to attain negative carbon emissions by 2020 – that is we can absorb more carbon dioxide than we emit even when we double our electricity generation and use and source all of our water from desalination plants, my thesis also outlines a viable carbon nuetral source of biogas.

2) **Greenhouse emissions and water**: CSG is mainly methane (CH_4) and Carbon dioxide (CO_2). Methane is a potent greenhouse gas (21 times more potent than CO_2) and methane is not very soluble in water, but CO_2 is very soluble in water and the gas wells actually produce a lot of water, for example the Queensland 'Water Group' Report (available from: http://sixdegrees.org.au/sites/sixdegrees.org.au/files/Draft%20Water%20Group%20Response%20on%20EPBC%20Act%20Referrals.pdf)
reveals that Santos and QCG intend to draw down the water table by 400 metres in order to depressurise the coal seams in order to allow the gas to escape so that it may be 'extracted'. As the water/CO_2/CH_4 (and heavy metals etc) come out of the well head they are directed into a pressure vessle which allows the methane to bubble out into the upper part of the vessle while the water, saturated with CO_2, salts and heavy metals is continually drawn from the bottom of the vessle and discharged into open pits where the CO_2 diffuses straight into the atmosphere and the water evaporates leaving a concentrated mess of salts and heavy metals just waiting for the next flood event to spread itacross the landscape and into theMDB.
What is even worse is the potential for the 'uncapped' (or depressurised) gases to begin to migrate to the surface, this has apparrently already occurred in Queensland where at least one farmer was able to ignite a flare from what was previously an operating water bore, and the movie 'Gaslands' reveals that gas leaking to the surface and out through water bores is common where CSG extraction is occurring. If the MDB springs, water bores, and recharge zones begin to spew copious amounts of gas due to release through depressurisation, Who will stop it?
And if those gases ignite we could have the most devestating bushfires in Australia's history with huge loss of life and the potential for gas fires that do not stop for decades. Will the committee members accept the blame for mass manslaughter? Or even mass Murder? Please do not allow the CSG proponents to continue, please act in Australias long term interests, not in the short term interest of multi-national parasites.

3) **Bushfires:** As mentioned above, gas leaks from the disturbed/fractured/depressurised coal deposit to the surface will occur, and these leaks will directly add to the atmospheric concentration of greenhouse gases and so add to the increased risk of extreme weather and bushfires. These gas leaks can also directly ignite bushfires, as can leaks from the thousands of kilometers of pipelines, the wells and other associated infrastructure. Furthermore: if a bushfire did occur in a gas area it is possible that hundreds of wells could fail and explode.

The huge grid of access roads and pads also increases fire risk because the artificially bared earth heats up much more than the naturally vegetated surfaces and this heat dries up the bush for some distance from the clearing – the clearings actually serve to dessicate and preheat the surrounding vegetation. And the danger of ignition is increased with the presence of maintainance and monitoring vehicles and crews. Not to mention the absolute widespread destruction and fragmentation of irreplaceable native vegetation and habitat.

4) **Additional bushfire risks water loss and subsidence**: The withdrawl of hundreds of metres of 'head' of water will cause the aquifers to shrink like a drying sponge and to collapse to a more compact state, this process is visible at the surface as subsidence, subsidence of several metres should be expected and the subsidence will be uneven. Therefore expect roads, bridges, buildings, and dam foundations to shift and possibly fail. River and watercourse foundations will also crack and we may see some rivers dry up and others begin to spew methane and be contaminated by toxic metals, salt and other toxins. Aquifers above the target aquifers will also crack and become drained – when that occurs all of the overlying perennial vegetation will most likely die the next dry summer and then be extremely vulnerable to devestating ignition – the very act of draining the ground and killing the vegetation will cause rapid desertification, which will spread.

5) **Water:** it is well known that groundwater and surface water are totally interconnected, and our Australian water resources are already grossly overextracted. However some connections are delayed over time, for example much of the water in the GAB is millions of years old – ie it has taken millions of years to move from the recharge zones on the great dividing range to somewhere out west. Yet the GSG proponents want to remove this water in a matter of years. If we totally drain these aquifers we may find that where rain once ran off over saturated aquifers it now simply dissappears into the ground and entire river basins and communities will die off and become deserted wasteland.

Conclusion: I apologise for the poor hasty quality of this submission, I am currently suffering from the worst case of influenza that I have experienced in my life and I can barely type, or think. Hopefully I will recover soon and contribute more to ending the madness of CSG. Allowing GSG extraction to continue will irreversibly destroy the Murray Darling Basin (MDB), the Great Artesian Basin (GAB) and innumerable associated aquifers, communities, industries, and agriculture. CSG will also lead to uncontrollable releases of greenhouse gases which will cost much more than any pittance that the fossil proponents can con out of the situation – and the costs will never go away.
Please act to stop the insanity of CSG extraction in Australia – give our kids some chance.

Thank you for your time, I hope you care about your kids kids, if you do I know that you will stop this stupid CSG venture.

Yours sincerely, Robert Baker, (