

[REDACTED]

From: Inquiry into Unconventional Gas POV eSubmission Form
<cso@parliament.vic.gov.au>
Sent: Friday, 10 July 2015 10:15 AM
To: EPC
Subject: New Submission to Inquiry into Unconventional Gas in Victoria.

Inquiry Name: Inquiry into Unconventional Gas in Victoria.

Mr Andrew Snook
[REDACTED]

[REDACTED]

[REDACTED]

SUBMISSION CONTENT:

--

Greetings to the Committee

My name is Andrew Snook, I live in Melbourne City. As a young adult I have a big vested interest in preserving Australia's environment and supporting long term sustainable industries, not only for myself but for other communities and future generations to prosper and enjoy.

I fully support a ban on unconventional gas mining. Based on the evidence I have seen, I believe the risks that UCG imposes on environment, communities and other industries are too great to ignore, and too great to mitigate.

The risks associated with UCG are direct and rather sever. "The chemicals used in fracking are of public concern, especially given the quantities used. A CSG well in Australia will use about 18.5 tonnes of chemicals." [3] The risk of ground water contamination is very real. I will refer to the case in Pilliga, NSW where "A coal seam gas project operated by energy company Santos, has contaminated a nearby aquifer with Uranium." [1] There have been other documented water contamination incidents in the US as well. One documented instance is in Pennsylvania. "Researchers using a sensitive chemical analysis say they have found evidence of fracking fluids in well water near a shale gas drilling site in Pennsylvania. Groundwater contamination has been a contentious issue surrounding fracking, and now researchers have offered comprehensive scientific evidence of contamination rising up through well water. Although media reports of incidents are common, published reports are few." [2] "In Pennsylvania, state regulators identified 161 instances in which drinking water wells were impacted by drilling operations between 2008 and the fall of 2012." [4]

From the Australia Institute, "There is significant public concern about the contamination of aquifers from fracking chemicals. The evidence suggests that while gas is actively being extracted from the well, so long as it is managed properly, the chances of contamination are low. But there is concern, and a lack of information about stranded fracking fluids, which are fluids left after the well has been abandoned. A study

in the US estimated that one in six abandoned wells was leaking. Since around 20 to 40 per cent of fracking fluids remain underground; they represent a risk of further contamination. In CSG extraction, groundwater tends to rise after the well is abandoned – this rise in the water level may mobilise the stranded fluids. Aquifers are a vital source of water and are important for the production of food. Risks of contamination need to be taken seriously and more research needs to be done.”[3]

Water Contamination can have wide and broad impacts on community and the regional environment, ranging from health impacts through drinking contaminated water, loss of land use and productivity, contamination of produce and food stock produced in the affected area, river contamination and environmental degradation, loss of biodiversity, loss of natural amenity and an impact on community stability and mental health. This is worst case scenario. Less severe impacts are the reduction in water availability, caused by excessive water usage by the industry resulting in less productive land, impacted river systems, and a reduction in bio diversity and natural amenity. I will refer to a report about US UCG operations. “Each well that is fracked requires hundreds of thousands of gallons of water depending on the shale formation and the depth and length of the horizontal portion of the well. Unlike most industrial uses of water which return water to the water cycle for further use, fracking converts clean water into toxic wastewater, much of which must then be permanently disposed of, taking billions of gallons out of the water supply annually. Moreover, farmers are particularly impacted by fracking water use, as they must now compete with the deep-pocketed oil and gas industry for water.”[4]

This brings me to another major area of concern, which is waste water disposal. “Wastewater contains fracking and drilling chemicals as well as other materials that come from the fracture formation. Wastewater can be stored in ponds, and leaks and spills can occur particularly during flooding events.”[3] As around 60-80% of the water used in fracking is returned to the surface, this represents a significant amount of waste water produced by the gas industry per drill site. “This huge volume of polluted wastewater creates many opportunities for contaminating drinking water. More wells and more wastewater increase the odds that the failure of a well casing or gasket, a wastewater pit or a disposal well will occur and that drinking water supplies will be contaminated.”[4]

Methane pollution is another major area of concern with the industry. Given that methane is 25 times more potent as a greenhouse gas, this fact alone can counter any claimed benefit of UCG as a low emissions energy. “The claim that UCG produces substantially less greenhouse gas emissions cannot yet be substantiated since the level of fugitive emissions is currently unknown. With the industry unable or unwilling to measure fugitive emissions, the government has been forced to act and measure them.”[3] Other air pollution concerns also exist. “November 14, 2014 – A University of Colorado at Boulder research team found that residential areas in intensely drilled northeastern Colorado have high levels of fracking-related air pollutants, including benzene. In some cases, concentrations exceed those found in large urban centers and are within the range of exposures known to be linked to chronic health effects. According to the study, high ozone levels are a significant health concern, as are potential health impacts from chronic exposure to primary emissions of non-methane hydrocarbons (NMHC) for residents living near wells. The study also noted that tighter regulations have not resulted in lower air pollution levels, even though the volume of emissions per well may be decreasing, the rapid and continuing increase in the number of wells may potentially negate any real improvements to the air quality situation.”[5]

Based on evidence, the UCG industry cannot co-exist with the agricultural industry as UCG operations compete for huge amounts of water, can lower the water table and risks contaminating ground water. Not only limiting or destroying the productivity of the land, but by contaminating stock and food produced in the region via contaminated water. According to a report written by Dr John Williams, former chief of CSIRO Land and Water Division for the Australian Council of Environmental Deans and Directors, “Extensive grazing is probably the best form of agriculture that can co-exist with 'tight' gas and coal seam gas production. However, cropping and irrigated agriculture are more problematic.”[6] This compromises a farmers ability to manage their land for the most productive outcomes and can result in stranded assets. All of this will have a direct impact on the productivity of local agricultural industries, reducing regional

produce, income and jobs.

Another industry that will be affected is the tourism industry in an area where gas operations take place. With engineering developments and water degradation, this will reduce natural amenity and bio diversity. As tourism is an industry largely associated with natural amenity, this will have a direct impact on jobs within the industry. Tourism and agriculture are large, long term sustainable industries that should be protected from short term extractive operations that will compromise their future security. Any community that is relying largely on either of these two industries, agriculture or tourism, will be negatively impacted by the introduction of UCG operations in their area.

Where there is the potential for contamination of ground water, there is the potential for massive impacts on property values, or even someones ability to live safely on the land. This is worst case scenario. Less drastic impacts on property values are a loss of natural amenity and a reduction in the water availability by excessive water usage within the industry. Noise, light and air pollution and increased heavy traffic are also issues that local communities have to deal with, which can affect physical and mental health, stress levels within a community and property values.

Often the UCG industry is at the expense of other local industries such as agriculture and tourism, caused by the environmental degradation that comes with UCG. Land loses productivity and communities lose natural amenity. This is long term and has direct, long term impacts. Given that many gas operations are short term, and often employees are fly in-fly out contractors, there is little direct benefit to the community as mostly this income is not circulated locally, and employment is mostly external to communities. Gas operations within a community can also be associated with driving up rental prices, putting further stress on communities trying to co-exist. Further more, with the health risks associated with UCG, such as ground water contamination, methane and air pollution and excessive waste water, these present very real risks to any regions future development and sustainability.

“It is important to note that much of the benefits are short-term peaks during the construction of large resource projects, while many of the negative effects have long term consequences for the economy. The oil and gas industry pays relatively low rates of tax and while it does earn high rates of profit, most of this profit flows overseas to foreign owners.”[3] The Gas industry has a history of exaggerating its importance via large public advertising campaigns, governmental lobbying and biased modelling. In the Australia institute’s report “Fracking the Future,” it covers these issues in detail. “While investment in the gas industry is currently high, other measures of its economic importance show it to be relatively small. The oil and gas industry is a relatively small employer. This does not stop the industry from claiming far larger employment figures. The APPEA claims on its website that the CSG industry employs 27,300 people in Queensland and NSW. Curiously this figure is higher than the ABS count of 20,700 for all of the oil and gas industries across the entire country.” “While the gas industry is going through a boom because of high international gas prices, the economic benefits of this boom are being overstated by the industry. While it is happy to highlight the benefits the boom is creating, it fails to account for the costs that are also created.”[3]

I find it very concerning that an industry needs falsify its stats in order to justify its cause. Given the current state of the world, with the aggregate environmental issues we are faced with, we need to be very careful to scrutinise our actions fully to ensure future security for ourselves and future generations. This industry has proven to be all too happy to exaggerate its benefits while minimising, hiding and obscuring the major risks it poses. Water security is such an important issue, and with any industry that uses such quantities of water, permanently contaminating it, we really need to start asking, is there a better way? I will finish with a final quote from the Australia Institute’s report.

“The expansion of CSG in Australia is likely to bring limited economic benefits and to come with large environmental and health risks. Because of this the industry should be subject to further scrutiny by governments and policy makers before any expansion is considered. The benefits do not seem to justify the risks.”[3]

[1] <http://www.smh.com.au/environment/santos-coal-seam-gas-project-contaminates-aquifer-20140307-34csb.html>

[2] <http://www.gizmodo.com.au/2015/05/researchers-discover-fracking-fluids-in-well-water/>
Full report <http://www.pnas.org/content/112/20/6325.abstract>

[3] “Fracking the future. Busting industry myths about coal seam gas”
Institute Paper No. 16 March 2014 ISSN 1836-8948, Matt Grudnoff

[4] Fracking by the Numbers. Key Impacts of Dirty Drilling at the State and National Level.
Elizabeth Ridlington, Frontier Group
John Rumpler, Environment America Research & Policy Center
October 2013

[5] Compendium of Scientific, Medical, and Media Findings Demonstrating Risk and Harms of Fracking
(Unconventional Gas and Oil Extraction)
2nd edition December 11, 2014

[6] <http://www.gippslandtimes.com.au/story/1730559/commissioned-report-predicts-likely-impacts-of-csg-mining/?cs=1450>

--

File1:

File2:

File3: