

## **Submission to the Inquiry into Unconventional Gas in Victoria**

From Eeon D. Macaulay; [REDACTED]

My background:

I am a retired citizen who, over the last five years, has become concerned and, in some cases, alarmed at commercial interests seeking approval for projects which are not only detrimental to the environment but importantly have a major impact on long term health and land use.

I have sought to become informed on these issues by undertaking the following courses under the Coursera Program:

Sustainability – University of Illinois (Urbana Champagne) studying the growing pressures on Earth's finite resources.

Climate Change – University of Melbourne - examining how all forms of human activity are not impacting on the environment but also future long term impacts on land use Which will impact on current and future generations

With this background it has become clear to me that Unconventional Gas Development will lead to, in most cases, the long term degradation in productive land use and importantly significant health risks.

### **What is Unconventional Gas Development?**

This term equates to CSG (Coal Seam Gas)

CSG mining involves drilling deep down into the earth to reach methane gas trapped in coal seams by natural water pressure. The gas is released by drawing out huge volumes of water from the underground water table. A toxic cocktail of chemicals is mixed with the water to facilitate the extraction of gas. Hydraulic fracturing (fracking) is undertaken which involves the use of highly toxic chemicals and the injection of water under extreme pressure deep down into the earth to crack open the bedrock and stimulate the extraction of gas. Drilling into the earth is extensive and involves horizontal drilling along large parts of underground areas.

### **Current large scale developments**

In Queensland, people have few, if any, rights to say no to CSG mining being undertaken on their properties and as a result, many farmers and landowners now have CSG wells and infrastructure all over their properties. Landowners have been bullied, harassed and intimidated by CSG mining companies into signing agreements without any legal support. The value of their properties has plummeted. Parts of rural and regional Australia are littered with CSG wells and above ground infrastructure.



Farmers and landowners across Queensland have experienced significant issues associated with CSG mining. Bores and wells have gone dry, animals are dying, surface water has been contaminated with chemicals and heavy metals and people are becoming ill. Farmers, who once used their bores as a source for fresh water can no longer access fresh water as the bores now have methane gas bubbling up from them. **Significantly these wells have a life of about twelve years** after which the land is largely unusable where a number of wells have been sunk across the landscape.

The Inquiry is strongly advised to view the video FRACKMAN which clearly demonstrates how CSG has impacted on Queensland communities <http://frackmanthemovie.com/>

In Victoria the majority of Local Government Councils have now banned fracking within their boundaries.

In NSW Dr. Stuart Khan an environmental engineer and water quality expert from Univ. of NSW, in a 15 page submission to the NSW Upper House CSG inquiry, said that the inquiry's final report didn't address the issue that government regulators and policy makers were vastly under-resourced with "a severe lack of guidance, support, knowledge and experience for assessing and overseeing the safe management of existing CSG activities in that State. Already CSG developers are challenging that State's policy of 'no mining within 2k of towns and other protected properties.

The Victorian enquiry must take heed on the problems already being experienced in Queensland and NSW before considering on any program of CSG development.

### International reactions to CSG

Communities across the world are collectively saying 'NO' to CSG mining due to the health and environmental impacts. The industry has exploded before the scientific community has had time to properly assess and determine the real dangers. Quebec, British Columbia, New Brunswick, and Nova Scotia have also banned fracking pending full studies. In the United States, **New Jersey** and **New York** State placed moratoriums on well permits while they evaluate the health and environmental risks. Many other local councils have taken this action. For more detailed US action by State see-

<http://keptapwatersafe.org/global-bans-on-fracking/>

### CSG mining is considered to be highly harmful to humans:

- It involves vast amounts of contaminated water as extraction of gas draws water out of the coal seam that is highly saline and can contain toxic and radioactive compounds, endocrine disruptors and heavy metals;
- Fracking contaminates large quantities of fresh water with sand and toxic chemicals that are pumped under extreme pressure underground;
- The underground fresh water table is depleted leaving landowners, farmers and communities without water;
- Remaining water is contaminated;
- Wells, processing plants and pipelines leak;
- Toxic chemicals make their way into the land, soil, water and air and impact on the skin, eyes, and respiratory, immune, endocrine and cardiovascular systems and can cause cancer.
- Also direct and indirect health impacts include heart, lung, kidney and neurological problems and cancer;
- It is associated with increased seismic activity such as earthquakes and earth tremors;
- It causes ground subsidence and sinkholes; and
- It has a global warming impact that is as bad if not worse than coal, over a twenty year period.

### Other Impacts

- The U.S Geological Survey(USGS) in partnership with the American Geophysical Union has found that the median water consumption per gas well has risen from 177,000 US gallons in 2000 to 5.1 million gallons in 2004 due to new extraction technologies and the introduction of horizontal fracking refer <http://ecowatch.com/2015/07/01/water-use-fracking-drought>

Victoria cannot afford to lose any water at all – we don't have sufficient for our long term needs as it is.

- Managing waste products from fracking is becoming a nightmare as this waste has to be stored above ground with growing problems of storage breakdowns leading to further land contamination.

**Communities affected by CSG mining are experiencing a range of chronic health problems directly traceable to contamination of their air, of their water wells/bores or of surface water.** CSG mining companies are supposed to 'make good' to replace affected water supplies with potable water or water purification kits. Experts are of the view that underground water will never return to many areas across the country and if it ever does, it will be re contaminated because the chemicals used in the CSG extraction process take many years to break down, if ever. As a result, property owners cannot sell their land.

There is mounting evidence that CSG mining poses substantial risks.

### **Conclusion**

There is no case for supporting the lifting of the current Victorian moratorium on CSG mining. Developers put the argument that this industry creates "jobs" which is false as this industry provides very few jobs as shown in the Queensland experience.

Furthermore Victoria is already loosing valuable land to housing development and more than ever remaining farm land is needed for food production- fracking would destroy large swathes if allowed to go ahead.

\*\*\*\*\*