

Submission to:
**WA Independent Scientific Panel Inquiry into Hydraulic Fracture Stimulation
in Western Australia 2017-18**

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1. Personal Details

- I am a Retired Accountant.
- I am motivated to make a submission to the Inquiry, as a concerned community member, about the dangers of Unconventional Gas Mining, including Hydraulic Fracture Stimulation (“Fracking”) in combination with horizontal drilling, multiple drilling and acidation.
- I am concerned about Fracking causing actual environmental damage (and in turn health risks) and consequential economic losses, given the historical evidence of such damage/losses suffered in the past in affected overseas communities and also domestically here in Australia.
- The said damage/losses will impact directly on all affected communities. In the case of irreversible environmental damage or the failure to rehabilitate environmental damage there will be a flow-on effect, not only on the current communities but also on the generations to follow.
- I have gathered source reference information as to the Fracking methods and associated works used in Unconventional Gas Extraction, noting the considerable weight of evidence supporting the view that Fracking causes actual environmental damage and associated economic losses; hence this submission.

2. Summary of Key Points

i) Impacts on Water – Ground Water (incl. Aquifers) and Surface Water

There have been serious unconventional gas impacts on Groundwater in the USA, which should serve as a warning for all in WA (ref: Vogwill R., 2017. Western Australia’s Tight Gas Industry – A review of groundwater and environmental risks. Conservation Council of WA).

Aquifers can be contaminated by fracking, through water seeping from leaking wells, from faults induced by fracking, from surface spills of produced water involved in the fracking process; and from contaminated water from the gas source. Surface pollution can occur when there are accidental spills of fluids or solids at the surface; when well blow outs occur; and through discharge of insufficiently treated waste water onto land surfaces or into waterways (refs: LTG Submission to NT Inquiry April 2017; EPA USA – Impacts from the Hydraulic Fracturing Water Cycle on Drinking Resources – Dec 2016; and Vengosh et al 2014).

ii) Impacts on Air – Climate Change Contributor to Health Risk

Methane gas levels surrounding gas mines are up to three (3) times higher than background values (ref: Damien Maher, Southern Cross University). Venting from high point vents on water-gathering pipelines and other gas field equipment vents are known sources of methane gas emissions. Carbon Dioxide is a universally recognised Greenhouse Gas contributor to Climate Change; but the effects of Methane gas emissions are far more powerful – 86 times more so when considered over a 20 year timeframe; and 34 times more over a 100 year timeframe. As climate change is widely considered the major global health threat of this century, vented methane gas emissions together with fugitive methane gas emissions (from well leaks and other sources) produced from Hydraulic Fracture Stimulation - Fracking - are an unacceptable health risk. (Ref: Health and Climate Change Commission 2015).

iii) Impacts on Land

Unconventional Gas mining and Fracking are highly invasive and intensive and damaging to the environment, with consequential economic and health impacts on farmers and other landowners. Well density in an unconventional oil/gas field, when compared to a conventional oil/gas field, is hundreds to thousands of times higher. (Ref: Vogwill R., 2017. WA's Tight Gas Industry – a review of groundwater and environmental risks. Conservation Council of WA). For example, estimates suggest that WA's Kimberley region could see

over 41,000 gas wells; and the Perth Basin more than 14,000 - ref: Estimates of the number of gas wells in the Canning and Perth Basins (Frogtech, 2013). In Queensland, 18,000 wells have been approved and tens of thousands more are planned (ref: Lock the Gate Video: A fractured country, An Unconventional invasion).

3. Conclusions and Recommendations

Given that Australia has plentiful supplies of conventional or natural gas (and some of the best solar and wind resources in the world) a reasonable person should question whether Unconventional Gas Mining/Fracking can be justified at all, given the substantial risks of significant environmental and economic losses.

Accordingly, my view is that the Government of Western Australia should ban Unconventional Gas Mining immediately.

Dated this 11th day of February 2018

Edward M De Rosa