

Ms Margaret Liveris
Committee Clerk
Standing Committee on Environment and
Public Affairs
Legislative Council, Parliament House
GPO Box A11
Perth WA 6837

Hard Copy of submission mailed on 20/09/13

Dear Ms Liveris,

**RE: Inquiry into the implications for Western Australia of Hydraulic Fracturing
for Unconventional Gas**

Thank you for the opportunity to make a submission on this important matter to the Standing Committee on Environment and Public Affairs.

General Comment:

It is extremely important that the Terms of Reference of this inquiry are revised and expanded. Based on reports from overseas and Queensland, fraccing could, if allowed to proceed, have a devastating effect on both the WA environment and the health of West Australians. For example, air pollution caused by fraccing operations such as flaring, should be considered by the Committee, as should the potential for groundwater contamination and climate change impacts.

This is a relatively new method of extracting fossil fuels from shale and tight gasfields and as such the precautionary principal must apply. We are often too quick to embrace new technologies that promise a quick return on private sector investments without understanding or factoring in the true costs to the environment and climate, human health and community wellbeing as well as other economic activities.

Regulation of the mining and petroleum industry in this state is lax, and rehabilitation – if it happens at all – is cursory. We are only now beginning to count the cost of 200 years of mining and fossil fuel extraction in this state. Everywhere there are abandoned and contaminated mines, which have a deleterious effect on the environment and waterways. Mining and petroleum companies have a responsibility to clean up after themselves, to rehabilitate the environment which they have permission to exploit but not to destroy. The very Department that exists to ensure compliance often fails in its duty of care to the rest of us. It would be irresponsible for the WA Government to approve the use of fraccing when there are so many unresolved compliance issues.

Government must, as a matter of urgency, support the development of clean, green energy sources for WA and withdraw its subsidies for the old polluting supplies. Gas fracking and burning will simply add to the burden of the State's already unacceptably high carbon dioxide emissions.

My office has undertaken extensive research into this area, revealing that Western Australia's CO2 emissions have reached a record of 85 million tonnes per annum, and is set rise indefinitely. To read more about this research please visit <http://www.robinchapple.com/wa-co2e-emissions-estimates-2012>.

It has also been found that fracking causes more greenhouse gas emissions than conventional gas or oil extraction, due to the high level of methane emissions which escapes into the atmosphere from well venting and leaks¹. With these issues in mind I believe that the Government must think carefully about the use of fracking in Western Australia, especially when reducing our greenhouse gas emissions is now a matter of urgency.

I would also like to bring to light the recent actions by the Department of Mines and Petroleum (DMP). As they are an independent regulator, not a proponent, I find it unacceptable that they are actively employing people to promote fracking in Western Australia². I am talking about the event 'Fracknation Invitation' held by the DMP. The question and answer session on the environmental issues surrounding unconventional gas was held by 'resident petroleum experts' Jeff Haworth, Jason Medd and Kim Anderson. All three are DMP employees, and clearly have the interests of the Government and the DMP as their primary focus, making events like these highly biased. In the future I suggest including people who are not employed by the Government or gas industry in these discussions.

Term of Reference 1. How hydraulic fracturing may impact on current and future uses of land:

Hydraulic fracturing or 'fracking' is a highly damaging process. It is violent and toxic and involves applying a mix of harmful chemicals and huge quantities of water to a mosaic of locations deep underground, under very high pressure, in order to fracture the substrate and release the sought after fossil gasses.

There has recently been a study published in the journal *Science* by one of the world's leading seismology labs that looks into how major earthquakes thousands of miles away can trigger reflex quakes in areas where fluids have been injected into the ground from fracking³. It identified three quakes in Oklahoma, Colorado and Texas that were triggered at injection-well sites by major earthquakes long distances away. This is a serious and damaging impact on current and future uses of land, and must be strongly considered when discussing our use of fracking.

¹ Howarth, Robert, Renee Santoro and Anthony Ingraffea, 2011, Methane and the Greenhouse-Gas Footprint of Natural Gas from Shale Formations, *Climate Change* 106 (4): 679-690,

<http://link.springer.com/article/10.1007/s10584-011-0061-5>

² <http://www.robinchapple.com/sites/default/files/Fracknation%20poster.jpg>

³ Ellsworth, William, 2013, Injection-Induced Earthquakes, *Science* 341 (6142), <http://www.sciencemag.org/content/341/6142/1225942>

Fracking is an imprecise method that must be applied over a vast landscape in order to be profitable. In the Kimberley this landscape has been cared for and used for many thousands of years by its traditional owners, who rely on clean underground water and a healthy environment for their existence.

The Canning Basin fracking program is massive. The resource is huge and the area for exploitation is potentially at least as big as Tasmania. It sits under the traditional lands of many groups of Aboriginal people, some of whom have only recently won their land back after many years in the courts. These groups don't yet know what they want to do on their lands and how best to apply their new found rights. They need time to consider the needs of current and future generations and should not be pressured by mining companies and government officials into making decisions, deals and 'agreements' in the short term.

The Canning Basin is relatively unknown in ecological and biological terms. Having been protected by its remote location and inaccessibility, it has been little studied by environmental scientists. There is little in the way of baseline data and little understanding of ecosystem services. No fracking should be permitted unless and until the whole region has been thoroughly examined and we can understand exactly what the implications would be if it went ahead. We are a long way from that.

Term of Reference 2. The regulation of chemicals used in the hydraulic fracturing process:

It is common sense that hazardous chemicals should not be permitted to enter our waterways, whether these are above ground or below, flowing or still. Water is life and fracking using harmful chemicals should simply not be permitted. Groundwater contamination would be irreversible.

The CSIRO recently released a report that confirms what many have been saying – the long term impacts of chemicals used in and released by fracking are unknown and risky.⁴

Mining and petroleum companies wishing to use hydraulic fracturing techniques to release gases should be required to develop their technology such that no harmful chemicals are used. This should be a non-negotiable position of the government. I wish to remind the Committee that the natural resources of the state belong to all of us, not just the companies who wish to exploit them, and no number of jobs or economic benefits to the state can substitute for clean water and a healthy environment.

Term of Reference 3. The use of groundwater in the hydraulic fracturing process and the potential for recycling of groundwater:

It is our understanding that each 'frack' can use up to 34 million litres of water⁵. There are proposals for over 100,000 wells in the Kimberley region. The only water available here is from the artesian basin or aquifers, which support the natural environment.

⁴Towie, Narelle, 2013, Environmental Affects of Fracking Unclear: CSIRO Study, Science Network WA, <http://www.sciencewa.net.au/topics/industry-a-resources/item/1948-environmental-affects-of-fracking-unclear-csiro-study.html>

⁵ UNEP, 2012, Gas Fracking: Can We Safely Squeeze the Rocks?, UNEP Global Environmental Alert Service, http://na.unep.net/geas/archive/pdfs/GEAS_Nov2012_Fracking.pdf

Underground water supplies also support desert communities and the cattle industry, and they could support a host of other activities currently being considered by Aboriginal communities. Fracking could rule these out forever and that is just not a fair or egalitarian use of our natural resources.

The risk of fracturing fluids leaking into the water table is also a possibility from imperfect seals on cement columns around the well casing, and this, as it has in the US, would cause serious water contamination⁶.

Term of Reference 4. The reclamation (rehabilitation) of land that has been hydraulically fractured:

The mining and petroleum industry has a poor track record when it comes to rehabilitating and restoring land once it has finished with it. The Department of Mines and Petroleum has an equally poor record in monitoring these activities and ensuring world's best practice.

Companies will be obliged to monitor their wells for two years after abandonment, after which their obligations cease. Yet the wells will remain a pollution threat, with the public picking up the cost of decontamination and rehabilitation if required in the future.

In 2011, the WA Auditor General found there were 11,411 abandoned or 'legacy' mines in WA. To our knowledge, none have been rehabilitated to date. For example, the Gidgee gold mine, which operated in the 1990s, is a major hazard. For more information and to view photographs see: <http://www.mininglegacies.org/mines/west-aust/gidgee/>

It begs the question: if they haven't got it right so far, why should I trust them to protect our environment, including our water resources, this time around.

Thank you for this chance to express my concerns on fracking and I look forward to hearing about the outcomes of this inquiry,

Yours Sincerely,

The Hon Robin Chapple MLC

Member for the Mining and Pastoral Region

Greens WA Spokesperson for Mines and Petroleum, Climate Change and Energy Policy

20th of September 2013

⁶ UNEP, 2012, Gas Fracking: Can We Safely Squeeze the Rocks?, UNEP Global Environmental Alert Service, http://na.unep.net/geas/archive/pdfs/GEAS_Nov2012_Fracking.pdf