



10<sup>th</sup> July 2015

Environment & Planning Committee  
Attn: Keir Delaney, Secretary  
Parliament House  
Spring Street  
Melbourne VIC 3002  
Via email to: [epc@parliament.vic.gov.au](mailto:epc@parliament.vic.gov.au)

**Re: Inquiry Into Unconventional Gas In Victoria**

Dear Committee members,

Thank you for the opportunity to provide a submission to the Legislative Council's Environment and Planning Committee, in relation to the Committee's inquiry into unconventional gas in Victoria.

I live in a part of Victoria – South Gippsland – that stands to be significantly affected by unconventional gas extraction, and this worries me greatly.

My wife and I moved here from Melbourne around three years ago for the fresh air, clean water and open spaces, and because with a young child of two and a second on the way, we wanted to be able to bring our children up in a clean and healthy rural setting, as we'd both been raised ourselves.

But equally significantly, we chose South Gippsland because, with a relatively high rainfall (in a changing climate that is seeing rainfall reducing across the State), good soils and fresh water, it was the ideal location for us to try to make a living out of small-scale produce farming on our property. Farming is crucial to South Gippsland, and we were keen to become part of that farming community, providing clean and sustainable food to greater Victoria.

As such, I have grave concerns about the prospect of any form of unconventional gas extraction, in South Gippsland or anywhere, as it threatens to ruin our dream, endangering our family and livelihood, as well as having a negative impact on the

wider farming community across Gippsland, and the State more broadly.

Beyond the concerns I have for the local farming industry and food security, I am also concerned about the impacts of unconventional gas mining on the climate, through increased greenhouse gas emissions; on the community, through social division; on the local tourism industry; and the health of my family, my neighbours and my community.

Worse, far more favorable alternatives exist to unconventional gas mining, making any decision to go down this path completely ludicrous. As a result, I strongly recommend a permanent ban on all unconventional gas mining in the State of Victoria.

### **In response to the Terms of Reference:**

#### ***1. the prospectivity of Victoria's geology for commercial sources of onshore unconventional gas;***

While Victoria may have a suitable geology for unconventional gas mining, the question should always be – why would you want to?

Having studied Geology at university, I have some understanding of the varieties of different geological formations and features which may give rise to different forms of unconventional gas mining; however none are without risk, and certainly none are either necessary or desirable.

All of the alternatives result in significant disruption to local communities through infrastructure development, heavy vehicle transport, social division and possible health impacts. More broadly, the threat of significant environmental pollution to land and water cannot be ignored. Nor can the increase in greenhouse gas emissions from exploiting an otherwise dormant fossil fuel resource. (See below.)

#### ***2. the environmental, land productivity and public health risks, risk mitigations and residual risks of onshore unconventional gas activities;***

From the many accounts I have read about the impacts of unconventional gas mining, interstate and overseas, I am greatly concerned about the public health, environmental and land productivity impacts of unconventional gas mining. While, as mentioned above, I am aware that impacts may vary depending on the technology and extraction practices used locally (as dependant on the underlying geology) there are no extraction methods which are without risk.

Some of the documented health impacts including the risk of skin irritations and asthma relating to chemicals used in extraction; potential neurological effects; effects on foetal development in pregnant women; and an increase in carcinogenic chemicals in our air and water, which will likely lead to an increase in cancer rates in the vicinity of unconventional gas mining.

Environmental impacts from unconventional gas mining appear to be severe in the vicinity of the mining activity; however concerns are not limited to the local area.

One of the arguments of moving to unconventional gas is the desire to reduce greenhouse gas emissions from Victoria's existing brown coal resource by facilitating a shift to a 'cleaner' natural gas fossil fuel source. However there is still a significant amount of uncertainty about the GHG emissions from unconventional gas mining, given the fugitive emissions during the extraction and transportation process, and other associated gas releases into the atmosphere, as discussed further below.

Further, there is no guarantee that any extracted gas would actually displace the use of brown coal or any other fossil fuel source. What is more likely is that much of the gas will be exported, given the flat or even decreasing local natural gas consumption trends<sup>1</sup>, as reported by the Australian Energy Market Operator (AEMO). Thus there will be no or negligible impact on Victoria's consumption of polluting brown coal.

Indeed, with increased efficiency of electrical appliances and the likely rise in gas price when gas exporting becomes available locally, more people will be driven away from gas and towards electric alternatives. Without a concerted effort to develop local renewable electricity sources, we may actually see an increase in brown coal consumption as a result of the development of unconventional gas mining in Victoria.

Further, it is clear that any gas that exists in coal seams or other geological formations around the State must stay there! From all the publically available, peer reviewed and consensus materials about the impact of climate change, it is clear that if we are to have any chance of avoiding a greater than 2 degree warming of the atmosphere (a level considered to be the upper limit of acceptable) the vast majority of un-exploited fossil fuels need to stay in the ground.

As such it would be foolish in the extreme for us to be commencing down a path of unconventional gas mining at this time. Worse, this would be occurring against a backdrop of a very clear alternative to gas extraction, which is clearly to pursue a path of renewable energy technologies.

It is a matter of time before Australia and the rest of the world moves away from fossil fuels and embraces renewable energy, and it would be short-sighted and irresponsible for us to risk ruining precious farming land, polluting our water table and surface water, risk the health and well-being of a significant number of our citizens, and potentially destroy communities just to delay a move that is inevitable.

### ***3. the coexistence of onshore unconventional gas activities with existing land and water uses, including —***

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<sup>1</sup> <http://www.energyaction.com.au/news/industry-news/2015/05/15/2015-gas-statement-of-opportunities>

***(a) agricultural production and domestic and export market requirements;***

As mentioned, farming is a crucial industry for Victoria and Australia, and farming has a lot to lose from the development of unconventional gas mining.

Access to clean, safe water is a cornerstone of agricultural production. We should, as a matter of principle, be avoiding any practice which has the potential to put this at risk, through the addition of toxic chemicals to the water table – and subsequently groundwater supplies – via the extraction process, as well as the release of naturally-occurring but also dangerous materials presently safely locked deep within the earth. Coal seam gas extraction, for example, would require the removal and disposal of significant quantities of potentially highly toxic water from the coal seam, which, once extracted, would have to be stored, cleaned or somehow disposed of without leakage into the surrounding environment.

We have seen numerous examples in this country of where this hasn't been possible, even with highly toxic radioactive waste from uranium mining<sup>2,3</sup>, and with the added risk of earthquakes resulting from any fracking activity, the potential risk to Victoria's precious farming industry cannot be ignored.

At a time when Gippsland is gearing up to increase dairy production in order to gain some ground lost to New Zealand recently in exporting clean, safe agricultural product overseas (such as with dairy to China), we risk damaging Victoria's brand as a clean source of good produce. This would have an impact across the whole State, not just in the regions where the unconventional gas mining is taking place.

***(b) the legal rights of property owners and the impact on property values; and***

There will clearly be an impact on property values in areas where unconventional gas mining takes place. Some people said to me before we chose to move down to South Gippsland, "what about the risk of Coal Seam Gas mining? Not just on the health of you and your family, but how are you going to sell to get out, if it comes to that?" My response was that I didn't believe we were stupid enough to pursue unconventional gas mining in this State, at this time.

However I might be wrong. And if I am wrong, I'd be fooling myself if I said I wasn't concerned about the impact on unconventional gas mining on property prices. It is not that our property is worth a great deal – indeed one of the other key reasons we moved to Gippsland from Melbourne was the affordability of the property we bought. However, I'm afraid that we may not be able to sell at all, and, without being able to sell, we have very few options for escaping the effects of the mining activity, if they turn out to be as dangerous as they appear to be in other places. This is a frightening place to be in.

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<sup>2</sup> <http://www.environment.gov.au/science/supervising-scientist/publications/ssr/investigation-tailings-water-leak-ranger-uranium-mine>

<sup>3</sup> <http://www.news.com.au/national/major-acid-leak-at-kakadu-uranium-mine/story-fncynjr2-1226777797925>

Our house has a significant amount of asbestos in it. However that is measurable, containable, and knowable. I can put in place measures to mitigate against exposure to myself and my family, and gradually, safely, remove the remaining asbestos to make my place completely safe. However the impacts of unconventional gas mining would be uncontrollable, unknowable and unknown for many years to come. I fear that this may be the asbestos of our generation, without the understanding or ability to avoid the negative impacts of its remnants.

***4. the ability of potential onshore unconventional gas resources contributing to the State's overall energy sources including —***

***(a) an ability to provide a competitive source of energy and non energy inputs for Victorian industries;***

This is a non-argument. It cannot be denied that unconventional gas mining would result in the development of a local export market for natural gas. Once an export facility is created, the local gas price will more closely match the international price for natural gas, which is significantly higher than the current domestic price.

As such, it is highly likely that the result of the development of a local unconventional gas mining industry would result in an increase in domestic gas price, and thus disadvantage Victorian industry, leading to job losses.

***(b) an affordable energy source for domestic consumers; and***

As above, once consumers start having to compete with international gas prices, they will find their gas price will be higher than it is at present. Thus, it is a fallacy to say that unconventional gas mining will result in an 'affordable energy source' for domestic consumers.

***(c. carbon dioxide emissions from these sources;***

We need to be dramatically reducing greenhouse gas emissions in order to avoid a greater than 2 degree temperature rise. At this time, we should not be considering any activity that will likely lead to an increase overall greenhouse gas emissions, as outlined above, in response to Term of Reference #2.

Further, the uncertainty around greenhouse gas emissions from unconventional gas mining means that it is nearly impossible to determine what the level of GHG emissions would be from the development of a local industry.

What we do know is that, compared with renewable energy, unconventional gas mining has significantly higher greenhouse gas emissions, and as a result, we should be instead encouraging the development of a local renewable energy industry, rather than considering exploiting another fossil fuel resource.

## **In Conclusion**

I implore the Committee to carefully consider the ramifications of unleashing an industry that may irreversibly damage a productive farming industry, threaten the health of a generation of children, risk dividing communities, and potentially significantly increase Victoria's net greenhouse gas emissions, with little benefit to natural gas consumers. As a result, I strongly urge the Committee to recommend a permanent ban on all forms of unconventional gas mining in the State of Victoria.

## **Further contact**

Feel free to contact me if you have any question or would like any further information about any aspect of this submission. My contact details are at the top of this submission.

Regards,

Brad Kijlstra-Shone