

Inquiry Name: Inquiry into Unconventional Gas in Victoria.

Ms Jacinta Hendriks  
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[REDACTED]

**SUBMISSION CONTENT:**

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Jacinta Hendriks  
[REDACTED]

Keir Delaney  
Secretary, Environment & Planning Committee  
Parliament House  
Spring Street  
Melbourne VIC 3002

Email: [epc@parliament.vic.gov.au](mailto:epc@parliament.vic.gov.au)

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Submission to the Inquiry into Unconventional Gas in Victoria

Dear Committee members,

As an ecologist, a concerned citizen and a mother living in Hamilton, I want to express my absolute opposition to the unconventional gas mining industry in Victoria. I believe there is a compelling case to place an outright and permanent ban on all onshore unconventional gas drilling in Victoria. When I mention the unconventional gas mining industry, I include in this coal seam gas, tight gas, shale gas & underground coal gasification.

Case studies from around the world have demonstrated the devastating and irreversible ill-effects of unconventional gas mining on the landscape, water, air, human and animal health. What's more, communities around Hamilton have declared they want this area to remain free from gas mining; an overwhelming 96% (or more) of the entire population supporting the area to remain gas field free. This has

led to our local Southern Grampians Shire Council declaring itself Unconventional Gas mining Free. My community has completely removed the social licence for this industry to operate in this area, forever! I wholeheartedly support a permanent ban on all unconventional gas drilling and further investment in renewable energy.

I will briefly give my opinion, which I have built up during 2 years of personal research, on the Terms of Reference below. In doing so I will assume you have consulted the extensive research that is now available on this topic and therefore I will forego to reference in detail.

1. The prospectivity of Victoria's geology for commercial sources of onshore unconventional gas  
The volcanic nature of much of Victoria's geology inevitably makes unconventional gas mining a high risk process. Many gasses are safely trapped in our soil; extracting a fraction may lead to unforeseen effects in higher layers. A high risk process equates to a high cost process. Can mining companies indemnify the public for all potential risks?

2. The environmental, land productivity and public health risks, risk mitigations and residual risks of onshore unconventional gas activities

Water and land productivity:

- The production of unconventional gas involves fracking, a process which consumes vast amounts of water – up to 20,000 l per well per day – which will have a devastating effect on the surrounding, already dry landscape. It will have severe negative effects on all current land use: fertile pastures will dry out, as will biodiversity hotspots like wetlands. Negative economic effects will be felt in industries like agriculture, recreation and tourism. Programs preventing the extinction of water-dependent species will be funded by tax-payers, as will farmers' mental health support.

- The long deep wells that are drilled have been shown to fail over time. This means chemicals will leak into the soil, surface water and groundwater. As an already dry country, with a changing climate that will bring less rainfall in the near future, Australia cannot afford to risk its water supply.

- Fracking brings up a highly saline mixture that cannot be re-used or adequately treated for re-use. This means contaminated water has to be permanently securely stored – at a high maintenance cost – and is permanently excluded from the water cycle and therefore unavailable for any future use.

Public health:

- The process of fracking has also been shown to induce low level earthquakes. This may damage private property and public infrastructure. The volcanic nature of much of our Victorians soils makes this extra risky.

- The release of volatile organic chemicals, particulate matter and diesel exhaust affects the respiratory system.

- Increased vehicle traffic, road damage, noise and odour complaints in affected communities.

- Increased demand for medical care in affected communities.

- Higher number of still borns and lower birth weight in newborns.

- Risk of drinking water contamination through underground migration of methane and/or fracturing fluid chemicals associated with faulty well construction or seismic activity. Research has shown that on average there is an immediate bore failure rate of 6% which then increases to 50% within 30 years and continues to increase. The risks are too great and cannot be mitigated.

The benefits associated with any royalties that are likely to be delivered as a result of drilling need to be carefully considered against possible negative economic impacts. The costs are likely to far outweigh any short term benefits, e.g. who will pay for the infinite maintenance of thousands of abandoned wells once industry has left? In my opinion, no form of risk mitigation will ever compensate the inevitable loss of fertile farming land, clean water, clean air and natural habitat.

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

- (a) agricultural production and domestic and export market requirements;
- (b) the legal rights of property owners and the impact on property values; and
- (c) any implications for local and regional development, investment and jobs;

(a) Agriculture is the region's largest employer according to the Southern Grampians Shire Council; it directly generates over half the Gross Regional Product (around \$250 million). In its Land Capability Study the Shire has found growth potential for agriculture and the capacity for flow-on effects to other parts of the economy.

The NZ experience with Fonterra refusing to buy milk from dairy farms irrigated with frack water and sludge demonstrates that this industry cannot co-exist safely with other land uses like farming as well as conservation and tourism.

Victoria is a densely populated state which is heavily reliant on agriculture and associated food processing. Nature based tourism is also significant across much of the state where the Unconventional Gas Industry wants to get established. Gas drilling will industrialise the landscape, impact on rural communities and people in adjacent areas and it is likely to have significant public health impacts.

Furthermore, the infrastructure required for gas wells, being all weather access roads, cleared well pads, compression stations, evaporation dams) would make the day to day running of a farm unviable.

(b) Legal rights of property owners seem non-existent, with landholders not having the right to deny access to exploration companies and all minerals found on their land belonging to the State. Furthermore, drilling can occur at 50 m from homes, with devastating impacts on the integrity of the dwelling.

(c) I live in a rural area where cattle and sheep farming are the main means of employment (1500 jobs directly). The farming industry supports local businesses, schools, sports clubs and health services. Indirectly, everyone's job is linked to farming. When there is a drought, farmers aren't happy. When farmers aren't happy, they don't spend any money. This affects all of us. Unconventional gas mining will cause a very long drought.

While the unconventional gas industry claims it creates many jobs, this claim is not backed up by convincing evidence. Figures for the industry are not published by the ABS, but job numbers for the oil and gas industry are and the unconventional gas industry is part of this sector. Figures for August 2013: 20,700 people employed by the entire oil and gas industry (or 0.2% of the work force). Compare this to retailer Bunnings, who employed 33,000 people.

The few jobs created by the industry will be available to highly trained, specialised professionals, not members of the local community. These professionals may work in the area but they are unlikely to become part of the local community, due to the unpopular nature of their work.

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;
- (b) an affordable energy source for domestic consumers; and
- (c) carbon dioxide emissions from these sources;

(a) The demand for gas as an energy source for Victorian industries is declining as many manufactures are outsourcing, automating, closing their doors and turning off the gas.

(b) The demand for gas as an energy source is declining as Victorians are embracing renewable energy sources such as wind and solar power. Local surveys into the support for the industry confirm that Victorians value their natural resources and their dependent economies such as farming, tourism and the renewable energy sector, over the development of a new unconventional gas supply.

The energy cost of unconventional gas is high compared with conventional LNG due to the need for fracking to release the gas from the coal seam or rock. Additionally, with the government plans to export massive volumes of gas through ports in Queensland, Victorian consumers will be competing with international energy prices in coming years, making unconventional gas unlikely to be an affordable energy source for consumers. In absence of a 'Domestic Gas Reserve', Australians will have to pay the high World market prices, i.e. 3x the current price.

A much better option is to look at ways we can reduce our need to use gas (for instance through ensuring better energy efficiency standards in new homes and a government funded energy efficiency retrofit program for existing houses).

(c) With regards to the carbon dioxide emissions from onshore unconventional gas; the main gas emitted in the exploitation process is methane, which contributes more to climate change than carbon dioxide.

5. The resource knowledge requirements and policy and regulatory safeguards that would be necessary to enable exploration and development of onshore unconventional gas resources, including —

- (a) further scientific work to inform the effective regulation of an onshore unconventional gas industry, including the role of industry and government, particularly in relation to rigorous monitoring and enforcement, and the effectiveness of impact mitigation responses; and
- (b) performance standards for managing environmental and health risks, including water quality, air quality, chemical use, waste disposal, land contamination and geotechnical stability

(a) Instead of focussing on filling in the knowledge gaps – funded with taxpayers' money – I think we should draw on the existing knowledge, case studies and assessments. The decision to ban the industry in New York was based on a thorough environmental assessment. The precautionary principle should take priority. I strongly recommend you to diligently read the comprehensive "Final Supplemental Generic Environmental Impact Statement" issued by the New York Department of Environmental Conservation, following seven-years of research and over 260,000 public comments. The report, comprising of over 2000 pages, notes that considerable uncertainty over the adverse environmental and public health consequences of fracking has "grown worse over time."

I include this report as part of my submission, see attached link: <http://www.dec.ny.gov/energy/75370.html>

(b) The performance standard should be complete reversibility: if the effects of extraction on water quality, air quality, chemical use, waste disposal, land contamination and geotechnical stability cannot be 100% reversed, extraction should not be allowed.

6. Relevant domestic and international reviews and inquiries covering the management of risks for similar industries including, but not limited to, the Victorian Auditor-General Office's report Unconventional Gas: Managing Risks and Impacts (contingent upon this report being presented to Parliament) and other reports generated by the Victorian community and stakeholder engagement programs.

With regards to your investigation into the social licence for the industry, I commend the fact that you have consulted the community on this issue. However, I question whether the same scientific rigour and peer review was applied to the resulting Community Engagement Final Report as will be applied to the accompanying Water Studies reports. Speaking from experience I can confirm that the consultation sessions were poorly advertised and hard to access for people living in the potentially affected areas – which is

confirmed by the low total number of stakeholders consulted. As the information submitted on the night was kept confidential, I could not verify that my answers and comments were noted and interpreted accurately. The main conclusion of the report – namely 27% of all respondents oppose the introduction of the industry or 46% of respondents in potentially affected areas are opposed is firmly contradicted by local surveys, where all members of the community were asked their opinion and more than 96% of respondents were opposed to the introduction of the industry. I ask the Committee to keep the shortcomings in the community consultation process in mind whilst considering its findings.

Finally, I point out that the industry does not have social license to operate, as shown by the 60+ communities declaring themselves ‘Gasfield Free’ across southern Victoria.

I urge you to recommend that Victoria ban all unconventional gas drilling permanently as the risk far outweigh any benefits.

Yours sincerely,  
Jacinta Hendriks