

Submission for the Parliamentary inquiry into unconventional gas.

To the Environment and Planning Committee for Unconventional gas inquiry.

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Thank you for considering my submission, I have lived in the Borough of Queenscliffe for nearly 40 years and am very aware of the important role the natural environment plays in tourism and thus the local economy.

I raised my daughter in the Borough and feel privilege to live in a state that is currently unconventional gas free.

I have looked at the literature both scientific and 'opinion' on unconventional gas including coal seam gas, tight gas, shale gas & underground coal gasification and can only come to the conclusion that there should be a permanent ban on it.

There are alternative in the renewable energy sector that would create jobs and maintain a cleaner healthier environment. Labour governments should take notice of this as the long term impacts on the health of people in communities effect by unconventional gas extraction will add greatly to the cost of health care.

And basically it come down to one major point, why risks our livelihoods to an industry that has not yet proven its self to be 100% safe. Why not take the precautionary approach?

The terms of reference are underlined and my comments are below.

(1) the prospectivity of Victoria's geology for commercial sources of onshore unconventional gas;

Regardless of Victoria's geology, The Daniel Andrews Labor government has invested big dollars in Agriculture, promising, a \$200 million Future Industries Fund, awarding \$1 million grants to businesses specialising in the food and fibre sector, and in five other high-growth industries in which Victoria is poised to lead the world. Invest \$20 million in Food Source Victoria, a program to build alliances of producers. The regional alliances will focus on high-quality goods and collectively market their produce for export. *Reference- Back on the Land 2015*

Why would we risk our productive agricultural industry, which has injected 11 billion dollars into the Victorian economy?

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

With the world now shifting its focus into renewables, it would make more sense to continue with the progress that has already been made. Wind legislation reform, Victorian RET and hydro station projects (\$500,000 to build a mini hydro station at Lal Lal Reservoir)

Minister for Industry, Lily D'Ambrosio, said Labor's \$200 million Future Industries Fund would also work with the renewable energy sector to boost the creation of jobs and investment. The establishment of a \$20 million New Energy Jobs Fund will also offer support to community groups and businesses developing renewable energy projects.

The onshore natural gas industry is seen as intrusive, using deep drilling, hydraulic fracturing and large volumes of water and often requiring access to private land. There is concern that water sources will be diminished in quality and availability for other uses, with potential consequences to agricultural productivity and biodiversity. Deep drilling and fracking is considered to affect the structural integrity of the subsurface environment potentially leading to fugitive gas emissions, increased earthquake activity in areas of seismic instability, potential contamination of underground aquifers and loss of access to ground water for other uses

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

The export orientation of the market arrangements for natural gas in Australia is seen to expose the domestic market to international price movements with no expectation that onshore natural gas production will deliver lower prices in Victoria.

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

What percentage will be set for domestic users? When so many manufacturing industries are closing their doors, and existing companies are turning off the gas line, who will be 'buying' this unconventional gas?

The notion that onshore natural gas should be further developed is challenged on the basis that existing reserves are adequate for at least 30 years and this allows sufficient time for government to redirect resources to renewable energy sources, thus helping to mitigate climate change effects.

(c) carbon dioxide emissions from these sources;

There are concerns around air pollution in relation to UG activity, with fugitive emissions of methane and other gasses (e.g. benzene) around the well head, from holding ponds, and from escape through subsidence etc. The main gas produced by CSG is methane and the concern is that it has a higher greenhouse footprint and is more potent than CO₂ used in conventional gas extraction.

(2) the environmental, land productivity and public health risks, risk mitigations and residual risks of onshore unconventional gas activities;

The list of risks is long. Below you will find my list of concerns-

- Noise pollution of trucks, drilling rigs and construction.
- Air pollution
- Public health - Research by Doctors for the Environment Australia (DEA) has found that the current level of assessment, monitoring and regulation of CSG exploration and mining activities in Australia is inadequate to protect the health of current and future generations of Australians. DEA identified three key areas where there is the potential for adverse human health impacts: through contamination of water, air and soil; through diversion of water and land away from agricultural food production; from mental health impacts on communities who have had environmental changes imposed upon them'

The environmental health impacts of the contamination and degradation of air and water have the potential to cause significant physical harm. The Australian Medical Association (AMA) recently called for the blocking of CSG developments if any doubt exists that there could be serious or irreversible harm to health.

- water - Water consumption during drilling and processing . The risk of spillage and disposal of "flowback" water. Disposal of "produced" water, and interference to groundwater, the water table, aquifers, e.g. lowering of water tables and contamination with chemicals .

Contamination to ground water, issues around produced water and seepage and evaporation from evaporation pools may result in health impacts in livestock and wildlife, general environmental and soil degradation due to increases in salinity or toxic chemicals.

- People once attracted to a more rural existence may, with the development of an onshore natural gas industry, face a more industrialised environment that affects their way of life and their appreciation of their surroundings. The makeup of the community may change to reflect those attracted to the changed environment and those who choose to stay.

(3) the coexistence of onshore unconventional gas activities with existing land and water uses, including —

The onshore natural gas industry in other locations is seen as having a substantial and long lasting 'footprint' in its development, operational and redundancy phases. The industrial nature of onshore natural gas mining is in contrast to many current uses (e.g. agriculture, tourism, residential, biodiversity and amenity) and is seen as changing the landscape it occupies. Other land uses are considered to be significantly affected, devalued and/or displaced with coexistence not seen as possible.

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.

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.

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;
- 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. Source: Senator Glenn Lazarus **Independent Senator for Queensland in the Australian Senate**.

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

How do farmers sign Nation Vendor Declaration in the case of unconventional gas on their property or a neighbours property?

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

As the system stands, there is a sense of unfairness. Concerns arise from the fact that minerals and gas are owned by the State on behalf of the whole community, and landholders cannot deny access to exploration companies. Some landholders believe they can be 'bullied' in negotiations with industry and disadvantaged in the compensation for loss of production as well as risk inadequate restoration compensation.

Once a property is marked for unconventional gas, at exploration stage or production stage, property values would be devastating. For most people their home is their greatest asset and threats to this are threats to their overall financial security. In addition, those who make their living on the land, such as farmers, have both their home, their job – their entire financial security, based on their land. Therefore preserving its dollar-value and quality are paramount.

(c) any implications for local and regional development, investment and jobs;

The Australian Bureau of Statistics estimated that around 3,500 businesses in Victoria are involved in horticultural activities. Of those businesses, most are concerned with the production of fruit (particularly pome fruit, citrus, stone fruit and berries), almonds (and other nuts), grapes and vegetables.

Stats from the Victorian DEPI- Victorian horticulture exports were valued at \$894 million in 2013-14, an increase of \$288 million (48 per cent) from 2012-13. Hong Kong was Victoria's largest market for horticultural exports, valued at \$141 million

Stats from the National Farmers Federation-

As of 2010-11, there are **307,000 people** employed in Australian agriculture. The complete agricultural supply chain, including the affiliated food and fibre industries, provide over **1.6 million jobs** to the Australian economy.

The agricultural sector, at farm-gate, contributes **3 percent to Australia's total gross domestic product (GDP)**. The gross value of Australian farm production in 2010-11 was **\$48.7 billion**.

Yet this is only part of the picture. When the vital value-adding processes that food and fibre go through once they leave the farm are added in, along with the value of all the economic activities supporting farm production through farm inputs, agriculture's contribution to the GDP averages out at around **12 percent (or \$155 billion)**.

From the Australia Institute Matt Grundoff Fracking the Future report - The gas industry is relentless in its claims about job creation. It commissions modelling, creates dedicated websites and runs national multi-million dollar advertising campaigns that focus on the potential for the industry to create huge numbers of jobs. It is not surprising then that 39 per cent of the August survey respondents nominated more jobs as a benefit of CSG.

While the industry is busy claiming it creates many jobs, the reality is that the gas industry is a relatively small employer. While figures for the CSG industry are not published by the ABS, job numbers for the oil and gas industry are, and the CSG industry is a part of this sector. In August 2013 the entire oil and gas industry employed 20,700 people, which is 0.2 per cent of the workforce. To put this figure into context, the hardware retail company Bunnings employs 33,000 people.

(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 —

Much work is needed in filling in the knowledge gaps, and how risks can be mitigated. All industries come with risks, it is whether these risks are far too great? Onshore natural gas is seen as a relatively new industry and science, and experience is insufficient to predict with any certainty, the potential risks and their management. Some government agencies and scientific authorities are described as

being compromised or lacking independence. There is a strong focus on the gaps in scientific knowledge rather than the extent of the existing knowledge.

(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

Who will be the 'watchdog' for communities? Will they carry certain level of powers? Will the government put up compensation in the case of an accident?

(b) performance standards for managing environmental and health risks, including water quality, air quality, chemical use, waste disposal, land contamination and geotechnical stability;

It is most important that base line studies be conducted before any consideration of allowing this most toxic of industries into Victoria. Scientific data and information from across the world needs to be examined and colligated.

The capacity of regulators to manage the development and operations of the industry is questioned. Concerns are expressed about regulatory powers and their stability over time; inadequate and declining regulatory resources; poor industry track record; inadequate adherence to voluntary industry codes of practice; the international and sometimes 'footloose' nature of some private companies and the inability of regulators to enforce compliance in the advent of bankruptcy; the perceived inadequacy of restoration bonds given the lifetime of potential impacts; the possibility of risks and liabilities being transferred from the companies to landholders, the community or the State before their effects emerge and, the risk of unforeseen risks and liabilities emerging later.

I would support Senator Glenn Lazarus Independent Senator for Queensland in the Australian Senate for a federal inquire into the impact of the industry before any consideration of allowing it into Victoria.

(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.

The Victorian Community and stakeholders engagement program and its community open days were poorly advertised. It was attended strongly by those opposing the industry (advertised by local Frack Free Groups), yet was only reflected in the interim report. The final report, which focused on the quantitative survey, only survey 950 people from Victoria. The three different groups (for/against/don't know) is quiet concerning. The large proportion of the community which had not adopted a stance, merely didn't know who to trust. This I believe comes from poor independent information. Independent scientific based research, not tainted by the industries bias, is the key to understanding the full impacts this industry may have. When

communities have an opportunity to dialogue around the issue they appear to come out strongly against it.

Until then, we will continue into the unknown. Examples from across the world would suggest that this unknown has created many of the problems that now exist. The precautionary principle needs to underpin the governments approach.

I find that there are many knowledge gaps. Far more questions than answers. More questions than scientifically based independent answers. Can the gas companies prove and guarantee these risks are unfounded. Are my concerns unfounded?

If not, then why are we even considering this industry in Victoria?

Many towns over the state have now declared themselves Gasfield Free. These are mainly towns that will be affected if allowed to proceed. The impact will not just be on them. Plant, materials, extraction chemicals, and gas need to be transported to and from the gas fields. Has anyone looked at the impact on those communities and the environment that these needs of this heavy industry will have? Yet another unanswered question. What of the impact on the wild life that would normally cross these roads with minimal deaths. Has anyone looked at the risks to wild life?

And who will pay for the damages to what would normally be secondary roads not designed for 24 hour heavy vehicle use? Will it be the owners of the gas fields or will it be the general public? More impacts on wider sections of the community.

Where is the transparency? If the industry was safe for the environment and communities then why all the 'smoke and mirrors'?

Tell me where is the social licence for this industry.

Thank you for taking the time reading this submission.

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