

Dear Members of the Committee,

My family are 3<sup>rd</sup> generation beef farmers in Gippsland. We are extremely concerned about the impacts of all unconventional gas mining, including but not limited to Coal Seam Gas (CSG), tight gas, shale gas, and underground coal gasification.

No social licence exists in our community for any form of gas mining. Residents in Poowong surveyed our community and 95% of us declared we want our community to remain Coal and Coal Seam Gas Free. Almost every single farm and house on the Korumburra-Warragul Road, between Strzelecki and Tetoora Road is displaying a yellow triangular "Lock the Gate" sign stating we are all united against CSG and gas mining. We seek an immediate and permanent ban to all forms of unconventional gas mining in Victoria.

We have researched the gas industry. We have spoken to victims, we have watched documentaries and videos, we have attended information evenings. We attended the previous community consultation held by the former Victorian Government to voice our objection. Our community is overwhelmingly united against any onshore gas industry. Our removal of any implied social licence was finalised by the 450 residents who formed our human sign "WE R CSG FREE" in Poowong. Many other communities in Gippsland, and across Victoria have followed our lead, surveyed their communities, and declared themselves CSG free. Under no circumstances will my family, nor my neighbours, support CSG, no matter what so called regulations are put in place. We do not want an onshore gas industry. Period.

#### Terms of reference

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

Victoria has pristine water and farmland. Victoria promotes itself within Australia and internationally as "clean and green". Our diverse agricultural sector produces world class high quality meat, fruit, vegetables and fibre, free from industrial and chemical contamination found to be present in produce of other countries, like China. This has led to the local promotion of the Gourmet Deli Trail and development of internationally famous brands like Jindi Brie cheese. Our meat is considered clean and green and attracts a premium from many Asian consumers for this reputation. The ABS (Australian Bureau of Statistics) data confirmed that in 2009-2010 the value of total Victorian Agricultural production was \$10 Billion.

This reputation drives tourism to Victoria, with the promotion of our pristine places like our snowfields, Wilson's Promontory National Park, and our many pristine beaches. The **State Government of Victoria – Tourism Victoria** states: "*Tourism is a significant economic driver for Victoria. Tourism in Victoria was estimated to be worth \$20.6 billion to the economy and employed approximately 206,000 people in 2013-14... Approximately 65 per cent of Victoria's tourism expenditure growth to June 2020-21 is forecast to come from international markets.*".

Combined, tourism and primary production generate \$30.6 billion annually for Victoria. This is sustainable, repeatable, and capable of growth.

Any new industry, like onshore gas, which will place existing industries like tourism and farming at immediate risk, will need to be capable of producing at least \$30.6 billion, and employ the same number of Victorians, simply to maintain the status quo, in order to replace the industries it displaces and ultimately destroys.

Naturally it will be impossible to promote the health benefits of holidaying in a toxic gas field, especially to international visitors, or expect tourists to visit a winery next to a deafening gas compressor station, or to eat produce known to be contaminated with radiation or carcinogenic chemicals. Thus, an onshore gas industry would need to exceed the economic and employment benefit of the industries it displaces - not just for the length of time the gas field is productive, but continue to deliver these jobs and income after the wells have run dry. This is hard to conceive. It is ridiculous to even consider placing our pristine natural resources

at risk for an industry that has already proven in Queensland, NSW, the USA and many other countries globally that it has a history of pollution and deceit.

We live in a very seismically active region, and already suffer frequent earthquakes. International findings confirm earthquakes WILL get more frequent and severe with fracking and gas extraction activities. Although denied by gas companies, the link has been proven. As reported in The Guardian on 24 April 2015: **"US government says drilling causes earthquakes – what took them so long"**. The article states: *As the US Geological Survey confirmed on Thursday, in the last seven years, geologically staid parts of the US have seen earthquakes like they haven't seen for millions of years. And they were triggered by drilling for oil and gas.... Oklahoma averaged a handful of earthquakes of magnitude 3 or greater from 1975 to 2008. In 2011, the number of earthquakes in the state rose to over 60, and Oklahoma was hit by its largest earthquake in recorded history – magnitude 5.7... data that indicated that the pressure from injecting water deep beneath the earth had snapped three fault planes, one after the other... 2014, the number of earthquakes in Oklahoma reached 585 in one year."*

These earthquakes will cause property damage, reduce our property values, and potentially make properties worthless. What will the cost be to our community, the State of Victoria, and Australia for these extra, larger earthquakes? Who will pay compensation? It won't be the companies as they still deny the link and claim that they are not responsible. Will we even be able to get insurance for our properties? Who wants to live in a contaminated gas field suffering frequent earthquakes? Who would buy a property and move to a gas field? These questions concern everyone who lives under the threat of gas wells.

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

Refer my comments above under point 1 and further to this I add:

Despite adamant gas company denials and promises that contamination is impossible, example after example of contaminated aquifers, polluted bores and wells of countless victims, shown in various documentaries, blowing flammable gas, previously pure water suddenly turning black and blowing foul smelling gas, and producing plastic scum as a result of fracking and gas production. The various gas companies all seem to systematically deny responsibility, claim there is a lack of evidence, whilst they quietly install expensive reverse osmosis plants for affected home owners or truck in bottled water having made the victims apparently sign confidentially "gag orders".

AllGov.com reports on the 1 September 2014: **"Pennsylvania Finally Releases List of 243 Cases of Water Contaminated by Oil and Gas Drilling"**. *"Pennsylvania has finally revealed the extent of the contamination of water wells caused by drilling for gas and oil in the part of the Marcellus Shale deposits that run through the state. The list released Thursday by the Department of Environmental Protection (DEP) reveals 243 instances in which drilling contaminated water wells... An investigation by Pennsylvania's auditor general concluded last month that the DEP method of handling complaints about water contamination "was woefully inadequate." In addition, investigators could not determine even whether all complaints had been entered into DEP's system... It's been known for some time that drilling has been contaminating drinking water. An internal Environmental Protection Agency (EPA) report last year said methane, manganese and arsenic were contaminating wells in Dimock, Pennsylvania, and gas drilling was the likely culprit... Drilling in the Marcellus Shale reserves involves hydraulic fracturing, or fracking, in which water often containing harmful chemicals is pumped into the ground to help release oil and gas trapped in the formation... In addition, the technique has begun to cause earthquakes in some regions where it's being used."*

The State Government of Victoria, VicRoads and Local Councils do not have enough funds to maintain and repair roads at current levels. It is proven that developing a gas well results in a massive increase in heavy trucks that will destroy what is left of our potholed rural roads.

StateImpact Texas: Energy and Environment Reporting for Texas (USA) states on 19 March 2012 **"Roads killed: Texas adds up damages from drilling"**: *...spending possibly hundreds of millions of dollars for road repairs and improvements to cope with the surge in oil and gas drilling... the state has already made \$40 million available for immediate paving of ripped up roads in the areas of heaviest drilling activity... the average well requires 1,200 loaded trucks to bring it into production. Many of the wells are in rural areas where roads were originally designed for tractors and produce trucks, not tankers"*.

The report **"Roadway Degradation Costs Due to Mass Fracking Industrialization"** states: *"The Texas Department of Transportation [TDOT] has estimated that the cost of maintaining the roadway infrastructure degraded by the fracking traffic statewide is \$4 billion a year (Heinberg, 2013; Rogers, 2013). That includes \$1 billion for farm-to-market roads, \$1 billion for local roads, and \$2 billion for interstate and state highways (Barth, 2013). "*

And *"The New York State of Transportation estimated that the total road maintenance costs to mitigate impacts from truck traffic to 40,000 proposed wells across New York State would total as much as \$378 million annually"*

and, *"Arkansas estimates that the costs from road damage due to fracking truck traffic are \$450 million, finding that roads designed to last 20 years require major repairs after only 5 years due to fracking's constant stream of overweight vehicles ferrying water and equipment to and from well sites (Heinberg, 2013; Rogers, 2013)"*

and, *"Pennsylvania Department of Transportation officials reported that in 2010 more than \$265 million was needed to repair roads damaged due to Marcellus Shale drilling (Christie, 2010; Dutzik et al., 2012). Additionally, state officials reported that as their rural roads were not designed to withstand the volume or weight of the level of truck traffic, they have sometimes been degraded into impassability (Randall, 2010). By 2013, the state estimated that it would cost \$3.5 billion just to maintain the states existing roadway assets, and an additional \$8.7 billion for necessary bridge repairs (Rogers, 2013), with fewer than 7,000 existing wells."*

Given the long lead in time for gas taxes and royalties to be collected by the State for a gas field, and the economic reality that gas companies will always write off all profit against infrastructure construction costs first, it will be many years before gas revenue, if any, flows to the Local and State Governments to fund road repairs. Where will Government "find" this extra money for road safety in the meantime?

Sufficient money to maintain our roads does not exist now, as evidenced by high fuel price surcharges, vehicle registration fees and licensing fees, and country roads with dangerous potholes, extensive broken tar seal and tyre shredding edges. Our society cannot subsidise such hidden costs of constructing such an industry.

I have visited the CSG fields of Queensland. I have seen the devastation first hand. I have seen farms carved up by pipelines, easements, access roads, compressor stations. I have seen people sick and crying because their farms are worthless. They can't sell them because their neighbour has gas wells. They can't get insurance. They can't even get a loan, because their property is worthless. How does a council levy rates on a property deemed worthless? How will our community survive, if council's lose all their revenue?

What are the long term effects? What happens when a well's production slows down? Evidence suggests that the production peak diminishes quickly, with many wells needing fracking again and again and again to "restimulate them". These drill holes are there forever, even after the gas is gone. Who will maintain these wells after the companies change owners / go bankrupt / change name / merge? What happens in 10, 50, 100, 200 years time? Who will be responsible? Who pays the bills? Will this turn out to be another legacy like asbestos, DDT, thalidomide and countless other examples, ultimately it will be our community that has to pick up the long term costs, long after the industry has disappeared.

Any promised royalties, if they ever eventuate, will be worthless against this continuous cost. All well casings eventually fail. It is simply a matter of time. This is obvious. Who will maintain them after the company is gone? What happens when the gas runs out and the money dries up? What happens if the promises of royalties never happens? Will our community ever see the promised economic benefit? Once the astronomical cost of drilling, fracking, installing pipelines, compressor stations, LNG terminals, access roads, easements, etc etc has been incurred by the companies, they want a return on their investment. This is basic economics. Every business first and foremost will offset all costs and losses first before declaring any profits and royalties. Large multinationals, as recently revealed like BHP, Apple and Google have proven it is simple and legal to shift profits to overseas tax havens to avoid paying tax in Australia. Such loopholes will always be pursued and exploited.

There is no guarantee this tempting promise of royalties and tax dollars will ever be realised. And yet we risk it all by even considering allowing this evasive and invasive and polluting industry to destroy our clean land, air and water.

Like nuclear waste, the drilling waste fluid, and produced water cannot be disposed of. Despite promises a solution will be found it hasn't. Attempts to treat the produced water and find alternative uses, like for irrigation, have been dismal failures. In desperation CSG waste in NSW was dumped secretly into the sewers. No practical plan exists to dispose of all this contaminated waste water and salt in the long term.

The amount of misinformation pedalled by the industry, and lobbyists on their behalf, on the promised benefits of unconventional gas and gas fields does not stand up against the cost to the victims. Many victims have spoken out publicly. I have listened to them. I have travelled to see CSG in Queensland. It is disgusting. I have heard many people speak, like Brian Monk from Tara. I have seen reports on 60 Minutes, the 7:30 report, all the various news channels. I have watched Gasland and Gasland 2. I travelled to hear John Fenton from Wyoming USA speak. All these witnesses tell their experiences of this horrific industry. These are normal, law abiding citizens. The locations are different, the companies are different, the victims are different – yet they all report the same experience. Their lives are destroyed. If this “industry” was good for them, their lives, their community, their state, their country then why do these people devote their lives to speaking out to stop other communities being tricked into making the same mistake and allowing gas companies in? They have no reason to lie. Yet their experiences, which the industry promise time and again can never happen, is repeated every time: poisoned water, poisoned air, methane leaks, bubbling rivers, fluid spills, clean water wells and bores turning black, water burning, unexplained sickness, livestock dying.... The list of bad outcomes is endless. These are innocent people whose lives have been destroyed. They have no reason to lie. The industry does.

I have heard of the well explosions, pipeline explosions, truck explosions. This is the covered up reality of this industry in our community. We cannot allow our community, our state, our pristine country to be destroyed in this same way. All the warnings are out there. It has happened elsewhere. Our society has no way to measure the long terms health effects until it is too late. What will be the \$ cost of treating these long term? Already our health system cannot cope. Yet now we are considering making people live in gas fields. This is an insane proposal and uncontrolled experiment. It cannot be tolerated.

A 186 page report (attached) from the **New York State Department of Health of a Public Health Review of High Volume Hydraulic Fracturing for Shale Gas Development in Dec 2014** states:

*“Air Impacts: Studies provide evidence of uncontrolled methane leakage, emissions of other volatile organic chemicals, and particulate matter from well pads and natural-gas infrastructure. State authorities in both Texas and Pennsylvania have documented methane leakage from natural gas infrastructure by the use of infrared cameras. A recent West Virginia study also determined that heavy vehicle traffic and trucks idling at well pads were the likely sources of intermittently high dust and benzene concentrations, sometimes observed at distances of at least 625 feet from the center of the well pad (McCawley, 2012, 2013; WVDEP, 2013). These emissions have the potential to contribute to community odor*

*problems, respiratory health impacts such as asthma exacerbations, and longer-term climate change impacts from methane accumulation in the atmosphere.”*

There are similar assessments of the water quality impacts, seismic impacts, community impacts, health impacts near operations. Rather than include more text from this document in my submission, I attach the entire file and ask that this be included and deemed part of my submission. It can also be found here:

[https://www.health.ny.gov/press/reports/docs/high\\_volume\\_hydraulic\\_fracturing.pdf](https://www.health.ny.gov/press/reports/docs/high_volume_hydraulic_fracturing.pdf)

In summary this report states that: *“As with most complex human activities in modern societies, absolute scientific certainty regarding the relative contributions of positive and negative impacts of HVHF on public health is unlikely to ever be attained. In this instance, however, the overall weight of the evidence from the cumulative body of information contained in this Public Health Review demonstrates that there are significant uncertainties about the kinds of adverse health outcomes that may be associated with HVHF, the likelihood of the occurrence of adverse health outcomes, and the effectiveness of some of the mitigation measures in reducing or preventing environmental impacts which could adversely affect public health. Until the science provides sufficient information to determine the level of risk to public health from HVHF to all New Yorkers and whether the risks can be adequately managed, **DOH recommends that HVHF should not proceed in New York State.**”*

It is important that a distinction is made between absence of evidence and evidence of absence. It is important to understand that limited evidence or lack of evidence DOESN'T mean that something is safe. There are many reports of gas companies claiming there is no evidence that there are health effects due to unconventional gas mining. These claims are being shown to be untrue over time as more and more evidence is found of long term health effects. Again, one only needs to look at asbestos and smoking and cancer for recent examples. It takes many years to study the long-term effects of pollutants on people. Scientific evidence is only obtained when long-term independent studies are carried out and these are expensive and not in the interests of the gas industry to run. So, like the recent decision to run a long-term health study into the effects of the Hazelwood Coal Mine fire, it will fall to government to fund the studies that will invariably be needed to investigate the health impacts that will be reported by residents in gas fields. This cost of such monitoring and the eventual costs of the negative health outcomes must be factored into any “benefits” and alleged income from gas mining in Victoria.

Sadly the true cost of this industry will most likely not be known. In the USA the industry has successfully imposed “fracking gags” to prevent health impacts from ever being released. The Guardian on 5 August 2015 reports **“Children given lifelong ban on talking about fracking”** and gagged even children from speaking: *“The settlement, reached in 2011 but unsealed only last week, barred the Hallowichs' son and daughter, who were then aged 10 and seven, from ever discussing fracking or the Marcellus Shale”.*

Why would an industry do this, if it was safe, non polluting, honest and accountable? A Google search reveals countless pages of victims being silenced.

RT.com on 31 October 2013 published **“Judge defeats challenge to ‘medical gag order’ on health risks from fracking”**. It states: *“Earlier this month, a research team out of Duke University examined Pennsylvania wastewater and found what they described as “alarmingly” high levels of radioactivity, salts, metals, and other potentially harmful sediments... Yet the “medical gag rule” forbids doctors like Rodriguez from going into depth about the health problems that chemicals from fracking can cause.... Rodriguez specializes in renal diseases, hypertension, and advanced diabetes. He “has recently treated patients directly exposed to high-volume hydraulic fracturing fluid as the result of well blowouts,” including a patient “with a complicated diagnosis with low platelets, anemia, rash and acute renal failure that required extensive hemodialysis and exposure to chemotherapeutic agents.”*

So many alternative options for clean non-polluting energy already exist. This is not a case that we need the energy. We don't. We have too much energy. Anglesea coal fired power station is being shut down as there is no demand for it.

3. the coexistence of onshore unconventional gas activities with existing land and water uses  
a) agricultural production and domestic and export market requirements

There cannot be coexistence. It is impossible with such an invasive industry. As a farmer I have to sign a National Vendor Declaration (NVD) about chemical contamination in my animals. This is a food safety requirement. This enables me to sell my beef to the world. Our meat traceability system is the envy of the world. It gives us a global competitive advantage.

Unconventional gas will destroy our livestock production industry. I will not be able to sign a legally binding vendor declaration when I don't know what chemicals are in the water my stock drink or eat from pasture contaminated with secret radioactive fracking fluids and mystery chemicals. Ultimately, if I can't sign this document, it will be illegal for me to sell my animals. I will lose my income.

This industry fights hard to refuse to disclose what chemicals it uses, arguing it is proprietary. In the USA it has been made illegal to disclose, even to a patient or their doctor, what fracking chemicals they might have been exposed to. Compare this to farmers, who have to keep detailed chemical records by law, and can be prosecuted for not complying with chemical withholding periods. This is to protect our food safety.

No industry, especially one that has an established history of concealing what chemicals it uses, can claim it can co-exist whilst it immediately, and permanently destroys another. What will all the farmers do, when they cannot sell their produce because it is contaminated? Will you buy it and feed it to your children? Baw Baw Shire Council estimated that in 2008 the Baw Baw region of Gippsland alone produced \$355,000,000 worth of primary product. Over 10 years, this equates to \$3.5 Billion. This is just from one Shire in Gippsland. This agriculture industry is established, it is sustainable, and unlike the mining industry does not try to artificially inflate its value by including the flow on effects of employment and associated industries supplying services to the Agricultural Sector. These associated industries, although not included, must be considered.

This \$355 million annual production in just one Shire in Victoria must be considered against any promised benefit a new industry like unconventional gas MIGHT produce, over one like Agriculture that is already established, sustainable and proven.

This area is one of the major dairying areas in Australia and home to the Victorian Government's Dairy Research Station at Ellinbank. Figures from Dairy Australia show that the Australian dairy industry is a \$13 billion farm, manufacturing and export industry and that the Australian dairy industry directly employs 43,000 Australians on farms and in factories, while more than 100,000 Australians are indirectly employed in related service industries.

Victoria accounts for 65% of the national dairy industry so is at highest risk, and has the most to lose, in terms of income and jobs, of any impact from CSG.

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

I already have powerlines on my farm, so I understand the crippling affects transmission easements have on a farm. The easement controls what I can do on that particular piece of my own land. I still have to pay rates on that land, but only get limited value in return.

My observations in Queensland show that gas infrastructure is far worse. Infrastructure like all weather access roads, suitable for semi trailers and drill rigs, flammable gas pipelines, massive well pads, evaporation ponds and compressor stations take enormous tracts of productive farmland out use, permanently. No farmer can bulldoze or plough this land. Pasture renovation, by ploughing the ground is a routine practice for dairy and beef farmers. This will no longer be possible with a high pressure flammable gas pipelines buried under the pasture. Pastures will deteriorate and support less and less livestock. Productivity and consequently income will. Fences cannot be constructed where they suit the environment or farm operations, but will be controlled by gas infrastructure. Biosecurity on farms will be rendered impossible. The act of bringing large scale drilling and construction equipment on

farms will cause soil compaction, spread weeds, pests and disease. This is guaranteed, and has been proven time and again in areas like Queensland, no matter how much a company promises they will take care. It has been reported time and again by farmer victims that these companies cannot be trusted. They have a proven history of promising compliance to farmers, and then cutting fences, unintentionally spreading weed seeds, intimidating the owners, interfering with livestock and farm infrastructure, leaving gates open, defaecating on a farmer's property and treating the farmer, his family, their privacy, and the property with sheer, utter contempt. This is what farmers and land owners report publicly on Facebook and other sites. They have no reason to lie and make this up. Despite this, farmers and landowners have no recourse.

Property owners have no real rights. The moment we sign an access agreement, we lose all control of our properties. A horizontal well can be drilled from kilometres away under our property. We have no say. If my neighbour, or his neighbour, allows a well to be drilled, it will affect me directly. I have no say. I will still be forced to pay costs like rates and insurance, but my property value will plummet. Who would pay top dollar for a property that leaks methane, that has springs or wells that run black and stink from which cattle won't drink, or if they do they eventually die? Who would pay for a property at risk of damage from an earthquake, or in knowledge that there is an easement and day and night white work utes will shine spotlights into your windows? Who will pay for a property that stinks from gas emissions, and vibrates from compressors and diesel generators running gas equipment? How can someone pay a mortgage on a property which plummets in value?

Experience from Queensland and the USA shows people cannot even sell their farms once a gas industry develops. They have to abandon their land and walk away, or hope the gas company offers them a secret buyout deal, with a contract sworn to secrecy. Is this co-existence? I have been informed farmers have even had insurance cancelled due to the risk the gas industry poses. Who will compensate me for all the capital improvements on my property that are rendered worthless? Where will farmers move to find similar quality farmland so close to Melbourne and the Port of Melbourne for export? How will Victoria guarantee its food security into the future amid a gasfield?

### C) any implications for local and regional development, investment and jobs

My family has undertaken large capital improvements on our farm as have our neighbours. We will not be undertaking any more capital improvements until a permanent ban on onshore gas is implemented. No business, farming included, can afford to invest in stranded assets, which farm capital improvements are in a gas field, as their cost will never be recovered. I have discussed this with my neighbouring farmers and we agree this fear is widespread in our sector. The fear that an onshore gas industry might be developed is already impacting on the creation of jobs and economic development, as farmers, like any business will not expand or invest, if they do not have long term security.

The promised jobs touted by mining companies are over inflated by including all the flow-on industries. This was demonstrated so blatantly by the inquiry into Queensland's proposed Adani Carmichael mine which predicted 10,000 jobs to Government, but admitted in court this was a lie. On 28 April 2015 the Brisbane Times revealed "**Adani Carmichael mine to create 1464 jobs, not 10,000**". Unconventional gas will not create the promised jobs.

The jobs created are short-lived. The Surat basin proves this fact. The media is filled with stories from Queensland about house prices plummeting and mass industry unemployment as the CSG construction boom collapses. Work dries up. People are sacked. Businesses go broke. For example: 24 April 2015 – Toowoomba Chronicle "**Owner loses everything as downturn claims business**". *"Brendan Findlay started Findlay Engineering eight years ago when the coal seam gas industry had just started to emerge in south-west Queensland. The business enjoyed strong growth in its initial years, employing a workforce of 15 and securing contracts with some of the major players in the oil, gas and copper industries. But two weeks ago, Mr Findlay's business reached breaking point. The banks moved in, staff were let go and Findlay Engineering was declared bankrupt."*

This is the real, long term cost of highly specialised, fly-in fly-out (FIFO) construction workers. Unlike local workers, FIFO workers do not spend their wages in the local community, but return home. This will cause even greater hardship to local industries like tourism, entertainment, restaurants, and service providers.

The ABC reported on 20 April 2015 **“Queensland mining town property prices crash on back of resources downturn Propell report finds”**: *“In the past 12 months more than 1,000 houses have been listed for sale across Miles, Dalby Chinchilla and Roma but only 325 have been sold. The report said that was a reflection of the coal seam gas industry progressing to the export phase of major projects, meaning many workers had been laid off and left the region.”*

At best, it will simply cause a massive short term house price and rent bubble in selected rural centres, forcing local residents to leave who cannot compete with the high pay of mining workers. Then, once the boom collapses, no locals will be left to move back. What is left of local communities will collapse entirely for lack of residents, jobs and income.

This is the reality, as reported in the Courier Mail 1 March 2015 **“Surat Basin towns are dying the death of a thousand cuts as miners leave in droves”**: *“an estimated 1000 jobs soon to be lost in towns such as Dalby, Chinchilla and Roma... The increasing exodus of workers, investment and money from the mining towns has left houses empty and businesses struggling, with many of those left behind wondering what to do next.... “They were saying it was going to last 10 years but it hasn’t,” she said... The impact on her bottom line has been astonishing, with turnover last December down \$100,000, slashed in half from the previous year.... Further west in Chinchilla, the effects of the mining construction boom have mainly been felt in the real estate sector, where rents and house prices doubled from cashed-up workers arriving in the town. Long-term residents said many pensioners had been forced to leave because of high housing prices and now that prices had fallen some weren’t coming back... many locals aren’t keen on coal seam gas”.*

Promised jobs for local workers in regional Victoria within the gas industry are highly unlikely. On a pure economic justification: trained, qualified and experienced workers already exist interstate, and overseas, who have already completed gas projects. These workers are unemployed now that areas in the Surat Basin like Chinchilla and the Darling Downs are complete. They, not locals, will be brought in to drill gas wells and build the infrastructure. No company would employ an untrained, unqualified and inexperienced local worker when an entire trained workforce already exists, ready to work on fly in, fly out basis. It is entirely predictable, once finished here, they will again be unemployed, so they will then move on to the next state or country. The reality is that minimal, if any, job creation will occur for untrained and inexperienced local residents. The chant of “jobs, jobs, jobs” is simply a ruse. Don’t be fooled.

Again, look to the evidence. The Courier Mail reported on 26 February 2015 **Gas companies to sack staff in Surat Basin towns**: *“Mass sackings by gas companies are underway in the one-time Surat Basin boom towns of Dalby, Chinchilla and Roma with an estimated 1000 people likely to lose their jobs over the next few months. Representatives from Origin’s human resources department flew into the Surat Basin this week to support local management as the cuts were made.... The jobs disaster has been sparked by a double whammy of a collapse in oil prices coming at the same time as the coal seam gas companies begin to wind back their huge construction workforces. One council is concerned that the companies will now renege on commitments made at the start of the project to fund road and other infrastructure. “There are vacant shops and it is a concern. ... most smart business people have done work to prepare,” Mr Brown said. He said the new State Government should consider moving public servants to the town to help bolster employment as the downturn hits”.*

The beneficiaries of this gas industry is not our local community or the state government. They are instead the mostly private and foreign owned companies extracting and exporting the gas to sell overseas. This does not benefit the Victorian population, it simply drives up local gas prices which now compete with an international price. This was the basis of a gas



industry driven fear campaign in 2014, claiming NSW was about to run out of gas. The reality appears that gas companies were simply diverting their gas supply to highly lucrative export markets. The Australia Institute exposed this with **"Cooking up a price rise"**. They find *"Wholesale gas prices will go up from around \$3 to \$4 per gigajoule to the world netback price of \$9 per gigajoule. This is because Australian gas producers will have the option to sell to the Japanese who are willing to pay \$15 per gigajoule. This doubling or tripling of wholesale gas prices is going to increase consumers' gas bills dramatically. Ironically it is not a lack of supply that is going to drive up gas prices but, rather, the introduction of CSG as a new form of supply....With gas becoming far more profitable, it is not surprising that gas producers are keen to expand their supply. Their strategy of blaming CSG restrictions for coming price rises is designed to turn public support against those restrictions and increase pressure on the New South Wales state government to remove them. But these claims are little more than posturing and bear no resemblance to what is actually happening in the market."*

The Sydney Morning Herald, 20 October 2014, wrote: **"Gas prices will explode due to Queensland exports, says Grattan Institute"**. *"The increases are linked with the launch of gas exports in Queensland early next year that will expose Australian families and businesses to high global prices. The Grattan Institute based its calculations on the forecast that wholesale gas prices will double to \$9 a gigajoule" and "In June, energy retailers received the green light to increase gas prices by an average 17.8 per cent over the next two years"*. These massive price hikes to Victorian households are not from too little gas, it is from too much, and the greed of gas companies for more, more, more.

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

Victoria does not need unconventional gas. Victoria is awash with energy. The Anglesea power station was recently closed because its 150MW power capacity was not even needed, and a buyer could not be found for what is a stranded asset. The AEMO (Australian Energy Market Operator) Victoria Gas Planning Report admits a drop in gas-powered generation gas consumption from 35PJ in 2007 to 2.5PJ in 2013. AEMO admits they only supplement coal fired electricity demand and *"the increase in alternative electricity supplies (both wind and solar)"* caused this massive drop in gas usage.

Recent reports by the **Australia Institute** have demonstrated that energy consumption has been dropping in Australia since 2010. In **Power Down II** in July 2015 it says: *"By 2014 average electricity demand per household was between 10-15% lower than in 2010..."* This trend, and the fact this trend is also consistent with other developed countries worldwide, reduces the need for a new energy industry in Victoria, particularly unconventional gas mining with its risks of irreversible impacts on ground water, agriculture, community and the environment.

Developed countries around the world are investing in renewable energy like as solar and wind and are phasing out reliance on carbon-based non-renewable energy industries like gas.

As reported on 9 April 2015 in the Herald Sun **"AGL Energy lands Bass Strait gas deal"** the article states: *"The Bass Strait field produces about 260 petajoules of gas a year and Victoria uses about 100 petajoules annually"*. Victoria does not need unconventional gas to secure our energy. We produce 2.6 times more gas than we need every year from Bass Strait alone. If gas prices rise, less people will use gas for heating, cooking and manufacturing. Instead consumers will switch to cheaper, cleaner energy, like renewables. Falling usage will drive up costs of maintenance and supply charges, which in turn will drive more users away. This is effectively a price driven death spiral, and confirms Victoria's gas requirements are more likely to fall, than grow in the future.

Unconventional gas extraction is expensive. It requires massive infrastructure to be built, on expensive farmland, with vast collection pipelines, compressor stations and evaporation ponds. Farmers have been blamed for farting cows releasing methane and driving Climate Change and millions have been spent researching reducing these emissions, yet unconventional gas releases far more methane. **Scientific American** (16 April 2015)

confirms “Methane leaks from oil and gas wells now top polluters – the oil and gas industry surges past cows as top US methane emitter”. These measurements do not take into account the “fugitive” methane emissions shown by bubbling rivers, faulty pipe seals, and secret venting showing up on FLIR cameras. No measurement can ever determine how much greenhouse polluting methane is being secretly and directly leaked into the atmosphere.

Methane is far more dangerous than CO<sub>2</sub>, in terms of climate change and global warming. **Onegreenplanet.org** reports that: “Methane gas [produced by CSG wells] traps 100 times more heat in the atmosphere than carbon dioxide within a 5 year period, and 72 times more within a 20 year period”.

Methane is not the clean and green alternative to coal it is promoted to be.

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

This industry is not safe. Drilling and gas companies have had many years to prove beyond doubt their practices are safe and controlled. They cannot guarantee how each specific aquifer works, is recharged, and links to another aquifer. Fracking, by its very nature, involves smashing rocks causing long fractures deep underground which cannot be controlled or even observed. To my knowledge, no well has ever been excavated in profile and shown what actually happens “down there”. It seems to be mainly speculation, depicted in fancy diagrams that downplay the risks, and are intended to make it appear simple, controllable and safe.

However, if in the future a bad outcome occurs, these rock fractures cannot really ever be repaired or controlled. It is there FOREVER. And we cannot even see it. We do not understand it. We do not know what is happening. It is impossible to know. We can only guess.

The evidence confirms this. Gasland and Gasland 2 documentaries prove that clean, unpolluted groundwater from aquifers, will turn black with contaminated foul water within minutes of fracking starting, or it will start to form plastics, blowing gas and start catching fire. The gas companies claim this is impossible, but end up having to deliver uncontaminated potable water to residents for seemingly all eternity.

In Australia, for an infant industry, the industry has already proven its contempt for environmental regulation. It is reported that Santos has been caught time and again in the Piliga Forest in NSW for pollution and contaminating aquifers. The following are only some examples of the many serious violations demonstrating contempt of regulations:

The Sydney Morning Herald, 18 December 2013: “**Santos faces fines for Piliga coal seam gas salt spill**” confirming: “Santos NSW has pleaded guilty... to report contaminated water leaks and lodge environmental management documents... The water ... killed more than 70% of the trees in the affected zone” and “...it had been up to a local farmer to report the coal seam gas brine spill to the media on 2 January 2012 before any action was taken by Santos”.

And:

The Land - 28 March 2014: “**Santos spill spoils goodwill**” – The article states: *The coal seam gas (CSG) company is under investigation again, this time for releasing 500 liters of water from CSG production into the Piliga state Forest*”.

And again:

The Northern Daily Leader reports on 16 April 2014 “**Santos issued “please explain” over radioactive material in Piliga**” for potential radioactive contamination with deadly Cesium 137 and apparently storage ponds leaking uranium and barium.

These are only test wells, apparently drilled on an exploration license. This is not even a commercial gas field yet. A simple Google search reveals many more such reports, both verified and unverified. As will local Facebook groups.

These stories about such serious misconduct proves gas companies have already proven themselves that they cannot be trusted and demonstrate a systemic refusal to comply with regulations.

But Santos is only one example. Now, let us consider AGL. This is also apparently, not a commercial gas field, but also just a trial pilot site:

The Newcastle Herald, 18 December 2014: "**AGL's fracking wastewater dumped into sewers**". *"Potentially contaminated wastewater used to frack AGL's Gloucester coal seam gas project has been dumped unlawfully into the Hunter's sewer system... It comes after AGL and Transpacific were both explicitly warned by the water regulator that releasing the flow-back fluid was a breach of its wastewater criteria"*.

And another one:

The Sydney Morning Herald, 14 March 2015: "**CSG more trouble than it's worth for AGL**". *"...[AGL] was also wondering how to break the news to the EPA that it had detected banned BTEX chemicals in flowback water from two wells and in an above-ground water storage tank... AGL informed the EPA that it was aware of these elevated levels of BTEX chemicals on 15 January, but it did not make these results known to the EPA or the public until today," Mark Gifford, EPA chief environmental regulator, said in a statement on January 27... The EPA is very concerned at AGL's lack of timeliness and transparency in informing us of these results and we will be conducting a full investigation."*

This conduct is from companies who seem to advertise and claim we can trust them. Companies like Santos and AGL, and others, whilst obligated to report such contamination, have proven they do not, and treat the regulators and communities in which they operate with contempt. Countless examples of such deceit and misconduct are returned with a simple Google search and is symptomatic of the industry here, in the USA and elsewhere. If it were not for private citizens who whistle-blow and report such misconduct via social media, such stories would never surface. This industry has proven it will not comply with regulation, and has proven contempt for protecting the environment and our communities. They have no social license to operate in our community.

Once again for the above reasons, I state unequivocally **UNDER NO CIRCUMSTANCES** will we tolerate an onshore gas industry in Victoria.