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**From:** Inquiry into Unconventional Gas POV eSubmission Form  
<cso@parliament.vic.gov.au>  
**Sent:** Wednesday, 8 July 2015 8:32 PM  
**To:** EPC  
**Subject:** New Submission to Inquiry into Unconventional Gas in Victoria.  
**Attachments:** 559cfc2bd435c-c.s.g. submission.docx

Inquiry Name: Inquiry into Unconventional Gas in Victoria.

Mr Richard Kentwell

[REDACTED]

President  
Groundswell Bass Coast

[REDACTED]

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**SUBMISSION CONTENT:**

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File1: [559cfc2bd435c-c.s.g. submission.docx](#)

File2:

File3:

We are a group of local residents committed to spreading the facts about global warming and related issues within Bass Coast. Our aim is to source these facts directly from peer-reviewed science. Where this is not possible we seek to use the best available information at the time. Science teaching, engineering, business and conservation comprise our personal backgrounds.

From the perspectives of environment, agriculture, tourism, social well-being and greenhouse gas emissions, the risks of unconventional onshore gas mining far outweigh the perceived benefits. We therefore unconditionally oppose such mining in the Otway Basin and Gippsland.

The terms of reference will be considered 1 – 4 consecutively, 4c. will be expanded to include reference to global warming, 5 and 6 will be considered briefly together.

1. It is uncertain whether there are sufficient commercial quantities of onshore gas in the Otway Basin or in Gippsland.<sup>1</sup> At present seismic testing to help establish the location and approximate dimensions of coal seams or “coals” is being carried out in Sth. Gippsland. In the Otway Basin, deposits are relatively deep underground, and low permeability in the Gippsland Basin would require deep horizontal drilling and fracking.<sup>2</sup>

Victoria’s brown coal may yield less gas with more effort than a comparable black coal seam.<sup>3</sup>

2. In the U.S.A., the U.K. and in Queensland there have been well publicized links between unconventional gas mining and land subsidence, seismic shifts, depletion of aquifers, contamination of groundwater and surface water and soil contamination through spillage from waste-water ponds.

Links between gas mining and health problems have been made. Water testing from the Condamine River and in the Pilliga State forest confirmed harmful substances at dangerous levels.<sup>4</sup> Across the U.S.A. and in Tara, Queensland, residents have reported symptoms including headaches, bleeding from the ears and nose, rashes and infections.<sup>5 6</sup>

While causation has not been proven, we believe the correlation of so many complaints with areas containing active gas wells suggests the need for a thorough investigation.

Given the often unsatisfactory record of past rehabilitation efforts by the mining industry and the likely-hood of contamination, the restoration of farming land and other landscapes to their previous levels of productivity may not be achieved.

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<sup>1</sup> Ross and Darby, Research paper no.2, Dec.2013, Parliamentary Library, p13.

<sup>2</sup> Ibid

<sup>3</sup> Ross and Darby, p12.

<sup>4</sup> Experimental Coal and Unconventional Gas Fracking in Victoria, F.O.E. leaflet, p1, undated.

<sup>5</sup> F.O.E. leaflet, p2.

<sup>6</sup> Sharyn Munroe, “Richland Wasteland “, Mc.Millan, 2012, p355

Residual risks include: long term loss of soil fertility, water quality and quantity, land subsidence and loss of visual amenity.

Flow-on effects include: less productivity, loss of farmland and decreased activity in associated industries, less tourism, a long term decline in residential growth and increased community hardship. We wish to emphasize that agriculture can be a permanent and sustainable industry characterized however by slow growth in contrast to the dramatic but temporary nature of mining.

3. Despite the assumption of co-existence of onshore unconventional gas activities and existing land and water uses adopted by both the S.C.E.R. regulatory framework of 2013 and the Reith Report <sup>7</sup> there is no unambiguous evidence that an harmonious and sustainable relationship generally exists, particularly where existing land use productivity is high and water dependent.

Sth. Western Victoria and Gippsland have been prime agricultural producers since European settlement. Currently the value of Victorian agriculture is estimated at around \$9b. per year with 25% of Australian food exports and 28% wool and fibre.<sup>8</sup> Sth. Western Victoria and Gippsland contribute a significant amount to this. According to a report on the Murray Goulburn Cooperative website posted on May 29 2015, it produces approximately half of Australia's dairy exports. Leongatha in Sth. Gippsland has a major plant and is a significant local employer.

Beef farming for local consumption and export and potato farming are also features, while cool-climate grape varieties, olive groves and value-added farm produce such as speciality cheeses, organic meat and vegetables are more recent developments.

With the possibility in the future of global warming induced water stress in the farming regions north of the Divide, areas to the south may be required to take on more responsibility for food production.

Australia is one of the few countries with the capacity to be a sustainable net food exporter. Why jeopardize this?

According to the Groundwater Atlas ( G.W.A.) coal seam gas production uses 100 megalitres of groundwater per year per well. The C.S.R.I.O. states that in Queensland average water production per well averages about 20,000 litres per day, or when full C.S.G. production is achieved, 125 gegalitres per annum, about one third of all water used by Melbourne homes and businesses in 2011-12.<sup>9</sup>

Sth. Gippsland Water has mapped the rate of replenishment of the major Gippsland aquifer in the Latrobe valley. Already replenishment does not match extraction rate, which indicates that the addition of coal seam gas activities could reduce this vital agricultural and environmental resource to dangerously low levels.

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<sup>7</sup> Ross and Darby, p35

<sup>8</sup> Friends of the Earth , email attachment, June 2015

<sup>9</sup> In Ross and Darby, p15

The contamination of groundwater is a principal issue concerning farmers. Should contamination occur, the interconnectedness of groundwater aquifers over large distances means that pollution could occur far from the source. For example the Latrobe Valley aquifer spreads out towards East Gippsland for 150 kilometres.<sup>10</sup> The C.S.I.R.O. states that groundwater impacts might not be felt for years.<sup>11</sup> This poses substantial risks for sustainable, clean agricultural production. In contrast, the possible benefits of mining are both uncertain and short-lived.

Contamination is certainly possible. In 2011, Four Corners “The Gas Rush” reported that at one stage over half the Queensland Gas Companies wells were leaking.<sup>12</sup>

In the U.S.A. the National Toxics Network found 60 water wells contaminated with methane near active gas wells.<sup>13</sup>

The surface disturbance of unconventional gas mining also has a significant impact. Typically there is a grid pattern of wells 750 metres apart, connected by a network of roads, pipelines and compressor stations<sup>14</sup> as well as trucks, lights, noise, dust, spreading of weeds and erosion during the development phase.

Effectively, property owners have no rights except to refuse access. However, miners can ultimately gain access through V.C.A.T. Landowners can attempt to gain exemption if they can prove that the economic value of their activities is greater than that of mining. This should be assessed over a 50 or 100 year timeframe, not simply for the life of the mine, as, if viable, the mine may bring greater profits over the short term.

Farmers also have social license to “lock the gate”, and join with others in their community to declare regions “C.S.G. Free”, and to blockade personnel and machinery from entering sites. Such declarations have already been made in farming areas of Sth. Gippsland including Poowong, Mirboo Nth. Seaspray and Kongwak.

Evidence from Queensland presented in the recent film “Frackman” and in Sharon Munroe’s book “Richland Wasteland” indicate the value of farms containing wells or adjacent are likely to drop significantly in value. If contamination occurred they would be worthless.<sup>15</sup>

Implications for local and regional development are mixed.

In the short-term some local businesses may prosper, but if the example of the Wonthaggi Desalination Project can be used as a guide, house prices and rentals will go up pushing locals from the market; services such as hospitals and police will be stretched and

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<sup>10</sup> F.O.E. email

<sup>11</sup> In Ross and Darby, p24.

<sup>12</sup> Op cit. p25.

<sup>13</sup> Munroe, p350-51.

<sup>14</sup> F.O.E. email

<sup>15</sup> Munroe, p352.

infrastructure such as roads and parking will suffer. Local workers who have relevant skills will be attracted by higher wages from the mining companies, leaving the local community with depleted services.

At the end of the life of the mine there will be rehabilitation work and then the community will attempt to return to how it was, with the real risk that its lifeblood: water and soil will be contaminated for years to come.

4.

We have found no clear evidence that onshore unconventional gas will provide a competitive source of energy for Victorian industries and consumers in the next 30 to 40 years. Rather, the off-shore gas in Bass Strait, cheaper to produce and with existing infrastructure, can continue to provide “vital energy to Australians for decades to come” according to a statement on the Exxon Mobil website 2014.

The Department of Energy and Earth Resources, State Government, reports that offshore gas reserves of 5 trillion cubic feet remain. Given that over the last 40 years 8 tfc have been delivered this suggests at least another 20 years lifespan if mixed with other existing energy sources, helping to bridge to the full deployment of renewable technology for energy production by 2050 as advocated by the I.P.C.C.

Onshore gas is more costly to extract, infrastructure must be established and the potential for environmental damage is high.

This suggests that the scope of the Reith report, presented on November 1 2013 did not include the increasing contribution of renewables to the energy mix and also to employment. This is not perhaps surprising considering the makeup of the taskforce.<sup>16</sup>

Nor is it conclusive that a possible increase in gas prices will be the major factor in a rise in the cost of living, or that other sources, such as the adoption of renewables on a large scale might act to moderate price rises.

In terms of emissions from onshore gas activities, while it is claimed that “smokestack” emissions are reduced by up to 50%, full lifecycle emissions including extraction, production and transport, and the addition of fugitive emissions of methane, 20 times more potent a greenhouse gas than CO<sub>2</sub>, could reduce the advantage of gas to 1 or 2%<sup>17</sup> Not enough to meet an emission reduction target if we are to keep to the accepted maximum temperature rise of 2 degrees Celcius by 2100.

This decade is widely considered to be critical to reducing our emissions. A technology that locks us in for up to 30 years for a potential benefit of 2% is a backward step. Indeed, a Climate Commission statement reported in “The Age” June 17 2013, among a number of others over the past 2 or 3 years, including a recent A.B.C. “Four Corners” programme found that most of Australia’s known coal, oil and gas reserves should be left alone.

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<sup>16</sup> Ross and Darby, p37

<sup>17</sup> Tim Flannery, public talk, The Hub, Inverloch, 2014

While furthering scientific work to improve regulation of the onshore unconventional gas industry is praiseworthy, no amount of improvement in monitoring, enforcement, impact mitigation and environmental performance can absolutely guarantee no adverse impacts. The risks to agriculture, environment, water and soil health, healthy communities and our global climate far outweigh short term economic gains that may accrue. We believe an independent review of scientific reports both local and international will support this, particularly in relation to conditions in the Otway Basin and Gippsland.

Under no circumstances do we support onshore unconventional gas exploration or mining in Victoria.