

**BRIEFING PAPER**  
**August 2013**  
**for**  
**Murray Goulburn Co-operative Co.**

**OUR CONCERNS**  
**for**  
**DAIRY FARMERS & DAIRY COMPANIES**  
**Regarding the impacts of onshore**  
**unconventional gas developments**

**from**  
**Coal & CSG Free Mirboo North**  
**(formerly Friends of Gippsland)**

*CONTRIBUTORS*

Anna Hall  
Ann Clarke  
Cam Walker  
Chloe Aldenhoven  
Denyse Menzies  
Di Smith  
Gavin Mudd  
Gayle Margaret  
Kate Lamb  
Libby Lamberte  
Lorraine Watt  
Marg Thomas  
Margaret Williamson  
Mark Ogge  
Peter Halabarec  
Phil Piper  
Simon McInnes  
Suzanne  
Tracey Anton  
Ursula Alquier

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# 1. WHY IS THE ONSHORE GAS INDUSTRY A THREAT TO GIPPSLAND'S DAIRY INDUSTRY?

Currently most of the Gippsland Basin is under licence to various mining companies. 87%, or 340 000 hectares of Gippsland is under an Exploration or Retention Licence for some form of resource extraction with CSG, Tight & Shale gas making up the majority of these licences over prime agricultural land. There are 11 CSG exploration licences in Gippsland covering most of the region's dairy production areas<sup>1</sup>.

## i) WATER USE

CSG and other unconventional gas industries use vast amounts of our groundwater<sup>2</sup> supply during their exploration/production well drilling<sup>3</sup>.

The Gippsland Groundwater Atlas, published by Southern Rural Water, states on page 27:

“Users with higher value needs are willing to increase reliability by drilling deeper - this influences the distribution of users across aquifers... In the coal, oil and gas extraction industries where groundwater is used for operational purposes its value is enormous compared to other uses.”<sup>4</sup>

The aquifers in the Gippsland region are already under considerable stress with the current levels of use/demand as experienced during the last drought when water supplies needed to be trucked in. We fear that the expansion of the unconventional gas industry in Gippsland could direct much needed water allocations away from dairy farms and businesses toward mining.

## ii) FRACKING AND WATER CONTAMINATION

Depending on geology, CSG and other unconventional gas industries use the controversial practice of Hydraulic Fracturing (or ‘fracking’) for their exploratory and production well drilling. This involves pumping vast amounts of chemicals including known toxins & carcinogens, sand and water deep underground to fracture rock formations. Fears about the contamination of aquifers by use of fracking gave rise in 2012 to the Victorian Government's ban on the use of BTEX chemicals within the onshore gas industry<sup>5</sup>.

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<sup>1</sup> See the DEPI site ‘GeoVic’ for up to date maps on current coal, petroleum (inc tight/shale gas) and coal bed methane exploration licenses. <http://www.dpi.vic.gov.au/earth-resources/explortion-and-mining/tools-and-resources/geovic>

<sup>2</sup> We have used the following definition of GROUNDWATER: “Ground and aquifer water are one and the same. The Water Act 1989 defines groundwater as water that comes from an aquifer [a geological structure or formation or an artificial land fill permeated or capable of being permeated permanently or intermittently with water] - located beneath the earth's surface in pores and crevices of rocks and soil.”

<sup>3</sup> (See Appendix B – Water use by Industries)

<sup>4</sup> Southern Rural Water Gippsland Groundwater Atlas  
[http://www.srw.com.au/Page/Page.asp?Page\\_Id=689&h=-1](http://www.srw.com.au/Page/Page.asp?Page_Id=689&h=-1)

<sup>5</sup> See the SCER ‘Harmonised National Framework’ Report and the National Toxins Network website for further information on chemical use within the onshore gas industry.

Commercial confidence and intellectual property rights mean that gas companies are not required to make public the mix/es they use (i.e. the chemicals, their concentrations and their combinations)<sup>6</sup>.

The Federal Government has begun a chemical assessment study (due mid 2015) including their impacts on human and environmental health (mainly surface not underground water) and international study of the combined effects of these chemicals and their concentrations on human and environmental health is just beginning as methodology needs to be created<sup>7</sup>

In the process of opening coal seams, leakage can occur into aquifers and soil. Contaminants from coal seams can travel/percolate from fractures into surrounding groundwater & aquifers whether fracking is used or not because the drilling method releases naturally occurring heavy metals, chemicals etc. that are locked up.<sup>8</sup>

CSG production releases underground water pressure to obtain methane gas from coal seams. CSG can be extracted via fracking or dewatering of coal seams. Dewatering requires the pumping out of the groundwater (“produced” water) to reduce pressure to allow the methane gas to be released. The fracking of coal seams or rock formations to extract unconventional gas uses vast volumes of water resulting in flowback of formation water and collected fracking fluids.

“Produced” water is contaminated with chemicals used in the fracking process, naturally occurring metals & radioactive materials (norm), various organic and inorganic chemicals, varying degrees of saline concentrations, etc. Dewatering may include pollutants such as chloride, sodium, sulfate, bicarbonate, fluoride, iron, barium, magnesium, ammonia and arsenic and varies over the lifetime of a well.

Dr. Gavin Mudd has talked about the high water costs of CSG production:

“about 92 megalitres of water released produces about 1 petajoule of gas... Water flows and pressures are constantly changing with CSG mining. We have a culture of using groundwater in rural and regional areas for many uses. We therefore need Groundwater Monitoring Boards for continuous monitoring before, during and after gas CSG wells have been explored, put into production and abandoned.”<sup>9</sup>

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<sup>6</sup> P. 63 of the SCER National Harmonised Regulatory Framework on Gas from Coal Seams Report <http://scer.govspace.gov.au/files/2013/06/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams.pdf>

<sup>7</sup> p. 66-68 *ibid*.

<sup>8</sup> For more information see the National Toxins Network website <http://www.ntn.org.au/?s=coal+seam+gas>

<sup>9</sup> For more information please contact Dr. Gavin Mudd, Environmental Engineer, Monash University – See Further Information – Specialist people to contact

We know very little about groundwater and aquifers and less about the way they interact science is still catching up. Southern Rural Water’s mapping/atlas of Gippsland’s groundwater also shows that there is still much that is not known.<sup>10</sup>

The SCER Report also acknowledges that “hydrological connections between aquifers are much more complex than previously understood”<sup>11</sup>

As the Chief Scientists of NSW & Australia have said, we need Science then decisions not decisions then Science. We need to fully understand the extent of groundwater and other risks BEFORE any onshore gas exploration is allowed to occur.

The Chief Scientist & Engineer of NSW recently stated:

“As a first step, the (NSW) Government needs to institute a strong and sophisticated policy for data collection and data handling, and establish a whole-of-environment data repository. The Government should also implement stronger conditions around the training of CSG operators, and champion further research on the unanswered questions around the science of CSG.”

### **iii) PROCESSING OF “PRODUCED” WATER**

Unconventional gas production produces enormous quantities of polluted water, salt etc. This is referred to as “produced” water and needs a discharge permit for this wastewater to be discharged to land, waste treatment plants or discharged to waterways.

Chapter 4 of the SCER Report<sup>12</sup> discusses the options for disposal of “produced” (ie. released and contaminated) water and its contaminants:

Contaminated water – The use of holding or evaporation ponds/dams is being discouraged due to the lack of integrity of pond walls and flood impacts when contaminated overspills flow to the lowest point and become part of groundwater recharge; “Produced” waters may be treated and discharged to land or nominated waterway or trucked to wastewater treatment plants; Reinjection/pumping of wastewater into deep injection wells; and/or Sale of treated water for “beneficial use” – agricultural quality.

Contaminated Salt - as yet, no agreed viable option is available on what to do with this contaminated by-product. The SCER Report suggests that we find a use and develop a market for these extremely large volumes.

Toxins – safe disposal

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<sup>10</sup> Southern Rural Water Gippsland Groundwater Atlas  
[http://www.srw.com.au/Page/Page.asp?Page\\_Id=689&h=-1](http://www.srw.com.au/Page/Page.asp?Page_Id=689&h=-1)

<sup>11</sup> p37 the SCER National Harmonised Regulatory Framework on Gas from Coal Seams Report  
<http://scer.govspace.gov.au/files/2013/06/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams.pdf>

<sup>12</sup>ibid.

#### **iv) METHANE MIGRATION**

There are increasing examples of methane migrating into areas underground where it hasn't been before because of dewatering and fracking processes opening up previously blocked pathways.

A Duke University, North Carolina, USA Report<sup>13</sup> has demonstrated the incidence of contaminated bore water with shale gas wells. The study shows that the closer bores are to shale gas wells, the higher the chance of elevated methane gas concentrations in shallow groundwater. There is a greater concentration of methane and radon in groundwater and bores that are near CSG wells. As the onshore gas industry expands ie. more wells, this problem/impact is expected to increase.  
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This report was also able to show where the gas in tap water had come from by testing of the isotopes/radon in the water. The question remains – how did it get there? Governments and the CSG Industry try to explain it as a problem of leaking bores. Others explain it as a problem of 2km deep onshore gas wells that leak into the 50m deep bores. More research is needed.

A Southern Cross University Report<sup>15</sup> found that CSG introduces methane sources/leaks from wells into the atmosphere and can affect air quality. In areas where there is a proliferation gas wells, we have higher methane concentrations than expected, compared to outside the gasfields. Methane gas leaks from CSG wells affect stock and people's ability to live in the area. It also adds to greenhouse gas emissions more so than carbon dioxide and so contributes more so to climate change.

#### **v) INDUSTRY ACCIDENTS AND ACCOUNTABILITY**

CSG, tight and shale gas companies have a poor track record in dealing with wastewater, methane leakages etc. both overseas and in Australia<sup>16</sup>. Also refer to the list of contaminated sites/accidents related specifically to CSG/LNG in Australia.<sup>17</sup>

Onshore Gas companies have a poor record with providing accurate, timely information:

- Various scientists from across the world including from the US National Oceanic and Atmospheric Administration, the University of Colorado and Southern Cross University have found that methane emissions/leakages from

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<sup>13</sup> Duke University "Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction" <http://www.pnas.org/content/early/2013/06/19/1221635110.abstract>

<sup>14</sup> See aerial photo of Chinchilla, Qld. After about 10 years of production. Also refer to Brian Monk and his family in Queensland for their experience of having no onshore gas wells on their land but of being surrounded by them without adequate buffer zones in 'Gippsland is Precious (link in further information: films)

<sup>15</sup> "Fugitive Emissions from Coal Seam Gas" downloadable from <http://www.scu.edu.au/coastal-biogeochemistry/index.php/70/>

<sup>16</sup> See Duke University "Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction" <http://www.pnas.org/content/early/2013/06/19/1221635110.abstract> and "Fugitive Emissions from Coal Seam Gas" downloadable from <http://www.scu.edu.au/coastal-biogeochemistry/index.php/70/>

<sup>17</sup> <http://coalseamgasnews.org/wp-content/uploads/2012/10/Contaminated-sites-and-accidents-related-specifically-to-CSG-in-Australia.pdf>

unconventional gas mining are worse than carbon dioxide in their contribution to greenhouse gas emissions and climate change.<sup>18</sup>

- Despite APPEA statements that CSIRO Scientists found that CSG was not a risk to our water quality, the CSIRO made a public statement to correct this and to clarify it's finding that CSG was a risk to our water quality.<sup>19</sup>
- The CEO of Lakes Oil recently released a letter to shareholders. The letter states that the company does not frack and then goes on to qualify all the situations in which it does frack (See attached document)

The onshore gas industry also does not have any responsibility for monitoring and maintaining their “abandoned” infrastructure i.e. wells, pipes, roads etc. or “fugitive” gas emissions once companies have finished their production (about 15 years per well and 50 years for the whole industry).

As the nature of the industry requires more and more gas wells and associated infrastructure. This has already created industrialised landscapes (see Chinchilla, Queensland after about 10 years of production).

Are these areas simply to be “abandoned”. The VFF recently demanded, amongst other things, that farming land be ‘restored to its original agricultural state’. How will this be done and what will be required?

#### **vi) INTERFERENCE OF MINING INFRASTRUCTURE ON FARMING PRACTICE**

The infrastructure of roads, pipelines, well pads etc. that comes with the onshore gas industry will interfere with the daily management of dairy farms eg. herd movements. Many wells have to be placed in close proximity and connected by pipelines that restrict the movement of stock and farm machinery. Anecdotally this has become a large problem for farmers on affected properties in Queensland and New South Wales.<sup>20</sup>

#### **vii) DISCLOSURE OF EXPLORATION LICENSES**

Currently, a landowner is required to declare if access has been granted to a mining company and/or a mining licence has been granted to their property when it is for sale. Exploration licences, however, do not have to be declared in Section 32s.<sup>21</sup> There is currently no requirement to declare in Section 32s that properties for sale are under an Exploratory Licence, a Retention Licence, work plan etc.

#### **viii) HORIZONTAL DRILLING**

In addition to drilling vertical wells, onshore gas companies are able to drill wells up to 3km horizontally. This provides a way for onshore gas companies to avoid gaining consent/veto from landowners.

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<sup>18</sup> See Clarke, R. “Gas has a worse climate footprint than coal”

<http://www.greenleft.org.au/node/53313>

<sup>19</sup> <http://www.csiro.au/Portals/Media/Groundwater-and-coal-seam-gas.aspx>

<sup>20</sup> For anecdotal evidence “Gippsland is Precious” <http://www.youtube.com/watch?v=WH5MS-v2prc>

<sup>21</sup> For more information contact the Environment Defenders Office, contact information in the ‘further information’ section.

## **2. WHAT ARE THE MAJOR IMPACTS OF THE ONSHORE GAS INDUSTRY FOR GIPPSLAND’S DAIRY INDUSTRY?**

### **i) WATER SECURITY**

Both dairy farmers and dairy companies require a secure, reliable supply of large quantities of high quality water for their herd management, milk processing, quality produce, cleaning, transport and health and safety requirements.

Many farmers rely on spring fed dams and/or bores (groundwater). With the Multiple Land Use Framework<sup>22</sup> other land uses are to coexist with CSG, tight and shale gas mining. Land use Planning will legalise both contemporary and sequential land uses.

Both the Environmental Defenders Office and the Victorian Farmer’s Federation have highlighted the “privileged” position that the mining industry receives and have called on the Victorian Government to give farmers the right of veto over proposed mining developments on their land.

To ensure “balanced” access to water rights, the SCER Report outlines two options for State and Territory governments:

- Water allocations;
- Water licensing.

We do not yet know how this will work in practice. Under Mineral Exploration Licences, the Department of Environment and Primary Industries (DEPI) regulate bores and grant permits for produced water disposal. How this is regulated is part of current discussion with DEPI as to the use of produced water and its discharge to land for agricultural use.

The SCER Report states that the fruit and nut growing industry uses much more water than the CSG industry<sup>23</sup> as a way of minimising the water requirements of the onshore gas industry. This seems to be a false statement and maybe due to:

- The misnaming of the vast amount of groundwater that is released with the gas as “produced” water rather than used water;
- The new water accounting system that treats “produced” water as an income/output rather than as a cost/input; and;
- The current, limited onshore gas industry development in Australia compared to the long-established orchard industry in Australia. However, the nature of the CSG Industry means that more wells are needed over time as each well’s gas production declines.

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<sup>22</sup> The MLUF (Multiple Land Use Framework) <http://www.scer.gov.au/workstreams/land-access/mluf/>

<sup>23</sup> Page 73 *the SCER National Harmonised Regulatory Framework on Gas from Coal Seams Report* <http://scer.govspace.gov.au/files/2013/06/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams.pdf>

There are no make right/good provisions or compensations only minimising risk, mitigation & management (accounting) requirements for water on both a local and a bioregional basis to identify cumulative effects over time. The Victorian Farmer's Federation has recently called for:

- The right of veto to be given to landowners over proposed mining developments (as has the EDOVic);
- Adequate compensation; and;
- Make good provisions to restore farming lands to their pre-mining state (But, is this possible when the onshore gas industry simply “abandons” its wells, pipelines, roads etc. leaving them in situ without any responsibility for “fugitive emissions” or ongoing monitoring, maintenance etc.?)

#### WATER SECURITY - KEY QUESTIONS

Do dairy farmers & dairy companies believe that:

- a. Dairying can co-exist with onshore gas mining?
- b. Improved water management plans will ensure that dairy farming will not be in competition with the onshore gas industry for water rights (allocations or licences)?
- c. There is enough water supply for dairy farmers, dairy companies and the onshore gas industry?
- d. The dairy and onshore gas industries will be competing for our limited water resource?
- e. There are enough available water rights to allocate to dairy farmers, dairy companies and the onshore gas industry?
- g. Should farmers face the likelihood of the increased risk of having to truck in and buy water during a drought or more generally throughout the year as a result of onshore gas industry usage that detracts from their bottom line/income?
- h. How will Governments reconcile their opposing Food, Water and onshore gas development plans?
- i. How will Governments address the ongoing issue of subsidence in Gippsland whilst promoting increased resource expansion requiring more groundwater depletion?
- j. Will the State Government publicly release the most recent subsidence and seismic activity reports to ensure transparency and appropriateness of future planning decisions?

## ii) WATER QUALITY

Both dairy farmers and dairy companies rely on clean, safe, quality water supplies for their herd management, milk processing, transport and health and safety requirements.

- In response to misleading information provided by the APPEA, the CSIRO has stated that the: “CSIRO does not endorse fracking...CSIRO...believes that the development of an unconventional gas industry in Australia poses a pollution risk to Australian underground water supplies.”<sup>24</sup>
- CSIRO scientists have highlighted concerns that chemicals produced by hydraulic fracturing could be affecting ground and surface waters... There is very little understanding of the chemical concentrations or what happens to them over time. To date there have been relatively few publications in the open scientific literature dealing with the environmental impacts of coal seam gas production and especially of fracking as well as geogenic [naturally occurring] contaminants, with most information contained in confidential reports to the service companies...”<sup>25</sup>

Fonterra New Zealand has recently taken positive action to protect their investors, customers, dairy farmers, their products and their businesses and so water supplies and quality. It will not accept milk from farmers that have converted marginal land into dairy pasture using oil and gas drilling waste i.e. ground rock, drilling mud (ie. fracking fluids) and lubricant fluids known as land farming. This practice has meant costly, special testing for contaminants by the company, which relies on perceptions of a safe, clean dairy industry.

### WATER QUALITY - KEY QUESTIONS

- a. Are dairy farmers and dairy companies concerned that the onshore gas industry will contaminate our water supplies ie. dams, waterways and groundwater?
- b. Does the dairy industry believe that we have sufficient good quality, independent science/data to demonstrate the safety of the onshore gas industry to enable its development to proceed?
- c. What is your dairy company’s assessment of the risks to it posed by the onshore gas industry?
- d. Does the dairy industry believe that there are adequate buffer zones to protect water quality from:
  - i. Neighbouring or nearby onshore gas developments? And;
  - ii. Horizontal drilling (up to 3kms)?

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<sup>24</sup> <http://cleanwaterhealthyland.org.au/content/appea-falsely-using-csiro-brand-misleading-fracking-pr-campaign>

<sup>25</sup> <http://www.sciencewa.net.au/topics/industry-a-resources/item/1948-environmental-affects-of-fracking-unclear-csiro-study.html>

### iii) QUALITY OF DAIRY PRODUCE

Both dairy farmers and the dairy industry are responsible for ensuring the safety and quality of their produce for human consumption. Consumer confidence in dairy food supplies and products is essential.

#### QUALITY OF DAIRY PRODUCE - KEY QUESTIONS

- a. Do dairy farmers and dairy companies believe that they can ensure the safety and quality of their supplies/products if the onshore gas industry is operating on or near their farmland (especially if Certified Organic)?
- b. Do dairy farmers and dairy companies believe that government and industry can guarantee the safety and quality of their supplies/products without costly testing if the onshore gas industry is operating on or near their farmland (especially if Certified Organic)?
- c. Will your company accept milk supplies from farmers with CSG, tight or shale gas wells on or near their land and/or their water supplies? If so, what extra costs will the farmers and your company incur for testing etc.
- d. Will your company accept milk supplies from farmers who use fracking muds and or treated water etc. disposed of/sold by onshore gas companies?
- e. What do dairy farmers and companies think about the ability of onshore gas companies to:
  - i) Drill horizontally (up to 3kms) thereby not requiring the consent/veto of landowners? And;
  - ii) Contaminate groundwater on surrounding farmland that does not have any gas wells on it and or have not given their consent/veto for horizontal drilling?

#### iv) ENERGY SECURITY

Both dairy farmers and dairy companies require a safe, secure, cheap, reliable supply of energy to operate their businesses. The dairy industry needs to balance its commitment to our Food and Agri/Tourism Industries (eg. Prom Country Cheese, Farm Stays, Factory Tours, Paddock to Plate, Farmers Markets etc.) with its requirement for a secure, cheap energy supply. However, on balance, there are better energy options available for the Dairy Industry to do this and we would welcome separate discussions on this matter.

Noel Campbell, President, Australian Dairy Farmer (ADF) recently stated: “ADF would also like the next Federal Government to commit to funding grants to assist dairy farmers undertaking energy efficiency assessments, a transition to renewable energy technology and energy efficient equipment on farms.”<sup>26</sup>

Although APPEA and the SCER Report argue that the development of the onshore gas industry is necessary for Australia’s energy security, the following points suggest the opposite:

- The onshore gas industry is a very short-term industry. Each well has a maximum production life of 15 years and the industry is only expected to last 50 years. (See media releases about the Federal Inquiry)
- Most of Australia’s onshore gas industry production is expected to be exported to meet contractual agreements.<sup>27</sup>

The New Scientist 10/08/2013 reports that in the USA, shale gas was meant to create a source of cheap, low emissions energy. However, it has meant cheaper coal prices, increased use of coal and increased emissions.

“...seduced by a false promise of cheap, plentiful energy from shale gas, we will cut back on investment in truly green, renewable alternatives...as the costs and emissions associated with shale gas rise in the future...we will end up on a costly bridge to nowhere.”<sup>28</sup>

#### ENERGY SECURITY - KEY QUESTIONS

- a. How will dairy farmers and dairy companies balance their needs for water, food, tourism and energy security into the future?
- b. Do dairy farmers and dairy companies believe that developing the onshore gas industry is the safest and most secure way of providing a reliable supply of

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<sup>26</sup> Australian Dairy Farmers ‘Election Wishlist’

[http://www.weeklytimesnow.com.au/article/2013/08/07/579059\\_print\\_friendly\\_article.html](http://www.weeklytimesnow.com.au/article/2013/08/07/579059_print_friendly_article.html)

<sup>27</sup> SCER National Harmonised Regulatory Framework on Gas from Coal Seams Report

<http://scer.govspace.gov.au/files/2013/06/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams.pdf>

<sup>28</sup> Consequences of Shale gas developments in the USA The New Scientist, 10/08/13, p 37 – 41

energy for their operations now and into the future? What other options could be investigated?

- c. What renewable energy sources are dairy farmers and dairy companies able to harness now and into the future?
- d. What initiatives have been/will be undertaken to ensure the “clean, green” image of the Dairy Industry as concerns its energy supplies?
- e. Does the dairy industry believe that development of the onshore gas industry will create a source of cheap, clean energy or the reverse as the New Scientist has stated?

## v) BUSINESS CERTAINTY

Noel Campbell, President, Australian Dairy Farmers recently stated:

“Australian dairy is one of the few agricultural sectors that fully integrate from the farm gate to manufacturing to produce a wide range of high quality, value-added products which do well in the Australian market and throughout the world.” He advocates government recognition of the contribution the Dairy Industry makes to Australia’s economic certainty and prosperity. (See Source Documents)

Gippsland’s Food Plan – Vision & Strategic Framework 2012 (See Source Documents) paints a very different future for our farming lands, food and tourism businesses that is inconsistent and incompatible with onshore gas mining and the MLUF.

The South Gippsland Council also recently established minimum subdivision rules to preserve farmlands and ensure prime agricultural land is available for long term/inter-generational food production. This land is now at risk from onshore gas mining.

Similar comments can be made about the opportunities presented by the Paddock to Plate movement and other agri-Tourism initiatives.

For dairy farmers in other Districts who rely on flood irrigation rather than spring fed dams or bores and have had their land laser graded for this purpose, the associated onshore gas infrastructure of wells, pipes, roads etc. will interfere considerably with their dairy business.

Recent dairy industry investments in Gippsland include:

- Prom Country Cheese recently received a \$250,000 Tourism Industry Regional Development Fund Grant for their agri-tourism venture with sheep’s milk<sup>29</sup>; and;
- The ViPlus Dairy development at the Bonlac Factory, Toora, which will begin to produce canned infant formula for export to China in August.<sup>30</sup>
- In addition to ongoing investments by Dairy companies eg. Burra Foods expansion.

In 2012 a new Retention License (RL) was introduced to the Mineral Resources (Sustainable Development) Act 1990 that gives CSG license holders the rights to hold a license for 10 years and renew it twice. These licenses are a precursor to a mining license, meaning, you have extractive worth but the market may not be economically viable, the technology is not evident or you need to hold area to sustain the operations

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<sup>29</sup> Prom Country Cheese agribusiness venture [www.promcountrycheese.com.au](http://www.promcountrycheese.com.au)

<sup>30</sup> ViPlus Dairy development at the Bonlac Factory, Toora, Director Leon Chen (canned infant formula for export to China) See The Star, Tues 30/7/13 p11

of an existing business. Large areas of prime agricultural land can be left in limbo for many years without due regard to ongoing existing agribusiness surety or ability to improve. E.g. Yallourn's unallocated lands

There is also increasing evidence to suggest the rapid expansion of mining industries acts to 'crowd out' other export industries by causing a sharp rise in the Australian dollar and by causing jobs shortages in trades and other areas<sup>31</sup>. For more information contact Mark Ogge<sup>32</sup> of The Australia Institute, re the Economic Impacts of Coal and Gas Onshore Mining on Other Industries.

#### BUSINESS CERTAINTY - KEY QUESTIONS

- a. Do dairy farmers and dairy companies believe that the development of the onshore gas industry will:
  - i. Assist or detract from the business environment in which they operate? And;
  - ii. Help to create an atmosphere of certainty or of uncertainty for the development of the dairy industry in Gippsland?
- b. Does your company/the Dairy Industry/Dairy farmers believe that the onshore gas industry poses acceptable or unacceptable risks to your business, local economies, our groundwater supplies and quality, dairy product supplies and quality etc.
- c. How will the Dairy Industry respond to the impacts of a major competitive industry like the onshore gas industry on their agricultural supply lands and water resource?
- d. Will the sorts of recent investments in the Dairy Industry mentioned above be put at risk by the development of the onshore gas industry? If so, what can be done to avoid this?
- e. What will dairy companies do if farmers are unable to keep supplying the quantities and quality of milk that they presently supply?

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<sup>31</sup> The Australia Institute 'Mining the Truth' report <https://www.tai.org.au/?q=node/384>

<sup>32</sup> (See Further Information –Specialist people to contact)

## vi) DECLINE IN QUALITY OF RURAL COMMUNITY LIFE

### DEPRECIATION

- The valuation of Land, Homes and Businesses (including agribusiness) depreciate significantly and are difficult to sell eg. NSW & Queensland especially Chinchilla.
- South Gippsland Council has estimated a large percentage decrease in its rate base due to this depreciation and consequent drop in its ability to provide maintenance, infrastructure and services.
- Real Estate Agents have also reported this problem.
- There is currently no requirement to declare mining licences in Victoria's Section 32s when selling a property.
- Able to be within 100metres of homes.

### EMPLOYMENT (Sectors & Job numbers)

- As demonstrated by the experience of communities in Queensland, people's rural livelihoods and rural support sectors are diminished and collapse.
- The advent of the CSG Industry is a clear disincentive for families to remain on and invest in the land and agribusiness development.
- Fly in Fly out, self-sufficient CSG teams are used at all stages of CSG development. There is little local employment creation or flow on to local businesses.
- Farming on land with CSG wells generates far less income through self-employment, employment of locals and income generation for associated sectors.
- Large regional businesses like Dairy farmers and the Dairy Industry in Gippsland are highly valued, and a respected part of our communities – the CSG Industry is not.
- Competition for/shortage of contractors for farm work
- **Please contact Mark Ogge**<sup>33</sup> from The Australia Institute. He is happy to provide statistics and evidence that the onshore gas industry does not create jobs or benefit our other local industries such as agriculture and tourism.

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<sup>33</sup> (See Further Information –Specialist people to contact).

## **COMMUNITY**

- Once robust communities, like Chinchilla and Roma in Queensland, have become dependent on the CSG Industry's financing of health, education, social, recreational and cultural services. Such communities have become at high risk of collapse as the CSG Industry is very short term with most wells producing methane for a maximum of 15 years only and the whole Industry expected to last only 50 years.

## **HEALTH**

- Various health impacts have been reported from Queensland. Animals have been adversely affected from drinking and refusing to drink contaminated bore water in CSG areas.
- People have reported many health issues associated with contaminated groundwater and air as well as noise pollution etc.<sup>34</sup>

## **LOSS OF AMENITY**

- We do not want to see the industrialisation of our farmlands, our public lands or our residential lands associated with the CSG Industry. (See aerial photo of Chinchilla, Queensland)
- Increased traffic, wear and tare on roads, potential for accidents, increased risk during fire season, earthquakes, floods, increased climate change impact etc.

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<sup>34</sup> (See Doctors for the Environment & The National Toxins Network, details in the 'Further Information' section.)

## **vii) OCCUPATIONAL HEALTH AND SAFETY, AND FARM MAINTENANCE – Key Questions**

- a. All farms are workplaces. Will unconventional gas staff abide by farm worksafe plans?
- b. If unconventional gas becomes industrialised in Gippsland do our farms then become “gasfields”? If so, what safety plans will there be from companies?
- c. Will all farm staff, private visitors, agriculture reps, livestock agents etc have to do gas industry induction courses and other safety courses to gain entry to farmers properties? If so, at whose expense?
- d. Would all farm staff have to wear gas monitors at all times whilst working on farms, particularly when in the area of gas wells?
- e. In case of accident related to gas industry, will evacuation plans and procedures be provided?
- f. Would farm staff be covered under gas industry workcover should an unconventional gas related accident happen and injuries occur?
- g. What level of first aid is required at unconventional gas worksites and farm staff working within a close area and at whose cost?
- h. Will companies provide 24-hour security? Strangers travelling on your property increase the risk of theft.
- i. How will farm bio-security issues be dealt with by companies?

### **3. THE CURRENT STATUS ON ONSHORE GAS DEVELOPMENTS**

The new Legislative Framework for all onshore gas industry developments (i.e. the SCER Report) is now with the Victorian Government. The preface to this Report states:

- “...unless a community is engaged with and supportive of operations, the industry will not be able to claim or maintain its social licence and continued operations will be unsustainable.”<sup>35</sup>

However, the Victorian Government and responsible Ministers have ignored our requests to make their processes public and to consult with communities.

The Victorian Government’s Moratorium on CSG Exploration Licences and hydraulic fracturing (fracking) is expected to be lifted shortly, when onshore gas companies are also expected to proceed rapidly with their exploration and production.

The recent Water Trigger Legislation, passed 19<sup>th</sup> June 2013, requires the Federal Environment Minister to assess the impacts of large coal and CSG mining on water resources as part of the approval process.

The 'Water Trigger' amendment to the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) allows the Federal Environment Minister to ensure there are no impacts of CSG projects and large coal mines on water resources in consideration of mining applications. However, this does not extend to other onshore oil and gas extraction for tight and shale gas.

The objectives of this Act is to provide for the protection of the environment especially those aspects of the environment that are matters of national environmental significance; and includes promotion, conservation, protection and ecologically sustainable development of natural resources.

The cumulative impacts of multiple projects can now be considered under the new “water trigger”. However, although the trigger does bring a project in for possible consideration under the EPBC Act there is no guarantee that it will be assessed under the Act nor is there certainly or guarantees that it will prevent projects from proceeding or prevent environmental damage.<sup>36</sup>

#### **THE GROWING MOVEMENT AGAINST UNCONVENTIONAL GAS IN GIPPSLAND**

The movement against unconventional gas and new coal projects has been growing exponentially across Gippsland over the last year. More than 25 community groups

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<sup>35</sup> p11 SCER National Harmonised Regulatory Framework on Gas from Coal Seams Report <http://scer.govspace.gov.au/files/2013/06/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams.pdf>

<sup>36</sup> **Please contact Tracey Anton** from Community Over Mining– about the legalities, See Further Information –Specialist people to contact

are now active across Gippsland, reflecting a wide range of community members including representation of significant numbers of dairy farmers.

The movement has been centred on the 'Lock the Gate strategy', where individual farmers refuse to negotiate access agreements with mining representatives. However, they have also been working on the development of 'coal and gas free communities,' a strategy developed by community members concerned about unconventional gas developments in New South Wales.

The strategy involves large public meetings and information sessions, followed by the surveying of entire towns, house by house, asking the question 'Do you want to declare your town unconventional gas free?' Five townships in Gippsland have currently undergone the survey, and in all cases over 95% of respondents said they wanted to protect their town from the risks of unconventional gas mining. Surveying is currently taking place in a further 14 townships. While such a declaration has no legal bearing, it clearly shows that farmers and landholders in rural areas across Gippsland are unwilling to risk their properties, stock and farms by allowing unconventional gas mining to go ahead.

Consequently there have been over 45 unconventional gas information sessions across Gippsland in the last six months, with an average attendance of about 100pax.

Thus in the last two years the growing movement have successfully:

- Raised community awareness and knowledge
- Undertaken surveys of local populations on whether or not they support the development of CSG in their areas. The survey results demonstrate that the vast majority is opposed (all surveys show more than 95% want their areas to remain CSG free)
- Gained a Moratorium on CSG Exploration Licences and the use of hydraulic fracturing (fracking) and the banning of the use of BTEX chemicals
- Written submissions to Local Councils and to the draft SCER Report
- Gained over 11,000 petition signatures that have been tabled in Parliament.
- Organised the 'Farmers Against Fracking' rally of over 1000 Gippsland residents and metropolitan supporters in the Melbourne CBD, reported widely across television, radio and print media.<sup>37</sup>

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<sup>37</sup>'Farmer's Against Fracking Rally'  
[http://www.weeklytimesnow.com.au/article/2013/08/19/579926\\_politics-news.html](http://www.weeklytimesnow.com.au/article/2013/08/19/579926_politics-news.html)

## **4. SUGGESTED ACTIONS**

### **i) DAIRY FARMER ACTIONS**

Put up a Lock the Gate sign on all farm gates to roads. This means that CSG companies & their representatives cannot trespass onto dairy farmland to gain agreement (verbal or written) for CSG exploration & production to proceed.

Contact Victorian 'Lock the Gate' coordinators and investigate how to declare your area 'coal and unconventional gas free.'

Contact local Ministers of Parliament to request Victorian Legislation give farmers the right of veto to developments including CSG on their land, the Victorian Farmers Federation's position (VFF).

Circulate "What's at Risk" leaflet. (See attached documents)

Distribute and show "Gippsland is Precious" DVD to your neighbours, friends, family etc.

Contact your local Member of Parliament and ask Why prime agricultural land is not already an Exclusion/No-go zone for onshore gas mining including horizontal drilling (up to 3kms) and adequate buffer zones to ensure that groundwater used for food production is not contaminated? This is the only way to ensure dairying keeps its clean, green image.

### **ii) DAIRY COMPANY ACTIONS**

Circulate this Briefing Paper to members at Supplier meetings etc and present this briefing paper to your next Board meeting to adopt the following or similar policy statement:

That this Dairy Company Board believes that:

The development of the onshore gas industry presents unacceptable risks to our dairy farmer suppliers and our company.

It is therefore our priority to do everything possible to ensure that our dairy farmer suppliers, company staff and management are well informed of and able to prevent the risks posed to the security of our water supply, water quality, quality of produce and certainty for our future business planning etc. by the onshore gas industry

Further, we (our dairy farmer suppliers and our company) support the VFF's position calling on the State Government to:

- Reject the Multiple Land Use Framework.
- Farmers to have veto on all onshore gas developments on their land;
- Provide adequate compensation; and;

- Make good/restore provisions to previous quality agricultural land. But how do we restore groundwater and conduct our businesses amongst “abandoned wells”?

Place the attached information flier “Coal Seam Gas – What’s at Risk?” in your company newsletter/s for staff, co-op members, suppliers and retailers

Organise a draft a Letter of Support to be published publically and returned to Coal and CSG Free Mirboo North (See Attached documents for similar such letters)

Circulate the attached Petition to staff and your co-op members for completion and return to PO Box 322 Mirboo North 3871 (See Attached documents)

Support community group actions in any way possible.

Repeat the positive actions taken by Fonterra in New Zealand.

Demand that Victoria or at least Gippsland’s and similar Foodbowl/prime agricultural land regions be declared “Exclusion/No Go Zones” for onshore gas/any mining including horizontal drilling (up to 3kms) and given adequate buffer zones to ensure that groundwater used for food production is not contaminated.

Put information about onshore gas developments, issues, actions etc on your company’s website, update regularly and include a forum /blog for farmers comments

Package/Label dairy products to advise distributors and customers of the threat to the dairy industry represented CSG, Shale & Tight gas developments; include the Lock the Gate logo etc.

Lobby government to ensure that the Moratorium on CSG is extended to include Tight and Shale gas and remains in place until adequate, independent, reliable, scientific research is completed.

Advise government that the onshore gas industry does not have a social licence to operate in Victoria/Gippsland/our food growing areas.

### **iii) CO-ORDINATED GIPPSLAND/VICTORIAN DAIRY INDUSTRY ACTIONS**

Write to the Premier & the Minister for Energy & Resources to tell them that:

- The development of the onshore gas industry:
  - Is in direct competition with the dairy industry for limited land and water resources; and
  - Represents an unacceptable risk to the dairy industry in Victoria/Gippsland.

As such, the onshore gas industry has no social licence to operate in or near Gippsland/Victoria/our food growing areas. This includes:

- Providing adequate buffer zones to ensure that land and water used for food production is not contaminated from vertical or horizontal drilling.
- Dairy farmers and the dairy industry do not believe that dairy farming can co-exist with onshore gas mining and, as such, do not support the MLUF.
- Dairy farmers and the dairy industry are a sustainable industry with a positive future contributing billions of dollars to Victoria's economy over the long term i.e. Inter-generational.
- Dairy farmers and the dairy industry already contribute financially & socially to the regional economy far more than the onshore gas industry could.
- Dairy farmers and the dairy industry would like to see further government support of the renewable energy sector as a means of reducing costs to farmers & companies and so the risks of the onshore gas industry.
- Dairy farmers and the dairy industry do not support the reuse of treated contaminated wastes including water on dairy farmlands or in dairy production.
- Dairy farmers and the dairy industry support landowners in their efforts to gain the legal right to reject/veto onshore gas exploration & production on their land.
- Dairy farmers and the dairy industry recommend the onus be put on the government and the onshore gas industry to collect independent, good, appropriate baseline data that proves the safety of these operations for our water supplies and the security of our agricultural businesses before the industry is allowed to proceed in Gippsland/Victoria. As such, the Moratorium should stay in place and be extended to include Shale and Tight gas developments (as has the SCER Report). It should also remain in place until the Federal Government's Research and Recommendations into the health impacts of the onshore gas industry are finalised (expected end 2015).
- Dairy farmers and the dairy industry demand good science then decisions not decisions then poor science like adaptive management to deal with problems as they arise in the field.
- Dairy farmers and the dairy industry demand good policy and planning based on projected world needs rather than short-term windfalls from mining and an ever increasing industrialised landscape.
- Dairy farmers and the dairy industry demand that they be directly involved in the communication and decision making processes surrounding the development of the onshore gas industry and that this information be completely open, accessible and transparent to the public.

## **FURTHER INFORMATION**

### **Specialists to contact**

*Dr. Gavin Mudd*, Lecturer, Environmental Engineering, Monash University,  
Ph: 9905 1352 or 0419 117 494 E: [Gavin.Mudd@monash.edu](mailto:Gavin.Mudd@monash.edu)

*Mark Ogge*, re the Economic Impacts of Coal and Gas Onshore Mining on Other Industries, Researcher and Public Engagement Officer, The Australia Institute  
Ph: 0421 272 884 E: [mark@tai.org.au](mailto:mark@tai.org.au) Web: [www.tai.org.au](http://www.tai.org.au)

*Tracey Anton*, Community over Mining, re Gas Mining Legislation,  
Ph: 0407 924 003 E: [tracey\\_anton@hotmail.com](mailto:tracey_anton@hotmail.com)

*Ursula Alquier*, Co-ordinator, Lock the Gate Victoria  
Ph: 0499 991 324 E: [csgfreepoowong@hotmail.com](mailto:csgfreepoowong@hotmail.com)

*Chloe Aldenhoven*, Co ordinator, Lock the Gate Victoria/ Friends of the Earth  
Ph: 0432 328 107 E: [chloe.aldenhoven@foe.org.au](mailto:chloe.aldenhoven@foe.org.au)

### **Reference Documents referred to throughout this Briefing Paper**

Murray Goulburn weighs in on coal seam

[http://www.weeklytimesnow.com.au/article/2013/08/14/579634\\_dairy.html](http://www.weeklytimesnow.com.au/article/2013/08/14/579634_dairy.html)

Latest maps of Exploration Licences held by various companies in the onshore gas industry

[www.geovic.gov.au](http://www.geovic.gov.au)

<http://www.dpi.vic.gov.au/earth-resources/explortion-and-mining/tools-and-resources/geovic>

The Chief Scientist of Australia statement 31<sup>st</sup> July 2013

[www.abc.net.au/news/2013-07-31/national-press-club-professor-ian-chubb/4856576](http://www.abc.net.au/news/2013-07-31/national-press-club-professor-ian-chubb/4856576)

The Chief Scientist & Engineer, NSW – Initial Report on the Independent Review of Coal Seam Gas activities in NSW, July 2013

<http://www.chiefscientist.nsw.gov.au/coal-seam-gas-review/initial-report-july-2013>

Southern Cross Univeristy (SCU) Researchers’ Response to the Chief Scientist & Engineer, NSW, Initial Report

<http://www.getresearch.com.au/index.php/research/mining/item/2083-researchers-welcome-chief-scientist%E2%80%99s-report-on-coal-seam-gas>

The SCER National Harmonised Regulatory Framework for Natural Gas from Coal Seams Report

SCER (Standing Council on Energy Resources)

<http://scer.govspace.gov.au/files/2013/06/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams.pdf>

The Gippsland Groundwater Atlas, published by Southern Rural Water  
[http://www.srw.com.au/Page/Page.asp?Page\\_Id=689&h=-1](http://www.srw.com.au/Page/Page.asp?Page_Id=689&h=-1)

Duke University: 'Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction'

<http://www.pnas.org/content/early/2013/06/19/1221635110.abstract>

The Southern Cross University 'Fugitive Emissions from CSG'

<http://www.scu.edu.au/coastal-biogeochemistry/index.php/70/>

List of onshore gas industry Accidents in Australia

<http://coalseamgasnews.org/wp-content/uploads/2012/10/Contaminated-sites-and-accidents-related-specifically-to-CSG-in-Australia.pdf>

The MLUF (Multiple Land Use Framework)

<http://www.scer.gov.au/workstreams/land-access/mluf/>

Horizontal drilling – “Fracking-free CSG”, The Gippsland Farmer, August 2013, p1&4. Also see the APPEA website.

The Environmental Defender's Office (EDO) request for veto

Reforming Mining Law in Victoria

[www.edovic.org.au/downloads/files/law\\_reform/EDO\\_Reforming\\_Mining\\_Law\\_in\\_Victoria.pdf](http://www.edovic.org.au/downloads/files/law_reform/EDO_Reforming_Mining_Law_in_Victoria.pdf)

The VFF request for 'right to veto' for farmers

Monday 22<sup>nd</sup> July 2013 VFF on ABCRural:

<http://www.abc.net.au/news/2013-07-22/vff-calls-for-farmer-veto-rights-on-mining/4835034>

<http://www.abc.net.au/news/2013-07-22/4834968>

CSIRO rejects claims made by APPEA regarding groundwater and coal seam gas

<http://www.csiro.au/Portals/Media/Groundwater-and-coal-seam-gas.aspx>

The Australia Institute 'Mining the Truth'

<https://www.tai.org.au/?q=node/384>

Clarke, R. 'Gas has a worse climate footprint than coal'

<http://www.greenleft.org.au/node/53313>

The New Water Trigger Legislation

<http://www.environment.gov.au/epbc/about/2013-amendments-q-and-a.html>

Gippsland's Food Plan – Vision & Strategic Framework 2012

<http://rdagippsland.com.au/wp-content/uploads/2012/07/GFP-Final-Discussion-Paper-RDAG.pdf>

<http://www.gippslandtimes.com.au/story/1592408/gippslands-food-plan/>

Prom Country Cheese Agribusiness Venture

[www.promcountrycheese.com.au](http://www.promcountrycheese.com.au)

ViPlus Dairy development at the Bonlac Factory, Toora, Director Leon Chen (canned infant formula for export to China) See The Star, Tues 30/7/13 p11

Australian Dairy Farmers 'Election Wishlist' – Renewable energy investment

[http://www.weeklytimesnow.com.au/article/2013/08/07/579059\\_print\\_friendly\\_article.html](http://www.weeklytimesnow.com.au/article/2013/08/07/579059_print_friendly_article.html)

Consequences of Shale gas developments in the USA

*The New Scientist*, 10/08/13, p 37 – 41

Community submissions to the SCER draft Report (links to each submissions are at

the very bottom of the page) <http://www.scer.gov.au/workstreams/land-access/coal-seam-gas/>

'Farmers against Fracking Rally'

[http://www.weeklytimesnow.com.au/article/2013/08/19/579926\\_politics-news.html](http://www.weeklytimesnow.com.au/article/2013/08/19/579926_politics-news.html)

## **Organisational Websites**

*Lock the Gate Alliance*

[www.lockthegate.org.au](http://www.lockthegate.org.au)

Environmental Defenders Office (EDO)

[www.edovic.org.au](http://www.edovic.org.au)

Doctors for the Environment (DEA)

[www.dea.org.au](http://www.dea.org.au)

<http://dea.org.au/search/43423be8a1a604c66912ac63f80b52db/>

National Toxins Network (NTN)

[www.ntn.org.au](http://www.ntn.org.au)

<http://www.ntn.org.au/?s=coal+seam+gas>

Friends of the Earth Melbourne

<http://www.melbourne.foe.org.au/>

## **Films and Videos**

Gippsland is Precious

<http://www.youtube.com/watch?v=WH5MS-v2prc>

Gasland, directed by Josh Fox, distributed by New Video group

<http://www.gaslandthemovie.com/>