

**Submission to: The Victorian Environment and
Planning Committee Inquiry into
exploration, extraction, production and
rehabilitation for onshore
unconventional gas**

By: Surf Coast Air Action Inc.

Introduction

1. Surf Coast Air Action Inc. (**SCAA**) is an Anglesea based group of Surf Coast residents and homeowners who are concerned about the serious risks that unconventional gas (**UCG**) exploration and development pose to our unique region's health, environment and economy.

Executive summary

2. The critical points that SCAA makes in this submission in relation to UCG exploration and development on the Surf Coast can be distilled down to the following key propositions:
 - a. UCG poses a number of serious and well recognised health and environmental risks that cannot be mitigated;
 - b. Greater Geelong sources drinking water from the Anglesea bore field, which would be put at risk of contamination by UCG exploration and development on the Surf Coast;
 - c. The unique and fragile Surf Coast environment is not a suitable location for the UCG industry;

- d. The Surf Coast community is very strongly opposed to any form of UCG exploration and/or development in the region; and
- e. The economic value of the Surf Coast to Victoria and Australia (both by way of tourism and in providing a high quality environment for a growing population) should not be put at risk by allowing UCG exploration or development.

Structure of this submission

- 3. This submission is arranged in the following manner:
 - a. Part A sets out background information about the township of Anglesea and the Surf Coast and the current UCG permits that directly affect us;
 - b. Part B addresses the specific terms of reference of the committee **(terms of reference)**; and
 - c. Part C sets out the conclusions that SCAA submits the committee should reach.

Part A

The township of Anglesea

- 4. Anglesea is a small seaside town of approximately 2,500 permanent residents on Victoria's Surf Coast. Over the summer months the population swells to over 16,000.¹

¹ Surfcoast Shire Council Anglesea Structures Plan Review Your Place Your Future Planning for a Sustainable Anglesea Background Paper 2 – Population and Housing, Final Draft, July 2011.

5. In addition to being a popular family holiday destination, Anglesea has a number of school camp facilities, which are used throughout the year by primary and secondary school children from Geelong and Melbourne. Anglesea also has a primary school, occasional care, a kindergarten and a nursing home.

The Surf Coast

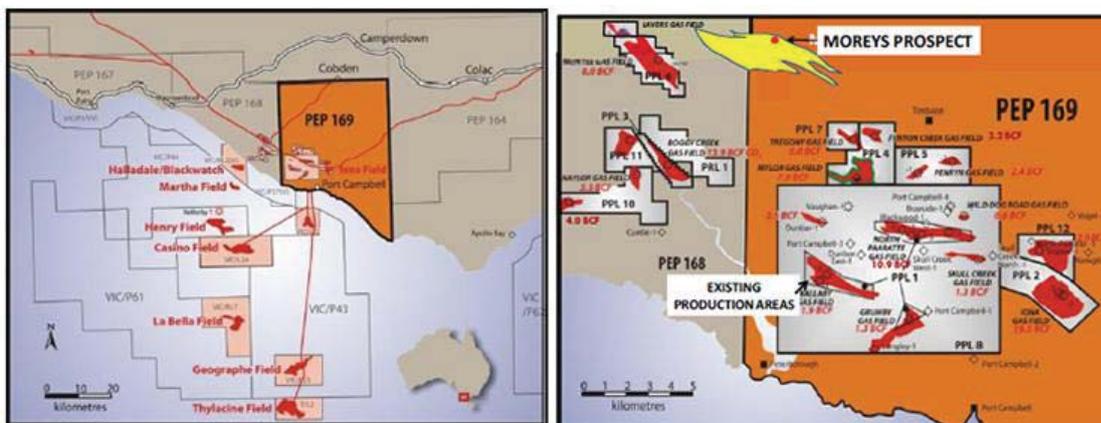
6. The Great Ocean Road (including the adjacent hinterland) is one of the preeminent tourism destinations in Australia and is well known around the world. The Great Ocean Road starts in Torquay and winds through some of the most spectacular coastal scenery on earth. Surf Coast icons include the legendary Bells Beach (home of Australian surfing) and the National Estate listed Anglesea Heath.

UCG permits on and near the Surf Coast

7. The diagram below shows the extent of Petroleum Exploration Permit PEP 163. As can be seen PEP 163 covers large parts of the Surf Coast, including the iconic townships of Anglesea and Torquay and the National Estate listed Anglesea Heath.



8. Because the Surf Coast is the gateway to the Great Ocean Road and the Great Otway National Park, SCAA is also concerned about PEP 169. The area covered by PEP 169 stretches from the mouth of the Gellibrand River east to the Bay of Islands coastal park and north through Timboon up to Cobden. See the diagram below.



PEP 169 permit has existing infrastructure and is connected to eastern Australian gas network. Moreys 1 prospect is located in a proven WNW hydrocarbon fairway.

9. Lakes Oil holds both PEP 163 and PEP 169. The company makes much of the proposition that it is not involved in Coal Seam Gas on its website,² but it appears to want to pursue other equally dangerous forms of unconventional gas on the Surf Coast.

Part B

10. SCAA makes submissions on the Committee's specific terms of reference below.

1. *The prospectivity of Victoria's geology for commercial sources of onshore unconventional gas;*

11. SCAA's concerns about UCG are principally in relation to health, environmental and economic damage. SCAA does not therefore make any submissions about the issue of prospectivity per se.

12. SCAA submits however that the issue of prospectivity must be subservient to issues of health, environment and damage to the lifestyle and tourism based Surf Coast economy.

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

- 2a. *Environmental Risks.*

² <http://www.lakesoil.com.au>

13. UCG development on the Surf Coast would result in the progressive industrialisation of an iconic and fragile part of Victoria. Gas wells, interconnecting gas and water pipelines, access roads and heavy vehicular traffic would seriously damage the Surf Coast hinterland, including farmland and potentially the National Estate listed Anglesea Heath.
14. The unacceptable risks associated with UCG are underscored by the fact that UCG exploration and development on the Surf Coast is opposed by, amongst others:
 - a. The local Federal Member for Corangamite Sarah Henderson MP;³
 - b. Surf Coast Shire Council,⁴ which is the closest level of government to the community; and
 - c. Numerous community groups on the Surf Coast and in adjacent areas, including SCAA.
15. Significantly it is State Government policy to incorporate the National Estate listed Anglesea Heath into the Otway National Park. UCG exploration and/or extraction in or near the Anglesea Heath would be completely inconsistent with this.
16. New York State recently permanently banned fracking citing *"unavoidable adverse environmental impacts and uncertainty regarding the science surrounding high-volume hydraulic fracturing and its potential impacts to public health and the environment"*.⁵ In addition energy giant AGL formally cancelled the stalled expansion of its controversial Camden coal seam gas project south of Sydney this week. These are important precedents and SCAA submits that they should be followed in Victoria.

³ <http://sarahhenderson.com.au/2015/01/28/fracking-not-welcome-in-corangamite/>

⁴ http://www.surfcoast.vic.gov.au/My_Council/Media_Releases/May_-_June_2015/Council_strengthens_gas_opposition

⁵ <http://earthjustice.org/news/press/2015/it-s-official-new-york-fracking-ban-made-final-with-release-of-43-page-document#>

17. It is significant also that similar inquiries to the committee's current inquiry have already occurred in Australia. In November 2011 for example, the Commonwealth Senate Rural Affairs and Transport References Committee conducted an inquiry and released a report titled "Management of The Murray Darling Basin Interim Report: the impact of mining coal seam gas on the management of the Murray Darling Basin." While that particular inquiry and report investigated coal seam gas (rather than "tight" and/or shale gas), many of the submissions and findings are equally relevant to the current inquiry.
18. The Senate committee noted amongst other things that: *"The coal seam gas industry is a relatively short-term prospect. Individual gas wells have a life of about fifteen years. The industry is likely to be worked out in the next fifty years. Thus the interests of the industry must not be allowed to undermine or permanently compromise the long term future of other sectors, most notably agriculture and the environment."*⁶
19. This is an absolutely critical point and is equally apposite to the current inquiry in Victoria. If the UCG industry was to be allowed to operate in Victoria any benefits would be fleeting, but the negative impacts would be long-term. A responsible government needs to protect the state and its citizens from such an outcome, which would ultimately mainly benefit the fossil fuel companies and their shareholders.
20. SCAA submits that Victoria does not really need yet another inquiry to tell us what is already well known and understood. Fracking is simply too dangerous to allow anywhere near the Surf Coast and its major drinking water aquifer. While SCAA is particularly concerned about the local PEP's (169 and 163), we submit that UCG exploration and mining should not be allowed anywhere in Victoria given the known harms already experienced by other communities. These issues are developed later in this submission.

⁶http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Completed_inquiries/2012-13/mdb/interimreport/index

2b. Land Productivity.

21. The well-documented experience of landholders in both New South Wales and Queensland provides Victoria with ample and prescient warnings of the negative impacts caused by UCG on the environment and land productivity.
22. In the Senate report referred to above, the Committee found that *“exploration for, or production of, gas has the potential to severely disrupt virtually every aspect of agricultural production on cropping lands and, in extreme circumstances, remove the land from production”*.⁷

2c. Public Health Risks.

23. With regard to public health risks and impacts SCAA is particularly concerned about, amongst other things:
 - a. Health impacts from the chemicals used in the process of UCG exploration and extraction;
 - b. The release of naturally occurring hazardous chemicals through the fracturing process;
 - c. Risks to water supply and quality;
 - d. Air pollution; and
 - e. Other effects on communities.

⁷http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Completed_inquiries/2012-13/mdb/interimreport/index

- 2c1. The potential health impacts from the chemicals used in the process of UCG exploration and extraction.*
24. UCG gas extraction involves pumping a mixture of water, sand and other additives at high pressure down a well, fracturing the coal seam or surrounding rock and sediment and providing a track for gas to flow back up the well.
25. Extraordinarily SCAA understands that there is currently no legislation compelling gas mining companies to disclose:
- a. Exactly what chemicals they use in the gas mining process; or
 - b. How much they use and how much they recover in each drilling and fracking operation.
26. SCAA is also extremely concerned about the lack of adequate regulation with respect to the chemicals used in UCG exploration and mining. This issue is discussed further below.
27. Use of industrial chemicals in Australia is regulated by NICNAS – the National Industrial Chemicals Notification and Assessment Scheme. NICNAS is Australia’s industrial chemical regulator and sits within the Federal Department of Health and Aging. It is SCAA’s understanding that very few of the known chemicals used in UCG exploration and mining have been assessed by NICNAS in terms of their impacts upon the environment and human health. If correct this is nothing short of scandalous.
28. Moreover the 2011 Senate inquiry found that, *“many submissions to the committee have suggested that the regulatory framework is not sufficiently robust, and particularly that the regulatory authorities lack the resources to*

monitor such a dispersed and complex industry.”⁸

29. There are therefore two huge health and environmental problems with respect to UCG exploration and development at the outset that cannot be ignored or wished away:
- a. No one knows what effect many of the chemicals used will have on the environment and human health; and
 - b. On top of that the regulatory framework is deficient and not properly resourced.
30. The fact that potentially toxic (and poorly understood) mixtures are being injected into the earth at high pressure to shatter rock and sediment below the water table to pursue UCG without the short and long term impacts being fully understood is extraordinary. The potential for grave harm as toxic fracking fluids gradually migrate through cracks into aquifers is obvious. The State Government should not allow this to occur in Victoria on any reasonable view.
31. In Australia insufficient information has been gathered on both the nature and doses of chemicals that are entering our air and water and the exposure of people to the chemicals as a result of UCG exploration and mining. An adequate health risk assessment is, as a consequence, not possible. Australia is, in effect, conducting a huge uncontrolled experiment with no proper idea of what the outcome may be.
32. Serious concerns have however already been raised about the long-term effects of some of the chemicals used in (or generated by) UCG mining. This includes hormonal system disruption, fertility and reproductive effects and the development of cancer.⁹ This is incredibly alarming and is enough on its own

⁸http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Completed_inquiries/2012-13/mdb/interimreport/index

⁹ Dr. Marion Carey, Coal Seam Gas: future bonanza or toxic legacy? [in] Viewpointmagazine.com.au [online] Accessed 17 February 2013 http://dea.org.au/images/general/viewpoint_issue_8_CSG.pdf

to warrant a permanent ban on UCG in Victoria.

33. The above matters compel the conclusion that allowing unconventional gas exploration and development to commence in Victoria is a recipe for disaster. SCAA submits that no government worth its salt could allow an industry to commence operating in Victoria under these circumstances.

2c2. The release of naturally occurring hazardous chemicals

34. The BTEX group of chemicals (Benzene, Toluene, Ethyl benzene and Xylene) are volatile organic compounds (**VOCs**) and are found in petroleum compounds.
35. BTEX chemicals have historically been used as fracking fluids, however the practice is now banned in Queensland and New South Wales. Irrespective of whether BTEX is present in the fracking fluid however, there is a significant risk that the fracking process itself will release toxic BTEX from sediments into the surrounding air or water.¹⁰
36. One BTEX chemical of particular concern is benzene. Benzene has been used in fracking, but it is also released as a result of UCG exploration and mining. Benzene is toxic to humans and animals and inhalation of concentrated vapors of benzene can lead to death. Lower concentrations cause immediate skin, eye and nose irritation and nervous system effects.
37. Benzene can cause bone marrow suppression and long-term exposure to small quantities is known to cause cancers, particularly leukemias. Benzene acts as a carcinogen by irreparably damaging the DNA inside cells. Prolonged exposure to benzene also leads to impaired kidney and liver function and

¹⁰ Lloyd-Smith M, Senjen R. Hydraulic Fracturing in Coal Seam Gas Mining: The Risks to Our Health, Communities, Environment and Climate. National Toxics Network. September 2011 <http://frackingfreeireland.org/wp-content/uploads/2011/08/NTN-CSG-Report-Sep-2011.pdf>

blood disorders.¹¹

38. The idea that the State of Victoria might even consider permitting BTEX chemicals including benzene to be introduced and/or released as a result of fracking is appalling. The health and well being of Victorians must be placed before the profits of fossil fuel companies.

2c3. *Risks to Water Supply and Quality*

39. The principal potential threat to health from UCG exploration and mining is the contamination of surface and ground waters, particularly drinking water sources.
40. In December 2010 (with a later review in June 2012) the Australian Government's National Water Commission included in its position statement a number of potential risks to sustainable water management associated with CSG.
41. The extract is lengthy but bears repeating, as the serious risks canvassed are also directly relevant to tight and/or shale gas exploration and mining.

“Extracting large volumes of low-quality water will impact on connected surface and groundwater systems...Impacts on other water users and the environment may occur due to the dramatic depressurisation of the coal seam, including

- changes in pressures of adjacent aquifers with consequential changes in water availability*
- reductions in surface water flows in connected system*
- land subsidence over large areas, affecting surface water systems, ecosystems, irrigation and grazing lands.*

¹¹ ATSDR Benzene <http://www.atsdr.cdc.gov/tfacts3.pdf>

*The production of large volumes of treated waste water, if released to surface water systems, could alter natural flow patterns and have significant impacts on water quality, and river and wetland health. There is an associated risk that, if the water is overly treated, 'clean water' pollution of naturally turbid systems may occur. The practice of hydraulic fracturing, or fracking, to increase gas output, has the potential to induce connection and cross-contamination between aquifers, with impacts on groundwater quality. The reinjection of treated waste water into other aquifers has the potential to change the beneficial use characteristics of those aquifers. In addition to these water management risks, CSG development could also cause significant social impacts by disrupting current land-use practices and the local environment through infrastructure construction and access. The Commission is concerned that CSG development represents a substantial risk to sustainable water management given the combination of material uncertainty about water impacts, the significance of potential impacts, and the long time period over which they may emerge and continue to have effect.*¹²

42. SCAA submits that the inquiry should take note of (and place significant weight on) the detailed analysis of the National Water Commission. There is no need to reinvent the wheel - the work has been done.
43. Mining companies (who have an obvious interest in fracking being permitted) typically tell government and communities that their wells are constructed in such a way that ensures there can be no migration of gas to neighboring bores and aquifers. However, the 2011 Senate Inquiry found that *"Restrictions on drilling in particularly sensitive aquifers and on certain production techniques such as fracking might be necessary...The committee has seen examples of land degradation caused by seepage from extracted water storage ponds, leaking gas pipes, untreated water seeping into watercourses*

¹² National Water Commission. Position Statement on Coal Seam Gas and Water
<http://www.nwc.gov.au/nwi/position-statements/coal-seam-gas>

and erosion caused by poorly installed pipelines.”¹³

44. Accumulation of contaminants in aquifers can have long-term impacts and studies on the transport and fate of VOCs have found that they can persist in aquifers for more than 50 years and can travel long distances, exceeding 10 km.¹⁴ The implications of this for the Surf Coast and its drinking water aquifer are self evident.
45. Then there is the additional concern about what will happen after the mining companies and their profits are long gone. By way of example even if mining companies were hypothetically able to maintain their wells to avoid gas migration during the ‘active’ phase of exploration and mining, who will ensure that the wells are maintained to ensure that no gas migration can occur after the mining companies leave? This is a huge concern. The community and the State could well be left with a toxic and expensive time bomb that will continue to create problems for decades to come.
46. It is important to note that these concerns are not merely theoretical for the Surf Coast, as Barwon Water extracts drinking water for the Greater Geelong region from the Anglesea bore field. The Anglesea bore field consists of 7 production bores across 2 sites that tap into the Lower Eastern View Formation — a vast underground aquifer around 700 meters below the surface, stretching from the Otway foothills to the Southern Ocean.¹⁵
47. It is well known that connectivity between aquifers can be extremely complex and hard to predict. A good example is the Melbourne City Link Project, where important aspects of connectivity between aquifers were not identified until after construction began. This necessitated a major redesign¹⁶ to avoid, amongst other things, potentially disastrous results due to the potential

¹³http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Completed_inquiries/2012-13/mdb/interimreport/index

¹⁴ Diaz-Cruz M, Barcelo D. Trace organic chemical contamination in ground water recharge. *Chemosphere* 2088;72:333-342.

¹⁵ <http://www.barwonwater.vic.gov.au/projects/anglesea-borefield>

¹⁶ <https://newsroom.unsw.edu.au/news/dig-how-construct-melbourne%E2%80%99s-metro-tunnel-safely>

dewatering of inner areas of Melbourne located on highly reactive Coode Island silt.

48. That this occurred notwithstanding large numbers of boreholes and a huge amount of testing and analysis by internationally recognised experts demonstrates that it is impossible to be confident about connectivity between aquifers at the planning stage of even a major construction and engineering project in a well studied urban area. If this is the case for a major infrastructure project the risks are magnified many times where fracking is proposed in geology (and hydrogeology) that is much less well understood.
49. It follows that fracking anywhere near the Lower Eastern View Formation (or anywhere near any aquifer that may have connectivity with the Lower Eastern View Formation) would be fraught with unacceptable risk. As was noted earlier contaminants can migrate in excess of 10 km. This would require a huge quarantine zone around the Anglesea bore field to allow for an adequate margin of safety and would effectively mean that fracking in any part of PEP 163 may be unfeasible for this reason alone.
50. In circumstances where Australia is already an extremely dry continent (and is increasingly being impacted by climate change) any action or step that places a drinking water aquifer at risk would be nothing short of grossly negligent. The committee should reject any self-serving submissions to the contrary by UCG proponents.
51. SCAA's view is that given the very unfortunate experiences of other communities (both in Australia and internationally) the Victorian Government should exercise due care and impose a permanent ban on UCG exploration and mining. Further, fracking anywhere near the Anglesea bore field would be inexcusable under any circumstances and ought be ruled out by the committee and the Victorian Government as a matter of urgency.

2c4. Air Pollution

52. UCG mining and extraction is also associated with methane leakage. Methane is a colourless, odourless and flammable gas that displaces oxygen in the blood stream of mammals, causing asphyxiation in closed environments. Methane is also flammable at concentrations as low as 1% in air and is one of the most potent greenhouse gases. Methane can also cause symptoms of tiredness, headaches and dizziness.¹⁷
53. VOCs can be released during drilling, methane separation, and by compressors and other equipment. Fracking chemicals and wastewater held in evaporation ponds can evaporate into the local atmosphere and be inhaled. In addition to direct effects, VOCs can contribute to the production of ground-level ozone, a known respiratory irritant that causes lung inflammation and impaired lung function.¹⁸
54. The Surf Coast community has only recently won a 46-year battle to free itself from the toxic emissions of the Anglesea coalmine and plant, which will permanently close on 31 August 2015. The prospect of residents and visitors being exposed to toxic pollutants emitted by another fossil fuel industry is intolerable and is not something that the Surf Coast community will ever accept, particularly in circumstances where there is no social license for the UCG industry to operate.

2c5. Effects on Community

55. Dr Steve Robinson (a psychiatrist practicing in the Hunter Valley) documented the community impacts of UCG extraction in a personal submission to the

¹⁷ http://toxtown.nlm.nih.gov/text_version/chemicals.php?id=92

¹⁸ Brown V. Putting the heat on gas. *Environ Health Perspect* 2007;115:a76.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1817691/pdf/ehp0115-a00076.pdf>

2011 Senate inquiry into unconventional gas.¹⁹

56. Anyone who doubts the corrosive impact of UCG exploration and extraction on communities would do well to read Dr Robinson's submission and its account of the impacts of UCG on vulnerable communities. By way of example only:

"Exploration is when the psychological stresses are first noticed in the community.... uncertainty starts to generate community anxiety.... The community starts to divide between the few who see it as an opportunity for an additional income and the larger number who hear the risks and see little in the way of benefits.

Seismic surveys come and go with some damage to paddocks, heavy vehicle traffic ruining country roads, and noise. Drilling occurs with the same complications. The town takes on a different look...Lifetime plans are put on hold or cancelled. Property development in the area declines as a result of the general uncertainty.

Rental property is more expensive...The gas company employs very few locals. Exploration wells are fracked to optimize the flow and the wells are flared for months. There is no explanation of the risks and precautions taken in these fracking and flaring operations. There is no publicity given to any air or water testing. There have been at least two separate unpredicted explosions locally due to gas migration known to the community from just a dozen exploration wells...This results in understandable anxiety about safety risks. In Gloucester this first phase has taken 5 years so far and production has yet to commence".²⁰

¹⁹[http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/ba6e0623d71d072aca25790d000ac77c/\\$FILE/Submission%200098.pdf](http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/ba6e0623d71d072aca25790d000ac77c/$FILE/Submission%200098.pdf)

²⁰[http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/ba6e0623d71d072aca25790d000ac77c/\\$FILE/Submission%200098.pdf](http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/ba6e0623d71d072aca25790d000ac77c/$FILE/Submission%200098.pdf)

57. Inevitably the same impacts described by Dr Robinson will be felt in Surf Coast communities if UCG exploration and extraction is allowed to commence in our region. Again, it is critical that Victoria looks, listens and learns from the experience of other communities and places a permanent ban on UCG exploration and mining. It would be tragic (and inexcusable) if the mistakes that have been made elsewhere were repeated in Victoria.

2d. Risk mitigations and residual risks of onshore unconventional gas activities

58. The fact is that UCG exploration and mining cannot be undertaken without significant and unacceptable risks as these submissions have outlined.

59. The Queensland Government reported that in just the first six months of 2011 there were forty-five CSG compliance related incidents. This included twenty-three spills of CSG water during operations, four uncontrolled discharges of CSG water, three exceedances of discharge limits, three overflows of storage ponds and other incidents relating to vegetation clearing and BTEX contamination.²¹ No doubt the offenders had all confidently claimed that their operations could be carried out without risk if they were licensed to extract UCG, but the reality shows otherwise.

60. Some observers have called the global gas-drilling boom, “*an uncontrolled health experiment on an enormous scale*” and have noted “*communities living near hydrocarbon gas drilling operations have become de facto laboratories for the study of environmental toxicology*”.²² SCAA concurs with these assessments and submits that the risks of conducting such a gargantuan UCG experiment are unacceptable for the Surf Coast or any part of Victoria.

²¹ Queensland DERM http://www.derm.qld.gov.au/environmental_management/coal-seam-gas/pdf/csg-Ing-compliance-update1.pdf

²² Bamberger M, Oswald R. Impacts of gas drilling on human and animal health. *New Solutions* 2012;22:51-77 <http://baywood.metapress.com/media/6p8qdjyylk5tucvkybrl/contributions/6/6/1/4/661442p346j5387t.pdf>

61. As was noted earlier the fact that the Surf Coast could potentially be exposed to the unacceptable risks of UCG shortly after ridding itself of health and environment damaging coal mining and combustion makes matters even worse.
62. Moreover the Anglesea community's unhappy experience of living with large scale coal mining and combustion for some 46 years has caused it to be extremely wary of the assurances and claims made by both mining operators and regulators.
63. It has been SCAA's experience (and this is mirrored by the experience in other communities around Australia) that polluting industries often seek to:
- a. Avoid transparency about the pollution generated by their operations and community scrutiny; and
 - b. Erroneously characterise the pollution limits imposed by government and regulators as being "safe" thresholds that they can pollute up to, notwithstanding the fact that many pollutants are known to have no safe level of exposure.
3. *The coexistence of onshore unconventional gas activities with existing land and water uses, including —*
- (a) agricultural production and domestic and export market requirements;*
 - (b) the legal rights of property owners and the impact on property values; and*
 - (c) any implications for local and regional development, investment and jobs*
64. The potential risk of toxic substances contaminating the air, soil and water of the otherwise clean agriculture of the Surf Coast region is obvious for the

reasons discussed previously. Less obvious (but equally real) is the inevitable reputational damage that producers will suffer simply by being associated with the polluting UCG industry.

65. One only needs to look at aerial photos of communities pock marked with gas wells and blighted by access roads and gas infrastructure to appreciate the inevitable impacts that UCG causes to both amenity and property values. See the photo below for example.



66. Great Ocean Road tourism contributes over two billion dollars annually to the local, state and national economies²³ and the Surf Coast/Greater Otway region is one of the premier tourist destinations in Australia. If UCG exploration and mining is allowed to proceed it will place that multi billion-

²³ <http://www.g21.com.au/great-ocean-road-upgrade>

dollar tourism industry (and the large-scale employment that it supports) at grave risk.

67. Taking such an unacceptable risk cannot be justified under any circumstances, let alone for a polluting industry that will at best bring fleeting benefits to a narrow section of our community. It would be a classic case of killing the goose that laid the golden egg and it is imperative that the Victorian Government avoids such a massive blunder.

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

- (a) *an ability to provide a competitive source of energy and non energy inputs for Victorian industries;*
- (b) *an affordable energy source for domestic consumers; and*
- (c) *carbon dioxide emissions from these sources;*

68. Leaving aside the obvious risks (that have already been discussed) SCAA is skeptical that gas sourced through UCG will deliver significant benefits to businesses or consumers, particularly if significant volumes of UCG sourced gas are sold into the international market as appears likely to be the case.

69. Moreover the unreasonable delay that has occurred in moving away from polluting coal power to clean renewable energy means that the window of opportunity to use gas as a “transition” fuel has largely closed if the world is to avoid the worst impacts of climate change.

70. SCAA submits that the Victorian State Government should throw its full weight behind the renewable energy industry rather than pandering to fossil fuel interests. This is particularly important given that any economic benefits that flow from UCG are likely to be short-lived, while the damage that it will inevitably cause is likely to be long term and, in some cases, permanent. By way of contra distinction large-scale clean renewable energy investment will produce a great deal of ongoing employment as well as clean (and zero cost) energy in perpetuity.

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

(a) *further scientific work to inform the effective regulation of an onshore unconventional gas industry, including the role of industry and government, particularly in relation to rigorous monitoring and enforcement, and the effectiveness of impact mitigation responses.*

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

71. SCAA repeats the submissions that it has made earlier on the unacceptable risks of UCG exploration and extraction. On any reasonable view UCG exploration and development should not be permitted in Victoria until it can unequivocally be proven to be safe. This is clearly not the case at present and it is submitted that it would be nothing short of negligent for the State of Victoria to permit a UCG industry to be created under these circumstances.

6. *Relevant domestic and international reviews and inquiries covering the management of risks for similar industries including, but not limited to, the Victorian Auditor-General Office's report Unconventional Gas: Managing Risks*

and Impacts (contingent upon this report being presented to Parliament) and other reports generated by the Victorian community and stakeholder engagement programs.

72. Fracking is already the subject of either temporary or permanent bans in many regions and countries around the world.²⁴ There are very good reasons for this as SCAA has touched upon in these submissions. Further (as knowledge of the risks of fracking increases) the list of countries and regions where the practice is banned appears likely to grow exponentially.
73. To adapt a well-known metaphor, allowing the UCG industry to operate in Victoria will be a case of frack in haste and repent at leisure. Victoria still has the opportunity to avoid this undesirable outcome and should grasp that opportunity.

PART C

Conclusions

74. As SCAA has explained in these submissions UCG exploration and mining would expose Victoria's iconic Surf Coast to many unacceptable health, environmental, social and economic risks.
75. It is submitted that no government that is serious about looking after the welfare of its citizens can countenance a UCG industry in this state in view of the known and unknown risks of UCG. It follows that:
- a. The committee should find that UCG exploration and development

²⁴ <http://www.protectlimestonecoast.org.au/summary-of-countries-that-have-taken-action-against-fracking-may-2015/>

should be permanently banned in Victoria as a whole;

- b. If the committee is unwilling to go that far, it should certainly find that UCG should be banned permanently in sensitive and vulnerable areas such as the iconic Surf Coast; and
- c. The committee should recommend that the Victorian Government immediately allay community concerns by announcing that UCG exploration and development will never be allowed anywhere near the Anglesea bore field under any circumstances.

76. Dr Jacinta Morahan and Andrew Laird of SCAA would be happy to expand upon or clarify any of these written submissions should that assist the committee.

9 July 2015

Surf Coast Air Action Inc.

Organisation Number A0061201T.