

The Select Committee on Unconventional Gas Mining

13 March 2016

Please accept this submission on behalf of Stop Coal Seam Gas Blue Mountains, a group of approximately 450 people sharing concerns about the dangers of unconventional gas exploration and exploitation.

We are very pleased to learn that the committee will be investigating the adequacy of Australia's legislative, regulatory and policy framework in relation to unconventional gas as the inadequacy of this supposedly protective framework has allowed the industry to cause enormous damage to land, water and health. We will briefly address most of the points in your terms of reference but not necessarily in the order you have presented them.

- The health, social, business, agricultural, environmental, landholder and economic impacts of unconventional gas mining

The unconventional gas industry brings with it a huge list of problems, most of which it is incapable of resolving or remedying. Our governments and regulatory authorities are either unable or unwilling to effectively intervene and the industry continues in its destructive path. We will list just a few of the inherent problems with the extraction of unconventional gas:

Vast quantities of produced water, often containing highly toxic fracking chemicals must be processed and disposed of but no safe method of disposal has yet been found; lowering of the water table occurs with the continuous removal of water from coal seams, depleting water supplies and allowing methane to be indiscriminately released; flaring produces toxic gasses and is the cause of noise and light pollution; methane and fracking chemicals can migrate into other aquifers and streams and pollute drinking water; 6% of gas wells leak immediately and 60% after 30 years and thereby contribute to global warming as well as adverse health effects; unconventional gas sites industrialise rural communities and access roads and enclosures cut local access, destroy the natural beauty of areas and cut off wildlife corridors; pipelines have similar effects and create the risk of leaks and explosions; compressor stations create noise and air pollution; other industries, such as farming and tourism severely suffer; all sites require heavy vehicular traffic which is highly invasive for local communities and damaging to local roads; home owners in the vicinity can find themselves trapped: unable to sell their houses and having to endure the ill effects of the industry; finally, the industry delays the expansion of renewable energy and thus directly and indirectly contributes to climate change.

There is no shortage of research revealing the negative health and environmental impacts of unconventional gas activities, particularly coming from the USA where the industry has spread most extensively over a longer period. A group of academic physicians, scientists and engineers have conveniently reviewed the available research on the subject. Reviewing nearly 300 publications of the original research over the 2014-15 period, 84% of

research papers reported an indication of potential risks or adverse health outcomes; 69% reported an indication of potential, positive association or actual incidence of water contamination; and 88% reported an indication of elevated air pollutant emissions and/or atmospheric concentrations. (J. Hays & S.B.C. Shonkoff, *Toward an understanding of the environmental and public health impacts of shale gas development: an analysis of the peer-reviewed scientific literature, 2009-2014*, PSE Working Paper 12, 2014, Revision June 2015)

Australian researchers have also produced compelling evidence on the adverse health impacts on residents living near unconventional gas operations.

A General Practitioner, GERALYN MCCARRON, surveyed 113 people in a major gasfield area of Queensland, Tara. She found that 58% of residents reported that their health had been adversely affected and 19% were uncertain. A wide range of symptoms, often related to damage to the nervous system, were reported including severe fatigue, weakness, headaches and numbness. Almost all of the children reported suffering headaches, most of which were severe. (**Symptomatology of a gas field: An independent health survey in the Tara residential estates and environs**, April 2013)

Another Australian study worthy of the Commissioners attention is **CSG and your health: understand the risks, protect your family – A report on CSG and shale gas mining** by Dr. Wayne Sommerville. It outlines the various dangers unconventional gas mining poses to physical and mental health and finds our current government agencies inadequate in identifying the problems.

Unfortunately, and possibly conveniently, no baseline air, water or health monitoring studies are done before state governments permit the spread of unconventional gas activity close to homes. This makes it difficult for researchers to attribute cause and easy for the gas companies to claim no guilt, no responsibility.

AWA/Deloitte periodically produce their State of the Water Sector Report for which water industry professionals around Australia are surveyed about various issues impacting on water quality. Their October 2014 survey asked “How much of a risk do you think unconventional gas extraction is to the overall management of ground and surface water?”

In ACT, NSW and Queensland, the states most heavily impacted by CSG extraction, 97% of respondents consider unconventional gas poses a threat to water resources, with 74% believing the risk to be significant to moderate. (AWA/Deloitte, **State of the Water Sector Report**, October, 2014, p. 28)

Doctors for the Environment have conducted their own research into the health impacts on communities affected by unconventional gas. Their findings, published in **The health factor: Ignored by industry, overlooked by government**, 2013 are damning both of the industry and government processes and are recommended reading for Committee members.

The economic benefits the unconventional gas industry claims it creates for local communities are vastly exaggerated. The Australia Institute (TAI) have unpicked many of its erroneous claims. Looking at the Queensland experience, they found only 6% of people living in gasfield areas think that the industry has improved their lives. They note Australian Bureau of Statistics have found that in May 2015 the entire oil and gas industry

in Australia employed 27,500 Australian workers, ie less than a quarter of 1% or less than Bunnings. The construction phase accounts for most of the employment and when that finishes up to 80% of workers will have to go. They also note that the gas boom produced virtually no employment in other sectors of the economy. In fact it damages the manufacturing sector which competes with the gas industry for labour. Long term jobs in manufacturing are sacrificed for short term jobs in the gas industry. (Mark Ogg, *Be careful of what you wish for – the economic impacts of Queensland's unconventional gas experiment and the implications for Northern Territory policy makers*, The Australia Institute, November 2015.) In another publication, TAI expose the vastly exaggerated job figures the industry claims to produce. They claimed to have produced 100,000 jobs in 2012. However, the Australian Bureau of Statistics figures show that the whole of the oil and gas industry in August 2013 employed only 21,700 people. (Matt Grundnoff, *Fracking the Future: busting industry myths about coal seam gas*, **The Australia Institute**, March 2014)

- Compliance and penalty arrangements;

Governments largely rely on self-reporting of problems in this mostly self-regulating industry. This is a totally inadequate situation in any industry but especially so in one that can cause such huge and permanent environmental damage. When infringements occur fines are insignificant compared to the ability of the company to pay and the damage caused, eg \$15,000 to AGL for its Camden gas leak, and \$1,500 to Santos for polluting a nearby aquifer in the Pilliga with uranium 20 times higher than safe drinking water standards. Santos incurred a \$52,000 fine for not reporting serious spills of wastewater into a creek and woodland and kangaroos drowning in a water storage area. There were 16 spills or leaks of contaminated water involved over several years. (Peter Hannam, *AGL slapped with \$15,000 fine for Camden coal seam gas release*, **Sydney Morning Herald**, 6/3/15; **EPA Media Release**, 18/2/14, *Santos fined \$1,500 for water pollution*; Vicky Validakis, *Santos fined \$52,000 for ground water spill*, **Australian Mining**, 10/1/14) If fines are meant to be a deterrent, then they need to be adequate to the purpose.

- The unconventional gas industry in Australia as an energy provider;

The unconventional gas industry is not needed in Australia and the panic about running out of gas promoted by the gas companies unjustified. Their arguments about having to import gas are also absurd as the gas, like apples or oranges, are imported from other states. Supplies of conventional gas are more than adequate to power the country for decades, certainly until renewable sources come on line. In fact AGL in recently announcing its intention to phase out its coal seam gas operations, maintained that it would have access to sufficient conventional gas to supply its residential and small business customers. (AGL Media Release, *Review of gas assets and exit from gas exploration and production*, 4/2/16)

- The current royalty and taxation arrangements associated with unconventional gas mining.

Australia gains little by way of taxation from oil and gas industries based here. As Mark Ogg of The Australia Institute observes

“The oil and gas industry in Australia is over 80% foreign owned, which means that over 80% of the profits go directly off shore. It imports almost all its equipment and pays very low rates of tax. The theoretical company tax rate in Australia is 30%. All industries are able to claim exemptions and the average effective company tax rate of all industries in 2011/12 was 17.6%. That year the oil and gas industry in Australia paid an effective company tax rate of 5.4%.” (*Be Careful What you Wish for: the economic impacts of Queensland's unconventional gas experiment and the implications for Northern Territory policy makers*, Discussion Paper, November 2015, p.)

State governments heavily subsidise mining industries. The Queensland government poured \$7 billion in subsidies to the coal and coal seam gas industries over 5 years. (John McCarthy, *Coal and gas paid \$7 billion in subsidies*, **The Courier Mail**, 16/3/12) An international study reports that the Australia is subsidising fossil fuel production to the tune of a gigantic \$5.6 billion a year. (Sophie Vorrath, *Australian fossil fuel subsidies put at \$5.6 billion a year in a new report*, **The New Economy**, 12/11/15)

When one considers the sizeable subsidies the industry receives, it is no exaggeration to say that the Australian taxpayer is funding the industry, especially when the costs of remediating the industry caused environmental damage and drain on the health budget are taken into account. All such factors should be taken into account when consideration of the supposed economic benefits delivered by the industry.

- A national approach to the conduct of unconventional gas mining in Australia;

We would suggest that a national approach is well overdue and that state/territory governments should lose legislative power over mining applications.

Something is clearly wrong with the current system when the Northern Territory government can issue licences for almost the entire Territory. Large swathes of Queensland and NSW have also been allocated for non-conventional gas operations despite the clear evidence of negative impacts. Licences are approved without research to show that the exploration and extraction of unconventional gas can be done safely. Governments do not conduct this type of research before approving licences and no baseline data is collected in order to assess the impact of these operations after approval. Only after the damage is done, independent researchers, as cited above, have to try to assess the impact of the operations on local populations and the environment.

Governments would need to commission environmental impact statements and bill the applicants. The EISs currently commissioned by mining companies aren't worth the paper they are written on. It is clearly not in the economic interests of the environmental consultants to provide evidence which would mitigate against a project going ahead if they want to be commissioned to perform further work for the company.

The inability of state governments to police the inadequate system that currently operates is clear. The industry is essentially self-regulating, companies are tardy in reporting problems, if they report them at all, and the public find out often well after damage is done.

The Environment Protection Authority discovered that a coal seam gas field within 200 metres of residents in the Sydney suburb of Camden experienced two significant and four major gas leaks in a three month period. It found that one in ten of the well heads in the

gasfield were leaking methane gas, despite an inspection by AGL just months earlier reporting no leaks. This information was not made public and only obtained by local residents under Freedom of Information legislation. (Peter Hannam, *Leaks found in at almost one in 10 CSG wells at Camden*, Sydney Morning Herald, 19/10,2014) The Camden residents have reported significant health impacts (personal communication, 7/7/15) after the gas operations began in their area. They are not only denied protection from the government but are actually hindered in their efforts to find out the truth.

Disposal of massive quantities of waste water from non-conventional gas operations is a huge unsolved problem for operators and unfortunately licences are granted with no solution to this problem in mind. Spills of waste water in holding tanks after heavy rain polluting adjoining areas are too numerous to list. Transpacific, with the contract to dispose of Santos' waste water from its Narrabri project, took a novel approach to the problem and unlawfully released it into the Hunter's sewer network. They did the same with waste water from AGL's Gloucester project. The Environmental Protection Authority intervened but only after the damage was done. (M. McGowan, *Waste water investigation underway*, Newcastle Herald, 23/12/14) These post hoc interventions are the norm rather than the exception.

AGL's waste water was then sent to a processing facility in Windsor which has recently refused to take further shipments as it has from AGL's Camden operations. (Peter Hannam, *AGL loses second outlet for treating Gloucester waste water*, Sydney Morning Herald, 17/2/15) Another site in western Sydney has been found but local residents understandably are resisting this move.

There is currently no safe way to dispose of such wastewater. Until there is clearly no further licences should be granted. The Environmental Protection Authority in conjunction with the Department of Resources and Energy should be responsible for ensuring that safe disposal is possible before licences are granted.

The process of fixing the current system heavily weighted in favour of the unconventional gas companies must involve ensuring a distance between regulatory authorities and the companies. One aspect of this is the significant cross-pollination between those who set unconventional gas policy at state and federal level and those who profit from it, ie the companies. In some cases the flow goes the other way. At a time when the unconventional gas industry is looking less certain due to its dire financial situation, it could let die a natural death and one would hope that those in government overseeing its future would be independent of the companies. Unfortunately that is currently not the case. (Anne Davies, *CSG Industry hires well connected staffers*, **Sydney Morning Herald**, 25/5/15)

Doctors for the Environment (op cit, p.8) came to a similar conclusion, arguing

“Powerful lobby groups and experts such as hydro-geologists move between industry and government.....The close alignment between industry and state government is often at odds with the needs and desires of communities.”

Stop CSG Blue Mountains agree with Doctors for the Environment's assessment that “current regimes are failing Australians badly. In their zeal for economic growth and

revenue, State Governments approve project development with scant regard for human health” (p. 26) and we would add environmental health. We also agree with their assessment that “proper health impact assessments and national oversight are crucial and long overdue.” (cover page)

Thank you for considering this submission.

Jan O'Leary
Stop CSG Blue Mountains