

SUBMISSION: INQUIRY INTO THE LANDHOLDERS' RIGHT TO REFUSE (GAS AND COAL) BILL 2015

“At what point does preliminary evidence of harm become definitive evidence of harm? When someone says, “We were not aware of the dangers of these chemicals back then,” whom do they mean by we?”—Sandra Steingraber, Living Downstream (Da Capo Press, 2010)

In the second reading senate speech¹ regarding the “LANDHOLDERS' RIGHT TO REFUSE (GAS AND COAL) BILL 2015 Senator Larissa Waters said:

“Alarming, the human health impacts of fracking are also very poorly understood although mounting evidence shows that they can be severe. Gas leaks caused by faulty equipment and fissures in the earth, as well as contaminated drinking water are unacceptable risks for our rural communities to endure. In the gasfields of Queensland, at Tara and Chinchilla, residents have reported headaches, nose bleeds, skin rashes and nausea amongst children. In March 2013, a report² into those complaints recommended that an air quality monitoring program be established, but two years later those residents are still waiting.”

Should landholders (and indeed the community) have the right to refuse Coal and Gas on their land? Conversely should the defacto arrangement continue where landholders and communities are required (by the Governments who have given the permits to the resources industry) to accept the intrusion and be “forced to negotiate merely the price of entry”?

Governments have a duty of care to the people they have been entrusted to govern. That duty of care should be at the forefront of all decision making.

In an environment where the state governments have abandoned the precautionary principle allowing resource companies unfettered access, at what point in time will those individuals elected as representatives of the Australian people be held responsible for the harms suffered by the Australian people?

- Will it be when fair warning has been given regarding the risk of contaminated food entering the food chain, and the animal deaths, still born calves, congenital defects and failure to breed in animals has been documented?
The peer-reviewed study³ documenting these outcomes has been freely available for three years.
- Will it be when the risks to the workers have been acknowledged: the physical risks of lung cancer and chronic disease from the fracking sand, and the immense mental health impacts, suicides and family disruption brought about by the FIFO culture?
This destructive aspect of the resources industry^{4,5} can no longer be hidden.

- Will it be when it is known that children born in areas of intensive gas development have a 30% increased rate of congenital heart defects compared to children born in areas with no gas wells within 10km? This large peer reviewed study⁶ from Colorado has already been published.
- Will it be when it is has been shown that babies born within 2.5km of a gas well had lower birth weight and more health problems than babies born within 2.5km of a well that was planned but had not been drilled? That study⁷ came from Cornell University. In the USA a low birth weight/ preterm infant incurs an average of \$15,000 additional hospital costs in the first year of life. Each low birth weight infant is fifty percent more likely to require special education services as well as having lower life-time earnings.
- Will it be when it is shown that chemicals released during gas extraction interfere with human reproduction? A review⁸ of 150 studies concluded that the chemicals released during natural gas extraction may harm human reproduction and development with strong evidence of decreased semen quality in men, higher miscarriage in women, and increased risks of birth defects in children.
- Will it be when the extreme air pollution caused by the resources industries is accurately measured and documented⁹ in the peer-reviewed literature? In remote and rural Utah, which is far from major urban and industrial regions but is the site of major oil and gas development, air pollution over two consecutive winters far exceeded that in the most heavily polluted inner cities. It was 10 to 100 times worse than the average US city. The volatile organic compound emissions was the equivalent to the annual emissions from 100 million cars.
- Will it be when the health impacts of outdoor air pollution are internationally recognised, including that outdoor air pollution causes cancer? In 2013 the World Health Organisation¹⁰ defined outdoor air pollution as a class I carcinogen. Diesel fumes, benzene, particulate matter all cause cancer. The health danger of particulate matter is well understood. Particles, if small enough, can be absorbed from the lungs directly into the bloodstream causing damage to multiple organs. This include lung damage, strokes, heart attacks, kidney damage, diabetes, hypertension. With particulate matter, as with benzene, there is no safe level of exposure¹¹ or a threshold below which no adverse health effects occur. Air pollutants react to form other harmful compounds. Ozone is formed when the oxides of nitrogen and volatile organic compounds combine in the presence of sunlight. Ozone can permanently damage children's lungs. A study¹² by the University of Southern California of fourth grade school children found that each increase of 20 parts per billion in ozone was associated with a 63% school absence rate increase for illness.

Data from the National Pollutant Inventory¹³ ably demonstrates the rapid escalation of emission of these harmful air pollutants from the gas and coal industries in Australia.

- Will it be when it is known that children are not just little adults¹⁴, and that in children the risks of exposure to low level toxins is not well understood?
Occupational health standards cannot be applied to children. The level of risk which is considered acceptable for exposure of an adult 80kg worker to a single toxin over an 8 hour working day cannot be extrapolated to an unborn baby or infant exposed 24hours a day to a mixture of toxins, many of which are unidentified. Some chemicals can affect the endocrine system at extremely low levels. Children and unborn babies are most vulnerable. In pregnancy and early infancy chemicals can cause permanent brain damage¹⁵ at levels of exposure that would have little or no adverse effect in an adult.
- Will it be when it has been shown that women who are exposed to high levels of fine particulate air pollution in late pregnancy have twice the risk of having an autistic child?
This study¹⁶ from Harvard University was published in March 2015.
- Will it be when there is proof that exposure to diesel fumes actually changes human DNA?
That published evidence¹⁷ has been available since December 2014.

Politicians are elected and paid to serve the interests of the Australian people. With regard to coal and unconventional gas development, just as with asbestos, it could perhaps be justifiably said that at one point in time no one really knew what the true implications were. However there comes a tipping point in terms of knowledge and culpability for decisions made.

It is unconscionable that with the evidence of harm freely available in the medical literature, landholders (and communities) in Australia do not have the legal right to prevent the coal and gas industries coming in over the top of them.

The landholder's right to refuse coal and gas mining activities on their land and a ban on the practice of fracking¹ for coal seam gas, shale gas and tight gas as well as underground gasification is an absolute minimum requirement at this point in time.

The period of theoretical risks is, in Queensland, long gone. We are now living with the dreadful reality. Even with the systematic refusal by the Queensland Government to indulge in any science based approach, such as gathering baseline data, setting limits on emissions, monitoring emissions, monitoring for

¹ "Fracking" as used in the colloquial sense to mean the entire process of unconventional gas or oil development and production.

health impacts, measurement of exposure levels of residents to toxins, the adverse impacts can no longer be hidden or ignored.

- As with gas fields in the USA¹⁸, people in Queensland coexisting with the gas industry have been consistently reporting¹⁹ health impacts: nose bleeds, headaches, rashes, cough, abdominal pains, and neurological symptoms.
- Impacted landholders in Queensland have reported their bores have dropped by 70 metres and are unusable. Stock and domestic bores are “kicking” with explosive levels of gas²⁰. Community bores have been shut down.²¹ This is in an area where during periodic drought access to groundwater is essential.
- Collected rainwater which, when available, is often used throughout rural Queensland for all domestic purposes including drinking, has repeatedly been found to be contaminated with heavy metals^{22,23}, hydrocarbons, and radioactive materials.
- The Condamine River²⁴ has been bubbling with flammable levels of gas.
- Stock animals have been dropping dead²⁰.
- Biosecurity: Farmers report²⁵ agricultural properties have been destocked due to noxious weeds such as African lovegrass, spread by the activities of the CSG companies.
- Volatile organic compounds at 5% per volume has been measured on residents’ verandahs.
- Methane at 85% per volume has been measured coming off high point vents situated close to family homes.
- Due to government policy of “coexistence” families in Queensland gas fields who have had no legal right to refuse gas development are effectively trapped within a massive gas processing plant encompassing thousands of wells, central processing plants, water treatment plants, reverse osmosis plants, evaporation ponds, regional ponds, frack ponds, scrubber stations, field compressor stations, wet and dry flares, high point vents, low point drains, condensate tanks, high voltage power grids, water gathering lines, gas gathering lines, high pressure pipelines, multiple access roads and the fumes from thousands of heavy vehicle movements.
- Surrounding Hopeland, a region of prime agricultural land, there is an exclusion zone of 320square km where farmers have been forbidden to dig a hole deeper than 2 metres. The soil is contaminated²⁶ with high levels of hydrogen sulphide, carbon monoxide and hydrogen.
- Untreated coal seam gas water has been deliberately disposed of on Queensland roads. In Queensland also, untreated coal seam gas waste water and drilling muds as well as raw human effluent has been deliberately disposed of on agricultural land in the middle of a flood plain²⁷. There has been no attempt to provide scientific data to justify this supposed “beneficial usage”. An equivalent scheme by AGL in Northern NSW using CSG water for irrigation was found to be “unsustainable”²⁸ and ended after regulators found it left behind unacceptably high levels of salts and heavy metals.
- Emergency crews have recently battled to contain a spill of hydrochloric acid²⁹ at a CSG site at Woleebee on the Darling Downs.

- Radioactive sources have used inappropriately on farmland in the Darling Downs³⁰, and the landholder on whose property this incident occurred was not even informed³¹.

And yet landholders have no legal right to refuse gas and coal.

In tabling the "LANDHOLDERS' RIGHT TO REFUSE (GAS AND COAL) BILL 2015, Senator Waters has attempted to correct a very serious wrong.

In December 2014, New York State banned HVHF on the grounds of public health³². The Public health doctors who authored the report on which this decision was based were looking at the "entire process of natural gas well development and production" This Public Health document which I have attached as part of my submission contains 90 pages of references and abstracts from studies which informed the report.

Howard Zucker, New York's acting health commissioner said the study had identified "significant" public health risks.

Dr Zucker went on to say: *"I asked myself, 'would I let my family live in a community with fracking?' The answer is no. I therefore cannot recommend anyone else's family to live in such a community either."*³³

That is the standard of care that should be applied in Australia.

Dr GERALYN MCCARRON
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