Submission on Santos Environmental Impact Statement (EIS) for Narrabri Gas Project
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Australian citizens should not have to yet again explain to regulatory authorities and politicians why the kind of gas field industrialisation proposed for the Narrabri and Pilliga region makes no economic, social, or environmental sense. This development represents a dire threat to the well-being of our country and people, and should be rejected for all time.

There are two diametrically opposed forms of risk management evident in the debate about gasfield industrialisation; and an understanding of risk management principles and practice is essential to understand the Santos EIS.

Risk management is the process of thinking systematically about all possible risks before they occur, and setting up procedures to avoid the problem or mitigate any impact. Proper cost/benefit analysis is a reasoned consideration of all the potential costs and benefits of a proposed development. 'Duty holders' have a legal and moral obligation to ensure the safety and well-being of others by exercising due diligence and considering all potential risks; even those which they do not know about.

The Victorian Government demonstrated traditional risk management when in August of 2016 they permanently banned the exploration and development of onshore unconventional gas in the state. The Victorian Government said that they took this action to 'protect our farmers and preserve Victoria's reputation as a world leading producer of clean, green, high quality food'. They explained that their policy was based on 'the best available evidence' and concluded that 'the risks and lack of community support outweigh the benefits for Victoria'.

Most Australian citizens agree with the assumption of the Victorian Government that managing the risks of operating gas fields is about protecting people and the environment from harm. They expect cost/benefit analyses to consider costs as well as benefits, and think that the duty of care rests with politicians and company executives. Consequently, it comes as a shock when they realise that gas companies like Santos and its political supporters in the NSW Government see things very differently.

The NSW Government appears set to apply a different interpretation of risk management from that employed by the Victorian Government. The NSW Government has introduced legislation that reduces to trivial levels penalties for breaches by the gas industry, while imposing a maximum seven-year jail sentence and huge fines on citizens who lock on to impede gas mining operations. In doing this, the NSW Government has signalled a willingness to inflict great personal, social, and political turmoil on the community in order to promote the interests of a powerful minority of miners.

The risk that Santos and its political promoters seek to manage is not the harm that gas mining might cause people or the environment. Rather, they aim to protect company profits, their post-political careers, and perhaps some short-term government revenue. The threat they fear is that the public will realise that the proposed development would impose catastrophic costs for the community and the environment.

The Santos EIS is not 'risk management' as the term is properly understood, but rather a ponderous attempt to manipulate opinion, distort evidence, and obscure the truth. For the Santos management, their duty of care extends only to themselves and their shareholders; hence their recent statement that in planning operations they assume a 4° increase in global temperatures because this is best for their company's bottom line.

After years of operating in Queensland's Darling Downs, it is disgraceful that Santos does not offer any genuine scientific evidence to demonstrate that their CSG mining operations are safe. Rather, they continue to avoid scientific data and rely instead on a self-described 'desktop study'. The Santos EIS contains no real-world information and has no data comparing environmental or human health prior to and after operating gas fields. The document fails to address the fact that for many gas field pollutants only very limited information and no suitable human health guidelines are available.

In regulatory contexts, the burden of proof is usually understood to rest with those seeking to profit from doing something that exposes the public to potential risk. For instance, when a pharmaceutical company wants to sell a new medication to the public, they have to demonstrate the safety and efficacy of their product with studies that compare health data taken before and after people use the medication.

Demonstrating the safety of their gas mining operations would have been simple for Santos. All they had to do was collect independent baseline health and environmental data before drilling began, and compare this to data obtained after their Darling Downs gas fields were operating. But of course, Santos and government agencies have avoided baseline testing of health and the environment. The apparent reason for this negligence is that if there's no baseline measure of conditions before drilling began, then regardless of how dirty and dangerous things become later on, the industry can deny responsibility and claim that there's no proof that people weren't as sick, or the countryside as polluted, before they turned up.

Nonetheless, if Santos was genuinely motivated to do the right thing, they could have obtained environmental and health data from any subsequent years to use for comparison. But they never did this. Consequently, they have no evidence that their operations are safe. This lack of evidence does not mean that it is alright to compel children to live in gas fields; it merely indicates negligence and an appalling lack of genuine risk management principles and practices.

The Santos EIS does not warrant a detailed analysis; its flaws, distortions, and errors are readily apparent. But I will discuss a few areas of special note.

Air Quality

According to the Santos EIS:

> "The main potential impacts to air quality from the project include the potential for localised dust generated during construction, along with oxides of nitrogen from gas processing facilities and associated equipment during operation."

In reality, the industrial processes referred to by the EIS create massive amounts of air pollution that go way beyond the 'localised dust' and 'oxides of nitrogen' that Santos refers to.

Santos know, but want to obscure the fact, that it takes a lot of energy in the form of electricity and diesel to drill and pump water and chemicals into and out of kilometres of wells and seams, and then to treat and transport the gas.

For instance, reports to the Australian National Pollutant Inventory indicate that, not including fugitive emissions, the pollutants released into the atmosphere in one year (2011 to 2012) by the Kenya Processing Plant and Compressor Stations in Tara, QLD included 520,000kg of Carbon monoxide, 47,000kg of Formaldehyde, 840,000kg of Oxides of Nitrogen, 2,700kg of

10.0 um Particulate Matter, 2,700kg of 2.5 Particulate Matter, 690kg of Sulfur dioxide, 110,000kg of Volatile Organic Compounds, and 17,000kg of Fluoride compounds.

And the Kenya plant is not exceptional. During the same reporting year, the Windibri Processing Plant and Compressor Stations in Condamine, QLD released into the atmosphere pollutants including 500,000kg of Carbon monoxide, 42,000kg of Formaldehyde, 850,000kg of Oxides of Nitrogen, 8,300kg of 10.0 um Particulate Matter, 8,200kg of 2.5 um Particulate Matter, 640kg of Sulfur dioxide, and 99,000kg of Volatile Organic Compounds.

Of course, the Santos EIS only deals with the initial stage of a planned multi-gasfield development. To get an idea of what the future would be like if Santos gets its way in Narrabri and the Pilliga, we need to look where the CSG industry is most developed, Queensland's Darling Downs.

National Pollution Inventory data from 20 CSG facilities show that over a one-year period (2013-2014) the pollutants emitted into the Darling Downs atmosphere included 1,383 tonnes of volatile organic compounds, 13 tonnes of acetaldehyde, 2.2 tonnes of BTEX (benzene, toluene, ethylbenzene, and xylenes), 241 tonnes of formaldehyde, 8,788 tonnes of carbon monoxide, 12,189 tonnes of oxides of nitrogen, and 2,325 tonnes of particulates. That's equivalent to an average daily dose of 3.8 tonnes of volatile organic compounds and 6.4 tonnes of particulates that the CSG industry vents into the air above the Darling Downs.

As you would expect, even limited air sampling by the Queensland Government with summa canisters over brief periods from July to December 2012 found detectable levels of diverse compounds, including the volatile organic compounds hexane, propene, chloromethane, dichlorodifluromethane, methylene chloride, ethanol, acetone, methyl ethyl ketone, acrolein, and vinyl acetate. Passive air samplers also detected VOCs including pentane, hexane, heptane, tetradecane, hexadecane, heptadecane, cyclohexane, 2-methylbutane, 3-methylpentane, 3-methylhexane, methylcyclohexane, tetrachloroethylene, 2-ethyl-1-hexanol, ethylacetate, benzene, toluene, xylene, ethylbenzene, 1,2,4-trimethylbenzene, phenol, benzothiazole, naphthalene, and alphapinene.

In addition, as Santos states, "Safety flares, required for the safe management of gas, will need to operate continuously." Calling the continuous venting of air pollution "safety flares" is a manifestly deceptive attempt to minimise the seriousness of a risk to the health of citizens who work and raise children in the Narrabri area.

In brief, it is absurd, dangerous, and untrue for the Santos EIS to claim that 'the main potential impacts to air quality from the project include the potential for localised dust generated during construction, along with oxides of nitrogen from gas processing facilities and associated equipment during operation."

CSG Waste Water

According to the Santos EIS:

> "Beneficial reuse of treated (CSG waste water) water will occur through irrigation, stock watering, dust suppression, and construction. As the water extracted during operations will be treated to a quality consistent with that of groundwater typically used for irrigation throughout the region, there are no expected impacts."

This flawed and dangerous argument has been repeated too many times already by the gas industry. It might be a creative business plan - build gas fields and then sell the treated waste

water back to farmers who lost their bore water because of the gas mining - but it would create a disastrous legacy for the ages. The New South Wales EPA pulled the plug on AGL's trial of using treated waste water from their CSG operations in Gloucester to irrigate farmland when it became apparent that the practice led to a build up of heavy metals and other pollutants in the soil.

CSG wastewater certainly needs to be treated. For instance, the CSG waste water produced by AGL's operations in Camden contain, at levels exceeding Australian drinking water guidelines, such dangerous substances as arsenic, strontium, barium, nickel, lead, bromine, iodine, fluoride, methane, naphthalene, benzo(b)fluoranthene, benzo(a)pyrene, benzene, and 'total petroleum hydrocarbons'. But reverse osmosis filtration cannot remove all dangerous pollutants.

The Santos EIS ignores a waste water related issue that Emeritus Professor Chris Fell described as 'the elephant in the room': what are they going to do with the prodigious amounts of concentrated, highly poisonous substances that will be filtered out of their CSG wastewater? This is no small pachyderm, and Santos does not explain where they will dump this dangerous material.

Salt from CSG Water Treatment

In their EIS, Santos say that:

> "There would be a longterm average of around 47 tonnes per day of salt generated during the water treatment process, with a peak of around 115 tonnes per day in years two to four." "Fifty tonnes per day equates to just over one B-double truck load."

What possible plan does Santos have for getting rid of the B-double truck load of salt that will be produced every day? Again, this is no small elephant that will sit quietly in the corner of the room. It's more like a rampaging bull that will do damage where ever it goes.

Well Integrity

The Santos EIS claims that:

> "The integrity of the well cement and casings in addition to the naturally occurring hydraulic separation of the shallow beneficial aquifers from coal measures by the confining layers between them, prevents potential migration of the groundwater from the target coal seams to beneficial aquifers, wells, bores, and watercourses."

Neither well construction nor the "naturally occurring hydraulic separation" of subsurface geology cited by the Santos EIS can mitigate the risk of migration of water from the target coal seams to contaminate water sources used by humans and animals.

In gas wells, the diameter of the drilled hole and the inserted steel pipe narrows with increasing depth. At 1,000 meters the gap between rock and pipe is about 1.9 cm (¾"). In order to prevent methane and other gases from escaping into the atmosphere via the borehole, and to block gases and liquids moving between rock layers, aquifers, and the depressurised gas seams, miners have to seal the space between pipe and rock with cement for all eternity. Steel pipes in gas wells come with a two-year warranty; there's no warranty on the cement.

A gas well consists of many sections of pipe joined together. Joins leak, steel rusts, and cement crumbles. Some wells leak from the start. All wells fail eventually. And in the real world things don't always go to plan.

The following Metgasco drilling notes from the NSW Department of Industry, Resources and Energy's Digital Imaging of Geological Systems (DIGS) website give citizens a rare insight into what can go on when gas miners attempt to seal the 'anulus', the ring-like space between pipe and rock, in a gas well.

> Issue #14 - Riflebird E4 (Lost Circulation; Loss of integrity). Pumped 2200 litres of grout into annulus but did not get a return to surface; took another 3000 lt without any return to surface; another 400 l with swelling pellets; 'It is obvious we have very little if any grout seal around the casing'; grouted; added Tuff swell, bran etc; still no returns to surface; used 'lost circulation material'; pumped bentonite and shredded paper to penetrate cracks; gas metre went into alarm mode 'off scale'; hole spurting air and water; volumes of gas (© State of New South Wales through the Parliament of New South Wales).
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> Issue #15 - Riflebird E5 (Lost Circulation; Intercepted large water flows; Borehole collapse). Early problems with sand & gravel; lost circulation completely @ 98-100m; losing drilling mud to the formation; broke suction due to mud pits collapsing and losing mud; The site is a mess. The mud pits are a mess. See what tomorrow brings. Caving clay & sand well collapsed ~96m; Large water flow 25 lt/sec @ 92m; unable to air drill; hole blockage@716 m (© State of New South Wales through the Parliament of New South Wales).

The Magic Geological Barrier - Aquifer Contamination and Fugitive Emissions

The Santos EIS resurrects a nonsense that's been around since the early days when industry graphics routinely showed a thick black 'impenetrable barrier' supposedly protecting the human and animal life above from the gas mining operations below.

As the Santos EIS puts it:

> "The assessment concluded that for significant impacts to occur to shallow groundwater and surface water environments … from subsurface activities, interformational leakage from coal seam depressurization would have to propagate through a thick stratigraphic sequence above the target coal seams, which contains confining layers with very low permeability. This means leakage would have to move up through numerous very impermeable layers. This is considered to be highly unlikely." (Appendix T2 Health Impact Statement p 40)

While the opinion of the authors of the Santos EIS is nonsense, their comments do serve to introduce important issues that are not properly addressed in the company's documents.

Bringing water from deep underground to the surface frees up previously bound gases which, as intended, move up the well. But this has consequences. De-watering gas-bearing seams creates an unknowable network of new and previously existing cracks and faults. The most obvious effect of this geologic turmoil is lowered water tables and depleted farm bores. While the drop in groundwater that Santos is predicting for the Narrabri area is nowhere as dramatic as the 65m drop they predicted by 2028 for the level of groundwater in Bowen Basin gas fields, it puts the lie to their misleading claims about the protection offered by geologic strata. Where do they think the groundwater goes? It doesn't just disappear: it finds its way

downwards through naturally occurring fissures and cracks to the zone of negative pressure created by the depressurising of gas-bearing strata. And if water can make its way downwards, gas will work its way back up to the surface.

It is standard practice for gas companies like Santos to avoid independent measurement of methane concentrations in the air above gas fields. Rather, they only estimate fugitive emissions with formulae that calculate leakage from valves and seals and such. This tactic is a blatant attempt to obscure what is perhaps the most dangerous consequence of operating unconventional gas fields - a catastrophic release of methane into the atmosphere. Thankfully, we have peer-reviewed research that outlines the risk.

In 2012 Dr Isaac Santos and Dr Damien Maher recorded atmospheric methane concentrations as they drove the 500 kilometres from Lismore's Southern Cross University to the Tara gas fields in Queensland's Darling Downs. Their instruments showed concentrations about the current global average of 1.8 parts per million until they approached Tara, where methane and radon readings increased threefold. Australia set a new world record with methane levels of 6.89 parts per million, exceeding the previous highest reading from a Siberian gas field. The methane to CO_2 isotope ratio indicated that these emissions were coal seam gases, as were the bubbles that have turned the Condamine River into a spa.

The scientists discovered that a blanket of methane of unknown thickness extends tens of kilometres around Tara. Why is there a landscape-scale venting of coal seam gases into Tara's air? According to the researchers, 'In natural conditions, methane is contained within the coal seam by water pressure…(in CSG mining) we get lowering of the water table, horizontal drilling, fracturing, infrastructure leakage, but our evidence suggests that we also have leaks through the soil as well, and these leaks through the soil are not counted in any fugitive estimates'.

In 2016 US scientists found that the 'global burden of atmospheric methane has been increasing over the past decade'. When they examined measurements of methane in the air above the United States, they discovered that from 2002 to 2014 - the period corresponding to America's shale oil and gas boom - methane emissions had increased by more than 30%. The scientists concluded that this increase in methane emissions accounted for '30 to 60 percent of the global growth of atmospheric methane in the past decade'.

Methane is colourless and odourless; you can see it venting in the Condamine River because it bubbles through water. In 2016 NSW Greens MP Jeremy Buckingham clicked a stove lighter over the side of a boat and set the Condamine River on fire. The Condamine River has been bubbling methane since 2012 and, according to CSIRO's Professor Damian Barrett, the rate of gas flow had increased over the 12 months prior to Mr Buckingham's boat trip and near barbeque. A spokesperson for Origin Energy, a local CSG miner, advised that 'the seeps pose no risk to the environment, or to public safety, providing people show common sense and act responsibly around them'.

How will history judge the current NSW Government if it gives Santos the go-ahead to turn the beautiful, but fragile and precious waterways around Narrabri into bubbling methane spars? Will it be enough for them to run television advertisements warning the people of Narrabri to not light matches near rivers?

Contamination of Aquifers

In the Executive Summary opinion of the authors of the Santos EIS,

> "The risk of spills and leaks of produced water affecting surface water quality was assessed to be low due to the design, construction, operation, management and monitoring of water infrastructure."

There's no genuine risk assessment evident here; only a blithe denial of reality.

Have the authors of the Santos EIS truly forgotten that the NSW EPA confirmed contamination of an aquifer by one of their own faulty waste water holding ponds? In this incident, CSG waste water leaked through a torn plastic pond liner to contaminate an aquifer with high levels of lead, aluminium, arsenic, barium, boron and nickel, and uranium levels 20 times higher than safe drinking limits.

Are they not aware that AGL terminated its CSG operations in Gloucester not long after a January 2015 report that monoethanolamine borate had been found in water samples near their pilot CSG gas field?

Cost/benefit Analysis

It's the people threatened or injured by gas mining who see it as a bad thing. In and around Narrabri, rural landowners and people in town face the prospect of being compelled to live, work, and raise families surrounded by gas fields. The sense of threat created by invasive gas development triggers the fight-or-flight response. If this ancient protective strategy works to remove the danger, then all will be well. But if the threat persists and no effective problem solving takes place, stress, anger, and depression can set in.

For affected rural people, the diminished quality of their lifestyles and the loss of control over their land can create shock. Anxiety and grief, complicated by disturbed sleep due to noise and light pollution, can result in debilitating symptoms of psychopathology.

Country people often feel a bond, a spiritual connection, to the land they work and care for. When miners damage the land they love, country people suffer distress and 'solastalgia' (a loss of solace). For people who care, their grief and powerlessness to protect their land cuts deep.

The unconventional gas industry also harms the physical health of people who have to live in gas fields. Dangerous chemicals used and liberated by gas mining expose communities to a mix of persistent, bioaccumulative, toxic, carcinogenic, mutagenic, teratogenic (agents that interfere with embryonic development), and hormone disrupting pollutants. These can seriously injure health in very low concentrations, even down to parts per billion.

Of special concern is the release of great amounts of endocrine (hormone) disrupting chemicals. In our bodies, tiny amounts of hormones control basic functions such as digestion, growth, emotions, sexual development, reproduction, sleep, and the immune response. About one hundred of the chemicals used in gas mining are known or suspected hormone disruptors. Exposure to tiny amounts of these substances can profoundly damage health and increase the risk of birth defects, cancer, and neurological and other diseases, especially in children. Health effects can be unpredictable and delayed, and can remain hidden for decades and span generations.

Children are like sentinels because they're more vulnerable than adults to gas field pollutants, and are likely to fall ill first. Relative to adults, kids are closer to the ground and are more often active outside. They drink more water, breathe more air, and eat more food per kilo of body weight than do adults. And children have more years left to live, which puts them at

greater risk of illnesses such as cancer that take decades to develop. As was the case with thalidomide, children are particularly sensitive to gas field pollutants during critical stages of development. A mother's contact with pollutants during pregnancy, and even the exposure of the mother and father prior to conception, can affect a child's health.

In gas fields, dust and particulates produced by mining and burning diesel are especially dangerous because they hydrate and bind to toxic chemicals in the surrounding air. When inhaled, these particulates take chemicals deep into the body. If particles that fall to the ground are tracked into the house, people can inhale them after vacuuming. Exposure to particulates is implicated in a range of illnesses including autism, cardiovascular disease, and cancer: there's no safe level, and risks are greatest for sensitive groups such as the elderly and children.

The Economics of the Narrabri Gas Project

It's expected that the authors of the Santos EIS try to talk up the economic benefits, while ignoring the costs that would be borne by the community and the environment. Of course people who profit from the industry see gas mining as a good thing. It can generate income for company executives, shareholders, and employees; and the financial benefits can ripple out to contractors, hoteliers, and others; at least until the end of the construction phase, when like Chinchilla and Hopeland in the Darling Downs, a grim reality dawns.

The CSG industry cannot be integrated into functioning regional economies. Turning rural landscapes into gas fields compromises established farming, tourism, forestry, fishing, and rural residential industries. Gas mining inflicts considerable costs, including lowered land values. For a farmer's family, their home and land is often their major asset and the legacy they leave their children. The induced loss of land value represents a compulsory transfer of intergenerational wealth from farming families to mining companies.

But is increased economic activity necessarily a good thing in itself? Burning Narrabri to the ground would generate income for builders, brickies, and Bunnings, and boost the 'gross national product'. But does that mean such an act would be in the community's interests?

But beyond such considerations, how is it that Australia will become the world's largest exporter of liquid natural gas when Santos can't turn a profit or repay its billions of dollars of debt?

Why was Santos caught short by the escalating costs and disappointing yields from Darling Downs' gas fields: a realisation that induced them to buy up gas from around the country, thereby creating the current *faux* "gas crisis".

What has the NSW Government learned from the Queensland experience where tax deductions negotiated by Martin Ferguson guarantee that taxpayers in the state will get little by way of gas royalties for decades to come?

Can we trust a company like Santos that has deliberately created the record high prices that Australians have to pay domestically for their gas?

Santos created a debacle in Queensland, and now it wants the NSW Government to willingly jump into the quagmire. If we do not heed the mistakes of the past in Queensland, we will be doomed to recreate them in Narrabri and the Pilliga. It is important to understand the corporate culture of Santos and the psychology of their past and current management.

Santos was at the forefront of the push to rapidly develop the CSG industry in Australia. As they are doing again in NSW, in the early days in Queensland they flooded media with promises of profit and wealth. They make vague estimates that the gas in Narrabri could provide half of the state's needs, without giving any assurances as to what NSW citizens will have to pay for the privilege. In the early days, Santos used propaganda to sell their plan to go very deeply into debt on the assumption that record high prices for gas would last forever. But of course, it is always risky business to bet heavily that any commodity will be worth as much next year when others cash in on unusually high prices.

In 2011, Don Voelte, then chief executive officer of Australia's largest petroleum producer Woodside said 'Come back and check four or five years from now…I think one of the greatest things I will have achieved is not taking my company into coalbed methane'. When he checked in again in September 2014, Mr Voelte said 'Queensland LNG doesn't add up'. He described the industry as 'a big bet' and a process 'with no pilot and no test'.

But the reasons for the gas industry boom and bust go beyond irrational exuberance, gambling, and poor management by Santos executives. Rather, their fervour then, and now, more resembles a 'cargo cult'.

In the South Pacific during World War II, islanders saw the incredible wealth - clothing, medicine, food, and other goods - that airplanes delivered for the Japanese and American troops. The Islanders response was based on an accurate observation: when the foreigners built runways and did certain things, treasures arrived from the sky. So the Islanders abandoned their gardens; why work when cargo from the sky makes you rich? They set about building crude landing strips and planes made of straw. They paraded with rifle-shaped sticks, wore replicas of headphones carved from wood, and made airplane noises. They lit fires to mark makeshift runways.

The Santos and other Australian gas cultists didn't look to the sky for wealth; they knew the cargo comes from holes in the ground. But, like the Islanders, they only saw the obvious, but didn't understand what was really going on. The Santos gas cultists were willing to sacrifice their country's best agricultural land; why farm when drilling for gas will make us rich, they reasoned. They set about building replicas of what they had seen overseas. Only one export train was required in Gladstone Harbour, but the companies insisted on three to be sure they'd get their share of the treasure. They drilled and drilled, built pipelines and factories, chanted magic mantras - 'we want CSG', 'rivers of gold', 'jobs, jobs, jobs' - and paraded around at conferences and on television. Politicians crafted word spell legislation. And then, as they waited for the cargo to arrive, gas and oil prices fell with increasing worldwide supply and diminishing demand, and the truth got out.

Concluding Comments

The high tide of gas mania has passed. Our companies and governments have achieved their aim of establishing a huge export gas industry that has brought domestic gas prices to the high overseas levels. But not all of the gas companies are fools and charlatans.

Australian Gas Light had the good sense to voluntarily get out of their Gloucester CSG debacle. And AGL continues to point the way for politicians who want to do the right thing by their voters. As AGL executives recently explained, they see an energy future that leapfrogs the supposed need for gas as a 'transitional fuel'. AGL has announced that it is considering a gas import facility in NSW because this would enable them to supply cheap imported gas for their NSW customers.

The real motive behind the Santos Narrabri Gas Project is unclear. It seems unlikely that their desperately unprofitable gas business can be saved by digging themselves into an even deeper hole. There is no reason to expect that, if realised, the Narrabri and associated gasfield developments would not be yet another Santos induced disaster for rural Australia. Some speculate that the goal is to gain approval that can be sold off to interests such as the communist Chinese Government who might see such an investment as a worthwhile addition to their 'soft power' strategy in Australia.

I hope that Premier Gladys Berejiklian and her responsible ministers sniff the wind of public opinion and do the right thing by themselves and the citizens they represent. History will judge this government harshly if they seek to impose 'mining by martial law' to line the pockets of a powerful few, while the community is left to pay the true costs in unnecessary suffering, illness, and death inflicted over decades.

Yours faithfully,

Dr Wayne Somerville