

Date: 8 May 2017

NSW Department Of Planning and Environment

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This is a submission to the Narrabri Gas EIS.
I object to this project.

The project is the largest development ever proposed under the modern planning system, and four times the size of the only other two CSG projects assessed and approved in NSW.

Santos proposes up to 850 wells on 425 well pads over 95,000 hectares. This is more than four times the size of either of the previously approved CSG projects in NSW. The proposal includes a gas processing facility for compression dehydration and treatment of gas, a water management facility for storage and treatment of produced water and brine, possible additional power generation on site, continual flaring (burning off of gas) at two locations, an infrastructure corridor through the forest between Leewood and Bibblewindi, expansion of worker accommodation, discharge of waste water into Bohena Creek, irrigation with treated water and landfill burial of tens of thousands of tonnes of salt.

The rural Queensland experiences around the town of Myalls shows that Coal seam gas industries do not coexist with small town and rural communities. The relationship is force and the destruction and irreparable changes for the worst of lives, communities and economies should not be the collateral damage to a gas project that has a business model that by its own admission expects to be working in a fossil-fuel induced climate that increases our planet by 4 degrees.

Depression and suicide are major issues amongst rural families living in or with the threat of a gasfield. Coexistence is not "get out of the way- the Gas company is here."

The wording is clear and any government that approves this developer is not working with the country in keeping with our Government's Paris Climate Change commitments.

"The pathway that we adopt is the 4 degree pathway".

That was Peter Coates, the chairman of one of Australia's largest and most controversial oil and gas companies, Santos, at the company's Annual General Meeting in Adelaide on Thursday.

This startling revelation came in response to a question about what scenario analysis the company had conducted, and whether the results of such analysis would be disclosed to shareholders...."

<http://reneweconomy.com.au/4-degrees-separation-santos-proves-gas-not-climate-solution-87779/>

Gas is NOT a transition fuel in 2017. Those days have passed. It is well known as a contributor to global warming through leakages.

A report from the [Energy Transitions Commission](#) concluded that gas production can grow by just 2% to 2040, in order to limit warming to 2°C. And that is predicated on drastically reducing methane leakages.

With Maules Creek and much of the North West under PELs there is a bewilderment within the

community at a time of climate crisis this fossil fuel; greenhouse gas producing project could be forced on a community.

Our local and regional communities are ready and can see a way through the climate crisis by sourcing energy from renewables- solar and battery storage.

It is known in North West NSW that in the first quarter of 2017 the gas businesses and their PR companies used the SA blackouts to justify CSG expansion into NSW to feed their Curtis Island LNG export terminals.

The poor business decisions of Santos to move from a domestically orientated conventional gas producer/supplier to an exporting unconventional or csg company should not and must not be borne by the Narrabri gas project and ultimately our region's community and economy.

- 1 It will extract over 35 billion litres of toxic groundwater, much of it in the first five years. This water will be treated and in the early years will generate tens of thousands of tonnes of salt, for which there is no safe disposal plan.

Santos has spent much of this EIS trying to convince the Decision makers, that this Project will not impact the environment- waters, the air, the fauna and flora and the people on and close to the surface of the Great Artesian Basin in an area known as the Southern Recharge of that Basin, and that this Project is not going to affect that area in any way.

I agree that the Gas and produced extracted water heavy in salts is coming from the coal layers within the Gunnedah/Oxley Basin and that this basin runs under the GAB.

And that this extracted gas and water are both treated and stored as well as being distributed in one form or another on top of the GAB (Projects Infrastructure and disposal).

The area that this EIS covers is termed the Southern Recharge of the Great Artesian Basin and is a MAJOR RECHARGE AREA for that basin, otherwise it would have another descriptive terminology.

Therefore I see that the Narrabri Gas Project is LOCATED in a MAJOR RECHARGE AREA.

Santos appears to be not acknowledging the importance of this area in which the Project, if given the go ahead, will operate.

The Narrabri Gas project will clear close to 1,000 hectares of the Pilliga Forest, fragmenting the largest temperate woodland in New South Wales, home to unique wildlife.

The level of the disturbance area is too great. Aspects of the ecosystem will be left orphaned or alienated by the industrialization of the land.

I have witnessed the destruction and alienation of tracts of biodiversity in and around the Leard Forest and it is devastating. I understand what is facing the Pilliga community in this phase of the development but of course this is only step one for the North West of NSW.

Irreplaceable values must be prioritised over this projects- a grab at a fossil fuel that is not a transition fuel – and protected; for humans but also for biodiversity and the natural environment.

From what we have experience in Maules Creek, I do not see any Net Social Benefit accruing to the regional or local community, which is the most directly affected, by a combination of noise; airborne particulate matter (with associated health risks); traffic disruption; loss of ecological services through clearing of native vegetation; reduction in property values; and, loss of quality of life in what is predominantly a quiet bush/rural setting. The benefits- if any- are for the multinational and their shareholders.

As the economy sits within a social system that sits within the natural system- retaining natural systems is key to human survival. In this late stage with the decline of fossil fuels- allowing a last minute grab at resources will set the wellness of our region back for generations.

The overall scarcity of intact ecosystems being destroyed cannot be understated. The following have not been adequately taken into consideration by this EIS and I object to the project based on this. There is an opportunity cost and loss in not considering the following:

- Importance of retaining overall biodiversity for current and future species and their role in maintaining natural systems
- Stabilisation Services such as Gas regulation (atmospheric composition) Climate regulation (temperature, rainfall) Disturbance regulation (ecosystem resilience) Water regulation (hydrological cycle), Erosion control and soil/sediment retention, Biological control (populations, pest/disease control) Refugia (habitats for resident and transient populations).
- Regeneration Services such as Soil formation, Nutrient cycling and storage (incl carbon sequestration) Assimilation of waste and attenuation, detoxification Purification (clean water, air), Pollination (movement of floral gametes) and Biodiversity.
- Production of Goods such as Water supply (catchment), Food production (that sustainable portion of GPP), Raw materials (that sustainable portion of GPP, timber, fibre etc.) Genetic resources (medicines and scientific and technological resources.
- Life Fulfilling Services Recreation opportunities (nature-based tourism), Aesthetic and cultural and spiritual, (existence values).

It will cause significant diversion of water from a recharge aquifer of the Great Artesian Basin, which is a water resource relied upon by rural communities across western NSW. This is unacceptable.

It will lead to large deliberate and fugitive emissions of methane, adding to climate change.

It will cause trauma to the regional Aboriginal community because the area of impact is crucially important to the spiritual, cultural and social life of Gamilaraay people. I have taken the opportunity to listened to the views local Gamilaraay people and stand with them in acknowledging that the land is inextricably linked to the traditional custodians of the Pilliga region, this is their land and they never

ceded it.

Our country generally and this region specifically under the threat of fossil fuel invasion as corporations race the over-wound climate clock to get gas - needs support, a focus on well-being and healing. Our Aboriginal and non- Aboriginal communities and environment need respect- and not to be faced with more destruction and greed.

Living in a coal-affected community where Gomeroi Traditional Owners have suffered most recently from state significant mining in the Leard State Forest, I object to this project because I have seen and stood with Gomeroi. I recognise that this gas project and the government approval if it occurs- even with stringent conditions cannot protect the water, the air and the land, let alone that which is sacred. It will set region up for unjustifiable turmoil.

It is not justified: Santos' own Coal Seam Gas export activities in Queensland have caused gas prices to rise and supply to become unpredictable. NSW should respond to this by investing in more reliable and ultimately cheaper renewable energy, not by letting Santos inflict more environmental, social and economic harm.

It will cause economic upheaval in Narrabri and put agricultural industries at risk, as well as causing light pollution that will ruin the dark night sky needed by the internationally renowned Siding Spring Observatory.

Communities are complex webs- they are not simply winners and losers. Living with the fall out from projects wastes a lot of community people's time. The level of time required by near neighbours to maintain amenity, privacy, clean water, air and low noise is extreme.

This volunteering time could be put to much better use if State significant projects were not launched on communities and left to self regulate. I object to this project because of the way it will impact negatively on communities.

Coal Seam Gas is harmful to health. The examples from Queensland- especially male suicide and children's coughs, chest tightness, rashes, difficulty sleeping, joint pains, muscle pains and spasms, nausea, vomiting, spontaneous nose bleeds, skin irritation and eye irritation, neurotoxicity (damage to the nervous system), including severe fatigue, weakness, headaches, numbness and paraesthesia (abnormal sensations such as pins and needles, burning or tingling) twitching or unusual movements, and clumsiness or unsteadiness.

Before any consideration is given to giving another major project in this region an approval, the Health Study recommended in the 2012 SRLU Plan for the North West must be carried out. It is my understanding that it has been quietly dropped. Baselines must be set and cumulative impacts modelled across the region. This is a necessary process.

Further to learn our lessons from Queensland I agree with Dr. Geralyn McCarron MB BCh BAO FRACGP that the following must be done: "The state government must take its responsibility for the health of these citizens seriously, and the federal government must develop federal legislation to protect public health from CSG impacts.

Recommendations are:

1. A fully funded comprehensive medical assessment of residents currently living in proximity to unconventional gas development should be carried out as a matter of urgency.
2. The planning and urgent implementation of fully funded, long term epidemiological studies is essential to track the health of people exposed to CSG over the next several decades. This must include workers in the industry as well as people who may already have left the area because of health concerns.
3. Health impact assessments must be an integral part of any and every unconventional gas development. No new permit should be issued without one, and health impact assessments should be carried out for every development already in place.
4. Comprehensive air and water monitoring (an open, ongoing and unlimited information loop) is essential. If we are looking at possible non beneficial human health impacts we need to look at all the gases and volatiles both natural and derived emitted via well drilling, gas and pipeline valves, leaking wellheads, flaring, and other processes involved in gas collection/purification/refining to export specifications. This monitoring is urgently required. It must be independent, unbiased, fully funded and available for public scrutiny preferably in real time and in electronic form.
5. Gas companies must be required to fully and openly disclose in a timely manner, all chemicals, and all quantities of chemicals, used or planned to be used for drilling, fracking, cleaning, dehydration, and other processes at every gas facility. All historical results they have of analyses of air, soil and water should be available for public scrutiny.
6. The federal government must develop legislation, a unified standard, to protect public health across Australia from the impacts of unconventional gas development and other extractive industries.
7. There must be open, fully informed, public debate on the future of the unconventional gas industry in Australia.
<http://www.ntn.org.au/wp/wpcontent/uploads/2013/05/Symptomatology-of-a-gas-field-An-independent-health-survey-in-the-Tara-rural-residential-estates-and-environs-April-2013.pdf>

Neither the NSW Government nor Santos have investigated or dealt with the serious health effects of coal seam gas now appearing in peer-reviewed research in the United States. Santos has written much, but this project fails the Ecological Sustainable Development test and must be rejected.

Sincerely,



Libby Laird