

Sunday, 21<sup>st</sup> May 2017

Attn: Executive Director – Resource Assessments and Business Systems  
Department of Planning and Environment  
GPO Box 39  
Sydney NSW 2001

NARRABRI GAS PROJECT (SSD 6456)

I am writing on behalf of myself and my family.

We strongly object to this proposal.

We are immediate neighbours of the Narrabri Gas Project. The project lies west of our property. Our western boundary joins the Pilliga State Forest. We have an 8000 acre farm comprised mostly of beef cattle with some cropping. We are a family run farm.

Our first objection is that as immediate neighbours of this proposed project we have never been personally and formally informed of this development by the applicants, Santos NSW (Eastern) Pty Ltd. We have not been provided with any information in regards to the proposed development, the scale of the proposed development or any impacts this development may have on our land, our water, our farm enterprise, our health and our quality of living. Due to the close proximity of the proposed development to our farm we are likely to be impacted by this development and consultation should have been mandatory.

Secondly, this development proposes to industrialize the Pilliga State Forest. The clearing of the trees and associated understory growth and the building of infrastructure such as the gas wells, pipe lines, gas processing and water treatment facilities and roads will seriously compromise the integrity of this state forest. By definition a state forest is a form of public land for recreation, biodiversity, cultural heritage, forest products like timber, catchment protection, research and education. (<http://www.forestrycorporation.com.au/community/education/resources-and-publications/glossary>). As such the development of a huge gas field in the Pilliga will counter the very essence of, and reasons for establishing and maintaining state forests in New South Wales. Also, according to the Forestry Act 2012, the Forestry Corporation of NSW is the only organisation authorised to remove timber from State Forests. Does Santos NSW (Eastern) Pty Ltd have this authorisation? This development will result in the clearing of approximately 1000 hectares of the famously known "A Million Wild Acres" (Eric Rolls). The Pilliga State Forest is unique in that it is the largest continuous woodland remnant in the state with some unique fauna and home to a number of endangered and declining species of birds and other wildlife. It is therefore vital to leave the Pilliga unscarred by development so it can continue as a wildlife habitat.

Addressing the purpose of the state forests for recreational use - will access to areas of the Pilliga State Forest be restricted during the construction phase and/or during operation of the Narrabri Gas Project? In the past couple of years public access to some parts of the Pilliga State forest has been denied as Santos undertakes exploration and initial set up of infrastructure.

The Pilliga State Forest is a culturally and historically important area. The Gamilaraay people are spiritually connected to this area and as such it should be respected as part of their heritage and left intact and undisturbed by industrial developments. It also has significant historical importance as relics of the past still remain within the Pilliga. I have seen some of the old loggers' camps. This sort of history is invaluable and must be preserved.

Another, and the most vital of all purposes of the Pilliga State Forest is catchment protection. It seems superfluous to have to say this but water is vital. We cannot risk any sort of contamination to the Great Artesian Basin. We cannot risk contamination to any water source. The GAB is Australia's most important water resource.

'It is the only source of reliable water for human activity and water dependent ecosystems in much of the arid and semi-arid landscape overlaying the Basin in Queensland, New South Wales, South Australia and the Northern Territory. The water resource provided by the GAB continues to be the lifeblood for many rural communities and associated pastoral/agricultural, mining, cultural and tourism activities. The total value of all production supported by GAB water was estimated in 2007 at \$3.5 billion per year. '

(The Great Artesian Basin as a Natural Resource

<http://webarchive.nla.gov.au/gov/20130905035203/http://www.environment.gov.au/water/publications/watermatters/water-matters-may-2009.html>)

The Narrabri Gas Project poses a risk to the contamination and supply of this valuable water resource and as such should not proceed. Regardless of whether the risk is said to be small, a risk is a risk, and no approval should be given to any development that puts at risk a reliable water source that so many communities, farms and other industries are dependent on.

Apart from the fact that the Narrabri Gas Project is not a suitable development in a state forest there are other areas of concern. We have noted that the specific details of the location of the gas wells and pipes are not mapped. Due to the nature and scale of this development I believe that is totally inadequate and vague. Such a project cannot proceed without those specific details provided so that they can be properly assessed for their possible impacts on so many variables such as land, water, health, culturally significant sites and disruption to other services to name a few.

At a time where globally we are more aware than ever the need to reduce our impact on the environment and proceed into the future in a more sustainable way it is totally irresponsible to proceed with harvesting unconventional gas. Coal Seam Gas is almost pure methane and methane has a much higher potential to warm the atmosphere; up to 80 times more potent than carbon dioxide. It is often reported that CSG is cleaner than coal and oil based fuels but that is dependent on ensuring leakage from the wells and other infrastructure does not occur. According to a recent article in the Sydney Morning Herald any possible environmental benefits from using unconventional gas over other fossil fuels may be negated with small leakages of just 1-2% of methane. This information was provided by Professor Peter Rayner from the University of Melbourne. Also, in 2015 a huge leak from a gas storage site near Los Angeles in the United States of America vented approximately 100,000 tonnes of methane over 16 weeks.

(<http://www.smh.com.au/environment/climate-change/sleeper-issue-of-leaking-coal-seam-gas-fields-may-blow-hole-in-emissions-goals-20160622-gpph1q.html>)

Comprehensive studies have not been undertaken in Australia to measure methane leaks from all sources within a gas project. The CSIRO study in 2014 only focused on the coal seam heads and not the vast infrastructure of seams and pipelines. In reality it is not known how much methane is leaking from Australia's existing coal seam gas fields. Until such times as we really know the true figure the Narrabri Gas Project should not proceed. It may be we will never be able to truly quantify methane leakage as there are too many variables. Furthermore the long-term post production emissions from wells decommissioned is unknown. As the disused wells and casings age they will

deteriorate and we risk further leaks. This of course leads to another concern and that is of ongoing maintenance and monitoring of sites after production ceases. Regulations need to be in place to ensure reliable, regular and accurate testing is performed. This poses another problem of how to implement such testing from a company that may on-sell the Narrabri Gas Project before development or during operation, or the company ceases to trade or deregisters.

In keeping with sustainable living and reducing greenhouse gases and climate change we need to further develop renewable energy sources within Australia. The current term of referring to CSG as the transition energy between existing fossil fuels and future renewable energy is much more 'hype' than truth. In reality renewable energy harvesting equipment is already available and Australia has access to very high quality renewable energy resources and a huge harvesting territory in relation to our domestic energy needs. We need to encourage investment and infrastructure in the renewable energy industry. The Australian Energy Resource Assessment report, Second Edition, was commissioned by the Australian Government Department of Industry and jointly undertaken by Geoscience Australia and the Bureau of Resources and Energy Economics and provides some valuable information to understanding Australia's energy resources. A significant point made in this report is that Australia's potential renewable resource base is very large. We have some of the best solar and wind energy resources in the world. Our wave energy potential is world-class and our geothermal energy has significant potential. This report also discusses how Australia is moving towards a lower emissions economy. This is supported by the establishment by the Australian Government of the Australian Renewable Energy Agency and the renewable energy target (RET) policy. The following is an excerpt from the Australian Energy Resource Assessment report, 'It is clear that if Australia is to transition to a lower emission economy, a long term structural adjustment to the Australian energy sector will be required.' It is also interesting that many claims have been made that there will be shortfall in available energy resources for the domestic market. However this report does not support those claims. The report states that Australia has significant conventional gas resources and at current production levels there is enough conventional gas for a further 51 years. Also noted in this report is that Australia is a net energy exporter, with 80% of total energy production being exported. So in summary, Australia is well resourced to continue meeting our domestic energy needs with the exception of oil. Currently, and most likely well into the future the majority of our local energy resources will be exported, as energy is a commodity and that is where the current dollar lies.

Other areas of concern are those of air, noise and light pollution. It is my understanding that the Narrabri Gas Project development application and its Environmental Impact Statement does not adequately address air quality. For instance there is no assessment of fine particulate pollution. With diesel generators to be used extensively in the Narrabri Gas Project and possibly located at each well site which could mean hundreds of diesel generators, I find this lack of assessment of great concern. The research is absolute that the exhaust from diesel generators is toxic to human health. Globally there is great concern about the impacts of diesel pollution. Some of the serious side effects of exposure to diesel exhaust are asthma and other respiratory illnesses, strokes, heart attacks, birth defects, lung cancer and effects on the immune system. The World Health Organisation grades the cancer risk from diesel exhaust as carcinogenic to humans. According to a Federal Government paper (NEPM 2011) there is no known safe threshold for diesel exhaust. In the U.S., the Clean Air Task Force report (2005) reported numerous health impacts but one that really stood out to me was that diesel exhaust poses a cancer risk that is 7.5 times higher than the combined total cancer risk from all other air toxics. Those most at risk are those near high traffic and industrialised areas.

It was a conscious decision approximately 30 years ago to move to this area and develop this farm. Some of the reasons for choosing this area is that it was a true rural area without industrial developments. Our farm is situated in a more outlying area of Boggabri and our house is far

removed from any public roads. We were not concerned with dust and other air pollution. We were unaffected by any light or noise pollution. With such proposed widespread infrastructure development within the Pilliga State Forest and with operation of all associated machinery it is inevitable that we will be adversely impacted by noise pollution. In a recognised industrially zoned area this may be acceptable but not in an agricultural area or an area designated for recreation. If this development proceeds pollution from dust will certainly be an issue. With the increased traffic on unsealed roads from workers travelling to and from the various sites within the Pilliga and trucks transporting materials and waste to and from these sites an enormous amount of dust will be generated. As mentioned before, being neighbours and of relative close proximity to the area under development it is a certain conclusion that we will be impacted by air and dust pollution. With the development of coal mining in and around Boggabri we are now impacted by light pollution to our north and east. If this Narrabri Gas Project proceeds we will have light pollution to our west. I also understand this light pollution may impact the successful operation of the Siding Springs Observatory which is Australia's largest optical astronomy research facility. It is ironic that the Siding Spring Observatory site was chosen in the 1960s after the existing Mount Stromlo Observatory become adversely impacted by the artificial lights of Canberra and now the Siding Spring Observatory is under threat from artificial lights from the proposed Narrabri Gas Project.

I am aware of soil contamination from operator error from existing Santos operations in the Pilliga. These have consisted of heavy metals such as arsenic, barium, boron, lead, nickel and uranium from contaminated water spills. These spills have caused significant soil contamination resulting in the die-out of flora in the area. These spills are claimed to be of relatively small amounts but are having lasting impacts with Santos struggling to successfully rehabilitate the affected site. What can be expected with full production as per this development application? With many kilometres of pipelines carrying produced water from the wells to the water treatment plant there are just as many kilometres of potential points of leak or failure. We believe the risks are too high.

The proposed development will also increase the risk of fires in the Pilliga. The proposed gas project poses numerous areas of concern in regards to increased fire risks. The first is from extra vehicular and human traffic. These risks can be from numerous sources including vehicle exhausts or from objects left at work sites or from cigarettes. Secondly, is the risk of a fire starting from a gas flare. Another consideration is the chance of exacerbating fires from gas explosions. Bushfires in the Pilliga forest can be devastating and difficult to control. This area is already prone to frequent bushfires. It is interesting that this fact was even noted in the Coroner's Inquiry into the fire at Wambelong Camp Ground, Warrumbungles National Park, New South Wales January 2013, (File number 2013/00052575) 'Unlike the neighbouring Pilliga Scrub, until January 2013, fires in the Warrumbungles National Park had been historically been small and less frequent' (page 13 Fire history). With the increased bushfire risk that this proposed development will cause there will also be increased risks to the attending firefighters, to the workers in the forest and to the surrounding farmlands and the pastures, crops, livestock, buildings, homes and to the safety of the farmers and their families and to the wider community. It will also impact on the native wildlife, including the threatened and endangered species of the Pilliga. After so many catastrophic fires around Australia over the past few years we must acknowledge the devastating impacts of fires and not put at risk lives and communities. This risk is of such a concern to me that a couple of years ago during a particularly hot and dry period during the summer I wrote to Santos in Narrabri and asked them for a copy of their fire plan in the eventuation of a fire in the Pilliga. I wrote as a concerned neighbour. It was not provided to me. I do not know if they even have an emergency fire plan.

The Narrabri Gas Project application and Environmental Impact Statement is a very lengthy document and given the relatively short time frame provided to make a submission I have not been able to detail all of my concerns. I do have other areas of concern such as how this proposed

development has caused a distressing division in our local communities and of my concern for the future of the local towns after the initial setup is complete in regards to effects on housing prices, rental costs and land values. I have read stories in newspapers of residents in Queensland CSG affected areas with falling home values after the initial boom period and other long term residents leaving town to get away from the gas fields. It would seem that the financial gains from the gas industry are only for a few and not for all of the community and are short-lived. Boggabri is a clear example of how industrialisation can adversely impact a town. The initial coal mining construction boom caused much excitement with high paying jobs on offer and the hopes for extra facilities for the town. Houses, land and rentals were at never before seen values. Now a few years later the town is worse off. Farms were sold to the mines, families left town, enrolments at the schools are low, sporting teams no longer exist, clubs and pubs have closed and remaining businesses are struggling. The mine workers are jaded and weary of the long work hours and constantly changing shifts. It has impacted on the quality of their family time. If the Narrabri Gas Project proceeds I fear a similar outcome for Narrabri and the other smaller surrounding towns and villages. Finally it is a misconception that this area can be sacrificed to gas mining as the quality of the land is poor. Right now in this area there are plenty of highly productive farms producing food and fibre for Australia and the world. And even the poorer soils in the area are capable of producing much given the right management. Don't risk what we already have in a sound agricultural area with friendly towns with titles like the little town with the big heart or the sportiest town in Australia or the koala capital of the world. Please do not put our agricultural industries at risk and cause social and economic upheaval in this area.