

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

This is a submission to the Narrabri Gas Project EIS.

I object to this project and strongly believe it should be rejected.

If this project is approved, the following would be the **serious risk factors**:

1. Extraction over 35 billion litres of salt laden groundwater, much of it in the first five years. This water will be treated and will generate almost 500,000 tonnes of salt waste, for which there is no safe disposal plan.
2. Clearing of close to 1,000 hectares of the Pilliga Forest, fragmenting the largest temperate woodland in New South Wales, home to unique wildlife.
3. Drilling through a recharge aquifer of the Great Artesian Basin and drawing of water down from a water resource that rural communities are relying on across western NSW.
4. Large deliberate emissions of methane from venting and leakage, adding to climate change.

**The following is a list of potentially very serious consequences about which I am very concerned, if this project is approved:**

**1. Pollution of the Great Artesian Basin and cross-contamination of aquifers.**

The Narrabri Gas Project is located within the area of the Great Artesian Basin. The report of the NSW Chief Scientist states that "Having considered all the information from these sources and noting the rapid evolution of technological developments applicable to CSG from a wide range of disciplines, the Review concluded that the technical challenges and risks posed by the CSG industry can in general be managed through: ...careful designation of areas appropriate in geological and land-use terms for CSG extraction".

I question that the area of the Great Artesian Basin is an appropriate area to drill through for the extraction of gas. The integrity of bore heads would have to be maintained even after extraction has stopped. I question that there are resolutions in place to guarantee the long-term integrity of this extraction.

RMIT water hydrogeologist Matthew Currell, a consultant to the EDO's expert panel, argues studies overseas suggest contamination risks. "If the wells aren't really well sealed and there are pathways, whether it's through badly constructed wells or wells which have been abandoned, you know there's not proper sealing it can cause cross-contamination between aquifers," Dr Currell said.  
(<http://www.abc.net.au/news/2017-04-06/nsw-csg-project-sparks-fierce-debate-over-energy-future/8418102>).

The report of the NSW Chief Scientist also states that "Of course, as the technologies involved are applied in new regions where the detailed hydrogeology is not yet fully characterised, there could be

unexpected events, learnings, or even accidents. This is common for new applications in the extractive industries and underlines the need for Government and industry to approach these issues with eyes wide open, a full appreciation of the risks, complete transparency, rigorous compliance, and a commitment to addressing any problems promptly with rapid emergency response and effective remediation.”

***I strongly believe that the serious risks of using new and uncharacterised applications in the area of unknown hydrogeology with the likelihood of polluting the Great Artesian Basin outweigh any other reasons for this project to go ahead. It is unacceptable that rural communities are collateral damage to “Unexpected events”.***

## **2. Questioning the ability of Santos to extract gas from coal seams in a safe manner.**

Santos cites the NSW Chief Scientist saying “In 2014 the NSW Chief Scientist and Engineer concluded that, with appropriate safeguards and controls, natural gas from coal seams can be safely extracted. The regulations covering natural gas extraction in NSW are among the most stringent in the world and Santos adopts the highest industry standards to ensure work does not have an adverse impact on the environment.”

I strongly question the above statement, due to the following reports that Santos had several incidences of failing to operate safely during their exploration phase.

For example, 1) “In December 2011, Santos received an official warning over high levels of ammonia discharged in a spill of produced water in the Pilliga Forest.” (<http://www.abc.net.au/news/2017-04-06/nsw-csg-project-sparks-fierce-debate-over-energyfuture/8418102>),

2) “A coal seam gas project operated by energy company Santos in north-western NSW has contaminated a nearby aquifer, with uranium at levels 20 times higher than safe drinking water guidelines, an official investigation has found. (<http://www.smh.com.au/environment/santoscoal-seam-gas-project-contaminates-aquifer-20140307-34csb.html>)

3) “The Environment Protection Authority is investigating a 500-litre wastewater spill from a coal-seam gas operation at the Pilliga forest in north-western NSW. The waste water was spilt during a transfer from an assessment well to a holding pond at the Santos gas field near Narrabri on Tuesday, the EPA said.” (<http://www.smh.com.au/nsw/santos-pilliga-project-coalseam-gas-waste-water-spillage-causes-alarm-20140328-35ong.html>)

4) “Santos coal seam gas waste-water pond leaked briefly during commissioning” (<http://www.smh.com.au/environment/water-issues/santos-coal-seam-gas-wastewater-pondleaked-briefly-during-commissioning-20160112-gm44n7.html>).

***How could Santos be allowed to proceed with this project following a number of reports, demonstrating that they already breached the prerequisites of safe operation before entering their maximum phase of production?***

## **3. Questioning that Santos has appropriate safeguards and controls in place.**

Damage and pollution of groundwater resources is irreversible. Santos claims to not intend to use fracking for their Narrabri Project, but toxins and salts will still be released from the coal seams and brought to the surface. Santos has monitoring and measuring systems, but they have not suggested which measures to take once aquifers or groundwater is contaminated. Monitoring systems will be in place downstream, however, once levels of toxins measured to exceed limits and released into the environment it seems that little can be done or is in place to reverse the contamination.

***Just monitoring is not good enough to drill through the Great Artesian Basin and aquifers, which goes with a risk of cross-contamination and playing with the future of rural communities.***

#### **4. Communities and stakeholders question the professionalism and integrity of Santos.**

According to the report of the NSW Chief Scientist, “high standards of engineering and professionalism in CSG companies” are required to manage “technical challenges and risks posed by the CSG industry”. In addition, the report of the NSW Chief Scientist states that “Of course, as the technologies involved are applied in new regions where the detailed hydrogeology is not yet fully characterised, there could be unexpected events, learnings, or even accidents. This is common for new applications in the extractive industries and underlines the need for Government and industry to approach these issues with eyes wide open, a full appreciation of the risks, complete transparency, rigorous compliance, and a commitment to addressing any problems promptly with rapid emergency response and effective remediation.”

Santos WAS NOT complying with these prerequisites of “full appreciation of the risks, complete transparency, rigorous compliance” in the exploration phase of their Narrabri Gas Project.

In the following please find an example of Santos failing professionalism. As reported in the Sydney Morning Herald in 2013 Santos “admitted to failing to report contamination and excessive salt levels at a drilling site in the state's northwest ... Santos NSW has pleaded guilty to four charges relating to failures by the site's operator, Eastern Star Gas, to report contaminated water leaks and lodge environmental management documents, the NSW Land and Environment Court heard on Wednesday.” (<http://www.smh.com.au/environment/santos-faces-fines-for-pilliga-coal-seam-gas-salt-spill-20131218-2zkob.html>).

***I fear a devastating impact on our prime agricultural land, our groundwater reserves and aquifers. The agricultural industry is a sustainable industry, a driver for the future of country towns, and a guarantor for the food production and security of Australia.***

#### **5. Misleading advertisement and integrity.**

In the “Executive Summary” of the EIS, SANTOS states that “the project has the potential to supply up to 200 terajoules of natural gas per day; which is sufficient gas to meet up to half of NSW’s natural gas demand”.

As confirmed verbally by the NSW Department of Planning and Environment, none of the gas extracted from the project is currently allocated for the domestic market, but will be sold into the international market. Therefore, Santos’ statement is misleading advertisement for this project.

***I question the professionalism of Santos having to use misleading phrases to try and improve the projects attractiveness to the greater community.***

## **6. Social impacts and Santos using misleading economic arguments.**

The report of the Chief Scientist and Engineer Mary O'Kane states that a "the technical challenges and risks posed by the CSG industry can in general be managed through ... well trained and certified workforce." Santos states that the project will create up to 1,300 jobs during construction and 200 ongoing positions and therefore deliver local economic benefits. Considering the high specialization required for the CSG industries workforce, it is rather unlikely to create secure jobs in local towns of North Western NSW. Agriculture is able to provide secure jobs in country towns and have sustainable long-term economic benefits to local contractors and suppliers. In addition, stakeholders are of the opinion that this project will have negative social impacts, including causing stress of affected farmers and impacting living costs of rural communities. Scientific reports have previously confirmed effects on mental health, the hardship mining companies bring to rural towns (e.g. increase in service and living costs).

## **7. Effect on cultural heritage.**

The project will cause more trauma to the regional Aboriginal community because the area of impact is crucially important to the spiritual, cultural and social life of Gamilaraay people.

### **Concluding statements:**

**The very serious risks and a significant number of uncertainties of this project outweigh any other reasons for this project to go ahead.** Emergency responses and effective remediation plans are not in place. Monitoring is simply not enough.

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.

Coal seam gas is harmful to health. 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.

I have close friends who are hard-working farmers in this region, who are, together with me, very worried and opposed to this project.

I therefore strongly reject the commencement of such a high-risk operation and I urge the Government to reject this project.

The greatest and deepest artesian basin in the world should be protected and the Great Artesian Basin recharge made off-limits to gas mining.

Yours sincerely,

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