



## **Submission from Stop CSG Sydney on the Santos Narrabri Project:**

### **OBJECTION**

#### **About Stop CSG Sydney**

Stop Coal Seam Gas Sydney was formed in 2011 by residents of the inner west suburbs of Sydney following their discovery that Dart Energy was about to explore for coal seam gas in St Peters, just 7 kilometres from the CBD. The company had an exploration licence (PEL463) covering not only the whole of metropolitan Sydney, but as far as Gosford in the north and Sutherland in the south. The licence was cancelled by the NSW Coalition government in March 2015, following a strong community campaign against coal seam gas exploration and mining.

Stop CSG Sydney has continued to campaign against unconventional gas development in NSW and strongly objects to the Santos Narrabri Project.

#### **Grounds for our opposition to the Santos Narrabri Project**

##### **1. Trauma to Traditional Custodians of the Pilliga**

This proposal exposes the company's misconception about the importance of the Pilliga to the Gomeroi/Gamilaraay people. We support the submissions of the Traditional Owners of the land that the Pilliga as a whole is central to for the preservation of their culture and connection to country.

The company may pretend the situation is one where "heritage" sites and artefacts need to be "avoided" by their operations. Protecting Aboriginal sacred sites and the forest as a whole from mining and invasive infrastructure is critical to the Gamilaraay people and to their future.

Industrialisation of the Pilliga would be totally contrary to the rights, cultural responsibilities and needs of the Gamilaraay people.

##### **2. Risks to the natural environment**

Santos claims it does not plan to use fracking. Even if we put to one side that it would probably be impossible for government agencies to ensure that no fracking occurs over the next 20 years, the fact remains that this project would be far too risky whether or not it uses fracking.

Santos reveals in its EIS that it plans to use highly toxic chemicals in drilling up to 850 wells. It acknowledges the toxicity of the drilling fluids and cuttings, t plans to bury drilling materials on site. It plans to store the chemicals on site — creating a major risk of accidents causing harm to workers and surrounding environments. The DPIE recommendation that

Santos develop a management plan for the chemicals does not adequately address the inherent risks.

Drilling for CSG involves disturbance of naturally occurring radioactive materials which, if left alone, are not a risk but once disturbed can be released into surface and underground water supplies.

Santos is well aware of this serious environmental threat following its contamination of Pilliga aquifers with uranium in 2014. Yet, it states in the EIS, that the risk of such events is “negligible”. Further, it plans to use treated waste water for “beneficial” purposes such as irrigation and dust suppression.

Rather than provide evidence to support its claim that this would be safe Santos says it will operate in a way that “minimises” leaching.

Minimising leaching is not good enough and, with no evidence of the level of efficacy of water treatment, there appears to be a major risk that toxic chemicals will be released into the Pilliga’s waterways and groundwater. This must not be allowed.

Santos’ history of contaminating the environment in Queensland and in the Pilliga is public knowledge.

It also says that its operations in Queensland have been unblemished. Yet, a February 2020 audit found the industry’s coal seam gas regulators have failed.

Instead of addressing that history with evidence of how it would avoid future damage, Santos claims the risks of CSG mining in the Pilliga are “negligible”, which is commonly understood to mean the risks are so small they may be safely disregarded.

In saying this in the face of its own experience and international evidence the company demonstrates that it cannot be trusted with understanding the communities’ deeply held concern about the industry.

### **3. Risk to the Great Artesian Basin (GAB)**

Santos claims that “the project area is not located in a major recharge area for the GAB”. Yet NSW government’s hydro geological mapping of the GAB shows the project surrounds the most important inflow zone of the GAB in NSW. (See NSW Hydrogeological Atlas of the Great Artesian Basin (2016) Department of Water Resources (NSW) Hydrogeological Series Sheet SH 55-12; NSW Department of Water & Energy April 2009 PN00799 WR2008-089.)

The GAB has already been damaged by unconventional gas mining in Queensland, where aquifers have been drawn down. Santos does not mention this.

It does admit that extracting 37.5 gigalitres of groundwater over 20 years would result in drawing down of GAB aquifers over time.

A major issue with the DPIE’s assessment and recommended conditions of approval is that Santos will be self-monitoring.

Because the stakes in relation to damage to groundwater are so high we are shocked that this is the case - surely independent monitoring by qualified inspectors should be in place.

### **4. Bohena Creek**

Santos plans to release treated water into Bohena Creek when it is flowing. While Santos may look at Bohena Creek and see a waste disposal system, it is not. It is a complex ecosystem supporting biodiversity, as well as a recognised surface groundwater system. Polluting it must not be permitted.

It is surprising that Santos proposes to release waste water into a surface waterway in the Pilliga in light of the outcome of a legal challenge in Queensland to its practice of discharging waste water into the Dawson River.

Following the legal challenge the approval conditions were changed out of court by the Queensland Minister, who prohibited Santos from any further releasing of waste water into surface waterways.

Surely this ruling should be a guide to the government of NSW?

There is something that Santos, the DPIE and the opponents of the project agree on: that the underground structures and faults and the interconnectivity of aquifers are not known. That is where the agreement ends however. Santos and the DPIE say it's safe to drill and monitor for damage and then to investigate. The farmers, the Gamilaraay and many of the hydrology and engineering experts take a very different view. With 37 billion litres of water being removed there are risks of depressurisation and disruption of the recharge of the Great Artesian Basin are real. The stakes are far too high to take such risks.

On the water issues alone this project should be ruled out.

## **5. Bush fires**

Santos says it is aware of the history of bush fires happening in the Pilliga Forest, saying it will develop a Bushfire Management Plan to reduce the risks associated with bush fires. It seems incredible that they do not have one in light of the operation of flares at Bibblewindi and Leewood 24/7 through periods of extreme fire danger.

This must constitute a high risk to the lives of workers, firefighters and to the environment, and is a further example of the potential for disaster inherent in this proposal.

## **6. Salt**

Santos admits that the project will produce 48,000 tonnes of salt per year in the early years of the project.

Santos CEO Kevin Gallagher told the IPC hearing on July 20, 2020 that the salt waste from the project will be "small" and it will pay for it to be taken away in B-double truckloads every day if they are not able to find 'beneficial uses' for it. We disagree that 840,000 tonnes of toxic waste is a small amount, especially when it will have to be managed long after the time span of the project. If there were 'beneficial' uses for the waste surely Santos would have identified them at some time in the past decade rather than make empty promises to do so.

Salt is a natural enemy of water supplies and productive lands. It always remains wherever it is disposed of, and remains soluble posing threats it will leach into water and land at some time in the future.

The Panel needs to know exactly where the salt would be disposed of, and what impact it would or may have on the environment in that area in both the short- and long-term. The Water Expert Panel claims it is 'likely' to meet the requirements to be classified as general solid waste. "Likely" should not be good enough, nor should the project be allowed to proceed without a waste management plan stretching long into the future with full costings.

Our land and water is already far too polluted by salt. It is not acceptable for Santos to bring a further 840,000 tonnes to the surface and leave it to be managed by future generations. The production of vast amounts of waste dangerous to the environment is one of many good reasons to reject this project.

## **7. No gas shortage**

Santos claims that if allowed to develop CSG in the Pilliga it will be able to assist NSW avoid a shortage of gas supplies for industrial and domestic use in NSW.

In recent years, a number of research reports on the industry have exposed the "gas shortage" as a fallacy.

A report by Tim Forcey and Dylan McConnell of Melbourne University reveals that there is no gas shortage, and that the development of further mines will not reduce the rising cost of gas. A number of expert speakers at the Commission's public hearing confirmed that it is not possible to argue credibly that developing Narrabri would put downward pressure on gas prices.

For the NSW government, there are any renewable energy alternatives which would create more jobs, on an ongoing basis.

We urge the panel to recognise the strong community support for the development of renewable sources of energy. The technology exists to move forward quickly with the development of solar and wind energy and storage. The development of renewable energy industries is the best way to ensure the availability of cheaper electricity, and to protect the environment and other industries from the devastation inherent in the mining of coal seam gas.

## **8. Methane and climate change**

Climate scientists are more concerned about the quantity of methane emissions being released into the atmosphere. Estimates for 2017 – the most recent year for which a full budget has been produced – show that annual global emissions hit almost 600 million tonnes — around 9% higher than the 2000-06 average.

Methane is a potent greenhouse gas and the second biggest contributor to human-caused global warming after carbon dioxide. Per unit of mass, methane is 84-86 times stronger than carbon dioxide over 20 years and 28-34 times as powerful over 100 years.

Researchers have not been able to estimate the quantity of fugitive emissions from CSG exploration and mining. It is possible, however, to say that emissions do result from production, processing, transport, storage and distribution of CSG, as well as the fugitive emissions from well heads.

At its AGM in May 2017 in Adelaide, Santos revealed that its business plans were based on an increase of 4 degrees Celsius in the global climate.

This sort of rise in temperature would have a devastating impact on large sections of the world's population, let alone species, and should raise alarm bells in regulatory bodies.

Its 2019 Climate Change Report doesn't repeat this particular statement, but it does quote CEO as saying, contradictory, that: "Our medium-term (2025) carbon targets ... centre on the crucial role of natural [sic] gas in reducing global emissions".

In assessing this project, the IPC needs to keep in mind the company's blatant disregard for Australia's commitment to the internationally agreed Paris Climate Agreement to keep temperature rises at, or below, 1.5 degrees Celsius.

There is an urgent need to act to avoid catastrophes associated with climate change. Gas producers and others have suggested that gas is the "transition fuel" as we move towards zero emissions.

But with significant falls in the cost of renewable energy and storage it is hard not to see projects like Narrabri as desperate attempts to use old and dangerous technologies before the inevitable switch to safe renewable energy.

#### **9. Threat to biodiversity of native fauna and flora**

The Pilliga is the largest temperate woodland in New South Wales. Santos proposes clearing nearly 1000 hectares of the Pilliga, including habitat for koalas and the critically endangered Regent Honeyeater. The clearing would be spread across the whole forest resulting in fragmentation of much larger areas of habitat. The project would result in the clearing of breeding habitat for the Pilliga Mouse, which lives nowhere else, and breeding habitat for other wildlife.

The EIS does not contain specific information about where the wells and lines would be located, making a proper ecological impact assessment impossible. The project should not proceed without such an assessment.

The project would require new roads and easements to be built through the forest, dividing the bush into segments. This will impact on biodiversity through allowing for greater fox activity and increased weed infestations.

#### **10. Threat to human health**

The NSW Chief Scientist's 2014 independent review of coal seam gas activities in NSW alerted us to the risks to human health at all stages of coal seam gas extraction – through exposure to water, soil and air pollution. The health impacts referred to include respiratory, cardiovascular and digestive diseases, skin rashes and greater risks of some types of cancer and impacts on fertility.

Santos has chosen to use outdated research in its reassurances about the human health impacts of CSG mining.

This assessment should carefully consider the latest international research. Included in this research review should be the compendium of health studies produced by the Concerned

Health Professionals of New York. This reveals mounting evidence for health damage by unconventional gas operations, including water contamination and respiratory illness. In its discussion of the anticipated air quality around the project, Santos fails to include fine particulate pollution (PM2.5) which is well known to have no safe level for human health. There will be very significant emissions from the diesel generators they plan to install for the 425 well pads as well as at the water treatments and gas compression plants. Santos must be aware that this project will generate significant PM2.5 emissions yet it has failed to reveal this in the EIS.

### **11. No coexistence with agriculture**

The experiences of farmers on land occupied by coal seam gas mines has demonstrated that the two industries are incompatible. You have been and will be addressed by many farmers who say the industry cannot coexist, as Santos likes to claim.

### **12. Jobs?**

Santos claims it wants to serve the local community, and that its Narrabri gas project would provide 200 ongoing jobs. Further, it has said that they would be selected from the local community.

Providing sustainable jobs in an industry that did not cause ecological problems would be a better option to deal with high youth unemployment in the central and northern parts of NSW. It would also be a more attractive option to youth who, maybe better than an older generation, are rejecting the propaganda that heavily subsidised fossil fuel energy projects are job creators. They are not.

### **13. NSW Chief Scientist report**

Santos claims that the report of NSW Chief Scientist Mary O’Kane on the coal seam gas industry (released October 1, 2014) vindicates the unconventional gas industry in NSW. Then, as now with the Narrabri Project, Santos says the industry is safe enough and points to the Chief Scientist’s report as proof.

It is important to note that the reason the Coalition government commissioned the NSW Chief Scientist to undertake a report was to help quell rising community opposition to the industry’s non-compliance and corporate negligence.

But the Chief Scientist was *not* commissioned to answer the question of whether or not CSG mining is safe.

Instead she was asked to look at *how* to develop the industry, not *if* or under what conditions its development would be considered safe.

O’Kane did make one thing very clear: she said while the risk to human health and the environment posed by coal seam gas can be managed, “unintended consequences including as the result of human error and natural disasters” — are inevitable.

She also noted that it “is impossible at present given insufficient geological, geophysical and hydro geological data available on current activities” to measure impacts “with quantitative precision”.

She was referring to the Sydney Water Catchment Special Areas — the terms of reference for the report — but this statement could just as well refer to the Narrabri Project.

While Santos and other gas miners have repeatedly stated that the Chief Scientist's report vindicated unconventional gas mining, the fact is that the licences covering the Sydney Water Catchment Special Areas were cancelled (PELs 442, 444, 454) *and no new coal seam gas licences have been granted.*

To date, the NSW Coalition government has either decided that the industry is too risky for this area, or that the political risk is not worth it.

The Chief Scientist's report noted the risks to soil, groundwater and surface water systems posed by CSG mining and showed that it will likely release toxins and salts, and that it can release heavy metals and radioactive compounds.

It noted: "Produced water brought up from the hydrocarbon-bearing coal seam will likely contain hydrocarbons in the form of volatile organic compounds (VOCs). Concern has been expressed about these compounds, such as benzene toluene, ethyl benzene and xylene (BTEX) chemicals, being volatilised from the liquid phase into the gas phase as an air emission."

Specialists in the study of toxic chemicals such as Dr Marianne Lloyd-Jones of the National Toxics Network (NTN) have repeatedly called on federal and state governments to implement a moratorium on the use of drilling and fracturing chemicals ("fracking chemicals") used in coal seam gas and shale gas extraction, until these chemicals have been fully assessed for their health and environmental hazards by the Australian industrial chemicals regulator, the National Industrial Chemical Notification and Assessment Scheme (NICNAS).

The NTN's review of chemicals used by the industry has found that only 2 out of the 23 most commonly used fracking chemicals in Australia have been assessed by NICNAS. Neither of these 2 chemicals has been specifically assessed for their use in drilling and in hydraulic fracking fluids.

According to the Chief Scientist: "The Review studied the risks associated with the CSG industry in depth and concludes that – provided drilling is allowed only in areas where the geology and hydrogeology can be characterised adequately, and provided that appropriate engineering and scientific solutions are in place to manage the storage, transport, reuse or disposal of produced water and salts – the risks associated with CSG exploration and production can be managed. *That said, current risk management needs improvement to reach best practice.*" [Emphasis added.]

The chief scientist's report was logged after the EPA's investigation into two leaking ponds and a contaminated aquifer at Santos' Bibblewindi Water Treatment Facility as part of the Narrabri Gas Project in the Pilliga forest.

While the problems were first detected in May 2012 under the management of Eastern Star, Santos' take-over of the project did not lead to a different practice. In fact, Santos added more toxic wastewater to the leaking pond after it took over the CSG project in the Pilliga.

Even knowing about the problem of the leaking ponds, Santos did nothing to prevent it. According to the EPA report, the CSG wastewater had leached a number of heavy metals out of the soil into the water table — including uranium.

Santos may claim that the company is pursuing “best practice”, but the evidence says the opposite.

It proceeded with another holding pond — the on the holding pond and irrigation system — in December 2016 before the verdict of an appeal on that issue and before its environmental impact statement had been released.

The fact that the NSW Coalition government fast-tracked Santos’ Narrabri project — making it a “Strategic Energy Project” — allowed the company to proceed without even an environmental impact statement. This is not environmental best practice; this is vandalism.

Added to this, a New South Wales parliamentary committee investigation into the regulation of the coal seam gas industry found in February that the Coalition government failed to implement most of the Chief Scientist's recommendations for minimizing and managing the risks associated with coal seam gas mining.

The Legislative Council report released on February 27, 2020 said that only 2 of 16 recommendations from Professor Mary O’Kane’s 2014 report had been implemented in full, and half had not been implemented at all.

#### **14. The project requires a gas pipeline**

The environmental impact of the proposed pipeline needs to be assessed in parallel to the assessment of the Narrabri Project proposal. The project would depend on the pipeline to achieve its objectives so it should not be separated in the assessment of the environmental, social and economic impacts of the project.

#### **15. Why the Pilliga?**

In its EIS, Santos downplayed the immense value of the Pilliga forest.

The forest’s significance to the lives of the current and future generations of Traditional Owners, its value to the conservation of biodiversity and to the conservation of endangered species is greatly underestimated in the EIS. The company acknowledges that the project will be detrimental to the environment, but they say that it is a poor environment, a scrub, and not prime agricultural land.

We submit that, on the contrary, this project threatens precious resources of immense value to the future of Australia.

The criticisms of Traditional Owners as well as scientific experts and farmers draw on many generations of lived experience in the region, as well as scientific research of the Great Artesian Basin and its associated groundwater systems and the complex ecosystems of the woodlands.

Santos tells us it chose this location as the most likely to produce the best supplies of gas which are more conveniently located close to infrastructure than some other six sites in the region they plan to explore.

The company may believe it will be easier to overcome community resistance to mining in a state forest than on farming land.

As we have seen over the last 7 years, the threat to the forest has brought the community together as they have found out more about unconventional gas mining and have endured drought, and catastrophic fires that fire chiefs say is directly linked to a warming planet.

Local people call the Narrabri project the “Trojan Horse” for the company’s plans to mine unconventional gas from Tooraweenah to Taroom — across some of the best agricultural land in NSW.

Santos CEO Gallagher repeatedly hinted in his oral submission to the IPC on July 20, 2020 that he wanted this CSG project to be the first of many in NSW.

Climate change is an existential threat to us in 2020. The Intergovernmental Panel on Climate Change — the United Nations body for assessing the science related to climate change — has said in no uncertain terms that to stop catastrophic climate change, fossil fuels must be left in the ground.

Investment in fossil fuel exploration and extraction simply delays the inevitable and urgent need to invest in renewables (which, we note, that Santos is also happy to spruik about).

This is not alarmist. It is an accurate reading of the science.

**For all these reasons, Stop CSG Sydney urges the Independent Planning Commission to reject the Santos Narrabri Gas Project.**

August 4, 2020