

Monday 22 May 2017

**To the NSW Department of Planning and Environment –**

Many thanks for the opportunity to comment on the proposal by Santos to drill 850 gas wells in the Pilliga for coal seam gas extraction.

I have strong objections to the project. They are detailed below.

Given that Australia is the driest continent on Earth, and that our fresh water sources and resources are going to be severely challenged by the rapid warming of the planet, the utmost care must be taken to conserve and manage them.

The Narrabri gasfield poses a real risk to our two most precious water resources: the Great Artesian Basin and the Murray-Darling Basin. The area of the Great Artesian Basin with the highest recharge rates is almost entirely contained within the Pilliga East forest. In a worst-case scenario, the water removed for CSG extraction could reduce water pressure in the recharge areas—potentially stopping the free flow of waters to the surface at springs and bores across the whole Great Artesian Basin.

Creeks in the Pilliga run into the Namoi River—a part of the Murray Darling Basin. This system is vulnerable to contamination from drilling fluid spills and the salty treated water produced from the proposed 850 wells.

I feel strongly that the risks to these water systems are too significant to allow the Santos proposal to proceed.

I would also like it noted that the Gamilaraay Traditional Custodians are opposed to the Narrabri Gas Project. I respect their concerns that there are hundreds of cultural sites as well as songlines and stories connecting the Gamilaraay to the forest and to the groundwater beneath. Traditional Custodians have spoken repeatedly about their opposition to coal seam gas drilling on their land.

These strongly-felt expressions of opposition must be respected, as the Department would be aware that Indigenous sovereignty over this land was never ceded.

In addition to the opposition from Traditional Custodians, farmers and other local community groups have loudly and repeatedly rejected the project on the grounds that it forms an unacceptable threat to the agricultural viability of this important food growing area.

I am aware that extensive community surveys have shown an average of 96% opposition to CSG. This stretches across a massive 3.2 million hectares of country surrounding the Pilliga forest, including 99 communities. The Hornsby Ku-ring-gai Greens is aware that hundreds of farmers have participated in protest actions unlike any previously seen in the region.

My objections also include the fact that Australia's premier optical astronomical observatory is at risk from this proposal to drill for coal seam gas.

The Siding Springs Observatory, situated in the Warrumbungles and adjacent to the Pilliga, is under threat from the Narrabri Gas Project due to light and dust pollution. The area has been internationally recognised as a 'dark sky park' and the 50m high gas flares proposed by Santos threaten the viability of the facility.

I would also argue that Santos is not a fit and proper company to manage precious land and water resources. The Narrabri Gas Project has a long history of spills and leaks of toxic CSG water.

There is evidence that Santos has already contaminated a freshwater aquifer in the Pilliga with uranium at levels 20 times higher than safe drinking water guidelines, as well as lead, aluminium, arsenic and barium. In addition, there have been over 20 reported spills and leaks of toxic CSG water from storage ponds, pipes and well heads.

I believe that this of serious environmental damage should disqualify Santos from this project.

### **Salt pollution**

I am also most concerned that there has been no evidence from Santos that it has a viable solution for disposing of the hundreds of thousands of tonnes of salt that will be produced from the extraction of coal seam gas. Between 17,000 and 42,000 tonnes of salt waste would be produced each year. This industry would potentially leave groundwater and land permanently damaged by the toxic effects of salt.

It is well known that the Pilliga is highly significant as a biodiversity 'hotspot'. It is one of only 15 nationally-listed biodiversity hotspots' and is vital to the survival of threatened species like the Koala, Spotted-tailed Quoll, Black-striped Wallaby, Eastern Pygmy-possum, Pilliga Mouse and South-eastern Long-eared Bat.

I am told by environmental organizations that have surveyed the area in question that it is home to over 200 bird species and is internationally recognised as an Important Bird Area.

The Department would be cognisant of the fact that the Santos gasfield would fragment 95,000 hectares of the Pilliga with well pads, roads, and water and gas pipelines—damaging vital habitat and threatening the survival of endangered species.

Moreover, there is abundant evidence that human health is compromised by coal seam gas. Scientists and medical professionals have concluded that a range of hydrocarbons and volatile organic compounds can be released into the air from coal seam gas operations, including flaring of gas wells. The effects of volatile organic compounds vary, but can cause eye, nose and airway irritation, headache, nausea, dizziness and loss of coordination. These impacts have been documented in human populations nearby to existing gasfields in Queensland, Sydney and in America—the facts about which the Department would be well aware.

Human lives would also be potentially endangered by the Santos Narrabri Gas Project, given the high risk of fires in the Pilliga. Fire fighting professionals and volunteers may be asked to deal with fires caused by methane flare stacks up to 50m high that would be operating day and night, even on total fire ban days. The Pilliga is prone to severe bushfires. The project would increase ignition sources as well as extracting, transporting and storing a highly flammable gas right within this extremely fire-prone forest.

The risk to human life and safety is too high, and for this reason alone, this proposal must be rejected.

Most significantly, this 850 gas well will do long-term damage to the climate. The coal seam gas drilling and extraction proposed by Santos will contribute very significantly to dangerous climate change. Methane is by far the major component of natural gas, and is a greenhouse gas 72 times more powerful than CO<sub>2</sub>. CSG fields contribute to climate change through the leakage of methane during the production, transport, processing and use of coal seam gas.

Given that our agriculture, tourism industry and the Australian way of life all depend on a safe climate and regular rainfall, I would argue that Australia is in no position to jeopardise its future by allowing a private company licence to add to carbon pollution while damaging important agricultural land.

Moreover, investment by industry in fossil fuel enterprises leaves them and the Australian economy dangerously exposed to the risk of large-scale stranded assets, as the rest of the world, led by China, moves rapidly towards a low-carbon future.

A lack of investment in clean energy has lamentably retarded our progress towards a zero-carbon emissions economy, and has meant that Australian manufacturers and exporters have missed out on valuable opportunities to exploit the clean energy market. Investment by Santos in this kind of damaging and carbon-intensive operation will further limit their ability to move out of fossil fuels and into renewables.

While I appreciate that the Santos Narrabri Gas Project would generate badly-needed jobs in rural and regional areas, I would argue that such jobs are short-term at best, and will serve in the long term to contribute to the failure of Australia's agricultural systems as climate change worsens.

The need for jobs is real, and important. And for those reasons, I would suggest that large-scale solar farms be considered for the area. Such renewable energy projects are jobs-intensive and sustainable in the long term.

Clean energy projects would employ Australian scientists, engineers, manufacturers, logistics and management professionals and construction workers. Such projects would also draw on Australian R&D and stimulate further research and development within the higher education sector and in private industry.

**Public opposition: overwhelming and growing**

Finally, I would ask the Department to note the overwhelming opposition to new coal and coal seam gas projects from the Australian public. It is for that reason, and the ones listed in the above paragraphs, that I respectfully submit the NSW Department of Planning and Environment reject the Narrabri Gas Project, and instead investigate the potential for large-scale renewable energy projects.

Yours sincerely,

Emma Heyde