

Personal submission of Anna Christie



Objection to Narrabri Gas Project

Inadequacy of EIS

I wish to object to Narrabri Gas for many reasons, but a grounds for objection that seems to cover a wide range of issues is the serious data gaps that exist in Santos' proposal. The EIS is inadequate as it does not satisfy the legal test for adequacy of an EIS.

Commissioners heard one Newcastle City Councillor state that he wouldn't even approve a car port based on such a degree of inadequacy of the impacts. You also heard another speaker refer to Narrabri as the guinea pigs, which will inform Stage 2 of Santos's intentions.

Environmental assessment must be sufficiently specific. The well-known legal test for adequacy of an EIS is that ***“the EIS must be sufficiently specific to direct a reasonably intelligent and informed mind to the possible or potential environmental consequences of carrying out or not carrying out the activity”***¹

According to the test, the EIS must contain materials which would alert lay persons and specialists to problems inherent in carrying out the activity, yet despite thousands of pages of the original EIS, and further information prised from Santos during a prolonged follow-up Response to Submissions process, critical information is withheld.

Errors have been presented to the IPC as fact (eg David Kitto “there are no willy-willies” in the Pilliga) too many for me to name.

The CO2 emissions from the project have been misstated. I am the author of this article in which Santos' claims of just 5% CO2 content are debunked using publicly available data housed on the DPIE's own public database DIGS. Using that data, across 40 gas wells and nearly 1,000 reports, experts like Dr Andrew Grogan and Dr Ian Taggart (University of Newcastle) state that the CO2 content averages between 25-30% with severe implications for Santos' greenhouse gas emissions and the value of the Narrabri Gas reserve which is currently being calculated on the basis of just 5% CO2.

I refer to my article, reproduced below in which these matters are discussed.

<https://www.michaelwest.com.au/battle-for-narrabri-report-claims-santos-gas-field-emissions-approach-coal/>

Draft Conditions

The Draft Recommended Conditions are setting up the people of NSW for disaster. Containing many vague, subjective and hence unenforceable conditions, if the Commissioners considered it in the public interest to approve Narrabri gas, and were inclined to ignore the evidence against outweighing the evidence in favour, that the conditions should be rewritten using measurable performance criteria with objective performance standards.

¹ *Prineas v Forestry Commission of NSW* (1983) 49 LGRA 402, per Cripps J.

The IPC must avoid all references to “generally consistent with”, and “to the satisfaction of the Secretary” as they are in effect unenforceable.

Public Health

GISERA and the claims that risks and uncertainties around human health from emissions arising from CSG activities can be managed through regulation and monitoring. However, GISERA does not base this assertion on evidence, but on opinion based on no known evidence. On the contrary, GISERA is deferring much of its research until post-approval.

There is also too much emphasis on reducing stress and “anxiety” and not enough on actual environmental monitoring.

“While it is recognised that there is an existing body of data related to previous and ongoing monitoring activities, an in-depth health impact study has yet to be conducted in an Australian CSG region. Any future study conducted using this framework will therefore provide foundational new knowledge on exposures and possible related health effects that may be associated with the Australian CSG industry. Every CSG site is unique; however, there will be many commonalities between different Australian CSG regions, particularly with respect to the types of stressors and the exposure pathways.” (Para. 3.3 Human Health Effects of Coal Seam Gas Activity – A Study Design Framework, (Jan 2018))

The Strategy acknowledges that *“Some exposures may continue after the well decommissioning phase is complete. The longevity of potential exposure pathways highlights the needs for long-term monitoring of decommissioned sites.”* But with the breathtaking proviso that *“the likelihood of these hazards occurring is considered as part of the risk assessment activity conducted in the Further Assessment stage”* thus delaying the risk assessment until well after the damage has commenced.

It is acknowledged that fugitive Gases (may include hydrogen sulphide, VOCs, carbon dioxide, nitrogen oxides, radon) may arise from some of the following infrastructure

- Well construction/drilling
- Produced or flowback water
- Fugitive emissions from wells – e.g. uncapped and/or abandoned wells
- Fugitive emissions from pipes
- High point vents off the gathering lines
- Low point valves off the gas lines
- Well engines causing unprocessed gas to be emitted
- Fugitive emissions via geological faults (due to disturbed coal seam beds)
- Leaks in casings greater than 50 years old, vertical movement along abandoned well
- emission from soil

There may be thousands of these vents, and an unknown number of compressor stations. None of this detail has been presented to the Commissioners, not to mention the location of gas wells remains secret.

Bushfires

All of this leaking infrastructure poses an ongoing bushfire hazard, details have not been disclosed about the modelling assumptions used by Santos, including the potential for leaks.

These and other reasons I provided to the IPC in my verbal submission on 22nd July are some of the reasons for my objections.

Thank you for your consideration.

Anna Christie

Battle for Narrabri: report claims Santos gas field emissions approach coal

by [Anna Christie](#) | Apr 2, 2020 | [Energy](#)



Aerial photo of Santos operations in the Pilliga. Photo by Dean Sewell, ABC

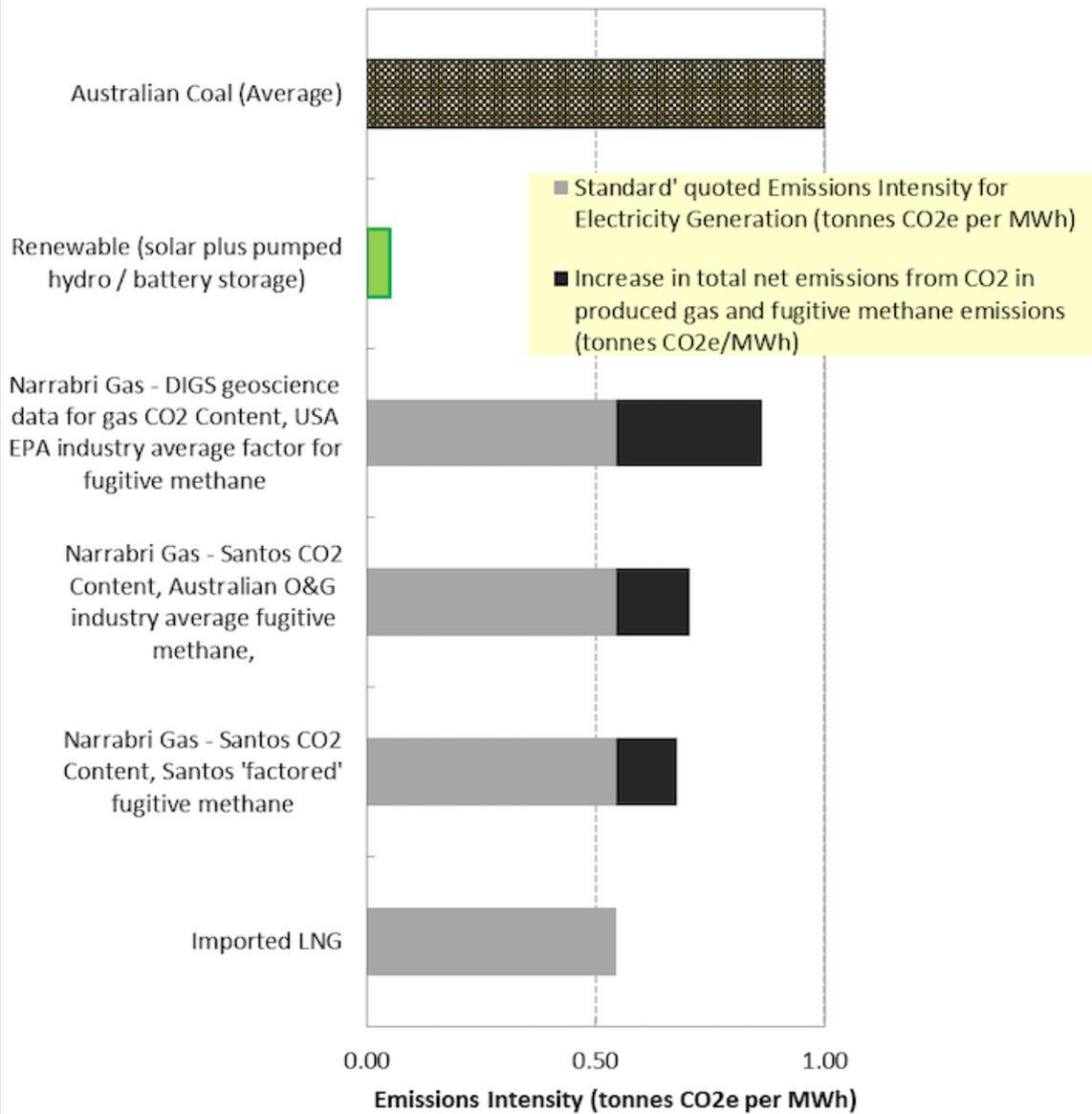
The “Battle for Narrabri” continues to rage under cover of Covid darkness. A new report on well data in the Pilliga Forest challenges claims by Santos that gas from its Narrabri Gas Project will be low on emissions. **Anna Christie** reports.

Santos has told its shareholders and regulators, in order to justify the Narrabri Gas Project, that the 850-well coal seam gas project represents a low-carbon transitional fuel for New South Wales. The company says in its recent [2020 Climate Change Report](#):

“natural gas produces 50% less greenhouse gas emissions than coal when used to generate electricity”.

However, a new report published by Coonabarabran-based community group [North West Protection Advocacy](#) reveals that when factoring in the previously unaccounted-for carbon dioxide emissions of the Narrabri gas project, Santos’ claims are unable to be substantiated.

Impact of CO₂ and Fugitive Methane on Total Emissions from Narrabri Gas



Claims by Santos that natural gas has 50% of the emissions intensity of coal rely on the assumption that there is no carbon dioxide (CO₂) released to the atmosphere during the production of natural gas. This is not the case with gas at Narrabri.

The North West Protection Advocacy report [“Narrabri Gas Project: Greenhouse gas claims refuted”](#) released this week calculates, using available data from wells in and around the Santos licences, that the average CO₂ content in gas across the Narrabri project is 25-30%, with some wells displaying 90% CO₂. The high CO₂ and nitrogen content is a factor which has the potential to materially increase the emissions from and the cost of production of the gas project.

In its [Environmental Impact Statement \(EIS\)](#), Santos says it “assumes” Narrabri gas contains an average of 10% CO₂.

“Narrabri gas appears to have higher CO₂ than Santos has assumed, increasing the emissions factor associated with its extraction”, says [Dr Andrew Grogan](#), an expert in gas industry capture and storage, who was engaged by North West Protection Advocacy to assess the well data.

“This calls into question the quality of the resource and the cost of developing it. Santos would need to extract and vent this CO₂ in order to meet user and NSW pipeline requirements, and resulting in large greenhouse gas emissions due to the vented carbon dioxide.”

Dr Grogan says,

“The implications of the high CO₂ for Santos’ greenhouse gas emissions and the project economics are significant. Examination of the data reveals in-ground CO₂ averaging more than twice that assumed by the company in its EIS.”

“For 70 petajoules of sales gas, in excess of one million tonnes per annum of carbon dioxide would be a by-product of coal seam gas production at the Narrabri Gas Project, if approved,”

High CO₂ levels in coal seams of Narrabri-Pilliga Forest were publicly flagged by Whitehaven Coal in 2010. Whitehaven indicated in an [Environmental Impact Assessment](#) for its [Narrabri coal mine](#) that gas from the coal seam averaged 90% CO₂ and 10% CH₄.

“The fact that Whitehaven is venting 90% CO₂ gas directly into the atmosphere from a coal seam at Narrabri Underground, and the knowledge that Santos is mining for gas in the same coal seam, was the impetus for us to analyse all publicly available Well Completion Reports with gas composition data on DIGS (geoscience.nsw), drilled and tested over a period between 1998 and 2014 from the Gunnedah Basin,” says Johanna Evans of North West Protection Advocacy, member of the group’s environmental team, who trawled through publicly available data on Gunnedah Basin CSG wells, across 26 wellbores in PEL 238. [The data](#) shows that high CO₂ in the coal seam gas extends across much of the project area, and not just at the perimeter of the project area, as previously stated by Santos.

The conclusion, according to Dr Grogan, is that gas emissions at Narrabri will approach the level of coal emissions:

“Applying internationally accepted factors for fugitive methane emissions for gas production and taking into account the 25%-30% CO₂ content, total greenhouse gas emissions from the actual production and use for electricity generation of gas in the coal seams at Narrabri would actually approach those of coal.”

Figure 1: Reported CO₂ percentages in main coal seams PEL 238 (PPLA 13/ PPLA 14/ PPLA 16)

**Reported CO₂ Content (%) in main coal seams Santos PELs /
Narrabri Coal Mine [DIGS data]**

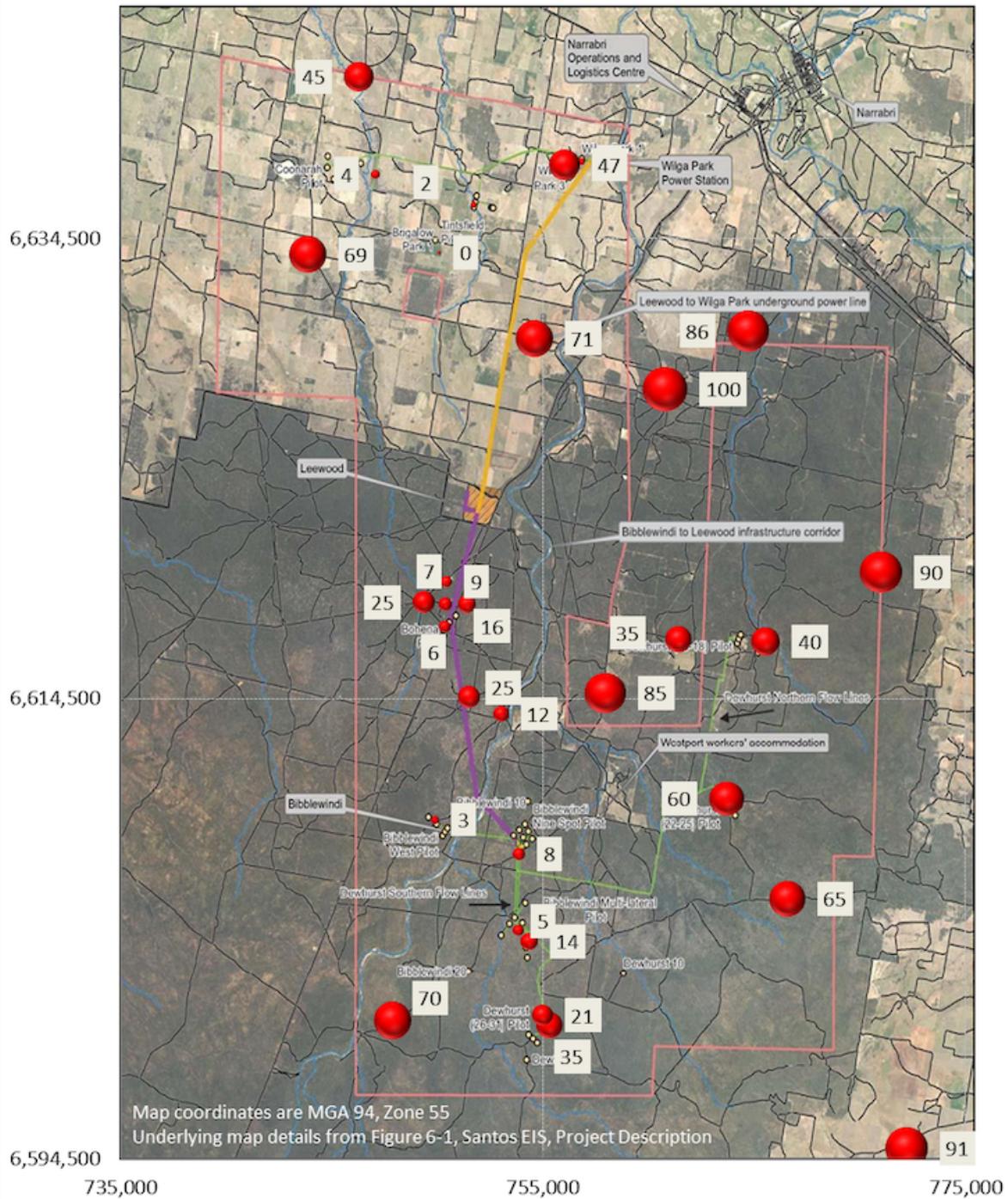
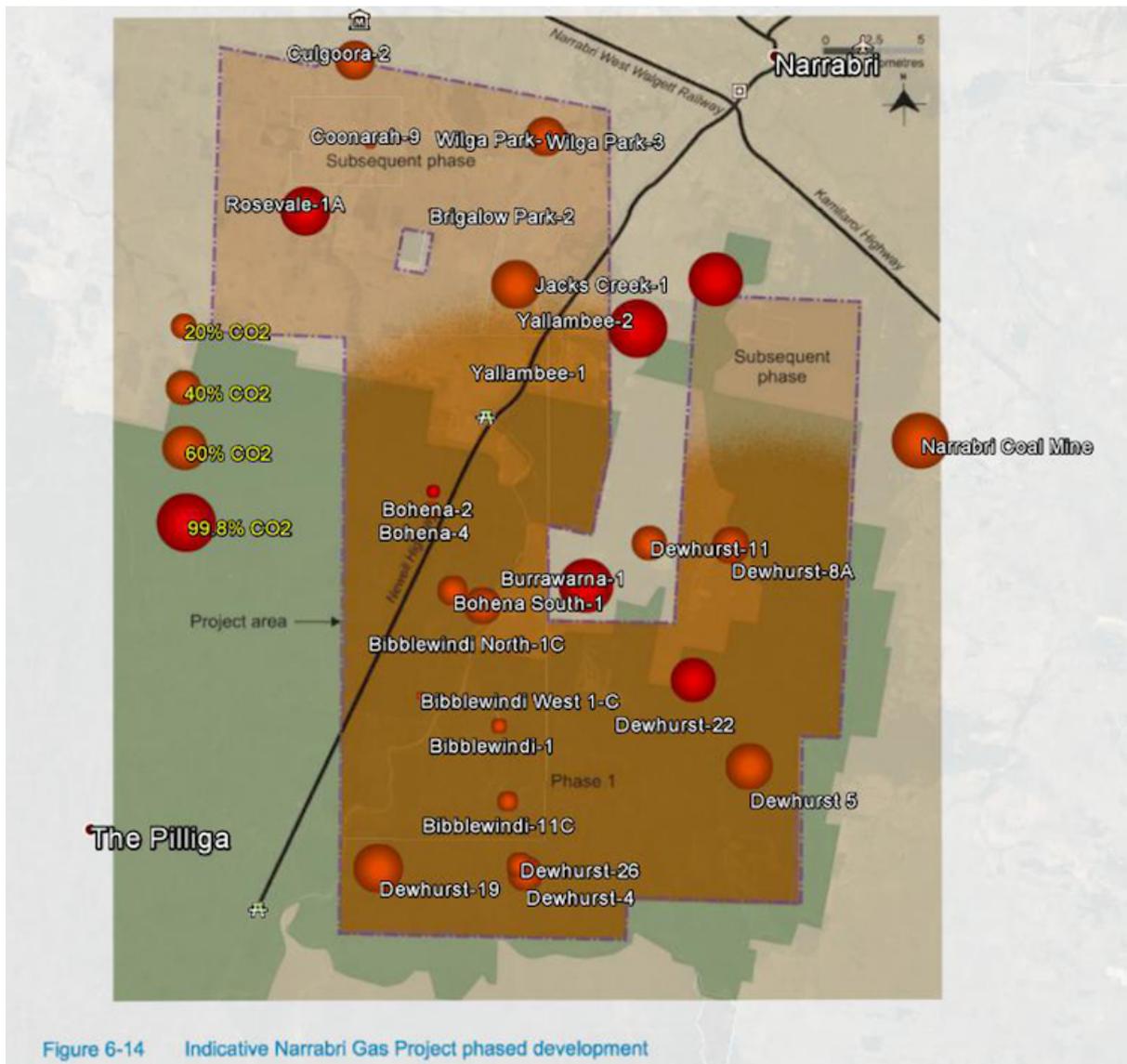


Figure 2: Reported concentrations of CO₂ applied to Narrabri Gas Project area (in brown) showing that 60% CO₂ is not unusual or unexpected



Santos says in its [2020 Climate Change Report](#) that carbon capture and storage (CCS) is “critical technology to limit global temperature increases to well below 2 degrees Celsius”. [Announcing the Moomba CCS venture](#), [Santos CEO Kevin Gallagher referred](#) to its purpose to sequester CO₂ from the Moomba gas fields, with no reference to Narrabri.

There are no reservoirs near Narrabri that could be used to store CO₂ and no economic way to transport it to Moomba. Narrabri CO₂ would simply be vented into the atmosphere, contradicting claims that Narrabri gas is a clean transitional fuel to a low-carbon economy.

The Santos annual general meeting is tomorrow.

Editor’s Note: The global gas glut has made the Narrabri project even more uneconomic given the high costs of fracking for gas.

Further reading: [‘Santos blows \\$7 billion in five years and no relief for gas customers’](#)

ABOUT THE AUTHOR



Anna Christie

Anna Christie is a member of the Leard Forest Research Node, a citizen science group based in Maules Creek, Narrabri and is also a foundation member of the Australian Citizen Science Association. With a Master of Environment Law, Anna has lectured in environmental ethics at the Australian Catholic University after many years in corporate communications in the private and public sectors. Anna works as a volunteer in the areas of environmental advocacy, community education and capacity building of communities at risk from fossil fuel expansion in greenfield regional areas of NSW. She organises tours of the Leard and Pilliga Forests, and seeks to engage people from all walks of life to further their appreciation of the principles of sustainable development and conservation of the natural environment.