

PUBLIC HEALTH COMMUNIQUÉ



NARRABRI GAS PROJECT – January 2020

What is the Narrabri Gas Project?

This is the name given to the first stage of an audacious plan to introduce widespread coal seam gas (CSG) mining to New South Wales. This first stage, which would comprise 850 gas wells in the Narrabri area is envisaged to spread in successive stages to an area equal to 7% of the State's land mass. This would result in many thousands of wells similar to what has occurred in the Western Darling Downs of Queensland. A planning assessment process is underway, with nearly 23,000 submissions, over 97% against the Narrabri Gas Project being approved.

Concerns related to chemical and physical hazards include water contamination, air quality impacts including dust and methane seeps, soil contamination and noise and light pollution impacts.

Why are we issuing this Public Health COMMUNIQUÉ?

There is currently very low awareness that there has been no health impact assessment of the CSG plans. NWPA is issuing this communiqué to alert stakeholders about some key concerns surrounding the proposed gas fields:

- Despite the enormity of the CSG expansion proposed for NSW, which extends to pipelines, compressor stations and as yet undisclosed infrastructure, there is no health impact assessment of the industry.
- The NSW Department of Health has abandoned its responsibility as the lead health agency, to the NSW Environment Protection Authority (EPA).
- The NSW Environment Protection Authority (EPA) has requested emissions data from Santos, but the gas promoter refuses to provide this information.
- The experience in Queensland should be thoroughly assessed and possible links between the CSG industry and observed health concerns examined as part of the assessment process, NOT after.

Under considerable pressure over its hands-off stance towards the public health implications of coal seam gas, it is understood that NSW Health is now planning to provide a submission to the NSW Independent Planning Commission (IPC). An obstacle could be the fact that NSW Health is relying on the EPA for guidance and Santos has declined to answer questions put to it by the EPA, such as the gas composition analysis of potential fugitive emissions.



Biblewindi facility in
the Pilliga forest

CSG Health Impacts requiring assessment before any approval takes place

Many residents near gas fields in both NSW and Queensland have reported high levels of chronic and acute health issues such as:

- Nose bleeds
- Headaches
- Eye irritation
- Skin irritations and rashes
- Coughs, chest tightness
- Muscle spasms
- Pins and needles
- Severe fatigue
- Stress

Increased emergency visits and hospitalisation for:

- Asthma
- Other respiratory problems
- Cardiovascular illness
- Circulatory problems
- Adverse birth outcomes

Public Health Research? No in-depth health impact assessment in Australia

Despite 21,000 gas wells in Queensland and Santos' application for 850 wells at Narrabri NSW, no in-depth health impact study in an Australian gas field has ever been completed.

However, research conducted in the Darling Downs gas fields region using hospital admissions data from the Darling Downs Hospital and Health Services reveals that levels of the aforementioned conditions could

be associated with living in or near the gas fields.¹

NSW Health refused to properly acknowledge this preliminary research, pointing to “confounding factors”. Rather than account for confounding factors, like any other epidemiological study should do, NSW Health chose to discount this red flag. The Department declined to attend the Coal Seam Gas and Public Health Conference in Narrabri in August 2018 where experts gathered to discuss the latest Australian research on the impacts of the unconventional gas industry on public health.

Gas Industry Social and Environmental Research Alliance (GISERA) is an alliance between the five biggest unconventional gas companies in Australia (Australia Pacific LNG, Origin Energy, QGC, AGL and Santos) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The CSIRO logo is prominent on all GISERA reports.

GISERA released a scoping study in January 2018 – Human Health Effects of Coal Seam Gas Activities – A Study Design Framework.

“The study design project focuses on a review of the state of knowledge about health impacts of CSG activity, identification of gaps in the knowledge base, and development of a framework that can be used to design a study to address identified gaps.”

¹ *Air Pollution and human health hazards: a compilation of air toxins acknowledged by the gas industry in Queensland's Darling Downs*, GERALYN MCCARRON <https://www.tandfonline.com/doi/full/10.1080/00207233.2017.1413221>

Key Points about the GISERA Framework for Studying CSG Human Health Impacts

ASSUMES that the impacts of coal seam gas industry can be adequately regulated and bases this view on the Final Report of the Independent Review of Coal Seam Gas Activities in NSW

IGNORES the fact that Chief Scientist's recommendations have not all been satisfied

RELIES on the fact that rural regions have pre-existing stressors and confounding factors as justification to avoid a Health Impact Assessment of CSG as part of the assessment of Narrabri Gas Project

STATES THAT epidemiological studies of CSG public health impacts are not meaningful due to small population sample size of affected communities, but offers no solution for future research in similarly small populations

ADMITS that "adaptive management*" has "not necessarily worked as a way to manage emergent issues in Queensland" but does not propose increased mandatory impact reporting by the CSG industry, nor tougher conditions be imposed in NSW.

**adaptive management describes a form of regulation where clear conditions are not established at the start of a Major Project, instead the proponent is allowed to change its obligations over time if problems are encountered.*

A study commenced in May 2018 with a short title of *Potential health impacts from CSG* and a long title of *Identification and screening for potential human health effects of coal seam gas (CSG) activity in the southern Surat Basin, Queensland*. The proposed end date of June 2020 will be after the NSW government makes a decision on the Narrabri Gas Project.

Dr Cameron Huddlestone-Holmes, a geologist from CSIRO Energy, is the project leader of this health study. He works on environmental, geological and geotechnical problems in the earth resources industry, primarily in the

unconventional gas and coal. His primary research interests were in structural geology. So why is he the leader of a health study, leapfrogging the nation's public health experts, epidemiologists and medical researchers?

Damian Barrett, the GISERA Director at the June meeting of GISERA NSW Regional Research Advisory Committee in Narrabri provided a summary of the Narrabri Gas Project proposal. Minutes record, "Proposal may need recognition that we cannot take what is happening in Queensland as a guide here."

Stephen O'Donoghue from NSW Planning told Sydney Knitting Nannas Against Gas in August 2019 that a health impact study is not a requirement of the assessment process in NSW. However, assessments of air, noise and social impacts will be posted on the project website prior to the IPC hearing. He said, NSW Health relies on the following for information:

- NSW Environmental Protection Authority (EPA)
- Air Quality Impact Assessment – Narrabri Gas Project, Environmental Impact Statement, Appendix L – prepared by Air Environment Consulting for Santos <https://www.planningportal.nsw.gov.au/major-projects/project/10716>
- CSIRO data commissioned by EPA. <https://www.epa.nsw.gov.au/your-environment/air/industrial-emissions/csiro-methane-emissions-study>

Unfortunately, Santos has refused to provide gas emissions data as requested by the NSW EPA, and there is no resolve within the NSW Government to support the EPA's requests. Despite the Government's claims that the EPA is the "lead agency", the environmental regulator is being ignored.

Fracking – only part of the problem

Fracking to release gas trapped in coal seams entails large volumes of water and chemicals being forced under pressure into the seams. Most of these chemicals have not been assessed for human health safety. There is a risk of them entering underground aquifers or groundwater, which could ultimately affect food production and water security for humans and animals.

Santos say they will not frack at Narrabri. However, with or without fracking, during the drilling process, toxic chemicals found naturally in coal seams are released into the wastewater, which is brought to the surface. NSW Health has proposed that any approval for the Narrabri Gas Project must not allow fracking or the use of fracking fluids. However, when gas no longer flows out of a well, fracking is often approved later under a planning modification to the development consent. This is called “approval creep” because it is a surreptitious practice that occurs post-approval, with a lesser transparency or environmental impact assessment.

Waste Water

Waste water brought up from the coal seam includes naturally occurring salt, heavy metals and BTEX compounds (BTEX including benzene, toluene, ethylbenzene and xylene).

HEAVY METALS	BTEX COMPOUNDS
Arsenic	<i>An anagram for:</i>
Cadmium	Benzene
Chromium	Toluene
Lead	Ethylbenzene
Thalium	Xylene
Selenium	Volatile Organic
Thorium	Compounds (VOCs)
Uranium	

BTEX compounds are volatile organic compounds (VOCs) that are found in petroleum and petroleum products. Santos provides data on the calculations and testing of the chemical characteristics of wastewater. They plan to treat the wastewater with reverse osmosis to remove the toxins then reuse it. Santos refuses, or is presently unable, to reveal where or how the remaining 400,000 tonnes of toxic salt will be stored.

Many attempts have been made to find ways of “beneficial re-use” of the toxic brine, in part due to the lack of suitably licensed hazardous waste facilities. However, no solution has been found to date.

Emissions and Climate Change

Air pollution poses a potential risk to workers and people living nearby. Volatile organic compounds and hydrocarbons (including the carcinogen benzene) are released from venting, holding tanks, ponds, compressors

and other infrastructure. Mixed with nitrous oxides from diesel-fuelled machinery, some of these create ground-level ozone.

In 2014, the CSIRO measured emissions at 37 CSG wells in Queensland and six in NSW. Only three had no fugitive emissions.² Methane, a potent greenhouse gas, adds to the serious health risks of climate change, recently recognised as a health emergency by the Australian Medical Association.³

Social Impacts

Social impacts of CSG include health ramifications and severe fracturing of social cohesion caused by rapid population flux and erosion of existing community bonds. In the case of the Pilliga Forest, there will be more trauma for Aboriginal communities, fracturing their connection to an area which is important to their cultural and spiritual health and therefore their general well-being.

Industry bullying and threats of legal action as has already been experienced in the Coonamble area due to gas pipeline activities, combined with a landholder’s isolation, uncertainty, and a sense of hopelessness, result in increased mental health issues, such as depression, even suicide.

Links

Dr GERALYN McCARRON – The impact of unconventional gas on the human right to health <https://www.youtube.com/watch?v=4FRFuHWPCtg>

Air Pollution and human health hazards: a compilation of air toxins acknowledged by the gas industry in Queensland’s Darling Downs by Dr GERALYN McCARRON, published in the International Journal of Environmental Studies <https://www.tandfonline.com/doi/full/10.1080/00207233.2017.1413221>

Coal Seam Gas Public Health Forum in Narrabri August 2018 <https://nwprotectionadvocacy.com/homepage/coal-seam-gas-public-health-forum/speaker-profiles/>

Doctors for the Environment <https://www.dea.org.au/unconventional-gas/>

² CSIRO Field Measurements of Fugitive Emissions from Equipment and Well Casings in Australian Coal Seam Gas Production Facilities Report to the Department of the Environment <https://www.environment.gov.au/system/files/resources/57e4a9fd-56ea-428b-b995-f27c25822643/files/csg-fugitive-emissions-2014.pdf>

³ AMA 3 September 2019 <https://ama.com.au/media/climate-change-health-emergency>