

# Narrabri Gas Project

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The [Narrabri Gas Project](#) is the only NEW coal seam gas development in NSW. Strong regional opposition to the project has delayed it for many years.

## LOCATION

Narrabri is 520km from Sydney and 7 hours by train.

The project is located on Kamilaroi/Gamilaraay ancestral land. The Pilliga Forest, known to the Kamilaroi people as the Billiga, is sacred to them.

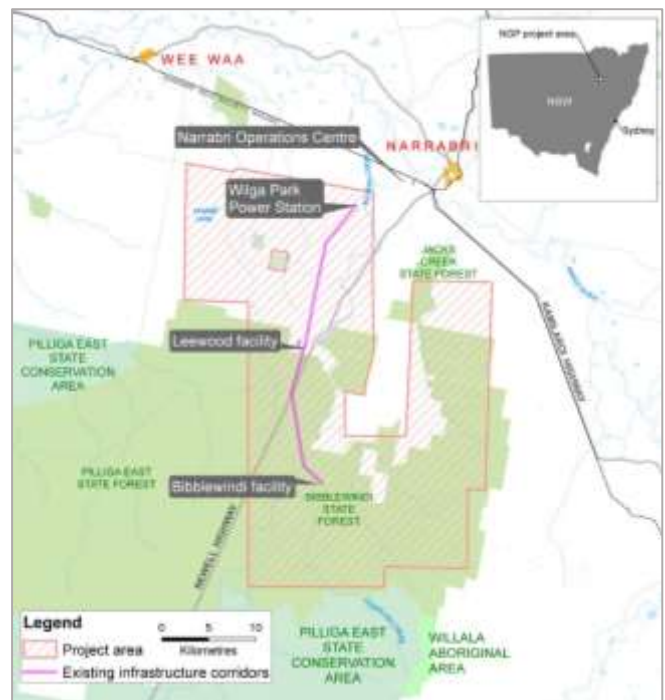
The Narrabri Gas Project will not benefit the region, the unemployed, or consumers of gas, but it will seriously damage water resources, public health and our environment. There's lots we can do to ensure this project is rejected and coal seam gas extraction does not expand in NSW but we have to act now as the project is going into the final assessment stage.



## KEY OBJECTIONS

Strong regional opposition to the project has delayed it for many years because of

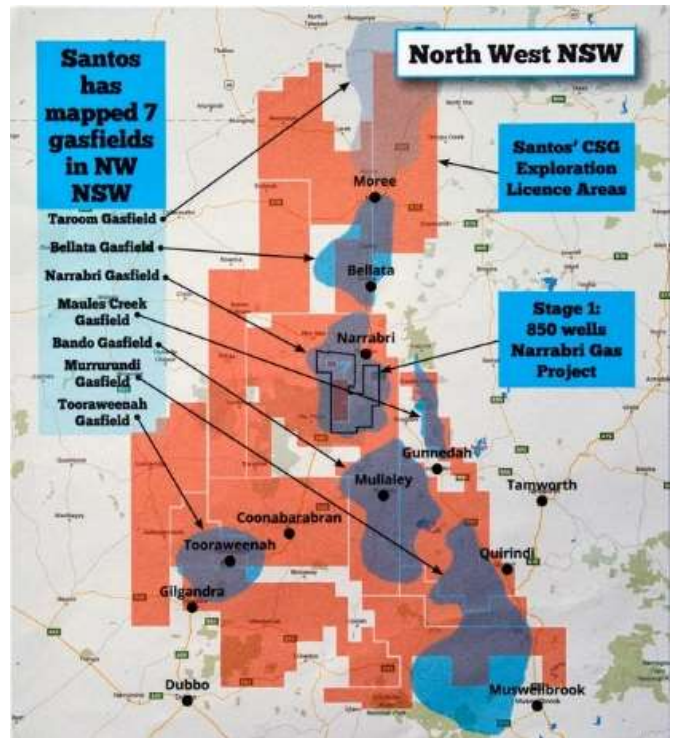
1. Environmental damage in particular to surface and groundwater on the driest continent on earth.
2. Health impacts, including cancer, are well documented by health professionals here and overseas.
3. Higher food costs due to disruption to farm management and damage to prime agricultural land with no insurance.
4. High gas prices to continue for Australian consumers due to gas industry cartel.
5. Less economic benefit and less jobs than a renewable industry. Greenhouse gas emissions from CSG are almost as high as coal when full life cycle is taken into account.
6. Generational inequity



The Narrabri Gas Project area is 95,000 hectares. There are 50 existing wells and Santos has applied to drill 850 more, mostly in The Pilliga State Forest

The Pilliga Forest, the largest inland forest in NSW, is a combination of conservation areas, national parks and state forests. It's home to the endangered koala, black stripe wallaby and the Pilliga mouse.

If this project is approved, coal seam gas extraction is very likely to spread to the seven mapped gas fields in blue. This includes the highly productive agricultural land on the Liverpool and Moree Plains. The orange areas represent expired but not cancelled exploration licences.



### CONVENTIONAL VS UNCONVENTIONAL GAS

Unconventional gas is found in coal seams in The Pilliga. Drilling is vertical until it reaches the gas bearing formation. Then horizontal drilling can continue for several kilometres. With or without fracking, during the drilling process, toxic chemicals, and BTEX compounds found naturally in coal seams, are released into wastewater which is brought to the surface from the coal seam. Conventional gas migrates from its source rock until it is trapped in a reservoir, sometimes with petroleum. Drilling vertically through the cap rock allows the gas to flow out naturally.

#### UNCONVENTIONAL GAS

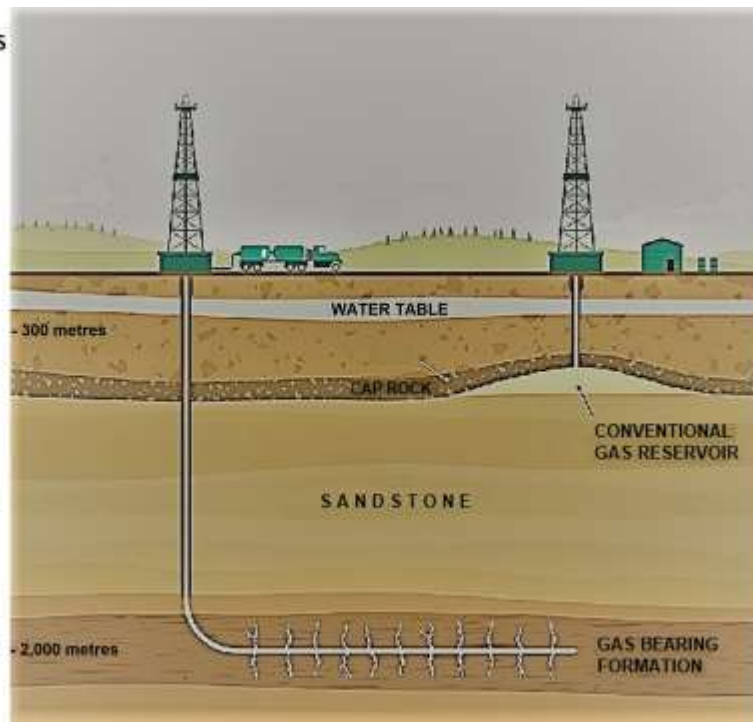
Found in coal seams, shale deposits, or sandstone.

Drilling - Vertical then horizontal

Fracking - yes

Infrastructure - lots, causing greater impact on the environment.

Wastewater - large amount brought to the surface.



#### CONVENTIONAL GAS

Found in reservoirs sometimes with petroleum

Drilling - Vertical

Fracking - sometimes when gas flow ceases

Infrastructure - less

Wastewater - small amount brought to the surface.

Fracking is when chemicals, sand and water are pumped under pressure into wells to fracture a tight geological layer. Fracking increases the production life of a well and therefore its profitability. Santos say they won't frack at Narrabri any more. They may accept no fracking as a condition of approval, but legal advice suggests a fracking ban will need to be legislated because a loophole allows for fracking to be approved later, without community consultation.

## RISKS

### 1. Waste

There is no safe disposal solution for the waste, placing our water and soil at risk.

Most wastewater is brought up from the coal seam in the first 2 years of a project. It contains drilling fluids, naturally occurring salt, heavy metals and BTEX compounds, and, if a well has been fracked, other unknown chemicals.

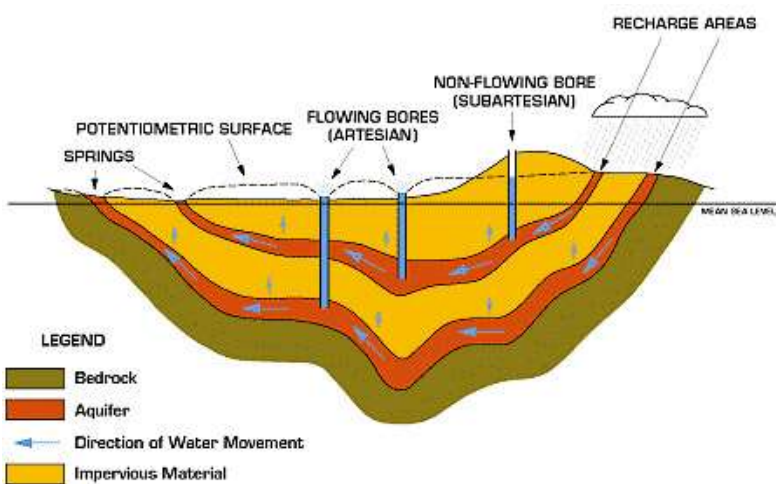
First the wastewater is pumped and piped from the coal seam into massive ponds, double lined with plastic. Then it's put through a reverse osmosis plant, which removes the salt and toxins. This water is called treated water, and gas companies are desperate to get rid of it. In Queensland it irrigates crops, supplements town water supplies and is used for dust suppression. Santos regulates the quality of its own treated water.

The remaining toxic sludge is crystalized by evaporation in ponds and by processing. Santos refuses to reveal where over 400,000 tonnes of this toxic salt will be stored. They propose it will go into landfill along with the plastic pond liners etc.

### 2. Water - our most precious resource

Bringing toxic salt from the coal seam to the surface risks contamination of our creeks and rivers, and the Great Artesian Basin (GAB), our biggest groundwater resource.

The GAB is beneath 22% of Australia, 70% is in Queensland. It's estimated to store enough water to fill Sydney Harbour 130,000 times. Some of the water has been held in rocks deep in the earth's crust for up to 2 million years. Some was trapped during formation. Water is absorbed very slowly in eastern recharge areas in bright yellow, where rivers cross or when rain falls. The Narrabri Gas project is located in the crucial Southern Recharge Zone.



This is roughly how an artesian basin works. Rainfall in the eastern recharge area provides the pressure head (or weight of water) needed to keep artesian bores flowing to the surface without the aid of pumps. Santos has to drill wells through the bedrock below the Great Artesian Basin to get to the coal seam below. It's like drilling holes in the bottom of a swimming pool.

Over 120 towns rely on water from the Great Artesian Basin for domestic use. It's liquid gold in a dry climate. It fills public swimming pools, and keeps gardens and recreational areas green. Livestock producers depend on artesian water, particularly during drought.

[Great Artesian Basin Protection Group](#)



### 3. Gas Well Integrity

Sulphate-reducing bacteria in the gas strata 'eats' concrete and steel gas wells. When wells no longer produce gas, they are plugged with cement and abandoned, but as engineered structures they disintegrate with time. There is no groundwater monitoring around decommissioned wells. North West Protection Advocacy – [Aquifer interference and fracked baselines](#)

### 4. Spills of wastewater



Over 20 spills of toxic salty wastewater brought up from the coal seam have already been recorded so it's inevitable that if this project is approved, there'll be more. One spill contaminated an aquifer, with uranium at levels 20 times higher than safe drinking water guidelines. Rehabilitation of spill sites is slow despite great effort and expense.

### 5. Fire

Bushfires have occurred in parts of the project area on average every 9 years. A fire in January 2020, was approximately 400m from a gas well. A gas field adds diesel, flares and fugitive methane emissions to the natural fire risk. Santos still flares gas during extreme fire warning days.

### 6. Emissions

As well as being a fire risk, flares produce carbon dioxide which lingers in the atmosphere for thousands of years.

When coal seams are disturbed by gas extraction, methane is unavoidably lost to the atmosphere. Gases leaking as a result of industrial activities are called fugitive emissions. In a gasfield there's lots of infrastructure which can leak methane. Some of the eight leaks detected at wells at Narrabri in the last financial year were from components designed to release gas.

Both conventional and unconventional gas are mostly methane, which is 85 times more potent than carbon dioxide over 20 years.

Politicians and the gas industry claim gas is a transition fuel from coal. Although gas burns cleaner than coal, if fugitive emissions are taken into account from the beginning of the CSG extraction process, its full life cycle emissions are nearly the same as that produced by black coal. A recent study found methane emissions from fossil fuels have been underestimated by up to 40%. [Nature research journal](#)



Conventional and unconventional gas are both called natural gas and are piped together through the gas network into homes. Methane has no smell. An odour is added to the gas during processing to keep us safe.

## 7. Health

Despite reported health impacts from CSG in Australia an in-depth independent health impact study has not been conducted in an Australian gasfield. A new health study, led by Dr Cameron Huddleston-Holmes, a **geologist**, will be completed by [GISERA](#) in June 2020. GISERA is an alliance between the CSIRO, the five biggest unconventional gas companies in Australia and federal and state governments. GISERA has the CSIRO logo on their reports but their research is not independent.

Dr Geryl McCarron - [The impact of unconventional gas on the human right to health](#) video.  
[Public Health Communique](#)

## 8. Food

A 2015 Queensland Government report said for every 10 new CSG jobs, 18 agricultural jobs were lost. [Socioeconomic benefits of coal seam gas in Queensland, p.29](#)

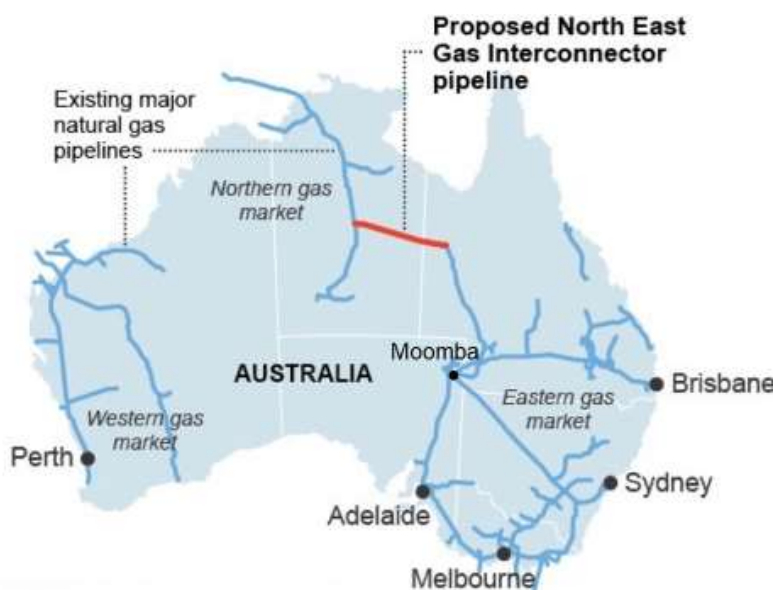
Gas infrastructure turns rural areas into industrial areas. Mining activities introduce weeds, disrupt farm management and restrict heavy farm machinery from crossing pipelines. Coal seam gas development on agricultural land results in higher food production costs, less viable farming land, and therefore higher food prices for consumers. [Meat & Livestock Association Report 2014](#).

CSG impacts on food producers to date. Experts warned all this would happen in Queensland and it has.

1. Contamination of surface and groundwater
2. Lower water tables
3. Drops in bore water levels
4. Falling artesian water pressure
5. Leaking wells and other infrastructure

Farmers cannot insure against the contamination of their water, soil or produce from coal seam gas. As the extraction process involves deliberate injection of chemicals into the ground, it is no accident that contamination occurs.

## ECONOMICS



Australia is the world's largest gas exporter. Gas was originally made from coal in high polluting gasworks in Sydney but since the 1970s NSW has imported conventional gas from either Moomba in SA or from Bass Strait, except for about 5% which comes from AGL's coal seam gas wells in Camden, due to close in 2023.

Queensland gas companies misjudged the costs of building and operating three Liquid Natural Gas (LNG) plants for exporting gas in ships from Curtis Island. At the end of the last financial year, Queensland had nearly 11,500 coal seam gas wells from which the industry expected more gas and less water to flow.

Prior to 2015 the east coast of Australia's domestic gas price was stable at \$3-4 per gigajoule. After the construction of the LNG plants on Curtis Island, the price increased, peaking at \$21/GJ in early 2017.

Prices are now between \$8-12/GJ. Gas from Narrabri is estimated to cost \$7/GJ plus transportation to market, bringing it to \$8-9/GJ.

1 gigajoule = 0.000001 petajoule

PM Scott Morrison recently dangled a \$2billion renewable energy deal in front of the NSW Government, conditional on 70 PJ of gas being delivered by the State into the energy market. Coincidentally, Santos estimates its production to be 70PJ at Narrabri and it needs approximately an additional 100PJ to supply its LNG terminals to ensure full production.

Supplying gas from Narrabri to NSW consumers will not bring down the price of gas for three reasons:

1. Narrabri gas is nearly twice the cost of gas from the most expensive developed gas field on the east coast of Australia.
2. A cartel of producers on the east coast, including Santos, control the price of gas and ensure that we pay well above global parity prices. Australian gas costs more in Sydney than in Japan.
3. Santos will be able to divert cheaper gas to exports and supply us with expensive Narrabri gas.

Eastern Australia’s gas production is rising while demand is falling. The Moomba and Bass Strait gasfields can supply the domestic market and more. A domestic gas reservation policy would ensure an affordable, reliable gas supply for local industry and consumers until we transition away from gas to renewables.

[Pegasus Economics Report 2019](#)

The University of Technology Sydney (UTS) [compared renewable energy with CSG](#) resulting in the chart on the right.



### SANTOS CORPORATE REPUTATION

- Paid no corporate tax in 2018
- Pays no royalties due to a royalty deduction scheme
- Donated nearly \$150,000 to political parties 2018/19 plus more through loopholes in disclosure laws
- Funds CSIRO research into CSG
- Applied pressure on the NSW government to fast track the approval process while at the same time refused to provide requested data.
- Misled the public saying east coast gas supplies were running out. It did not report spills until the public notified authorities. It falsely claimed the project is not in the Great Artesian Basin recharge area.

### NSW CHIEF SCIENTIST’S RECOMMENDATIONS

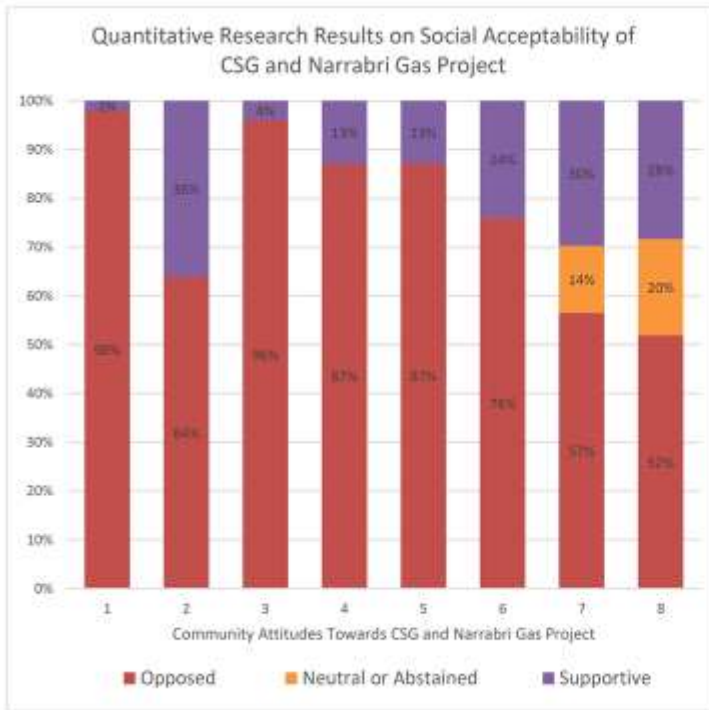
The NSW Chief Scientist made 16 recommendations be implemented before coal seam gas is developed in NSW. The government agreed, but a recent report found only two recommendations have been fully implemented. The [final report](#) concluded that the CSG industry is "uninsurable".

One recommendation is that the cost of government regulations be paid by the industry. The gas regulation budget for this financial year is \$3.75 million but there is no agreement with Santos to pay their share. Costs will be ongoing for monitoring and rehabilitating abandoned wells and waste disposal sites. The full impacts on groundwater, soil and sediments may not be apparent for many years.



**COMMUNITY**

People in shires surrounding Narrabri oppose the Narrabri Gas Project and its pipelines – to prove it People for the Plains gathered together all of these survey results.



## North West NSW Community

Quantitative Data Proving No  
Social Acceptance of The Proposed  
Narrabri Gas Project

No.	Survey Name	Date of Results	Sample Geographical Area	Sample Size
1	EP Public Submissions (Total)	May 2018	Open to all areas	22,809
2	EP Public Submissions (Narrabri Shire postcodes Only)	May 2018	Only those in local postcodes determined by Dept of Planning	499
3	Lock the Gate Community Survey	Over the last 3 years	North West NSW Communities	7,024 over 106 communities
4	Reachtel Q4 (Narrabri)	17/03/2015	Berwin Electorate Residents	681
5	Reachtel Q2 (Tamworth)	12/03/2015	Tamworth Electorate Residents	686
6	Fairfax Online Survey (1/2/11)	2/02/2011	The Land on-line readers	2,225
7	GRSRA Survey	28/01/2009	Narrabri Shire Residents	400
8	North West Alliance Narrabri Town Survey	November 2018	Narrabri Town Residents	839

People for the Plains evidence to CSG Inquiry

The North West Community are tired after years of resistance but they are not giving up because they know what's at stake. The drought is not over for everyone but it has highlighted the importance of groundwater. Protecting the southern recharge zone of the Great Artesian Basin from coal seam gas is of paramount importance to farms, villages, towns and businesses alike.

**Santos' Narrabri Gas Project is not in the public interest because it**

- Risks surface and groundwater, including the Great Artesian Basin
- Produces 430,000 tonnes of salty waste with no safe disposal solution
- It will not lower gas prices

**LINKS TO MORE INFO - [CSG Free North West](#) & [North West Protection Advocacy](#)**

**ABOUT THE INDEPENDENT PLANNING COMMISSION (IPC)**

The NSW Government is expected to refer the Narrabri Gas Project to the Independent Planning Commission (IPC) very soon. This is the last phase of the assessment process before a recommendation, then final determination.

Soon the IPC will give 3 to 6 weeks' notice for a public meeting or hearing in Narrabri. Experts and community groups will be invited to speak at the hearing which is expected to go for two days. Locals and people from all over NSW will come together for this unmissable event in Narrabri to demonstrate the community's

rejection of the CSG industry. Although it's serious business, entertainers, supporting the campaign, will ensure it is fun too. The IPC is also expected to call for another round of submissions.

[Independent Planning Commission Process](#)

**WRITING SUBMISSIONS**

People are encouraged to write **individual submissions**. You can also write one for a group – the more the better but not the same. Submissions **don't have to be big** – one paragraph on one issue counts as one.

**Submissions have not been called for yet.**

Name or organisation  
Postal Address  
Suburb NSW Postcode  
Email Address  
Telephone  
Date (wait for IPC)

Independent Planning Commission  
Panel for the Narrabri Gas Project  
Level 3, 201 Elizabeth Street  
Sydney NSW 2000

**Submission objecting to the Narrabri Gas Project**  
**Please do not publish my name and suburb (optional)**

Introduction - reason for writing the submission - one or two sentences will suffice.

Who are you? – tax payer, parent, grandparent, citizen, qualifications. Do you have a connection or experience in the North West of NSW?

Include an emotional response (sad, angry, fearful etc) in a summary of your major concerns about the Project. These may be future generations, the environment, water supply, Aboriginal heritage, the economy, emissions and climate change

I object to the Narrabri Gas Project because .....

Objection heading/s followed by explanation/s

From the whiteboard the group's key objections were

*Site location* – Great Artesian Basin recharge area, forest, fire, animals, sacred sites, prime agriculture land

*Social impacts* – food security, sacred sites, health, intergenerational inequity

*Environmental impacts* – emissions, Great Artesian Basin, threatened species, fire, water, salt waste

*Economic impacts* – no tax or royalties, health, loss of agricultural jobs, gas prices not lowered, theft, uninsurable, not value for money, not in the public interest, stranded assets due to new technology

*Other* – NSW Chief Scientist's recommendations not implemented, not a transition fuel, trust

What outcome you want from writing submission?

Do you want the IPC to reject the Narrabri Gas Project?

How do you envisage the future of gas? (optional)

- A planned transition to renewables
- Ban gas connections in new homes
- A responsible strategic reserve of gas for Australian industry

Signature

Name of individual or organisation - if an organisation, name of person on behalf of organisation



## LETTER TO MP

You can also write a separate letter to your local MP about the Narrabri Gas project using the same format. As an outcome you can ask him to support Independent MP, Justin Field's Bill to the NSW Legislative Assembly to create a [moratorium on coal seam gas mining and exploration](#), a Standing Expert Advisory Body and CSG no go zones for the Great Artesian Basin recharge areas, the Northern Rivers and coastal drinking water catchments. The debate is likely on 25<sup>th</sup> March and may conclude on 1<sup>st</sup> April.

Name or organisation  
Postal Address  
Suburb NSW Postcode  
Email Address  
Telephone

Date

The Hon. Anthony Roberts MP  
PO Box 524  
GLADESVILLE NSW 1675

Dear Sir

### **Re: Narrabri Gas Project**

As a voter in your electorate I am writing to you because.....(refer to your submission)

I object to the Narrabri Gas Project because ..... (refer to your submission)

For these reasons I urge you and your party to support Independent MP, Justin Field's bill for a moratorium on coal seam gas mining and exploration across NSW.

Signature

Name of individual or organisation - if an organisation, name of person on behalf of organisation