

Gas Comms Guide Fracking.

Key Messages

- Mining and burning gas emits methane pollution, which contributes to global warming.
- Gas is unhealthy, bad for the environment and one of the key drivers of worsening climate change and related extreme weather events.
- Fracking is dangerous and risky.
- Fracking is hazardous to human health.
- Fracking is one of the most environmentally damaging ways to extract gas. It kills native animals, contaminates local land and pollutes water supplies.
- There is growing international evidence that fracking can harm the health of people living nearby, including pregnant mothers and their unborn children.
- Expanding gas puts the health and well-being of more Australians and our native animals at risk.

Messaging advice and terminology

- **Terms:** It is important to use the term “fracking” whenever the practice is occurring or proposed. Avoid the industry term “hydraulic fracturing”, which is technical, unfamiliar to most people and sounds more benign.
- **Important note:** Be careful not to use the term fracking when fracking is unlikely, such as in the coal seam gas (CSG) fields of Southern Queensland and the planned Santos Narrabri Project. While fracking is sometimes used to extract CSG in QLD, it is not used all the time. Referring to “unconventional gas extraction” is a safer term when you’re unsure whether fracking is occurring. As a general rule: Shale and tight gas requires fracking, coal seam gas *sometimes* requires fracking.
- **Advice:** When referring to fracking, it is important to:
 - Position scientific research into the impacts of fracking as a central focus of the debate¹ and as a strong tool in support of anti-fracking arguments.
 - Challenge the gas industry’s claims that fracking will improve energy security in Australia, as more than 70% of our gas is exported.
 - Contest pro-fracking arguments that household energy bills will be lowered - studies from CSIRO² and the Australian Energy Market Operator³ have repeatedly shown that renewable energy is the cheapest form of new energy generation⁴.
 - Examine the uncertainties, such as toxic chemicals used in fracking⁵ and the potential health risks for people living nearby⁶, or native wildlife.
 - Frame the debate around climate change, in terms of emissions (particularly methane) and impacts. For example, tie groundwater pollution and depletion from fracking into a conversation about climate change and drought, particularly in farming communities.

What is fracking?

Also referred to by the gas industry as ‘hydraulic fracturing’, fracking involves forcing massive quantities of sand-bearing water, loaded with chemicals, deep underground.⁷

The pressure behind the injected fluid mix creates and sustains cracks and fissures in the rock, which allow gas to flow and be extracted more easily.

Fracking is dangerous and risky

Fracking is one of the most environmentally damaging ways to extract gas⁸ and can harm human health, kill native animals, contaminate local land and pollute water supplies.¹⁰

The identities of the specific chemicals used are often kept secret from the communities they affect,¹¹ and, if something goes wrong, they can cause serious damage to local agriculture, bushland and waterways.¹²

Fracking is hazardous to human health

Gas extraction and processing involves many hazardous substances including those that, with sufficient exposure, may cause cancer, interfere with hormones, cause nervous system damage and trigger asthma. These chemicals can also contaminate the clean air and water communities rely on for good health.¹³

There is growing international evidence of the negative health impacts from fracking on people living close to gas wells, including on their reproductive and respiratory health, and on the health of pregnant mothers and their unborn children.

A large Canadian study showed that those living within 10 kilometers of at least one fracking well in the year before or during a pregnancy had an increased risk of congenital anomalies, or small-at-gestational-age births.¹⁴ This mirrored similar findings in an earlier American study, which showed that pregnant women living close to fracking sites had an elevated risk of delivering babies with a low birthweight, compared to those living further away.¹⁵

Evidence of negative health impacts from fracking in Australia is emerging,¹⁶ and while independent local research is limited,¹⁷ findings so far are generally consistent with overseas studies.

Continued expansion of gas across the country puts the health and well-being of more Australians at risk.

Polluting our land, killing plants and animals

International studies have shown that fracking can lead to loss of animal and plant habitats, species decline, migratory disruptions and land degradation.¹⁸

In some instances, fracking has also been linked to surface water pollution, groundwater contamination and the deaths of native animals.¹⁹

Fracking often competes with farming

In Australia, gas corporations have built thousands of gas wells in farmers fields, with negative impacts like having land sink around gas wells, known as subsidence - which can cause crops to become waterlogged and machinery to get bogged²⁰ - and the pollution of groundwater.²¹

Unconventional gas exploration and the development of thousands of wells has had major impacts on primary producers in southern Queensland's Darling Downs.²² leaving some local farmers with huge bills - for example to re-level fields where significant subsidence has occurred - and ongoing financial and social impacts.

Concerns around the impact of fracking on farmland and agriculture even saw the state of Victoria become the first in Australia to ban the practice in 2017.²³

When and where is fracking used in Australia?

Fracking is often used in Australia and elsewhere to extract gas found in complex rock formations - known as unconventional gas. Its development in these rock formations makes it more difficult to extract than conventional gas, which is trapped in naturally porous reservoirs underground. Three types of unconventional gas are extracted in Australia, often through fracking: coal seam gas, shale gas and tight gas.

- **Coal seam gas (CSG)** holds methane and is found with underground coal seams, often held in place by pools of ancient groundwater ("fossil water"). This must be removed to access the gas (de-watering). CSG extraction can contaminate groundwater and aquifers, which has serious consequences for farmers. Coal seam gas extraction occasionally uses fracking to increase the supply.
- **Shale gas** holds methane in clay-heavy, layered rock formations known as shales. Within shales, gas is contained in small pores that do not allow the gas to flow freely. Fracking is always required to access shale gas.
- **Tight gas** is similar to shale gas, except that the methane is found in sandstone. As with shale gas, tight gas extraction always requires fracking.

CASE STUDY

Farmers vs fracking in the Darling Downs, QLD

Some farmers in the Darling Downs in South East Queensland have been struggling with the expansion of the gas industry for more than a decade.

Roughly 9,000 coal seam gas (CSG) wells have been built across some of Australia's most productive farmland, and there are expected to be as many as 22,000 by 2030.²⁴ Farmers have reported impacts like land sinking in fields around the wells²⁵ - which can cause crops to become waterlogged and machinery to get bogged²⁶ - and a reduction in the amount of groundwater in bore holes. A Queensland Government report expects the water volume in 702 water bores in the Surat basin will be affected²⁷, and that figure keeps rising - it was 459 in 2016 and 571 in 2019.²⁸

Gas company Arrow Energy – a joint venture between global petroleum giants Shell and PetroChina – was fined \$1m by the Queensland government for drilling diagonally underneath neighbouring farms without permission or notification.²⁹

Under property rights law in Australia landowners and resource companies have overlapping tenures, which has led to inevitable conflicts between gas corporations and farmers, who aren't able to refuse drilling on their land, despite the negative impacts.

Due to the way the industry is legislated, it has also been difficult for farmers to get the Queensland Government to investigate the actions of gas corporations and the impacts from their industry.

Under Queensland law, agricultural land has no environmental value and any damage to the extremely productive black soil plains used by farmers is not subject to environmental regulations. Farmers and resources law experts have been demanding an immediate pause to gas expansion, something that has still not occurred.

A state inquiry in Victoria led to a ban on fracking to protect agriculture,³⁰ but Queensland has never had a similar process of inquiry.

Macquarie University natural resources law expert and Climate Councillor Dr Madeline Taylor said³¹:

"We've had the CSG industry in Queensland for over a decade, but we are only now seeing the real human effects, the social licence impacts, the erosion of community trust.

"We need to now take a precautionary approach. Those cumulative impacts will play out over a matter of decades. It's time to halt development, to do a proper scientific inquiry, rather than constant amendments to legislation and regulations, which create constant uncertainty for landholders.

"The protection of our best arable land is crucial in Australia because we don't have much of it. We're the most arid continent in the world. We're seeing constant climate change effects and we will have diminishing agricultural productivity in this country."

For more information you can read:

- No civilisation without agriculture': David Pocock says gas fields show environmental laws are broken, by Aston Brown, The Guardian, 27 August 2023,
- In Queensland's food bowl, farmers fear the gas bores from next door, by Ben Smee, The Guardian, 13 March 2022

CASE STUDY

Fracking in the Beetaloo Basin, NT

The Northern Territory Government made a pretty rotten decision³² in May 2023 to allow fracking within the Territory's borders, opening the door to the highly controversial Beetaloo shale gas field.

This highly-polluting development is projected to emit the equivalent of more than 2.5 times Australia's annual domestic emissions over the next two decades.³³

Fracking is one of the most environmentally damaging ways to extract fossil fuels. It uses many dangerous chemicals which can contaminate local land and water supplies. Tamboran Resources, one of the biggest fracking exploration companies in the Beetaloo Basin, was recently alleged to have been involved in three significant fracking pollution incidents³⁴ at a fracking exploration site in the Northern Territory.

A synthesis report³⁵ published by the University of Sydney in September 2023 found that fracking in the Beetaloo Basin and the processing of the gas at proposed Middle Arm energy hub in Darwin Harbour could lead to environmental impacts³⁶, harms to human health³⁷ - including higher rates of asthma, severe birth defects and a possible increase in cancers - and cultural and spiritual harms for First Nations people.³⁸

All new and expanded coal or gas projects are incompatible with a safe climate, and aren't needed.

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