

ARROW'S WARRA-BRIGALOW-CHINCHILLA EXPANSION

Factsheet series about Arrow's expansion

This Factsheet series gives an overview of the many aspects of Arrow's expansion, based on recent local experience. Factsheets draw on many sources and are comprehensive, but inevitably wordy. This is no 1. No 2 discusses *What to do before they come calling*, no 3 discusses *Negotiations*.

INTRODUCTION

Arrow Energy, a subsidiary of Shell, has been granted permission to add another 2,500 wells to their current Coal Seam Gas project. The area under Arrow's new permits is south of the Warrego highway between McAlister and Chinchilla and covers some of the best farming land in Australia.

Extracting Coal Seam Gas - (For technical Factsheets see footnote¹)

Extracting Coal Seam Gas (CSG) involves drilling thousands of gas wells, with associated access tracks, pipelines, compressor stations, wastewater dams, and other infrastructure. These include numerous points for routine venting of raw gas and volatile toxic BTEX chemicals (see page 2).

Developing a CSG well involves drilling into a coal seam, then turning sideways and drilling for up to 2 km in any direction. This penetration of the coal seam allows gas and water to flow upwards as a result of pressures in the coalbeds. The gas is separated from the water at the surface. Most gas comes up through the well but not all. That part is called fugitive gas and causes serious problems. The removal of this deep water has caused farmer's water bores to dry up or become gassy.

The extracted water contains contaminants from coal (page 2). Wells may also be fracked at later stages to promote gas release. This involves high pressure injection into the well of huge amounts of sand, water, large quantities of salt and more than 960 chemicals, many of them toxic. This produces toxic 'flow back' water. There is no economic treatment for removal of those toxic chemicals.

Compressor stations send the gas through a dense network of pipes to Gladstone for export at prices less than half of those we pay in Australia. None is sold in Australia. The companies involved pay no income tax, few royalties, employ few workers after construction and their profits go overseas.

Local effects of gas

- Fugitive gas escapes sideways and upwards through cracks in rocks into bores, creeks and the air.
- An unknown quantity of gas is 'let-out' of pipelines at every elevated point, called 'venting', to prevent airlocks reducing the flow of water. This is automatic and is not regulated or monitored.
- This gas is a mixture of methane (16x as bad as CO²) and volatile compounds, some carcinogenic.
- Fugitive gas has resulted in many aquifers and bores becoming unusable for domestic and stock water on surrounding properties kilometres away in any direction.
- USA sources mention higher abortion rates in pregnant cows grazing in or near gasfields.
- The dewatering of 1,000's of gas wells plus the numerous coalmines is putting the Great Artesian Basin at serious risk.
- USA documents show that 6% of gas wells fail immediately and 60% fail over 20 years. If wells fail, gas and toxins can find further pathways into aquifers, surface water and the air.

Effects of pipelines

- Farmers on the Darling Downs have spent \$10,000's per farm over the past decades on surface water management to reduce erosion and increase water infiltration into their soil.
- Gas pipes are laid in straight lines, pushed through anything in their pathways without regards to effects on surface waterflows; the clearings and access tracks concentrate water and speed it up.
- This has led to very serious erosion, problems with working paddocks and lower infiltration rates.

¹ https://www.lockthegate.org.au/fact_sheets

- Less soil-water results in lower yields / less pastures, meaning lower income and property values
- Lower property values can endanger the security of loans and affect farmers' retirement plans.
- Clearing pathways through forests adds to serious fragmentation of habitat for small animals.

Pay-outs

- Gas-companies offer farmers compensation for side-effects. These are confidential, but are known to vary widely: from very small to multimillion-dollar figures.
- More than 5,265 farmers have been compensated, with the average figure around \$67,000.

Area-wide and Long-term Effects

- The toxic waste water ponds and tanks are lined with plastic and are spread throughout the area.
- Overflow into creeks during heavy rain is an annual risk.
- Eventually plastic liners deteriorate and the mix will drain into local creeks and the Condamine.
- The company called 'We Kando Pty Ltd' has approval for a 15 million tonne CSG Waste Dump and Commercial Salt Storage facility near Chinchilla. The 'Salt Storage' approval consists of:
 - 4.5 million tonnes of 'Product Salt' from the reverse osmosis water treatment plant at 900,000 tonnes p.a. for 5 years.
 - 900,000 tonnes of Waste Landfill Salt at 45,000 tonnes p.a. for 20 years. This material contains Arsenic, Cadmium, Chromium, Lead, Thallium, Selenium, Thorium and Uranium along with BTEX chemicals (benzene, toluene, ethylbenzene and xylene).
- The Dump is on a hill-top on dispersible clay soils near creeks draining into the Condamine River.
- It is a steadily-increasing threat to the Murray/Darling Basin, potentially leaking water three times as salty as seawater and loaded with toxic elements according to a specialist's report.

Key medical findings (Source: The Conversation, March 21, 2019 *'Expanding gas mining threatens our climate, water and health'* - click on link in the footnote below.)

- Exploratory studies in Queensland found higher rates of hospitalisation for [circulatory](#), [immune system](#) and [respiratory disorders in children](#) and [adults](#) in the Darling Downs region, as well as [psychological](#) and [social](#) problems
- The US literature now consistently reports higher frequencies of [low birth weight](#), [extreme premature births](#), [higher-risk pregnancies](#) and [some birth defects](#), in pregnancies spent closer to unconventional gas mining activities, compared with pregnancies further away.
- US studies have found increased [indicators of cardiovascular disease](#), higher rates of [sinus disorders](#), [fatigue and migraines](#), and hospitalisations for [asthma](#), [heart](#), [neurological](#), [kidney and urinary tract](#) conditions, and [childhood blood cancer](#) near gas operations.

WHAT ANYONE CAN DO

- Talk to friends, neighbours, local media, political-party members, politicians, their electoral offices and express your opinion: STOP THESE NEW WELLS – STOP ALL NEW EXPANSIONS.
- Forward these sheets to your friends and business contacts and ask them to do the same.
- Join or form a Local Community Group – contact Karen Auty (0423 301 958).

LANDHOLDERS - in addition to the above, landholders can

- Place Bio-security signs on all publicly accessible boundaries.
- Get a biosecurity plan in place with strict requirements for gas company's access at any time and under any circumstances. The plan includes baseline data on water, air, noise, light, weeds/pest.

AND ABOVE ALL

Don't sign anything with a gas company regardless of pressure. Join with neighbours to get detailed information and independent advice. As individuals we have limited power - as groups we have a lot. For further information please contact David McCabe (0427 658 153) or Glen Beasley (0428 933 463)

Conversation article: https://theconversation.com/expanding-gas-mining-threatens-our-climate-water-and-health-113047?utm_medium=email&utm_campaign=Latest%20from%20The%20Conversation%20for%20March%2021%202019%20-%201264111710&utm_content=Latest%20from%20The%20Conversation%20for%20March%2021%202019%20-%201264111710-c10_a4a29fcc50c9af788169214f773d03c78&utm_source=campaign_monitor&utm_term=Expanding%20gas%20mining%20threatens%20our%20climate%20and%20health