

Gasland

- *Gasland* is an American film purporting to highlight adverse outcomes of natural gas production in the USA.
- The distortions, exaggerations and inaccuracies contained within this film are well-known and well-documented.
- As detailed below, the film bears very little relevance to the USA gas industry and absolutely none to Australia's.

***Gasland* states that the oil and gas industries are exempt from the "Clean Water Act, the Clean Air Act, the Safe Drinking Water Act, the Superfund law, and about a dozen other environmental and Democratic regulations".**

This assertion, every part of it, is false. In the US, the oil and natural gas industry is regulated under every single one of these laws — under provisions of each that are relevant to its operations.

- In Australia, all activities of the oil and gas industry are heavily regulated by state and federal authorities.
- In Queensland, the CSG-LNG industry is subject to the most rigorous environmental approval and monitoring processes in Queensland's history. Environmental assessments conducted by the Queensland Government have resulted in more than 1200 conditions per project being applied. This is in addition to federal environmental approvals processes, making the CSG industry one of the most heavily regulated and scrutinised in the country.

***Gasland* states that oil and gas companies inject “hazardous materials, unchecked, directly into or adjacent to underground drinking water supplies”.**

- This is untrue.
- The sub-surface formations that undergo fracture stimulation reside below, often several hundred metres below, formations that carry potable water. These strata are separated by millions of tons of impermeable rock.
- Fracking is a process which has been used for more than 50 years in the USA and for several decades in Australia.
- Claims that fracking is a source of groundwater contamination are inaccurate. These claims are also invariably unsourced and unsubstantiated.
- Fracking is tightly and effectively regulated and this has been consistently demonstrated by independent analysis.
- The Groundwater Protection Council — an association of USA state regulators and stakeholders — studied the environmental risk of hydraulic fracturing in more than 10,000 coalbed methane (CSG) wells and found only one complaint; which related to an Alabama well which the Environmental Protection Agency (EPA) had already concluded was not fracking-related.
- In 2004, the US EPA completed a five-year study of coalbed methane fracking environmental risks which concluded: “the injection of hydraulic fracturing fluids into coal-bed methane wells pose little or no threat to (underground drinking water).”
- It is important to note that these are reports by independent agencies and regulators — not the industry.
- In Australia, it has been determined that the risk to public health or the environment posed by fracking is negligibly low according to occupational exposure standards published by Safe Work Australia.

***Gasland* says that the chemicals used in fracking are secret and proprietary, and because of this it is impossible to monitor their use and impact on groundwater.**

- This is not correct. The chemicals used in fracking are publicly available on government and industry websites.
- In Queensland, the government is introducing regulations that will require notification, both to the government and landholders, of all chemicals used in fracking and indeed for all chemicals used on a petroleum well site.

Gasland states that “[Hydraulic fracturing] blasts a mix of water and chemicals 8000 feet into the ground. The fracking itself is like a mini-earthquake. ... In order to frac, you need some fracking fluid — a mix of over 596 chemicals”.

- As it relates to the composition of fluids commonly used in the fracturing process, greater than 99.5 per cent of the mixture is comprised of water and sand. The remaining materials, used to help deliver the water down the wellbore and position the sand in the tiny fractures created in the formation, are typically components found and used around the house. The most prominent of these, a substance known as guar gum, is an emulsifier more commonly found in ice cream.
- From the US Department of Energy/GWPC report: “Although the hydraulic fracturing industry may have a number of compounds that can be used in a hydraulic fracturing fluid, any single fracturing job would only use a few of the available additives [not 596!]. For example, in [this exhibit], there are 12 additives used, covering the range of possible functions that could be built into a fracturing fluid.” (page 62)
- The film depicts the fracturing process as one that results in the absolute obliteration of the shale formation. In reality, the fractures created by the procedure and kept open by the introduction of proppants such as sand are typically less than a millimetre thick.
- Drilling with compressed air is also becoming an increasingly popular alternative to drilling with fluids due to the increased cost savings from both reduction in mud costs and the shortened drilling times as a result of air based drilling.

Gasland states that “Each well completion, that is, the initial drilling phase plus the first frack job, requires 1 150 truck trips”.

- This claim is unsubstantiated. It is also inaccurate as the number of trips required to supply the well site with the necessary equipment and personnel will vary (widely) depending on any number of factors.

Gasland states that “Before the water can be hauled away and disposed of somewhere, it has to be emptied into a pit — an earthen pit, or a clay pit, sometimes a lined pit, but a pit — where a lot of it can seep right back down into the ground.”

- Fracking fluids in Australia are stored in ponds or tanks that prevent the fluid from re-entering the surrounding environment.
- Queensland model environmental authority conditions will require that dams used to store fracking fluids must be designed with a floor and sides made of material to contain the wetting front and any entrained contaminants during its operation life, including any period of decommissioning and rehabilitation.
- In the United States, the vast majority of energy-producing states — 27 in total, including all the ones to which *Gasland*'s creator travels through — have explicit laws on the books governing the type of containment structures that must be used for temporarily storing flowback water. A number of producers today choose to store this water in steel tanks, eliminating all risk of that water re-entering the surrounding environment.

Gasland states “the Pinedale Anticline and the Jonah gas fields [of Wyoming] are directly in the path of the thousand year old migration corridor of pronghorn antelope, mule deer and sage grouse. And yeah, each of these species is endangered, and has suffered a significant decline of their populations since 2005.”

- Three species of the pronghorn antelope are considered endangered, none of which are found anywhere near the Pinedale Anticline. Those are: the Sonoran (Arizona), the Peninsular (Mexico), and the Mexican Pronghorn (also of Mexico). According to the Great Plains Nature Center: “The great slaughter of the late 1800s affected the pronghorns ... Only about 12,000 remained by 1915. Presently, they number around one million and the greatest numbers of them are in Wyoming and Montana.”
- Only one species of mule deer is considered endangered: the Cedros Island mule deer of Mexico (nowhere near Wyoming). The mule deer populations are so significant in Wyoming today that the state has a mule deer hunting season.
- The sage grouse does not currently have a place on the endangered species list, according to the US Fish & Wildlife Service (FWS) — and “robust populations of the bird currently exist across the state” of Wyoming, according to the agency.

Gasland states “In 2004, the EPA was investigating a water contamination incident due to hydraulic fracturing in Alabama. But a panel rejected the inquiry, stating that although hazard materials were being injected underground, EPA did not need to investigate.”

- No record of the investigation described in the film exists.
- That said, it’s possible that the film is referring to EPA’s study of the McMillian well in Alabama, which spanned several years in the early- to mid-1990s. In 1989, Alabama regulators conducted four separate water quality tests on the McMillian well. The results indicated no water quality problems existed. In 1990, EPA conducted its own water quality tests, and found nothing.
- In a letter sent in 1995, then-EPA administrator Carol Browner (currently, President Obama’s top energy and environmental policy advisor) characterised EPA’s involvement with the McMillian case in the following way: “Repeated testing, conducted between May of 1989 and March of 1993, of the drinking water well which was the subject of this petition [McMillian] failed to show any chemicals that would indicate the presence of fracturing fluids. The well was also sampled for drinking water quality, and no constituents exceeding drinking water standards were detected.”

Gasland states “Just a few short months after this interview, the Pennsylvania Department of Environmental Protection suffered the worst budget cuts in history, amounting to over 700 staff either being fired or having reduced hours and 25 per cent of its total budget cut.”

- DEP press release, issued January 28, 2010: “Governor Edward G. Rendell announced today that the commonwealth is strengthening its enforcement capabilities. At the Governor’s direction, the Department of Environmental Protection will begin hiring 68 new personnel who will make sure that drilling companies obey state laws and act responsibly to protect water supplies. DEP also will strengthen oil and gas regulations to improve well construction standards.”

***Gasland* includes footage of Dunkard Creek with images of dead fish along a 35-mile stretch of Dunkard Creek in Washington Co, Pa, and attributes that event to natural gas development.**

- The film's attempt to blame the Dunkard Creek incident on natural gas exploration is contradicted by a US EPA report — issued well before *GasLand* was released — which blamed the fish kill on an algal bloom, which itself was fed by discharges from coal mines.
- US EPA report: "Given what has been seen in other states and the etiology of this kill, we believe the toxin from this algae bloom led to the kill of fish, mussels, and salamanders on Dunkard Creek. ... The situation in Dunkard Creek should be considered a chronic exposure since chloride levels were elevated above the criteria for long periods of time." (issued 11/23/09)
- A local US newspaper has also taken issue with this claim: "One glaring error in the film is the suggestion that gas drilling led to the September fish kill at Dunkard Creek in Greene County. That was determined to have been caused by a golden algae bloom from mine drainage from a [mine] discharge." (Washington (Pa) Observer-Reporter, 6/5/10)

***Gasland* includes footage of a flammable faucet in Fort Lupton, Colo. Which is blamed on natural gas development.**

- But that's not true according to the Colorado Oil & Gas Conservation Commission (COGCC). "Dissolved methane in well water appears to be biogenic [naturally occurring] in origin. ... There are no indications of oil and gas related impacts to water well." (complaint resolved 9/30/08, signed by John Axelson of COGCC)
- Context from ProPublica: "Drinking water with methane, the largest component of natural gas, isn't necessarily harmful. The gas itself isn't toxic — the Environmental Protection Agency doesn't even regulate it — and it escapes from water quickly, like bubbles in a soda." (Abraham Lustgarten, ProPublica, 4/22/09)

***Gasland* blames methane occurrence in West Divide Creek, Colo. on natural gas development.**

- That assertion has also been debunked by COGCC, which visited the site six separate times over 13 months to confirm its findings: "Stable isotopes from 2007 consistent with 2004 samples indicating gas bubbling in surface water features is of biogenic origin." (July 2009, COGCC presentation by Margaret Ash, environmental protection supervisor)
- Email from COGCC supervisor to Bracken: "Lisa: As you know since 2004, the COGCC staff has responded to your concerns about potential gas seepage along West Divide Creek on your property and to date we have not found any indication that the seepage you have observed is related to oil and gas activity." (email from COGCC's Debbie Baldwin to Bracken, 06/30/08)
- More from that email: "These samples have been analyzed for a variety of parameters including natural gas compounds (methane, ethane, propane, butane, pentane, hexanes), heavier hydrocarbon compounds including benzene, toluene, ethylbenzene, xylenes (BTEX), stable isotopes of methane, bacteria (iron related, sulfate reducing, and slime), major anions and cations, and other field and laboratory tests. To date, BTEX compounds have not been detected in any of the samples."



***Gasland* includes an interview with Calvin Tillman, the mayor of DISH, Texas who blames natural gas development and transport for toxins in the air, benzene in blood.**

- Tillman in the press: “Six months ago, nobody knew that facilities like this would be spewing benzene. Someone could come in here and look at us and say, ‘You know what? They’ve sacrificed you. You’ve been sacrificed for the good of the shale.’” (Scientific American, 3/30/10)
- A little more than a month later, Texas Department of State Health Services debunks that claim: “Biological test results from a Texas Department of State Health Services investigation in Dish, Texas, indicate that residents’ exposure to certain contaminants was not greater than that of the general US population.” (DSHS report, May 12, 2010)
- More from the agency: “DSHS paid particular attention to benzene because of its association with natural gas wells. The only residents who had higher levels of benzene in their blood were smokers. Because cigarette smoke contains benzene, finding it in smokers’ blood is not unusual.”

Source: APPEA, www.energyindepth.org