

28 April 2017

## Submission to the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory

via online submission at [www.frackininquiry.nt.gov.au](http://www.frackininquiry.nt.gov.au)

The Australian Pipelines and Gas Association (APGA) and Energy Networks Australia welcome the opportunity to make a submission to the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory. APGA is the peak body representing Australasia's pipeline infrastructure and has a focus on gas transmission. Energy Networks Australia is the national industry body representing businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia.

We support the risk-based approach taken in the *Background and Issues Paper* and note that this fits well with the findings of previous inquiries<sup>1</sup> into hydraulic fracturing which found that with unconventional gas extraction methods could be undertaken with appropriate expertise, risk management and regulation.

APGA and Energy Networks Australia would like to take this opportunity to make several points about gas extraction methods and the current and future role of gas as a secure, low-emissions energy supply to the national economy.

### Gas extraction methods

We believe that an important point is made in the *Background and Issues Paper* that the term 'unconventional gas' leads to misunderstandings that can cause concern. The gas extracted from source rocks such as coal and shale, which is the subject of this inquiry, is chemically virtually the same as the gas that is found everywhere else in Australia. It is largely methane and it is the same gas we use in our homes, commerce and industry today. The description 'unconventional' is used to describe the methods required to extract gas from these less porous rocks, although hydraulic fracturing has been used in the coal seam gas (CSG) industry in Queensland for more than two decades and horizontal directional drilling has been used for quite some time in a range of applications including in the pipeline industry.

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<sup>1</sup> Two recent independent scientific studies have found that risks associated with unconventional gas extraction can be managed. These reports are authored by the Australian Council of Learned Academies (<http://acola.org.au/wp/project-6/>) and the NSW Chief Scientist and Engineer ([http://www.chiefscientist.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0005/56912/140930-CSG-Final-Report.pdf](http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0005/56912/140930-CSG-Final-Report.pdf)).

### **Findings from inquiries**

Inquiries into unconventional gas extraction in Australia have looked at both coal seam gas and shale gas. These independent reviews have found that, with appropriate expertise, risk management and regulation, unconventional gas extraction can be done safely. Improved drilling and well construction technology mean the wells are very safe and any leaks are minimised. Steel and cement casings are used to isolate wells from the surrounding geological strata and from aquifers. Wells are monitored to ensure their continuing integrity, for example for leakage, erosion, structural integrity and the impacts of pressure, and for cathodic protection when that is required. The longer wells required for the extraction of shale gas would be equally well-constructed in line with the high level of engineering professionalism that characterises gas production construction in Australia. Methods for drilling bores have been well established over decades in agricultural, industrial and domestic practices in Australia. Drilling wells for shale gas extraction is technically more challenging but poses no additional risk of contamination of water resources when industry best practice is used.

### **Chemicals**

The BTEX chemicals previously used elsewhere for hydraulic fracturing are no longer used and in any case they are banned in the Northern Territory. Sand and water are the major components of the fluid used and any chemicals that are used are in everyday use in many household applications.

### **Land access**

CSG has been extracted for commercial purposes in Queensland for two decades and, while land access may have been sub-optimally negotiated in the more recent period of rapid expansion, lessons have been learned. Authentic stakeholder engagement is key to the success of the industry and improvements in the ways industry and landowners work together have led to more than 5000 land access agreements have been signed in Queensland which is a testament to co-existence between landholders and the gas industry. We acknowledge that there are a range of views in any community. There are farmer, local business and landholder groups that support unconventional gas development – they recognise that land use patterns change over time and that diversification of income streams can be a benefit. There are also groups that have concerns about gas extraction in their communities and gas producers make efforts to communicate with all these groups.

### **Gas use in Australia**

Gas is the single largest source of energy for Australia's manufacturing industry. It is a vital ingredient for the manufacturing of, plastics, fertiliser, many household products, chemicals and explosives. It is an essential feedstock for these industries and in many cases there is no substitute. Gas is also vital for industries requiring constant very high temperatures, for example in brick and glass-making or in the hygienic disposal of medical waste and associated biohazards.

Gas supplies as much energy to Australia's households and industry as electricity does, and gas is also used to generate electricity. Almost 70 per cent of Australian homes (6.5 million) use mains or

bottled gas. Mains gas is delivered safely to homes, commerce and industry through extensive networks of underground transmission and distribution pipelines and the security of supply is second to none.

### **Carbon emissions**

Natural gas used directly in the home for cooking and heating has one quarter of the carbon emissions of electricity generated by coal, and electricity generated in gas-fired power stations has half of the emissions of coal-fired electricity generation. Australia has committed to meeting the emissions reductions outlined in the COP21 Paris Agreement and gas has a key role to play in ensuring Australia delivers on that commitment while maintaining a reliable and affordable energy sector.

### **The future role of gas**

Gas-fired electricity generation is quick to start-up and quick to shut-down which makes it an ideal part of an energy system with an increasing component of energy generated from intermittent renewable resources. But backing up intermittent generators and supplying power to meet peak demand is just one of its future roles. By using co-generation and tri-generation, gas can provide heating, cooling and electricity to businesses and buildings that use it as a preferred energy source, such as restaurants. Its role as an essential feedstock will continue, and it will continue to be used for high-temperature applications in manufacturing and other industries. Gaseous fuels such as compressed natural gas (CNG), liquefied natural gas (LNG) and liquefied petroleum gas (LPG) will become an increasingly important source of low-emission fuel in the transport industry. Already, there are around 380,000 gas vehicles in Australia. As we continue to cut carbon emissions through the 21<sup>st</sup> century, transformational technologies including biogas, hydrogen and carbon capture and storage will be integrated with natural gas to further reduce emissions. These technologies exist today and, with further work, they should be able to be integrated into the current gas distribution system with little disruption.

**Summary**

Australia has abundant reserves of natural gas, both onshore and offshore. Some of these reserves will require hydraulic fracturing to extract the gas. These methods have a long history of use in a range of industries and their continued safe use should be guaranteed through the application of appropriate expertise, risk management and regulation.

Ensuring Australia's abundant reserves of natural gas are available in future will underwrite an optimal energy mix that is reliable and has low emissions and this will enable our homes, commerce and industry to flourish.

For more information please contact Steve Davies at APGA on (02) 6273 0577 or Dennis Van Puyvelde at Energy Networks Australia on (02) 6272 1548.

Yours sincerely

A handwritten signature in black ink, appearing to read "Steve Davies".

Steve Davies  
National Policy Manager, APGA

A handwritten signature in blue ink, appearing to read "John Bradley".

John Bradley  
Chief Executive, Energy Networks Australia