

**Submission  
No 43**

## **DOWNSTREAM GAS SUPPLY AND AVAILABILITY IN NSW**

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21<sup>st</sup> June 2013

**Re: Submission to the Downstream Gas Supply and Availability in NSW (Inquiry)**

The Wilderness Society Newcastle appreciates the opportunity to make a submission on the Downstream Gas Supply and Availability in NSW (Inquiry).

This inquiry and the expected corresponding high level of research and public information about the gas market and distribution options and challenges in NSW are welcomed.

The need for clear information is particularly important when gas suppliers and industry representatives are making a public position regarding a case for future NSW gas supply to be sourced from NSW unconventional gas on the basis of a 'supply crisis'.

This submission will address specific terms of reference:

- (b) barriers to the expansion of downstream gas supply and distribution networks;
- (c) the effectiveness of competition in the downstream gas market and consumer pricing implications; and
- (d) the effectiveness of existing protections for consumers and measures to facilitate access to gas connection and supply.

This submission will also present the case that the matter of gas supply networks cannot be truly examined entirely in isolation. Any options and issues surrounding future gas supply that put forward coal seam gas must also address the related impacts that this new industry may have, particularly around water impacts and land industrialisation.

## **(b) Barriers to the expansion of downstream gas supply and distribution networks**

### **Physical barriers to gas distribution networks**

Vertisol soils of the NSW Liverpool Plains have been an issue for gas pipeline construction and maintenance in the NSW North West. Vertisol is a soil in which there is a high content of expansive clay that forms deep cracks in drier seasons or years. Alternate shrinking and swelling causes self-mulching, where the soil material consistently mixes itself, causing vertisols to have an extremely deep A horizon and no B horizon. Vertisols typically form from rocks, such as basalt, in climates that are seasonally humid or subject to erratic droughts and floods, or to impeded drainage. Depending on the parent material and the climate, they can range from grey or red to the more familiar deep black (known as "black earths" in Australia).<sup>1</sup>

These shrinking, swelling soils are proving difficult for infrastructure development.



Existing Central Ranges Pipeline exposed to a depth of more than two metres on local floodplain.

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<sup>1</sup> Vertisols, USDA-NRCS,  
<http://soils.usda.gov/technical/classification/orders/vertisols.html>

### **(c) The effectiveness of competition in the downstream gas market and consumer pricing implications**

Increasing competition for gas is being brought on by high-efficiency electric appliances and renewable energy. Gas prices are rising due to increasing network costs and in anticipation of competition with the Asian gas market when Eastern Australia LNG export facilities come online. One successful way to protect consumers could be to support funding demand management opportunities. This could see a continuation of the gradual decline in gas demand NSW has seen in recent years<sup>2</sup>, driving a gradual move away from reliance on gas and creating additional uptake of renewable energy options.

### **(d) The effectiveness of existing protections for consumers and measures to facilitate access to gas connection and supply**

A key factor limiting access to future gas supply for NSW are the industry plans to export LNG from Eastern Australia. This factor should be considered when addressing access to supply for NSW consumers. Consumers' ability to access gas in NSW post 2017 is being put in question by the planned new LNG export facilities in Gladstone.

The Australian Energy Market Operator (AEMO) has projected Liquefied Natural Gas (LNG) demand of over 2100 PJ by 2017<sup>3</sup> (15 times NSW demand and 3 times national demand). However these AEMO projections are based on 9 LNG trains being built. Five of these are committed and under construction on Curtis Island near Gladstone.

According to the Core Energy Group analysis that underlies the AEMO projections, on top of the 5 export trains already committed there are a further 18-33 trains proposed, which would require up to 6,612 PJ, or around 9 times Eastern Australia's entire domestic gas demand.<sup>4</sup>

If allowed to grow in this way, export gas demand would continue to divert supply away from NSW and restrict supply options. Any new supply options being brought online would risk being diverted to the export LNG trains.

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<sup>2</sup> Australian Financial Review, AGL Gas Bank to soften price hikes, 12 June 2013  
[http://www.afr.com/p/2100/agl\\_gas\\_bank\\_to\\_soften\\_price\\_hikes\\_c2KgbsTBD0HTIHPKU18mdK](http://www.afr.com/p/2100/agl_gas_bank_to_soften_price_hikes_c2KgbsTBD0HTIHPKU18mdK)

<sup>3</sup> AEMO Gas Statement of Opportunities 2012

<sup>4</sup> Eastern and South Eastern Australia: Projections of Gas Demand for LNG Export: Core Energy Group <http://www.aemo.com.au/Gas/Planning/Gas-Statement-of-Opportunities/Liquid-Natural-Gas-Projections>

Notably, these export facilities are planned to be fed in part by the same gasfields currently supplying NSW with domestic gas, such as the Cooper Basin.

### **Coal seam gas unlikely to secure NSW supply**

In response to this diversion of supply, some industry representatives are calling for NSW to develop their own gas supply.

However, it is worth noting that as a result of the growing number of export LNG trains, even if large areas of NSW were covered in coal seam gas (CSG) infrastructure, the increased CSG mining would be very unlikely to result in secure a gas supply for NSW. More local gas exploitation could simply lead to more LNG trains being built and export capacity being expanded.

Due to the recent public focus on CSG and NSW gas supply, it is critical therefore to address promptly and as part of this inquiry a short overview of some of the key problems with NSW based CSG exploitation, alongside the high likelihood it will not be able to NSW gas supply. Thank you for your patience in allowing me to outline these points briefly below.

There are a range of concerns resulting from proposals to open up productive farmland and critical ecosystems to become industrial gasfields. This brings a major risk factor for our water catchments and particularly our groundwater supplies in NSW.

### **Water Impacts**

A report conducted for the European Commission found the risk of contamination to surface waters and groundwater from coal seam gas to be high<sup>5</sup>. Numerous reports from the US have documented the contamination of water systems surrounding gas developments<sup>6</sup>. Water contamination can potentially occur to both groundwater and surface water systems from fracking fluids, drilling fluids, methane, waste water, and solid wastes. Water contamination could occur due to spills at the surface, leaking of fracking fluids or wastewater from wells and pipes, discharge of insufficiently treated

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<sup>5</sup> AEA Technology. 2012. Support to the identification of potential risks for the environment and human health arising from hydrocarbons operations involving hydraulic fracturing in Europe. Commissioned by the European Commission DG Environment.

<sup>6</sup> Michaels, C., Simpson, J.L. and Wegner, W. 2010. Fractured communities: Case Studies of the environmental impacts of industrial gas drilling. Riverkeeper Inc.

Wiseman, H. 2009. Untested waters: The rise of hydraulic fracturing in oil and gas production and the need to revisit regulation. Available at: <http://www.law.uh.edu/faculty/thester/courses/Emerging%20Tech%202011/Wiseman%20on%20Fracking.pdf>

waste water, or direct movement of methane, fracking fluids or wastewaters upwards through the rock body<sup>7</sup>.

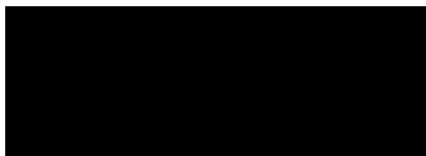
Alongside known impacts on water, the spatial intensity of gas field developments is also a key consideration for determining future options where areas of key agricultural and nature areas of NSW become gas fields, even while gas demand for NSW residents is falling.



A coal bed methane (CSG) field in the United States shows clearly the degree of industrialization required.

**Thank you for your time in considering this brief submission.**

Sincerely,



Naomi Hogan  
Campaign Manager  
The Wilderness Society Newcastle

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<sup>7</sup> International Energy Agency (IEA). 2012. Golden Rules for a Golden Age of Gas: World Energy Outlook Special Report on Unconventional Gas. Available at: [www.worldenergyoutlook.org](http://www.worldenergyoutlook.org)