

**Submission  
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**INQUIRY INTO THE SUPPLY AND COST OF GAS AND  
LIQUID FUELS IN NEW SOUTH WALES**

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# **Inquiry into the supply and cost of gas and liquid fuels in New South Wales**

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## Introduction

The Gas and liquid fuels supply Committee of the NSW Legislative Council is holding an inquiry into the supply and cost of gas and liquid fuels in New South Wales.

The inquiry will examine factors affecting the supply, demand and cost of natural gas and liquid fuels in New South Wales and the impact of a tight gas supply and increasing prices on NSW gas consumers.

NSW is facing an inevitable increase in wholesale gas prices caused by the linkage of Australian gas prices to global prices as a result of CSG exports.

While gas prices will almost certainly increase significantly, NSW does not face a gas shortage. NSW is part of an interconnected gas market covering the Eastern Seaboard of Australia. Gas production in Eastern Australia is undergoing an unprecedented expansion, and is expected to triple within the space of just a few years. At the same time gas consumption in NSW is falling.

NSW faces a gas price shock not a shortage.

Mining more gas in NSW or elsewhere will have very little effect if any on the gas price, as any additional gas mined will still be linked to global gas prices. It could potentially raise gas prices in NSW further by requiring further otherwise unnecessary investment in gas network infrastructure.

The only way NSW policy makers could effectively reduce gas prices is through a gas reservation policy or restrictions on gas exports. Both of these would be very difficult to implement politically.

However, there are a number of effective policies available to NSW policy makers to protect NSW gas consumers from this price shock. The impact of the price shock can be substantially mitigated through cost effective energy efficiency measures and assisting the inevitable switch to efficient electrical alternatives to gas use for households and industry where it is economic to do so.

## Gas prices

Gas prices in eastern Australia including New South Wales are going to rise substantially in the coming years. Prices will go up as the eastern Australian gas market (which includes NSW, Victoria, Queensland, South Australia, Tasmania and the ACT) connects to the world gas market with the completion of liquefied natural gas (LNG) export facilities in Gladstone, Queensland.

Wholesale gas prices in eastern Australia have generally been around \$3 to \$4 per gigajoule. Prices on Asian markets are much higher, around \$15 per gigajoule. Once domestic gas producers can sell onto the international markets, prices in Australia will rise from their historic \$3 to \$4 dollars to closer to the world price. Eastern Australia's wholesale prices will remain below world delivered prices as gas produced here does not need to be processed and transported. Most analysts believe Australian wholesale gas prices will reach \$9 per gigajoule.

Because Australian wholesale gas prices are rising to between two and three times their traditional price, gas companies are keen to expand production. Eastern Australian gas supply is expanding rapidly, particularly through the development of coal seam gas (CSG) as

a new form of supply. Without this additional supply it is unlikely that gas production would have been large enough in the eastern market to justify the construction of LNG facilities.

So it is not a lack of supply that is driving up gas prices but, rather, the linking of Australian gas to the greater demand of world markets. Because of the size of world markets once the eastern Australian gas market is linked with the world market, domestic gas prices will be linked to the world price.

Once our prices are linked to the world price there will be little we can do to change them. Because world markets are so large and eastern Australia's output will be relatively small, increasing production of gas in New South Wales (NSW) or elsewhere in eastern Australia will not bring gas prices down.

Higher gas prices in eastern Australia are not an accident. Gas companies have told investors that increasing domestic gas prices in Australia was always part of their plans:

*Santos now argues that its aim in [its GLNG export project] was always as much about raising the domestic gas price, and therefore re-rating large parts of the portfolio outside of GLNG, as it was about the project.<sup>1</sup>*

While gas companies have told investors that higher prices were always their goal, they do not say this to the wider public. Instead, they try to blame price rises on other factors, particularly public concern around coal seam gas (CSG) development.

CSG projects are facing great resistance from local communities concerned about potential environmental and social impacts on their areas. Rather than addressing community concerns, the gas industry has manufactured a "gas crisis" to pressure policy makers into making decisions which reduce regulation around CSG development. The so-called crisis has been discussed extensively in the media and has been the subject of various company research papers, such as AGL's early 2014 report *Solving for 'x' – the New South Wales Gas Supply Cliff*.<sup>2</sup>

## **AGL's report solving for 'x'**

AGL's report claims that NSW is heading for a gas supply 'cliff', where there will not be enough gas to power the state. A shortage of 'x' petajoules per year will result if major policy response is not rapidly implemented – ie the development of coal seam gas (CSG) projects, such as AGL's project in Gloucester.

The report takes a very limited approach to looking at the economic impacts of opening up a massive new export industry. This is surprising since the paper recognises that this expansion is without precedent. The report says;

*We are unaware of any mature, large-scale national energy markets experiencing a three-fold increase in aggregate demand in such a short period of time.<sup>3</sup>*

Rather than discuss the economic impact of the tripling of demand and tripling of the wholesale price of gas that is associated with the plans to export huge quantities of gas the

<sup>1</sup> (Credit Suisse, 2014) p4

<sup>2</sup> For a more detailed explanation of the AGL report see Campbell (2014) *Debunking Solving for 'x' – The NSW Gas Supply Cliff*

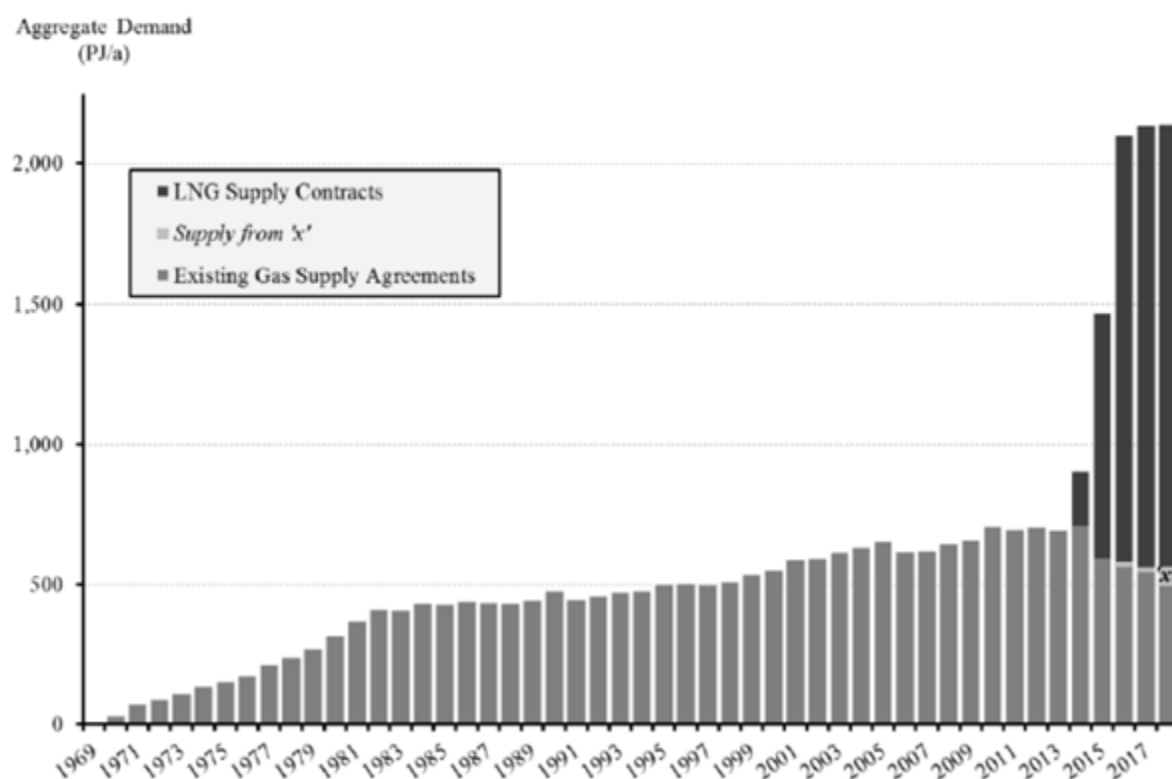
<sup>3</sup> AGL (2014) *Solving for "x" – The NSW Gas Supply Cliff*

paper focuses instead on the risk that some gas users may experience difficulty buying gas on some days due to the industry's determination to export as much gas as possible.

Further, rather than discuss the impact of gas prices increasing three-fold on the profits of the gas industry, the paper attempts to argue that the boost in gas production of three times current levels is inadequate to meet the demands of NSW gas users. The only way for existing gas customers in NSW to expect secure gas supply, according to the report, is for an even larger volume of gas to be extracted.

While the first 1,500 petajoules of additional gas production are for the export market, NSW can only avoid going over the 'gas supply cliff' if an additional 60 petajoules can be extracted. Note the tiny size of 'x' compared to the huge increases in production and exports in AGL's figure below:

**Figure 1 - AGL modelling of gas supply "cliff"**



The figure shows that even under AGL's modelling, the gas supply 'cliff' is very small. The report further acknowledges that 'x' can simply be solved by price induced reductions in demand.<sup>4</sup> AGL modelling almost certainly overstates the problem because it does not fully account for reductions in demand as a result of prices tripling.

## Gas industry expansion

Higher prices have made the gas industry eager to increase its supply. In particular it has been attempting to develop (CSG). However, there is considerable public concern about the impacts of CSG on agriculture and the environment. These concerns have led to restrictions on the location of CSG wells in NSW.

<sup>4</sup> AGL (2014)

Public concern and the resulting restrictions on CSG activity has upset the gas industry. In response, parts of the industry have made incorrect claims that restrictions on CSG production are causing gas price increases in eastern Australia. As mentioned above, this is incorrect because our prices are to be linked to world prices, which changes in our domestic supply cannot influence significantly.

Partly because of this resistance to CSG projects, development of gas supplies has been slower than gas companies expected. This is a problem as they have already contracted to sell gas that they now cannot supply.

## **Falling gas demand in NSW**

Since the “Solving for X” report was written, the Australian Energy Market Operator AEMO has reduced its forecast gas demand in NSW by 19%.<sup>5</sup>

In 2012, gas fired power generation accounted for around 30PJ of gas consumption in NSW, equivalent to around half the total amount of gas used in manufacturing.<sup>6</sup>

In this years National Transmission Development Plan NTDP for the electricity market, AEMO forecasts demand for gas fired electricity to drop to virtually zero.<sup>7</sup> This is a result largely of falling electricity demand, rising gas prices, increasing solar PV penetration and the removal of the carbon price.

At the same time in the National Gas Forecasting report NGF released this year, AEMO has forecast that demand for gas for manufacturing in NSW will decrease by 2.6 pa, around 10% by 2019.<sup>8</sup>

For households, electrical appliances for water and space heating and cooking are quickly becoming more cost efficient for households than gas appliances. A recent report released by the Alternative Energy Association ATA, looked at the relative Net Present Value NPV of gas and electrical appliance for households and identified that there is no economic case for any new home or suburb in Eastern Australia to be connected to the gas grid.<sup>9</sup>

A recent report by the Grattan institute also highlighted that switching to efficient electrical appliances represented huge savings for households, for example that switching from a gas to electric hot water system would save an average household \$400 per year. The report further recommended that

*“An urgent review of the policies and programs that subsidise/support the expansion of the gas networks is required”<sup>10</sup>*

As a result of these changes, commentators are talking about a potential “death spiral” for the gas industry, where falling sales force gas suppliers to increase prices, which further accelerates falling demand.<sup>11</sup>

<sup>5</sup> AEMO (2014), National Gas Forecast.

<sup>6</sup> AEMO (2013), Gas Statement of Opportunities

<sup>7</sup> AEMO (2014) National Transmission Development Plan.

<sup>8</sup> AEMO (2014), National Gas Forecast

<sup>9</sup> ATA (2014)

<sup>10</sup> Wood T (2014) Wood T (2014) Gas at the Crossroads. Grattan Institute..

<sup>11</sup> Simhauser P and Nelson Tim (2012). Wright M (2014).

## Policy options and recommendations

Without large-scale government intervention, eastern Australian gas prices are going to rise substantially in the next couple of years. If decision makers are serious about limiting gas price rises in eastern Australia, there are, unfortunately, few options available to them:

- A gas reserve policy. Western Australia has a policy to reserve a portion of gas produced for use in the state. This would be difficult, however, due to the fact that the eastern gas market is made up of five states and one territory that would all have to agree to the policy.
- Export restrictions. The Commonwealth government could introduce restrictions on the export of gas.

Both these options would be extremely difficult to implement politically.

However there are measures available to NSW policy makers to substantially insulate NSW gas consumers against the impact of gas price rises including;

- Provide NSW households with accurate information on the relative costs of electrical and gas systems for cooking, hot water heating and space heating, and encourage people to switch to efficient electrical systems where it is cost effective to do so.
- Remove subsidies that encourage uneconomic gas use.
- Remove subsidies that encourage expansion of the NSW gas grid.
- Facilitate identification and financing of energy efficiency and economic fuel switching alternatives to gas use in the commercial and industrial sectors.

## Conclusion

NSW faces an inevitable gas price shock. This price shock has been locked in by the commencement of CSG exports from Gladstone linking NSW gas prices to the higher Asian prices.

Mining more gas in NSW will not change this. Any additional gas mined in NSW will still be part of the Asian gas market and be priced accordingly.

Attempts by the gas to manufacture a “gas crisis” or “supply cliff” are simply an attempt scare the public and policy makers into making decisions which suit the gas industry.

The ongoing decline in gas demand in NSW make these attempts even less convincing.

An effective course of action is for NSW policy makers to protect NSW gas consumers from this inevitable price shock. The impact of the price shock can be substantially mitigated through cost effective energy efficiency measures and assisting the inevitable switch to efficient electrical alternatives to gas use for households and industry where it is economic to do so.



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