

DOWNSTREAM GAS SUPPLY AND AVAILABILITY IN NSW

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Trade & Investment

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Mr Andrew Gee MP
Chairman
State and Regional Development Committee
Parliament House
Macquarie Street
Sydney NSW 2000

Dear Mr Chairman

Downstream gas supply and availability in NSW

Thank you for the opportunity to inform the Committee on this important issue.

I have enclosed a paper addressing key areas of the gas industry that are of relevance to the Committee.

NSW Trade & Investment welcomes this Inquiry as it is concerned that not all NSW customers have easy access to gas supplies. NSW Trade & Investment is aware that, in many cases, customers are experiencing high costs and long delays in obtaining connections to the NSW gas distribution system.

Competition between electricity and gas networks is important in maintaining downward pressure on the costs of both types of infrastructure. NSW Trade & Investment looks forward to the deliberations and findings of this Inquiry.

Yours sincerely



Mark I Paterson AO
Director General

16/8/13

Encl.



**Trade &
Investment**

**Legislative Assembly
State and Regional Development Committee
Inquiry into Downstream Gas**

August 2013

Introduction

Historically, NSW has enjoyed natural gas at prices that are low relative to the rest of the world due to plentiful supplies from conventional resources in other neighbouring states. The availability of secure and affordable gas supplies underpins investment, employment and living standards in NSW.

In NSW, industry and electricity generation consume 80 percent of the gas used. While, at nearly one million, residential customers are the most numerous, their consumption is far smaller by comparison, in the order of only 14 percent of total demand.

In all these sectors, gas provides a lower cost energy option to electricity in many situations and consequently has the potential to contribute significantly to the desired reduction in energy costs to be experienced by NSW customers. Gas is also considered to be an important ongoing energy source for NSW due to its lower carbon emissions and more efficient delivery of energy (as compared to coal fired electricity).

NSW Trade & Investment looks forward to this Committee identifying recommendations that will allow residents and businesses seeking to connect to the gas distribution system to achieve this outcome in a cost effective manner.

History of the NSW Gas Industry

In 1841, the Australian Gas Light Company (now AGL Energy) commenced supplying gas for street lighting in Sydney. Gas was manufactured from the gasification of coal and over the next 100 years, the use of “town gas” as it was known spread across Sydney and to many regional centres including Lithgow, Bathurst, Orange and Wagga Wagga.

Town gas was more convenient and less polluting than coal or wood, however, it was found to be toxic and its production resulted in compounds now known to be carcinogenic.¹

In the mid 1970s, the Moomba to Sydney Gas Pipeline (MSP) was constructed by the Commonwealth Government, through the Pipeline Authority, to bring natural gas from the Cooper Basin in South Australia to Sydney, Newcastle and Wollongong. Around the same time high pressure gas transmission pipelines were being built linking gas sources to Adelaide, Brisbane and Melbourne by both public authorities and private companies. The Pipeline Authority continued to develop the MSP and in the 1980s and 1990s built a number of major lateral pipelines bringing natural gas to regional towns with town gas systems.

This investment was made because the industry committed to major expansion and conversion of their existing networks. For example, the Pipeline Authority constructed the MSP to the outer edge of Sydney and AGL constructed major pipelines from there to supply Sydney, Newcastle and Wollongong. Over the 30 years following the original commissioning of the MSP, the gas distribution networks were built to supply

¹ The last known gasworks in NSW was decommissioned in 1985 and remediation of former gasworks sites is now overseen by the EPA and the relevant local council.

gas to many regional centres. Where building gas distribution was not economical or practical, individual bottled liquefied petroleum gas (LPG) was used as an alternative.

In the last 13 years, the cross border gas transmission pipelines shown in Table 1 have been constructed to link the eastern Australian state and territory gas systems together. Forming what is starting to look like a national gas grid.

Table 1 – Recent Major Gas Transmission Pipelines Eastern Australia

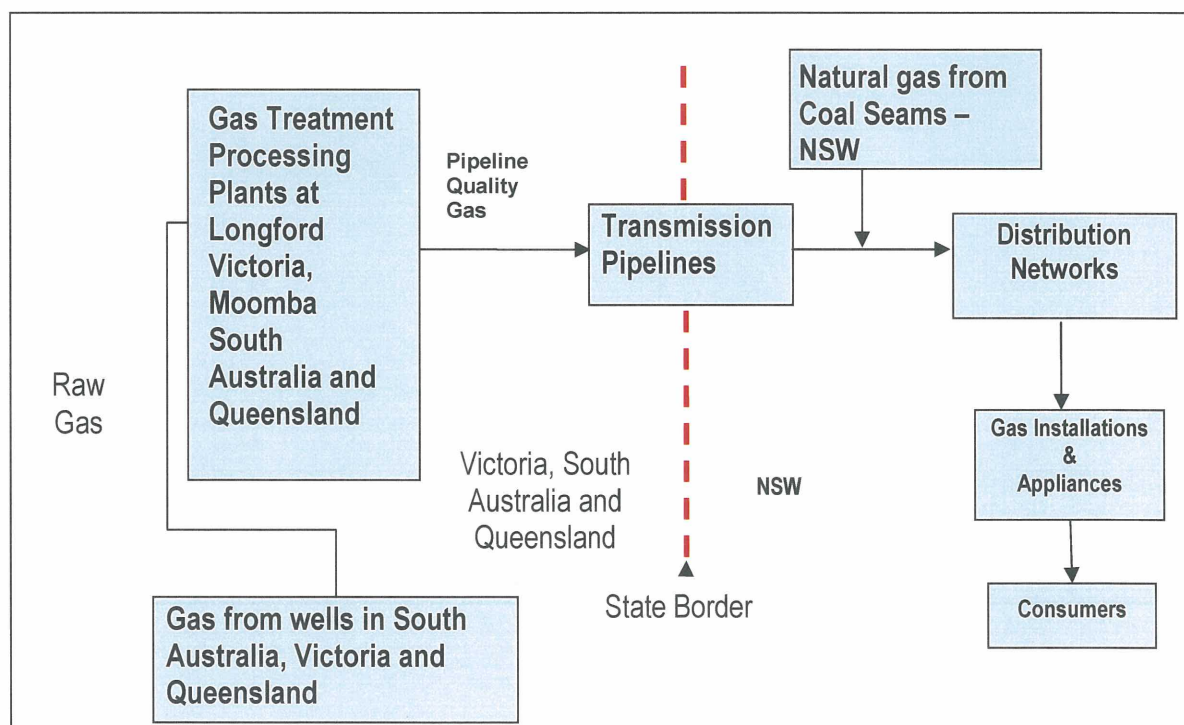
Pipeline	Route	Year
Victoria – NSW Interconnect	Culcairn to Wodonga	1999
Eastern Gas Pipeline (EGP)	Longford to Sydney	2000
EGP to ACT	Hoskinstown to Canberra	2001
Tasmanian Gas Pipeline (TGP)	Longford to Bell Bay	2002
South Eastern Australian Gas (SEA Gas)	Otway to Adelaide	2004
Queensland South Australia NSW (QSN)	Ballera to Moomba	2009

NSW Gas Supply Chain

The gas supply chain, shown Figure 1, consists of four main discrete entities:

- Gas Production;
- Transmission pipelines;
- Distribution networks; and
- Retailers.

Figure 1 - The NSW Natural Gas Supply Chain²



² NSW Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy, 2011-2012 NSW Gas Networks Performance Report, Figure B1, page 26

A key to understanding how the gas industry has developed in NSW is to recognise that, with the exception of the activities of the Commonwealth Pipeline Authority from the mid 1970s to the mid 1990s, the NSW gas industry has always been privately owned. Revenue for privately owned and operated gas networks and pipelines comes from charging energy retailers for transporting gas the retailers have purchased from the remote gas producers through the pipes to the retailers' customers.

In the past, gas was a supplementary energy source for NSW and electricity was the essential service. This occurred for two reasons. Firstly there is very little conventional gas in NSW. Secondly, coal fired generation has been cheap. As a result, past NSW Governments have had little need to drive the development of the gas supply industry.

In contrast, other jurisdictions with substantial gas reserves have relied more heavily on gas to provide a reliable and cheap energy supply. Federal and state governments helped develop the industry, which encouraged private investment in the gas supply industry in the 1990s.

The progressive development of the gas supply industry has led to more competition. Gas production has not been subject to economic regulation beyond that of any other business. However, in the mid 1990s economic regulation was introduced to address the monopoly power of the gas transmission pipelines and distribution networks.

The regulatory framework has recognised increasing competition in transmission since 1998 and has seen the introduction of "light-handed" regulation or the removal of price regulation for some transmission pipelines. As it would not be economic to duplicate the gas distribution network, the network as a monopoly has its charges regulated.

Recent reforms to this framework have placed the economic regulation of gas pipelines and distribution networks with the Australian Energy Regulator (AER) under the *National Gas Law* (NGL) and *National Gas Rules* (NGR).

The NSW Government remains committed to ensuring real market pressures are effective in keeping prices low across state and territory borders. It remains a priority of the NSW Government, in conjunction with the Commonwealth and other states and territories, to ensure a true and competitive market exists for wholesale gas supply.

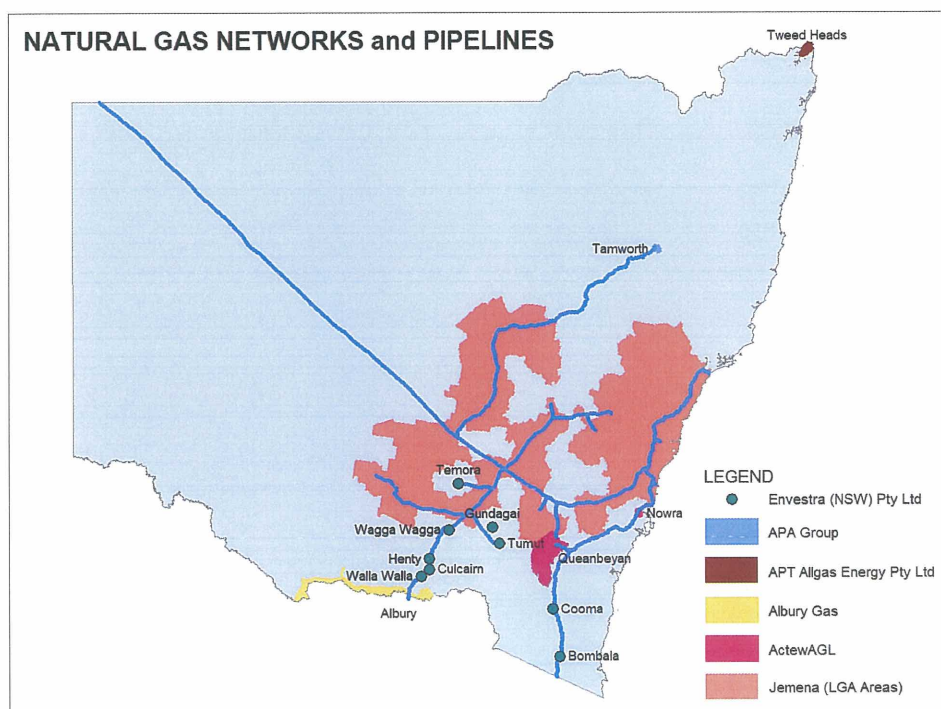
The QSN pipeline was upgraded to increase its capacity to bring gas from Queensland to the southern states. NSW gas consumers can now be supplied from multiple gas fields via three separate routes. This does not guarantee security of supply as the production fields and pipelines have limited capacity, much of which is utilised during periods of high demand. That is, the loss of a production facility or a pipeline places stress on the remaining gas supplies at certain times.

At present, gas is not supplied to all areas of NSW. Significant portions of northern NSW do not have access to reticulated gas (Figure 2). Further, within the established gas distribution areas in NSW, some streets do not have the gas pipes required to supply customers on that street. Installing these pipes will be expensive and, in many cases, not economic for most small consumers.

The natural gas distribution network in NSW is the conduit for the reticulation of natural gas and supply to consumers in the State. The greater NSW network is divided into smaller distribution networks and operated by authorised network operators.

There were six authorised natural gas network operators in NSW during 2011-12 being APT Allgas, Albury Gas Company, ActewAGL, Central Ranges Network (APA Tamworth Networks), Envestra and Jemena.

Figure 2 - NSW Gas Networks and Transmission Pipelines³



The NSW gas networks have grown by 1.1 per cent on average over the past 10 years in terms of pipeline length and by 3.8 per cent in terms of customer numbers (see Table 2 below).

Table 2 - Growth of the NSW gas network⁴

	2011/2012	2002/2003	10 year growth	
			Total	Average Annual
Pipeline length (kilometres)	27,553	24,830	2,723	1.1%
Number of consumer connections	1,211,172	878,508	322,664	3.8%
Quantity of gas delivered (PJ)	108	103	5	0.5%

³ NSW Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy, *2011-2012 NSW Gas Networks Performance Report*, Figure B2, page 27.

⁴ Compiled from NSW Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy, *2011-2012 NSW Gas Networks Performance Report*, with reports from 5 previous years

Figure 3 - Growth of the NSW gas network⁵

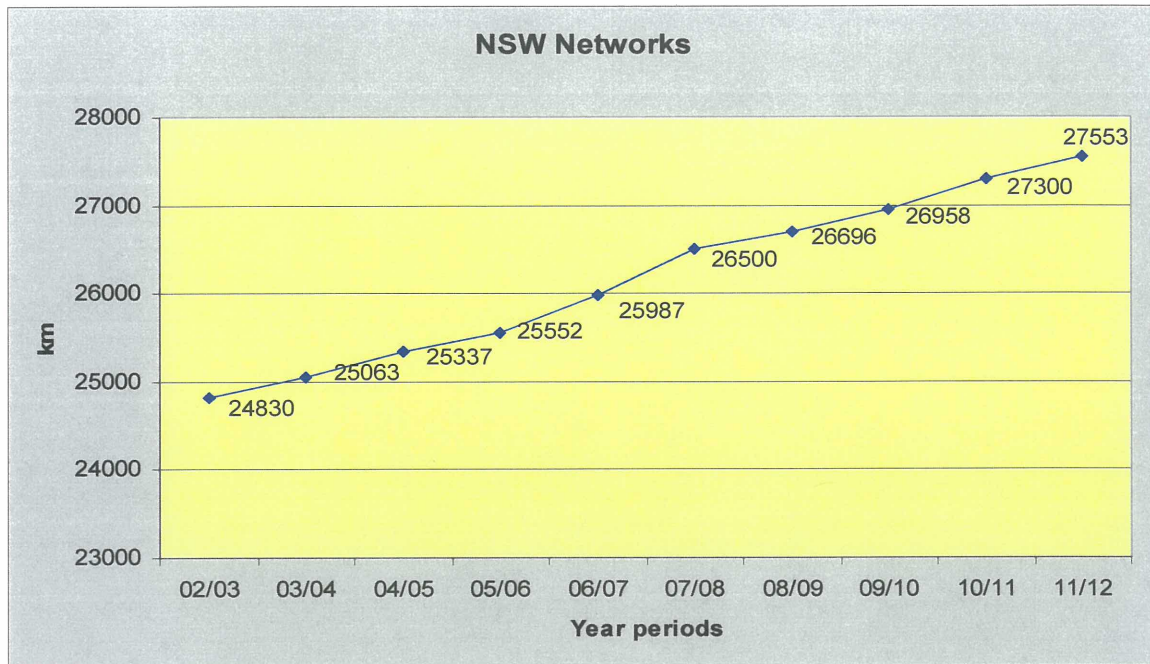
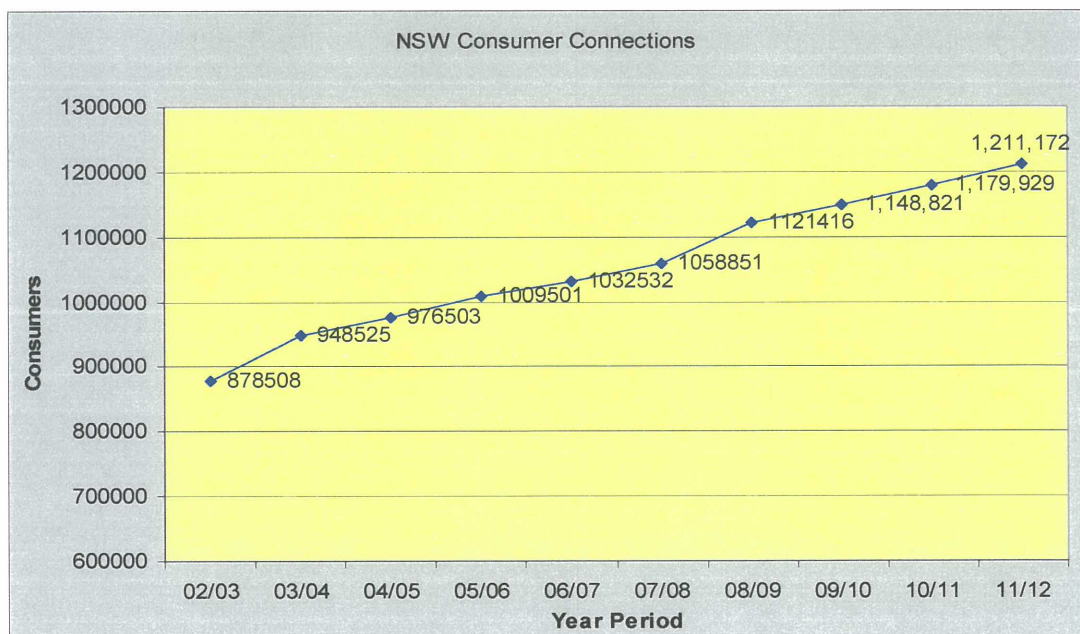


Figure 4 - Growth of NSW gas customers⁶



The NSW retail gas market has been progressively opened up to competition since 1996 giving consumers the choice of gas supplier. The market has been fully contestable since January 2002.

The Minister for Resources and Energy issues authorisations (licences) for the supply or reticulation of natural gas in NSW. These authorisations are subject to standard conditions covering matters such as consumer protection and network safety. IPART administers the licensing regime on behalf of the Minister.

⁵ Compiled from NSW Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy, 2011-2012 NSW Gas Networks Performance Report, with reports from 5 previous years

⁶ Compiled from NSW Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy, 2011-2012 NSW Gas Networks Performance Report, with reports from 5 previous years

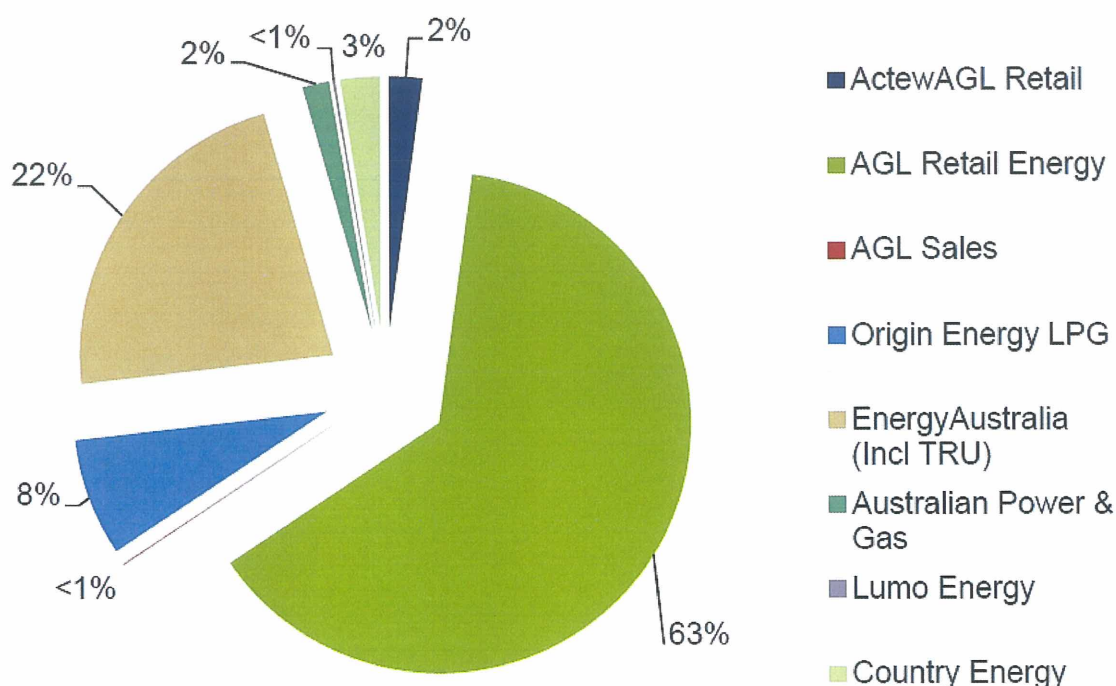
IPART reports that as at 30 June 2012, 17 companies held gas retail supplier licences in NSW. Eight of these supplied gas to small retail customers in 2011/12. AGL Retail Energy continues to hold about 63% of the retail residential market and 71% of the non-residential market in NSW.⁷

Further, IPART notes that EnergyAustralia (previously TRUenergy), is the second largest gas retail supplier with approximately 22% of the retail residential market and 13% of the non-residential market.

Origin Energy currently holds 8% and 9% of the retail residential and non-residential market respectively. In addition, Country Energy (now Envestra (NSW)) services about 3% and 5% of the retail residential and non-residential market on behalf of Origin Energy.

Figures 5 and 6 show the individual gas retail suppliers' share of the residential and non-residential market in NSW and the dominance of AGL in this market. A full list of authorised gas retailers in NSW can be viewed at http://www.ipart.nsw.gov.au/Home/Industries/Gas/Licensing/Current_Authorisation_Holders.

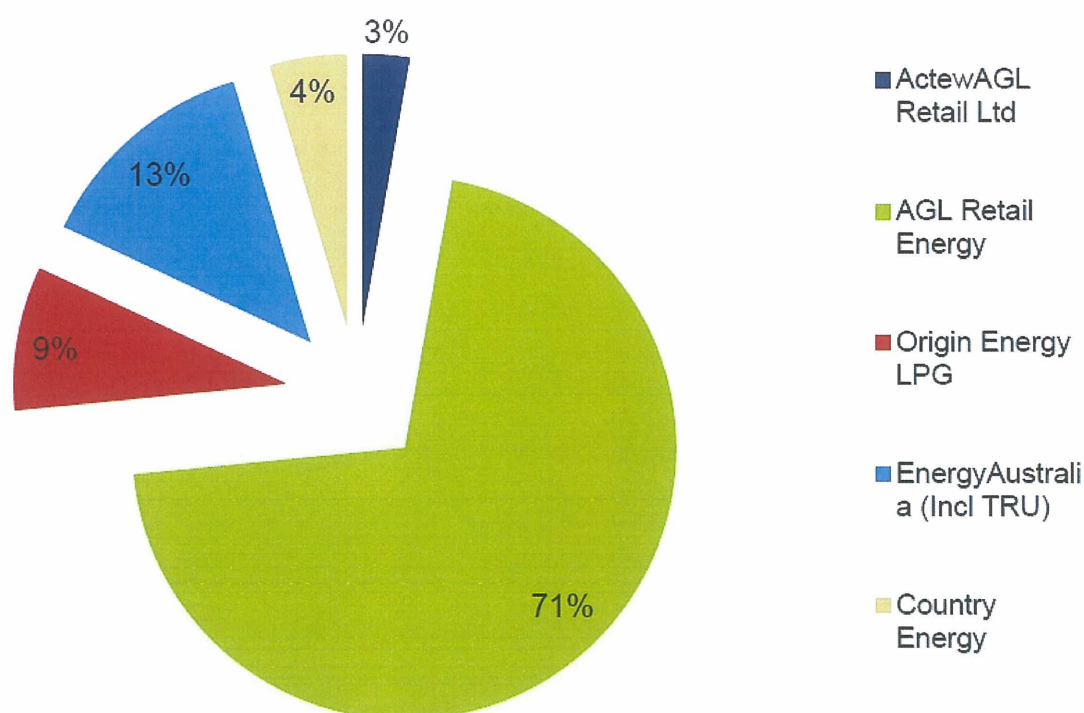
Figure 5 - NSW residential gas retail market at 30 June 2012⁸



⁷ IPART, December 2012, *Customer service performance of gas retail suppliers 1 July 2007 – 30 June 2012*, page 5.

⁸ IPART, December 2012, *Customer service performance of gas retail suppliers 1 July 2007 – 30 June 2012*, Figure 2.1, page 6

Figure 6 - NSW non-residential gas retail market at 30 June 2012⁹



Gas retailers purchase gas through contracts and on the wholesale trading market. A brief description of the operation of the wholesale trading market (the Short Term Trading Market (STTM)) is included at Appendix A.

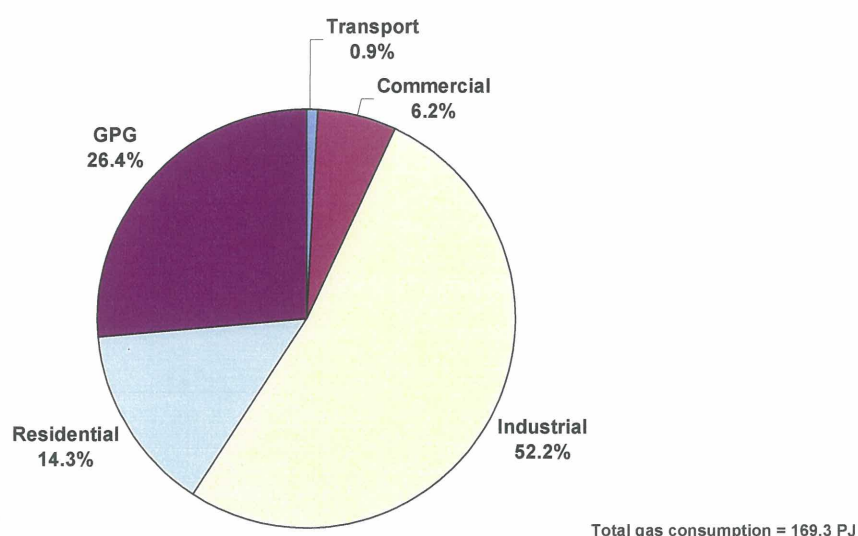
Around 50% of households in NSW currently use either reticulated natural gas or bottled LPG. The levels of gas penetration for domestic water heating, space heating and cooking have been increasing in NSW over the past several years and this is expected to continue.

Increasing electricity prices, the introduction of a carbon price and NSW BASIX requirements are expected to promote further gas use in the residential sector. The carbon price and relatively higher increases in electricity prices are also expected to promote the use of gas in the commercial sector over the long run.

The breakdown of gas use by sector is shown in Figure 7 below with the residential market accounting for around 14% of consumption despite the large customer base.

⁹ IPART, December 2012, *Customer service performance of gas retail suppliers 1 July 2007 – 30 June 2012*, Figure 2.2, page 6

Figure 7 - NSW gas consumption by sector 2010-11¹⁰



NSW Gas Industry Future Trends

The most significant recent developments in the NSW gas industry have been the growth of gas fired electricity generation over the past four years and the commencement of gas production in NSW over 10 years ago.

Since 2009, three gas fired electricity generators have been commissioned in NSW at Tallawarra, Uranquinty and Colongra. These plants are specifically designed to generate at periods of high demand for electricity such as during the summer months. Traditionally gas demand during these periods was low allowing for major gas plant and pipeline maintenance programmes to be undertaken.

Any future growth of gas fired generation (GFG) will change the gas demand profile driving the need for spare capacity as well as overall consumption.

However, at this time, the Australian Energy Market Operator (AEMO) is not forecasting increasing gas consumption by gas fired power stations as electricity demand is growing at only low rates.

The growth of liquefied natural gas (LNG) exports based on the natural gas from Queensland coal seams is however expected to have a significant impact on the east coast domestic gas market.

AEMO publishes an annual *Gas Statement of Opportunities*, the latest of which was released in December 2012. Key findings of relevance to NSW were:

- Residential/business/commercial and large industrial market demand for gas has declined in recent years.
- Under the medium (Planning) scenario the projections for gas demand for the east coast from 2013 to 2032 is for growth of 1.1% per year however NSW is just 0.9% per year.

¹⁰ Derived from BREE data, BREE 2012, *2012 Australian Energy Statistics*, Canberra, July 2012, Table F Australian energy consumption, by industry and fuel type, energy units, accessed 1 August 2012.

- Total domestic demand grows slowly until 2025.
- LNG exports account for 70% of demand.
- No new closed cycle gas power stations will be needed in the outlook period but open cycle gas power plants will come on line from 2025.
- Growing demand for LNG from Australia, requiring gas reserves between 43,000 PJ.
- NSW expected to see decline in gas demand from 2012, returning in 2017-19 due to a short term reduction in demand from large industrials

Economic Development - Gas Field / Transmission Pipelines

Investments in gas infrastructure are made on a commercial basis underpinned by bilateral contracts in the interconnected wholesale gas trading markets in Victoria, South Australia, Queensland and NSW. If parties see that the business environment is positive enough, they will sign gas contracts and the required pipelines and infrastructure will be built to bring gas to the market. Changes in government policy can positively and adversely affect investment in the economy and the gas industry is no exception.

The risk levels for investment in gas infrastructure is high because this is a high capital cost, long term commitment by an investor who needs certainty of future conditions. Returns on gas infrastructure investments are realised over the life of the assets, often up to 50 years or more. Consequently, new investment faces financial risk in gas markets where returns are uncertain due the small size of the NSW market, competition from existing infrastructure or alternative energy sources such as electricity.

For example, a modern high pressure gas transmission pipeline costs in the order of half a million dollars per kilometre, depending on the terrain. Replacing the 1,300 kilometre MSP could be expected to cost close to a billion dollars. The pipeline was originally built in 1976 and is approaching 40 years of safe and reliable operation. However, if after the existing gas contracts end and gas from Moomba is diverted to the Queensland LNG facilities, the gas flows and hence revenues on the MSP may be affected.

To manage risk in gas infrastructure developments, proponents seek long term supply contracts with retailers or large gas consumers, such as chemical plants or gas fired power stations. These contracts give some certainty of future returns, which helps underwrite the upfront investment. It can take five or more years to commission new gas facilities and the gas industry undertakes long term strategic planning to develop new facilities. Private investors undertaking this planning in the competitive market and keep their strategic plans confidential.

The planning, economic and technical regulatory regimes can help mitigate new investment risk by encouraging the uptake of gas, which will increase certainty of future returns.

At the present time, there is sufficient capacity in pipeline and gas networks to meet existing NSW needs and industry structures are in place to drive further investment.

However, contracts for supply to NSW customers are coming to the end of their terms with a huge decline in available supplies at current prices expected around 2016.

The dynamics of the eastern Australian gas market is being altered significantly with the development of six LNG trains in Queensland and new natural gas from coal seams in Queensland's Surat and Bowen Basins.

Increased competition for gas resources and international trade of those resources is expected to result in higher gas prices in eastern Australia.

Gas customers supplied by the interconnected gas markets will have to compete for available gas not just against other domestic customers but also in terms of international gas consumers who are generally willing to pay more than historic prices in eastern Australia.

If domestic demand for gas falls because gas becomes too expensive, the economic viability of gas pipelines and distribution networks in NSW may be adversely affected.

The flow on effects to industries and the community of higher gas prices with respect to economic activity and financial stress is also of concern.

Economic Development - Gas Distribution Networks

Gas distribution networks operate differently to production and transmission sectors in a few key areas. However, there are similar challenges for investments in network expansions.

Distribution network investments are usually expansions or extensions to the existing network and less dependent on external capital. The customers seeking to use the network expansion or extension are typically small commercial or residential consumers with seasonal and limited gas demand. The need to supply customers with low volume and highly variable demand creates the same risk of uncertain future revenue for distribution network owners.

Commonwealth and state governments have worked to establish nationally consistent frameworks for the economic regulation of, and consumer protection in energy markets, including the gas industry. The key objective of the framework is to promote efficient investment in, and operation of the energy supply industry. As part of this national framework, a gas connection framework is currently being developed that will help reduce barriers preventing new retail customers connecting.

Gas distribution network prices are regulated by the AER so customers only pay for the efficient costs of reasonable investment in; and operation of the distribution network. In order to obtain a reasonable return on a new capital expansion or extension, the network owner must demonstrate to the AER that the extension is financially viable. This demonstration helps the AER to protect customers from paying for inappropriate or unnecessary network expansions or extensions.

Network owners generally demonstrate the financial viability of an expansion or extension by determining whether revenue, over 20 years and at the regulated price, will cover the upfront capital costs. If it is unlikely that the upfront capital cost will be recovered within 20 years, then the network operator can seek capital contributions from customers to make up the shortfall. For example, if a network extension costs \$5,000 but only \$3,000 would be recovered over 20 years, then the network operator can request a capital contribution of \$2,000 from the person seeking the extension.

As previously noted, the expected gas usage by a new residential customer is usually small and varies with season and, therefore, unlikely to demonstrate the financial viability of an extension. In this situation a capital contribution from the customer would be required to proceed.

If enough households want to connect to gas then an extension may become financially viable, eliminating the need for a capital contribution. However other upfront customer costs make it difficult to find enough households from committing to gas. These costs include new gas appliances, such as gas hot water systems, stoves and heaters, and the costs of installing the appliances and gas pipes in the house.

Also to simplify matters gas network operators prefer one customer take on the responsibility of arranging and paying for a network extension, and recovering a portion of any contribution cost from the other residents who will be connecting to the network at a different time.

LPG networks are small, totalling only 7 networks with only 113 kilometres of network piping compared to the more than 27,500 kilometres for gas networks. LPG network customers number just 1,863 connected to the networks compared with over 1.2 million for gas. These numbers do not of course include the many number of bottled LPG consumers.

Elgas estimates that the total size of the NSW domestic LPG market was around 2.5 PJ in 2012¹¹. This is small compared to the 170 PJ of natural gas consumed in NSW and even the record that in 2010, 38 Petajoules (PJ)¹² of LPG was sold into the stationary (not including transport) Australian LPG market.

As a result of this and the strong competition they receive from electricity the prices of these LPG networks are regulated. They are licensed for basic consumer protection and safety related matters.

What do the current barriers look like?

The challenge is establishing the right regulatory environment in NSW to encourage the appropriate investment in gas infrastructure. The Committee may identify barriers that can be removed or processes that can be streamlined in NSW to make investments which benefit NSW energy consumers more attractive to private businesses.

¹¹ Elgas, Personal communication, 12 June 2013

¹² Gasenergyaustralia, 2011, *LPG use in Australia to 2030*, Table 1, page 2, <http://gasenergyaustralia.asn.au/userfiles/download.php?file=cfd8a8be53d1d01872317b4863a00020d29580e2>, accessed 4 June 2013.

Apart from appropriate environmental and safety regulation, the gas production sector operates in a fully competitive market. Gas “well head” prices are set by market forces, not governments.

Most gas transmission pipelines in NSW are unregulated (or termed uncovered) or partially regulated, principally because NSW has multiple pipelines supplying customers. Being unregulated means that the terms, conditions and price of accessing the pipeline are agreed directly between the pipeline owner and the pipeline user under a non discriminatory access regime. These are in essence agreements to transport gas from the production plant to the customer.

Gas distribution is currently more regulated, however, Envestra has applied to the National Competition Council to have coverage of the Wagga Wagga gas distribution network revoked. The Wagga Wagga gas network, along with the larger Jemena gas networks in NSW, were originally deemed to be covered pipelines at the commencement of the *National Third Party Access Code for Natural Gas Pipeline Systems* in November 1997.

Envestra considers that coverage of the gas network in Wagga Wagga has not facilitated competition in the downstream market in a material way. Also, Envestra argues that given the high sunk cost and low utilisation of the network there is an incentive for them to keep network charges low to encourage more gas consumption from the network. As with pipelines, gas distribution operators get paid based on the volume of gas they transport.

Envestra also argues that if they force up prices too far, customers will switch to electricity. In essence, gas is seen by Envestra as a discretionary energy source in NSW.

NSW Trade & Investment will be monitoring the National Competition Council review of Envestra’s application which will result in a recommendation being made to Minister Hartcher later this year.

At a national level, the Government, in co-operation with other jurisdictions, also continues to review and reform the national regulatory regime. Most recently new rules for connection of retail customers to gas networks were established as part of the National Energy Customer Framework.

The new Chapter 12A of the NGR is designed to streamline the process to help customers connect to the network and these will be commenced in NSW on 1 July 2013. Retail gas customers will be able to engage directly with gas network operators about their options for getting connected.

For those with gas pipes in their street, a pre-prepared basic connection service will be defined to allow timely agreement and processing of applications. Network operators will also be able to establish standardised connection services for the typical or common types of connection.

Chapter 12A also includes arrangements for negotiating unusual or complex connections and provisions for dispute resolution via the AER. However, capital expenditure for expansion of gas networks to new locations or to in fill unserved areas within existing networks remains an issue.

Expansion of the gas distribution network is subject to economic regulation under the NGL and NGR which regulate the financial returns available to the business through network charges.

Under these arrangements the AER is tasked with high level approvals of the covered gas network operator's investment plans to ensure they are economically justified. Speculative investments taken without the certainty of customers connecting to the pipeline or network are excluded from the revenue network operators can recover from customers.

While Rule 84 allows for speculative investments to be made but not recovered until they can be justified as efficient, the AER is yet to approve any proposal for such investment.

The NGR also contain redundant investment provisions which do not exist in the equivalent electricity rules. Under Rule 85 an investment that may have been appropriate at the time it was made can be excluded from the revenue generating network assets if the gas flow drops for any reason, even decades later.

Such an event has occurred in the year 2000 when the Eastern Gas Pipeline commenced delivering gas to Wollongong, the demand on the Jemena gas network pipeline supplying the area from Wilton dropped significantly. The economic regulator at the time reduced the revenue Jemena could get from the pipeline because the pipeline was now redundant even though it was appropriately sized when built decades before.

Such regulatory decisions, made correctly under the Rules, tend to discourage expansion of gas infrastructure.

The Inquiry may also wish consider how to develop regulatory frameworks that recognises the competitive nature of the energy distribution sector. The regulatory environment does not currently allow gas distributors to recover the efficient cost of network expansions into urban areas where there is only an electricity supply.

Further it imposes regulatory penalties related to redundant gas network infrastructure where competition exists. Redundancy of a gas network will not always be related to the actions of the network business (as noted above with the commencement of the EGP).

It is worth noting that under the NGR, the AER must allow a pipeline or distribution network operator to recover the cost of complying with legal obligations such as those contained in regulations or licence conditions. NSW Trade & Investment considers there are a number of possible ways of structuring such arrangements which prevents inefficient spending including the establishment of competitive design and construction processes.

However, it is also important to note that any investment by the covered gas network will have its costs recovered by increased network revenue via higher network charges for all customers.

Governments supporting the gas industry

As mentioned earlier, the NSW gas networks developed as a privately owned industry, unlike the gas industries in Victoria and South Australia that were, for a very long time, owned by their state governments.

Even though the gas assets are now in private ownership, the Victorian Government is currently contributing funding to the development of the country gas networks.

The Victorian Energy for the Regions Program, announced in December 2012, will invest \$100 million to expand natural gas to communities across regional and rural Victoria. Funded by the Victorian Government's \$1 billion Regional Growth Fund, the Program will drive new investment in regional communities through new industry and business opportunities.

The Program has three broad initiatives:

- to fast-track the delivery of natural gas to an initial twelve towns
- to invest in a major upgrade of Mildura's natural gas supply capacity
- to invest up to \$1 million to fund a feasibility study into the provision of natural gas to Victorian communities along the Murray River.

In addition to the initial twelve towns, the Victorian Government has made subsequent commitments to three other regional centres. Victorian Government support of this type is based on historic expectations by the Victorian community who see gas as more essential to their society.

By comparison, past NSW governments have undertaken electricity network regional expansion programs which have resulted in the vast majority of NSW energy consumers having access to grid based power even in remote locations.

Conclusion

NSW Trade & Investment welcomes this Inquiry as it is concerned that not all NSW customers have easy access to gas supplies. NSW Trade & Investment is aware that in many cases customers are experiencing high costs and long delays in obtaining connections to the NSW gas distribution system.

NSW Trade & Investment considers NSW residential customers should have a choice of energy source for hot water as well as for cooking and heating their homes.

Competition between electricity & gas networks is important in maintaining downward pressure on the costs of both types of infrastructure so NSW Trade & Investment looks forward to the deliberations and findings of this Inquiry.

Appendix A - Short Term Trading Market

The Short Term Trading Market (STTM) is a wholesale market operated by AEMO for the trading of gas at defined hubs between transmission pipelines and distribution networks. AEMO balances the physical supply and withdrawal of gas at each hub and it manages the settlement process across the hubs.

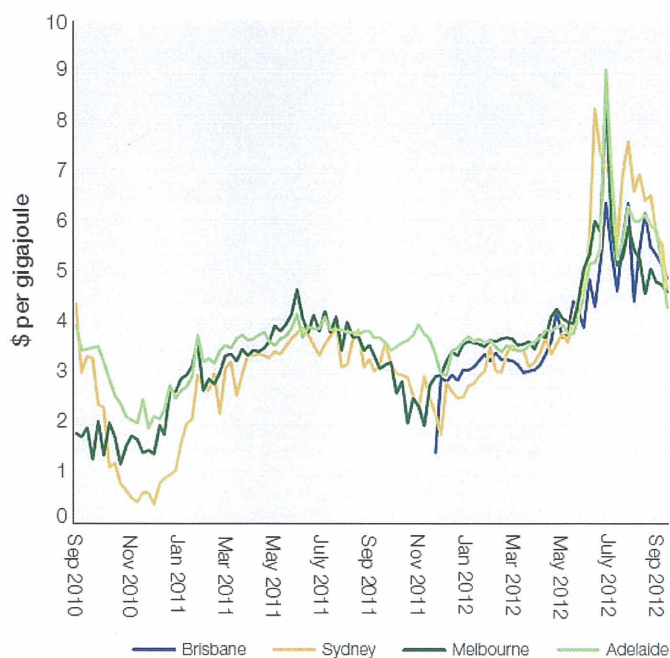
Currently the Sydney and Adelaide hubs participate in the STTM, with a third hub in Brisbane scheduled to come on-line shortly. Each hub is scheduled and settled separately, but all hubs operate under the same rules (i.e. *National Gas Rules*). There can be multiple facilities that deliver gas to each hub (such as transmission pipelines, storage facilities, and production facilities) and multiple distribution systems that withdraw gas from the hub for distribution to consumers.

Gas is traded a day ahead of the physical delivery of the gas ('the gas day'), and the day-ahead market price (ex-ante market price) applies to all gas that is supplied through the hub on the gas day. The market price is set each day at the hub for clearing all trades in the ex-ante market. While the market provides incentives for participants to keep to their schedules, contingency gas is offered (at a price) for deviations. Participants that have deviated from the schedule primarily fund this.

The STTM operates alongside contract carriage arrangements on which the gas industry is based. The long term contractual arrangements between pipeline operators and the shippers for haulage and contracted capacities (ie retailers, major end users) are recognised in the STTM.

Whilst the STTM plays a key role for trading gas in the Sydney hub, regional areas of NSW are still reliant on long term contracts for its gas supplies. The benefits of the STTM does not extended to gas participants outside the hub including customers connected to gas networks in regional NSW.

Figure 8 - Spot gas prices – weekly averages¹³



¹³ AER, 2012, *State of the energy market 2012*, Figure 3.5, page 97.