

**Submission
No 58**

DOWNSTREAM GAS SUPPLY AND AVAILABILITY IN NSW

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GAS ENERGY AUSTRALIA

SUBMISSION

**GAS ENERGY AUSTRALIA
SUBMISSION TO
NSW LEGISLATIVE ASSEMBLY
STATE AND REGIONAL DEVELOPMENT COMMITTEE
INQUIRY INTO DOWNSTREAM GAS SUPPLY AND
AVAILABILITY IN NSW**

Gas Energy Australia

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25 June 2013

The Committee Manager

State and Regional Development Committee
Parliament House
Macquarie St
SYDNEY NSW 2000

Via email: stateregional@parliament.nsw.gov.au

See Distribution

**GAS ENERGY AUSTRALIA SUBMISSION TO THE NSW LEGISLATIVE ASSEMBLY
STATE AND REGIONAL DEVELOPMENT COMMITTEE**

Inquiry into downstream gas supply and availability in NSW

Dear Committee Manager

Gas Energy Australia is pleased to make a submission to the New South Wales (NSW) Legislative Assembly State and Regional Development Committee's Inquiry into downstream gas supply and availability in NSW.

This submission principally addresses that part of the Inquiry's terms of reference examining "possible measures to encourage gas network operators to extend existing distribution networks, including financial incentives of licence obligations, particularly in regional centres that do not have access to reticulated gas".

The key message this submission seeks to convey is that the Liquefied Petroleum Gas (LPG) industry currently supplies low emission gas reliably and at competitive prices across NSW and that a compelling case would need to be made to justify NSW taxpayers subsidising an expansion of the natural gas network.

1. Background

Gas Energy Australia, until recently LPG Australia, is the national peak body which represents the bulk of the downstream alternative gaseous fuels industry which covers LPG, Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG). The industry comprises major companies and small to medium businesses in the alternative gaseous fuels supply chain; refiners, fuel marketers, equipment manufacturers, LPG vehicle converters, consultants and other providers of services to the industry.

At present, LPG is the main alternative gaseous fuel used in Australia and it makes a significant contribution to meeting our energy needs in two ways:

- a. As a stationary energy source, LPG is used by households and businesses for a variety of uses.
 - 1) LPG has given Australians access to gas for cooking, space and hot water heating since the 1950s and has provided a pathway for consumer acceptance and take-up of natural gas.
 - 2) The NSW Independent Pricing and Regulatory Tribunal (IPART) estimates around two thirds of NSW households are not connected to a natural gas network and the NSW Department of Trade and Investment estimates that of these households, around 300,000 use LPG for cooking, space and hot water heating.
 - 3) LPG is used by many more households for recreational activities (BBQs and outdoor heating).
 - 4) LPG supplies many commercial and industrial enterprises and is used in a variety of industrial processes, including power generation and heating.
 - 5) LPG's use is most prevalent in areas not connected to the natural gas network, especially regional Australia.
- b. As an automotive fuel, LPG Autogas is Australia's most significant alternative transport fuel accounting for the bulk of the sector's share of the overall transport fuel market. It fuels over 500,000 vehicles, the majority being owned by private motorists, and is the predominant fuel used by the taxi industry and is heavily used by fleet and trade vehicles, including light commercial vehicles.

This Submission focuses on LPG's use as a stationary energy source.

2. Stationary LPG's environmental benefits and growth prospects

Australia's alternative gaseous fuels industry has strong prospects for growth starting with growing supply associated with new domestic natural gas projects which will produce LPG as well as natural gas. The application of new gaseous fuels technologies in the stationary energy sector will assist this growth in three areas:

- a. Hot water heating - new 5 star rated continuous flow hot water systems are over 80 per cent energy efficient while new 7 star condensing units are over 90 per cent energy efficient. Moreover, these systems do not suffer from the low efficiency typical of electricity generation (e.g., 30 to 40 per cent) and transmission losses (around 10 per cent).
- b. Energy resilience - LPG can be used to back-up renewable energy (e.g., solar LPG hot water systems), particularly in regional and remote areas.
- c. Power generation - alternative gaseous fuels can also be used to power highly efficient ceramic fuel cell micro-power systems.

3. LPG's extensive infrastructure in NSW

Table 1 shows the location of significant LPG supply infrastructure such as storage tanks, cylinder refilling equipment and tanker trucks in NSW. The list highlights the fact that the LPG industry's infrastructure in NSW is extensive and in addition to the supply depots listed it includes coastal terminals and many local agents and distributors.

Table 1: Location of significant LPG supply infrastructure in NSW

<p>Greater Sydney Region Blacktown Camellia Ingleburn Invergorrie Lawson Minto Penrith Port Botany Werrington</p> <p>Hunter Region Gosford Muswellbrook Newcastle (multiple) Rylstone (multiple) Stroud Taree (multiple) Wyong</p> <p>Northern Region Armidale Ballina Coffs Harbour (multiple) Glen Innes (multiple) Grafton (multiple) Inverell (multiple) Lismore (multiple) Moree (multiple) Port Macquarie (multiple) Tamworth (multiple) Walgett</p> <p>Southern Region Batemans Bay Bega Bowral (multiple) Canberra (multiple) Cooma Eden Goulburn (multiple) Jindabyne (multiple) Moruya</p>	<p>Southern Region continued Narooma (multiple) Nowra Pambula Port Kembla Queanbeyan Tumut (multiple) Ulladulla (multiple) Wagga Wagga Wollongong (multiple) Yass (multiple) Young</p> <p>Western Region Balranald Bathurst (multiple) Bourke Broken Hill (multiple) Cobar Condobolin Coonabarabran Cootamundra (multiple) Cowra (multiple) Dubbo (multiple) Forbes Gilgandra Griffith (multiple) Hay Lithgow Meadow Flat (multiple) Moama Molong Mudgee Nyngan Oberon (multiple) Orange (multiple) Parkes (multiple) Portland (multiple) Wellington (multiple) Wentworth</p>
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Source: Gas Energy Australia members.

Importantly, because LPG is portable and can be readily transported virtually anywhere by sea, rail, road or pipeline to cylinder filling plants and bulk storage facilities, its diverse well established supply, storage and distribution infrastructure is extremely resilient. As such, while not as visible as some critical energy infrastructure such as major power lines or natural gas pipelines, it nonetheless represents a valuable and unique national asset in terms of its resilience and ability to fuel a wide range of energy applications anywhere across NSW and the rest of Australia. Indeed, LPG's portability and the resilience of its supply chain make it especially well suited to support areas affected by emergencies and natural disasters.

Moreover, the integrated nature of its supply chain, whereby LPG used in the stationary energy and Autogas markets can be stored and distributed together, allow it to capture economies of scale that enhances its affordability.

In addition, these benefits spill over to other industries and the broader community as increased use of stationary energy LPG can delay or postpone indefinitely the significant costs of upgrading the electricity grid as well as reduce the strain on the grid during peak load periods. This can be especially critical in remote areas where electricity supply is restricted.

It is also worth noting IPART's finding that network costs associated with investment in infrastructure were the main contributor to recent large rises in electricity prices in NSW.

The LPG industry is also working with the NSW Department of Trade and Investment to develop a consumer protection framework for LPG household consumers similar to that which applies for electricity and natural gas household consumers.

4. Stationary LPG's price competitiveness and low greenhouse gas (GHG) emissions

Table 2 shows the key results relevant to this Inquiry of comparisons prepared by Pitt&Sherry for Gas Energy Australia of the estimated operating costs and greenhouse emissions performance of different types of water heaters.

Water heating is the largest single source of greenhouse emissions from the average Australian household and accounts for about a quarter of household energy use. As a result, these estimates for Sydney provide a good indication of how LPG compares in terms of costs and greenhouse emissions with the other principal household energy sources in NSW.

Bearing in the mind that Table 2 does not include natural gas network connection costs, the estimates show that LPG is competitive against natural gas with the annual operating costs of LPG exceeding those of natural gas by between only \$159 (for a small household using a 7 star instantaneous gas heater) and \$343 (for a large household using a 5 star gas storage heater). Moreover, LPG water heating costs less than electricity water heating.

In addition, the Pitt&Sherry estimates show that in NSW greenhouse emissions generated by LPG water heating are very similar to those for natural gas and both generate significantly lower greenhouse emissions than electric water heating.

Further, in 2011, Gas Energy Australia (then LPG Australia) commissioned research by Rare Consulting¹ which showed LPG represents a carbon competitive solution comparable to natural gas in all stationary energy market sectors, offering significant GHG savings when compared to conventionally fuelled or electric powered systems. A copy of this research can be found at:

<http://gasenergyaustralia.asn.au/site/library.php?task=detail&type=0004&id=0101>

¹ RARE Consulting is a division of Pitt and Sherry which provides specialist strategic consultancy services in the areas of transport and the environment with a major focus on transport technologies, transport energy use and greenhouse strategy.

Table 2: Comparison of annual water heater costs and emissions in Sydney

Type of water heater	Operating cost (\$)	Full cycle greenhouse emissions (tonnes CO2 equivalent)
Small household		
Electric storage	591	2.34
Natural gas storage – 5 star	361	0.72
Natural gas instantaneous – 5 star	314	0.65
Natural gas instantaneous – 7 star	270	0.55
LPG storage – 5 star	579	0.71
LPG instantaneous – 5 star	497	0.64
LPG instantaneous – 7 star	429	0.55
Large household		
Electric storage	963	3.81
Natural gas storage – 5 star	538	1.10
Natural gas instantaneous – 5 star	548	1.15
Natural gas instantaneous – 7 star	469	0.98
LPG storage – 5 star	891	1.09
LPG instantaneous – 5 star	899	1.14
LPG instantaneous – 7 star	771	0.97

Source: Pitt&Sherry, Operating costs and greenhouse emissions performance of gas water heaters compared with other types of residential hot water systems, June 2013.

Conclusion

The LPG industry's extensive and versatile infrastructure enables it to reliably supply gas to NSW households not connected to the natural gas network that:

- a. is price competitive and affordable for NSW households;
- b. produces low emissions comparable to those from natural gas and much lower than those from the average mix of electricity generated in NSW;
- c. can delay or postpone indefinitely the significant costs of upgrading the electricity grid as well as reduce the strain on the grid during peak load periods;
- d. can delay or postpone indefinitely the significant costs of expanding the natural gas network; and
- e. increases the resilience of the energy supply chain, especially in areas affected by emergencies and natural disasters.

5. Recommendation

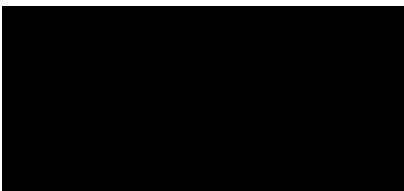
Gas Energy Australia recommends that the NSW Legislative Assembly State and Regional Development Committee's Inquiry into downstream gas supply and availability in NSW acknowledge that:

- a. the LPG industry currently supplies low emission gas reliably and at competitive prices across NSW; and
- b. a compelling case would need to be made to justify NSW taxpayers subsidising an expansion of the natural gas network.

In particular, any proposal to subsidise an expansion of the natural gas network would need to demonstrate that natural gas was a more cost effective solution than simply compensating LPG users for its higher operating costs compared to natural gas as a community service obligation.

For your consideration.

Yours sincerely



Michael Carmody
Director and Chief Executive Officer

Distribution: NSW Legislative Assembly State and Regional Development Committee

For Information:

Members – Advisory Council Working Group – Gaseous Fuels – Stationary Energy
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