Submission No 125

SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW

Organisation: Australian Gas Infrastructure Group

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The Chair
Alex Greenwich MP
Committee on Environment and Planning
Parliament House
Via email environmentplanning@parliament.nsw.gov.au

Dear Mr Greenwich

Inquiry into sustainability of energy supply and resources in New South Wales

Australian Gas Infrastructure Group (AGIG) welcomes the opportunity to make this submission to the inquiry into sustainability of energy supply and resources in New South Wales (NSW). After briefly introducing AGIG, we will respond to two questions from the terms of reference:

- the emerging trends in energy supply and exports, including investment and other financial arrangements; and
- opportunities to support sustainable economic development in regional and other communities likely to be affected by changing energy and resource markets, including the role of government policies.

In particular our response to these two questions will focus on the important role of natural gas in NSW's energy supplies, and the emerging opportunity of renewable hydrogen to provide zero emissions energy for homes, vehicles and other uses.

About AGIG

AGIG is one of the largest gas infrastructure businesses in Australia. We serve over 2 million customers across every mainland state and the Northern Territory through 34,000km of distribution networks, more than 3,500km of transmission pipelines and 42 petajoules of storage capacity. In New South Wales we serve almost 60,000 customers through gas distribution networks in Albury, Wagga Wagga and various towns in the south of the state.

AGIG is at the forefront of developing Australia's hydrogen opportunity. At Hydrogen Park South Australia (HyP SA), we are constructing a renewable hydrogen project that is the first of its type and scale in Australia. The hydrogen produced at HyP SA will be blended into our South Australian gas distribution network and may also supply other markets such as industry and transport. HyP SA will provide a blend of 5% hydrogen to 710 customers from mid-2020.

Emerging trends in energy supply and exports

The trend towards decarbonisation of Australia's energy sector and economy is clear. NSW and all other states and territory governments (excluding Northern Territory) have some form of commitment to net zero emissions by 2050 or sooner. We support these commitments and urge governments to put in place concrete policies to underpin decarbonisation of the economy.

Gas represents around 9% of NSW's primary energy consumption (2016-17) and around 4% of electricity generated (2017-18).[1] While lower than in some other states, gas plays a pivotal role in the energy mix of NSW, one that is likely to increase. Considering that electricity generated from coal represents almost 80% of NSW's total electricity output, gas as a lower carbon form of electricity generation should play an increasing role in the transition to net zero emissions in 2050, supporting renewable electricity which currently makes up 15%.

Natural gas provides 44% of household energy but produces only 13% of household greenhouse gas emissions, with a much lower greenhouse gas intensity than coal.[2] Gas also plays a critical source of dispatchable supply, working in concert with renewable electricity to stabilise the grid and respond to peak demand.

Gas also provides a reliable and low emissions source of energy delivered directly and safely to homes and small businesses in much of NSW. In AGIG's networks, which are in some of NSW's colder regions, gas provides an important source of energy that is valued by customers for heating and cooking, and is more efficient and cost-effective than alternatives.

Also, gas plays a crucial role in providing regional industries with a reliable and low emissions source of energy. The availability of gas promotes economic growth in regions by supporting the development of industries within those regions, which then become key employment centres. Augmenting existing supplies within NSW will help to address concerns about affordability.

The Australian Competition and Consumer Commission (ACCC) in the most recent instalment of its gas inquiry, has urged state governments "to adopt policies that consider and manage the risks of individual gas development projects, rather than implementing blanket moratoria and regulatory restrictions".[3] AGIG strongly supports removing moratoria on gas exploration in favour of a policy requiring rigorous assessment of any potential future gas developments.

This approach will ensure any community concerns are properly considered and assessed, and as such, represents appropriate policy as is applied to other major projects in the state. This approach is also likely to have substantial economic benefits for the state, including in the regions through direct employment but in lowering costs to industry and the community more generally

Opportunities to support sustainable economic development

While gas will continue to play a role in NSW's decarbonisation journey, other technologies are emerging that can help achieve net zero emissions and promote economic development in the regions of NSW. Achieving the long-term target of net-zero emissions by 2050 will require a sustained effort to move away from current sources of energy to zero emissions alternatives. Between now and 2050, this will require the combined efforts of government, industry and customers.

Hydrogen (and renewable gases like biomethane) represent an important avenue for addressing all elements of the energy trilemma.

The benefits and potential applications of hydrogen are clear. Gas Vision 2050, released in 2017, reflects the ambitions of key organisations in Australia's gas sector to play a role in Australia's low carbon future.[4] The report showed that gaseous fuels have a pivotal role to play to 2050 and beyond, and outlined the wide range of potential applications for hydrogen.

The Hydrogen Strategy Group further emphasised the potential for domestic applications noting:

[1] See Department of the Environment and Energy, *Australia Energy Update 2018* Table C2 and Table O.
[2] https://www.energynetworks.com.au/sites/default/files/gasvision2050_march2017_0.pdf
[3] https://www.accc.gov.au/system/files/Gas%20inquiry%20July%202019%20interim%20report.pdf p.41
[4] https://www.energynetworks.com.au/gas-vision-2050

> "Hydrogen can heat our buildings, power our vehicles and supply our industrial processes. These applications represent opportunities to expand manufacturing and generate spillover innovation and jobs while lowering our CO2 emissions."[5]

Meanwhile the CSIRO in its National Hydrogen Roadmap pointed to hydrogens' potential:

- in natural gas networks "as a low emissions source of heat as well as a potentially cost competitive low emissions feedstock for a number of industrial processes"; and
- in electricity networks by overcoming challenges associated with energy intermittency and coupling across the electricity, transport and gas sectors.

Hydrogen will also provide a decarbonisation pathway for the significant number of energy uses that are difficult or costly to address through electrification. The Grattan Institute, in addition to recognising the role for hydrogen in heating and for storage, has noted:

> "The use of fossil fuels to make steel, chemicals, and plastics will be phased out in favour of low-carbon energy and hydrogen."[6]

The evidence from each of these studies is clear, hydrogen has significant potential to help address all elements of the energy trilemma: providing a reliable, affordable and zero emissions source of energy. Hydrogen, and other renewable gases (eg, biomethane), are ready for deployment in gas networks as recognised by CSIRO and the National Hydrogen Strategy.[7]

As the owner and operator of gas networks, AGIG is already investing in this transition as demonstrated by our investment in HyP SA. Analysis from Deloitte suggests that using existing gas networks to deliver 100% hydrogen is likely to be 40% cheaper than electrifying existing uses of natural gas.[8]

However, the longer-term transition to zero emissions gas networks requires strong near-term signals in the form of policy, legislation and regulation including policies specifically focused on gas networks.

Firstly, supporting demonstration projects should be a priority for government action. Victoria, South Australia, Queensland and Western Australia all have in place support for feasibility studies and demonstration projects, many of which are expected to show results within the next 12 to 24 months. These programs complement efforts of the Australian Renewable Energy Agency which are also critical.

Developing a NSW hydrogen demonstration fund would help secure a role for the state in Australia's emerging hydrogen industry, and help provide affordable, reliable and zero emissions energy for customers in NSW in the medium and long term.

In terms of more direct incentives for the deployment of hydrogen in gas networks, in our response to the National Hydrogen Strategy we proposed a Renewable Gas Blending Target. This could be introduced at the Commonwealth or state level in NSW.

Such a target would require that hydrogen or other renewable gases be blended into gas distribution networks up to the equivalent of say 10% hydrogen by 2030. The target would mirror existing Renewable Electricity Targets by requiring retailers to source a growing proportion of the gas they sell from renewable gases.

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5 http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Hydrogen%20for%20Australia%27s%20Future.pdf

6 https://grattan.edu.au/wp-content/uploads/2019/09/energy-gathering.pdf

7 https://www.csiro.au/en/Do-business/Futures/Reports/Hydrogen-Roadmap; https://consult.industry.gov.au/national-hydrogen-strategy-taskforce/national-hydrogen-strategy-issues-papers/

8 https://www.energynetworks.com.au/sites/default/files/08232018_decarbonising_victorian_gas_consumption_-_final.pdf

As part of the target, we also propose that gas networks be required to offset completely the fugitive emissions from gas distribution networks (unaccounted for gas) with renewable gases blended into the network by 2025.

While more consideration of the appropriate market design is still required, at a high-level a Renewable Gas Target would have some key features:

- target: set an ambitious but achievable short-term renewable gas target (say 10 per cent of gas consumption from distribution networks by 2030);
- ceiling: contain a ceiling price that adjusts as the cost premium of hydrogen production falls in order to manage any impact on customer bills;
- trading: enable obligations to be met and traded across all distribution networks, maximising the allocative efficiency by spreading the costs and benefits;
- flexibility: allow all renewable gases, including hydrogen and biomethane, to be blended into networks.

Our analysis suggests that a Renewable Gas Blending Target is both achievable and affordable; adding less than 1% to the cost of gas delivered to customers for a 10% hydrogen blend.

AGIG already plays a significant role in NSW's energy sector and we look forward to continuing this role as the energy sector undergoes a significant transformation. A sustainable energy sector will require recognition of the ongoing role for natural gas in the state's energy supply as well as support for the role of hydrogen and other renewable gases in the medium and longer term.

Once again, I thank you for the opportunity to provide a submission to the inquiry. Should you have any queries about the information provided in this letter please contact Drew Pearman, Manager of Policy and Government Relations ([redacted]).

Yours sincerely,

[redacted]

Craig de Laine
General Manager People and Strategy