

Thursday, 01 August 2019

Infrastructure SA

To whom it may concern

Infrastructure SA: 20-year State Infrastructure Strategy

Australian Gas Infrastructure Group (AGIG) is pleased to provide the attached submission in relation to the Discussion Paper on Infrastructure SA's 20-year State Infrastructure Strategy (the 20-year Strategy).

AGIG is one of Australia's largest energy utility business. Our assets are in all mainland states of Australia and the Northern Territory, and include gas distribution networks, gas transmission pipelines and storage facilities. Our South Australian distribution network delivers natural gas to more than 450,000 homes and business. The network consists of more than 8,100km of pipes serving residential, commercial and industrial business customers in Adelaide (from Two Wells to Aldinga) and regional centres in the Upper North, Barossa, Riverland and South East of the state.

Our response to the Discussion Paper primarily considers options available to establish a reliable, affordable, decarbonised energy system in South Australia. In so doing, we will address two key themes, infrastructure investment in support of population and economic growth, and energy decarbonisation.

Infrastructure investment in support of population and economic growth

The energy sector is an enabler of economic activity and growth, and underpins the high living standards enjoyed by the community. Gas networks have played a crucial role providing access to reliable, affordable and low emissions energy for South Australia. The 20-year Strategy provides an opportunity to maximise the benefits of existing infrastructure to deliver future growth in Adelaide and the regions, while also achieving net-zero emissions.

Gas networks are long-term investments underpinning economic and population growth. Our network in South Australia served 451,718 customers in 2018, a growth of 5.7% since 2014 compared to overall South Australian population growth of 3% over the same period. Gas is a fuel of choice, and the growth in customer numbers demonstrates the community's desire for, and confidence in, natural gas. The continuing expansion of the network can provide energy choices for more South Australian's over the next 20-years.

In the future, it will also be important to build on the existing natural gas transmission infrastructure to ensure South Australia and Australia as whole preserve the integrated energy system. Natural gas will be an integral consideration for new growth opportunities in South Australia, and this infrastructure can help secure affordable, reliable and low emissions energy.

Energy sector decarbonisation

Gas networks will be a key part of the long-term decarbonisation of South Australia's energy sector. As noted in the Discussion Paper, hydrogen and other renewable gases such as biomethane have the potential to transform energy markets. The benefits of hydrogen are outlined in a range of recent reports including:

- the National Hydrogen Strategy Issues Papers;¹
- *Gas Vision 2050*;²
- *Decarbonising Australia's Gas Networks*;³ and
- CSIRO's *National Hydrogen Roadmap*.⁴

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.⁵ The key benefit of hydrogen is in the use of existing gas network infrastructure (with expansions to meet population and economic growth) to support the energy transformation.

It is also important to consider the potential benefits for electricity, industry and transport. Hydrogen can play a role in storage and demand response for electricity networks, providing a reliable source of energy working in concert with variable renewable electricity generation. The integration of gas networks with hydrogen and the electricity network can improve the utilisation of existing infrastructure, including existing solar generation. Hydrogen production can also be distributed through networks to supply refuelling stations for hydrogen vehicles. Finally, hydrogen represents a promising long-term option for decarbonising industrial users of natural gas for feedstock, heat and as a reductant.

Achieving this vision will require an extensive network of electrolyzers connected with existing and expanded gas networks. Hydrogen, and other renewable gases (eg, biomethane), are ready for deployment in gas networks. CSIRO and the National Hydrogen Strategy have recognised the readiness of the required technologies.

To begin this transformation we are already making a number of investments. At Hydrogen Park South Australia (HyP SA), we are investing in a hydrogen production facility with support from the South Australian Government. We expect to deliver a 5% renewable gas blend to around 700 customers in the suburb of Mitchell Park by mid-2020. We began formal engagement with the local community and other stakeholders on HyP SA with more details at <http://blendedgas.agn.com.au>.

We are also working to establish the *Australian Hydrogen Centre* (the Centre) with a range of private and public sector partners. The Centre will socialise learnings from our HyP SA project as well as delivering blueprints to decarbonise gas distribution networks in South Australia and Victoria including feasibility studies for 10% blending and 100% hydrogen networks in each state.

However, as for renewable electricity over the last decade, incentives are now needed to achieve the rapid and widespread deployment of hydrogen electrolyzers and other renewable gas technologies.

We have proposed a Renewable Gas Blending Target be introduced to provide this incentive either at the Commonwealth or state level. Such a target would require that hydrogen or other renewable gases be blended into gas distribution networks up to the equivalent of 10% hydrogen by 2030. The target would mirror existing Renewable Energy Targets by requiring retailers to source a growing proportion of the gas they sell from renewable gases.

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.

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.

Finally, the development of domestic infrastructure in support of developing hydrogen blends, will form a test bed for the development of an export industry. Building scale in the domestic industry is a necessary precursor to building the even greater scale required for exports.

¹ <https://consult.industry.gov.au/national-hydrogen-strategy-taskforce/national-hydrogen-strategy-issues-papers/>

² <https://www.energynetworks.com.au/gas-vision-2050>

³ https://www.energynetworks.com.au/sites/default/files/054496_tg_decarbonising_australias_gas_network_final.pdf

⁴ <https://www.csiro.au/en/Do-business/Futures/Reports/Hydrogen-Roadmap>

⁵ https://www.energynetworks.com.au/sites/default/files/08232018_decarbonising_victorian_gas_consumption_-_final.pdf

Once again, we thank you for the opportunity to comment on the Discussion Paper. Gas networks and pipelines have a crucial role to play in enabling economic and population growth in South Australia, as well as to decarbonise the state's energy sector. Making use of, and expanding on existing infrastructure investments can help South Australia manage these challenges with reliable, affordable and zero emissions energy.

Should you have any queries about the information provided in this letter please contact Drew Pearman, Manager Policy and Government Relations ([DELETED], [DELETED]) in the first instance.

Yours sincerely,

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