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Via email: energy.taskforce@chiefscientist.nsw.gov.au

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21 April 2017

Re: NSW Energy Security Taskforce

Dear Professor O’Kane

Jemena appreciates the opportunity to provide a submission to the NSW Energy Security Taskforce (the **Taskforce**).

Jemena’s extensive energy sector experience means that we are well placed to provide useful insights to the Taskforce. Jemena owns and operates a diverse \$9 billion portfolio of energy and water transportation assets across Eastern Australia, including electricity and gas distribution networks and gas transmission assets throughout eastern and northern Australia.

Australia’s gas infrastructure has the ability to positively contribute to meeting our energy needs as it can store the same amount of energy as 6 billion Powerwall batteries¹. Gas distribution infrastructure also plays an important role in providing a secure source of energy for homes and businesses in NSW. Jemena through its gas distribution network supplies natural gas to 1.3 million households, businesses and industrial customers across NSW. Hence, it is an important consideration when deliberating overall energy security, emissions reductions and management of peak electricity loads.

With respect to the Taskforce’s remit of assessing risks to the NSW electricity system and identifying recommendations to improve system security, Jemena considers the following points should form part of the Taskforce’s deliberations:

- the need for a nationally consistent and technology-neutral approach to energy and climate policy design to create the right investment environment;
- alleviating regulatory restrictions on unconventional onshore development to facilitate new supplies to address energy security, affordability and reduced emissions priorities;
- utilising technology-neutral policy settings to facilitate the entrance of a diverse range of energy sources; and

¹ Page 3, *Gas Vision 2050*, http://www.energynetworks.com.au/sites/default/files/gasvision2050_march2017.pdf

- focussing on all the pillars in the 'energy trilemma'; the challenge of optimising three goals for Australia's energy future: affordability, energy security and reduced emissions.

These points would provide a solid foundation for the Taskforce to address its own Terms of Reference and positively contribute to the timely public debate on the energy trilemma, alongside the Dr Alan Finkel led *Independent Review into the Future Security of the National Electricity Market* (the **Finkel Review**).

Jemena made a submission to the Preliminary Report (the **Report**) of the Finkel Review, which I have attached for the Taskforce's consideration. The scope of the Taskforce's review is broadly aligned with the Finkel Review such that many of the Report's findings and submissions to the review can be leveraged to assist the Taskforce's deliberations.

The Report's recognition of the important linkage between the gas market and the National Electricity Market (the **NEM**), in particular the impact of the current gas supply constraints on both price and security, was welcome. Gas plays an important role in electricity generation as well as in our economy overall.

Half of all gas used in Australia is for mining and manufacturing, contributing \$196 billion to the economy, employing 949,000 Australians and provides 44% of household energy but produces only 13% of household greenhouse gas emissions². The increased use of gas appliances can also have a role to play in reducing peak demand for electricity and the resulting costs to the maintaining electricity infrastructure.

Jemena also advocated in its submission to the Report for a nationally consistent and technology-neutral approach to energy and climate policy design. This will create the right environment to best address the energy trilemma; an environment that encourages a diverse range of energy resources to affordably and reliably supply customers, while meeting our emission reduction targets.

Recently we have seen the Commonwealth Government intervention into the east coast gas market and the South Australian energy plan to address energy security and affordability concerns. These moves are representative of the current fragmented approach to energy and climate policy development between Australian jurisdictions. In particular, state and territory moratoria on unconventional onshore gas exploration and development, and ambitious state and territory based renewable energy targets are serious points of contention between the Commonwealth and some states and territories.

This inconsistent and uncertain approach to government energy policy (on climate change, renewable energy targets, and economic and environmental regulation) is stalling required new investment in essential energy delivery and generation infrastructure.

Further, the current approach nationally and in some jurisdictions to providing subsidies for renewable generation has been a factor that has forced traditional synchronous generation out of the market and with it, the inertia/system stability this generation contributes towards system security. It has similarly not encouraged technological substitutions for this loss of system stability.

² Page 3, *Gas Vision 2050*, http://www.energynetworks.com.au/sites/default/files/gasvision2050_march2017.pdf

With respect to the above, in assessing the risks of the NSW electricity system and identifying options to improve its resilience, Jemena considers the following to be the most prevalent issues to address in order to improve energy security, and meet the other goals of the energy trilemma.

Alleviating moratoria on onshore gas exploration

The current east coast gas shortage has been well documented in the media. This shortage had been partially attributed to the tripling of gas demand on the east coast with the commencement of the three Queensland LNG projects at Gladstone which has sent domestic gas offshore.

Australia has abundant onshore gas resources that are currently not in production. This includes the recent discovery of significant volumes of gas (6.6 trillion cubic feet contingent resources) in the Beetaloo sub-basin by Origin Energy in the Northern Territory in late 2016. However, moratoria in some Australian jurisdictions has meant new unconventional onshore gas resources are not being commercialised. Jemena considers that the NSW Gas Plan represents a sensible approach to developing an unconventional onshore gas industry and obtaining the necessary social licence from the community.

Jemena is currently constructing the Northern Gas Pipeline (the **NGP**), a 622km pipeline from Tennant Creek in the Northern Territory to Mount Isa in Queensland. Jemena is also examining the possibility of significantly expanding the NGP and extending it to Wallumbilla, which is the largest gas hub in the country. The expanded and extended NGP would be able to deliver gas from the Northern Territory to meet east coast gas demand. However, any expansion/extension of the NGP is contingent on the current moratoria on unconventional onshore gas in the Northern Territory being removed or reduced.

Bringing significant additional gas to Mt Isa and Wallumbilla would allow gas currently flowing north from Moomba and Vic/NSW to flow back into southern markets. A major benefit of this would be some of the idle gas power generation capacity in the NEM, including in NSW, would be able to secure gas necessary to return to the market, and provide the necessary ancillary services and system stability from synchronous generation to address energy security concerns in the short term. Further, given modern gas power generation produces half the emissions of high-efficiency coal plants, it is well placed to contribute to reducing emissions immediately.

Gas Vision 2050 and technology-neutral policy

Gas is well placed to provide affordable and lower emission energy right now and into the future. In late March 2017, Australia's gas industry and Federal Energy Minister Josh Frydenberg launched the Gas Vision 2050, which outlines the key role that gas will play in our economy to 2050 and beyond. I have attached a copy of Gas Vision 2050 to assist the Taskforce's deliberations.

The vision demonstrates how gas can continue to provide Australians with reliable and affordable energy in a low carbon energy future. It focuses on three transformational technologies that can help position gas in a zero emissions future: hydrogen, biogas and carbon capture and storage. Such a future requires technology-neutral policy settings so a diverse range of energy sources can be developed to meet our needs.

The NSW Advanced Energy Challenge is an excellent example of technology-neutral policy that encourages diversification in energy supply sources. Jemena is currently discussing opportunities to develop transformational grid technologies with the NSW Government and the Australian Renewable Energy Agency. Jemena believes there is a need for the Advanced Energy Challenge project to be further expanded in the future to facilitate additional research and development for transformational technologies to be integrated into the grid.

An example of a transformational technology that is currently being explored is power-to-gas (**P2G**). P2G is the functional description of the conversion of electrical power into a gaseous energy carrier such as hydrogen, which can be stored in already established natural gas networks for later use. Basically, the P2G concept uses existing gas distribution infrastructure as a battery to store surplus renewable energy. Research and development policy support is critical to commercialising P2G and other transformational technologies.

Technology-neutral policy would also facilitate the use of alternative grid-stabilising services (e.g. batteries) and distributed energy resources, which could help mitigate the need to revise the reliability and security standards currently imposed on transmission and distribution network businesses. Given the way technological innovation and evolving customer preferences are redefining the way energy is supplied, the traditional approach to network investment is unlikely to be sustainable or appropriate going forward.

Overall, Jemena considers it is important that policy decisions arising out of the Taskforce's review process are taken with the energy trilemma in focus, rather than pursuing individual objectives in isolation, so that other trilemma elements do not suffer while the objectives of another element are prioritised.

Jemena regularly conducts Customer Council meetings with key stakeholders in the electricity and gas sectors as a means to better understand the needs of our customers. Jemena would be happy to dedicate time in these forums to collate its customer's views, and facilitate discussion, on the Taskforce's findings.

Please contact Benjy Lee (03 9173 9874 or Benjy.lee@jemena.com.au) if you would like to discuss our cover letter or submission to the Finkel Review further.

Yours sincerely



Shaun Reardon
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