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25 November 2015

Australian Gas Networks

Queensland Productivity Commission
PO Box 12112
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Via email: enquiry@qpc.qld.gov.au

Issues Paper – Solar Feed-In Pricing in Queensland

To Whom It May Concern:

Australian Gas Networks Limited (AGN) is one of Australia's largest natural gas distribution companies. AGN owns approximately 23,000 kilometres of natural gas distribution networks and 1,100 kilometres of transmission pipelines, serving over 1.2 million consumers in Queensland, South Australia, Victoria, New South Wales and the Northern Territory. In Queensland alone, AGN facilitates the safe and reliable supply of distributed natural gas to around 93,000 customers.

AGN welcomes the opportunity to make a submission to the Queensland Productivity Commission, regarding the *Solar Feed-In Pricing in Queensland Issues Paper (the Paper).* AGN understands that following this consultation period, a draft report will be released in February 2016.

As outlined in our submission attached to this letter, distributed natural gas is a low carbon energy choice for Queensland and AGN considers it has an important role to play in any future low carbon energy network. Our network delivers safe and reliable energy with significantly lower carbon intensity than electricity. Additionally, the continued use of natural gas ensures a diversified energy mix in Australia, thereby increasing the security of energy supply to customers.

Importantly, there are a number of low-carbon natural gas technologies that could benefit from the provision of feed-in tariffs in Queensland. AGN encourages the Commission to ensure it advocates for technology-neutral policy objectives that do not adversely affect any particular energy source.

For example, there are multiple opportunities for Queensland's gas distribution network to evolve beyond providing supply to traditional gas appliances in areas already reticulated. By encouraging the uptake of co-generation or tri-generation (for example), the Queensland economy can achieve future significant reductions in carbon emissions. These initiatives are explained further in our attached submission.

As such, AGN advocates for the broadening of the FIT scheme beyond its application to solar photo-voltaic (PV) installations, to apply equally to other low carbon fuels or technologies.

Please contact either Kristin Raman (08 8418 1117) or myself (08 8418 1129) if you would like to discuss the matters raised in this submission further.

Yours sincerely

Craig de Laine
General Manager – Regulation

Attachment A – Detailed Response to the Issues Paper

Natural gas has long played an important role in the energy mix for Australia, driven by its favourable characteristics of being an abundant local resource which is low carbon intensity and a preferred energy source for cooking and heating. These characteristics continue to make natural gas an important part of Queensland's future energy mix. More specifically, distributed natural gas:

- Provides reliable, base load energy supply to homes and businesses, which is often more reliable than the performance of the electricity network.
- Is base load in the nature of its supply, and as such, is an important complement to the more intermittent nature of renewable energy sources, such as solar PV installations.
- Delivers energy which is approximately one quarter of the carbon intensity of mains electricity.[1] Even at times of increasing renewable energy generation, as long as coal remains part of the electricity generation mix, distributed natural gas will continue to be preferential in terms of emissions.
- Helps to mitigate peak electricity demand, limiting the need for further costly investment in the electricity network, therefore helping to minimise electricity prices. For example, the Energy Networks Association (ENA) estimates that infrastructure required for peak electricity demand is used for the equivalent of four or five days per year, with one network alone indicating that augmentation for peak demand cost $11 billion.[2]
- Represents the more efficient utilisation of historic investment in natural gas networks, which in-turn will lead to lower prices.
- Is an essential input to certain commercial and industrial applications.
- Is evolving past the traditional uses of heating (homes and water) and cooking to transport, gas-powered air conditioning, gas dryers and distributed generation.
- Provides diversity and balance in energy supply, which is vital for ensuring the ongoing energy security for Queensland homes and businesses.
- Supports jobs growth and economic investment in Queensland's economy including through the utilisation of the state's natural resources.

Given the above, distributed natural gas has an important role to play in assisting the Queensland economy's transition to a low-carbon future and AGN encourages the Commission to ensure that its feed-in tariff (FIT) scheme recognises the value of distributed natural gas as a low-carbon energy source.

In particular, AGN supports the principle of technology-neutrality in relation to the development and implementation of the Queensland Government's FIT scheme and encourages the Commission to support carbon abatement measures with the lowest cost per unit of emissions reduction – irrespective of the energy source.

As such, AGN advocates for the broadening of the FIT scheme beyond its application to solar photo-voltaic (PV) installations, to apply equally to other low carbon fuels or technologies. One key example is in relation to co-generation and tri-generation facilities. As the Commission states:

> *"Policy frameworks typically include a principle that policies should be technologically neutral. The idea is that what is important is the quality and price of the service, not the specific platform, technology or approach to delivering the service. The focus is on the long-*

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1 "National Greenhouse Account Factors", Department of Environment, December 2014, https://www.environment.gov.au/system/files/resources/b24f8db4-e55a-4deb-a0b3-32cf763a5dab/files/national-greenhouse-accounts-factors-dec-2014.pdf, pages 13 and 19.

2 ENA 2014, "*Electricity prices and networks costs*".

term interests of consumers and not the industry or the development of a specific technology."[3]

AGN is a strong advocate of technology-neutral policy and as such supports the Commission's position. AGN considers that any policy should facilitate the lowest cost solution to address a particular problem (or objective), which in this case is carbon abatement.

The Commission also goes on to state:

> *"A number of objects of the Electricity Act 1994 are consistent with the idea that regulations should not distort competition between alternative solutions to supplying a service. In the context of solar exports, a technological neutrality principle would require that the regulated feed-in prices do not either advantage or disadvantage any particular suppliers based on the technologies used to generate energy."*[4]

AGN encourages the Commission to continue to advocate for technology-neutral policy that does not adversely impact the natural gas industry. Importantly, AGN considers that an alternative low emission fuel such as natural gas (with the potential to generate low emission electricity via a residential fuel cell, gas turbine or similar), performs the same task as a solar PV installation. Although both fuels/technologies are low emission in nature (compared with alternatives like coal), a key challenge is that non-solar PV low emission technologies are not eligible for a FIT under the current Queensland government scheme.

Further, this technology-biased policy creates competitive distortion in the appliance market where solar appliances are provided with a competitive advantage through the provision of a financial benefit to consumers, whereas similarly low emission technologies are not. AGN supports the Commission's comments that:

> *"… welfare is maximised through functioning markets where customers determine which supply option best meets their needs and budget, thereby determining which technologies contribute the most to welfare improvement. Policy or regulatory attempts to 'pick technological winners' risks damaging industry development, resulting in lower quality or higher priced services being offered to consumers."*[5]

Not only is a technology-neutral approach to carbon abatement considered a good policy objective overall, but this balanced approach is also in line with the long-term interests of consumers. By ensuring that policy is technology-neutral, policy-makers are able to ensure the natural development of markets, resulting in a more efficient allocation of resources.

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3 Queensland Productivity Commission, "Issues Paper – Solar Feed-In Tariff Pricing in Queensland", http://www.qpc.qld.gov.au/files/uploads/2015/10/Solar-Issues-Paper-FINAL-FOR-PUBLICATION-151015.pdf, page 12.

4 *Ibid.*

5 *Ibid.*

Specific Comments and Recommendations – Market Failures, Costs, Benefits and Barriers to Entry

AGN would also like to comment on the following questions raised by the Commission.

Market Failures

2.1 Is there evidence of significant and enduring market failures in the solar export market in Queensland?
2.2 Where market failures are present, how are they best addressed?
2.3 Do solar PV exports produce positive environmental and social impacts that are currently not paid for through existing programs and rebates?
2.4 If so, is the investment in solar PV suboptimal (from a societal point of view)?
2.5 Would a regulated solar feed-in tariff be an effective and efficient tool to address environmental externalities?
2.6 What are the objectives of a solar export pricing policy?
2.7 Where objectives are in conflict, which objectives take priority and why?
2.8 What principles should be used to guide solar export pricing policy and any regulation of feed-in tariffs?
2.9 How should fairness be defined?

Firstly, in responding to the above questions posed by the Commission, AGN considers that the key market failure in relation to the solar export market in Queensland is that the implementation of the solar FIT scheme disadvantages alternative technologies and energy sources that sit outside of the scheme.

Additionally, AGN notes that the Paper states possible objectives of solar FIT pricing could include encouraging solar PV investment, solar industry development and job creation, lowering electricity prices and improving environmental outcomes.[6]

AGN asks for further clarity over what the true objective of the Queensland government is, in implementing a solar FIT scheme. In particular, if an objective of the solar FIT scheme is to encourage investment in solar PV and further develop the solar industry, AGN is concerned that this policy objective may be inconsistent with the Commission's view on the principle of technology-neutrality. In particular, the Commission already notes that:

> *"... if supporting solar power job creation increases employment in the solar energy sector, but this is achieved by shifting employment from other sectors and leaves aggregate employment unchanged, the Queensland community is no better off."*[7]

As such, AGN encourages the Commission to review its policy objectives to ensure that a solar FIT scheme has as its primary objective, lowest-cost carbon abatement. Otherwise, AGN considers that a solar FIT scheme designed to encourage the development of the solar industry risks:

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6 *Ibid.*, page 9.
7 *Ibid.*

- over-investment in solar PV, and consequently potential under-investment in alternative low-carbon technologies and energy sources; and
- introducing a barrier to entry for alternative technologies, as solar PV consumers are essentially subject to subsidies covering the costs of installation.

As a result, AGN encourages the Commission to seek technology-neutrality as a key principle in order to guide solar export pricing policy and any relevant regulation of feed-in tariffs.

Costs and Benefits

3.1 What are the costs and benefits of exported solar electricity?
3.2 Who incurs the costs and accrues the benefits from exported solar electricity? How will future market developments impact on costs and benefits?
3.3 Where there is a case to regulate feed-in tariffs, is the existing approach to pricing solar exports appropriate? If not, what alternative approach would be the most effective and efficient way to price solar exports?
3.4 How should the price be structured and paid? Should feed-in tariffs account for variations in value due to location and time?

There are a range of costs and benefits associated with the current solar FIT scheme, which impact consumers and the industry:

- *Benefit to Society*: Reduction in carbon emissions achieved through a decrease in electricity generation required.
- *Benefit to Consumers*: Affordability of solar PV installations to residential customers, particularly considering the solar FIT subsidies provided to customers.
- *Benefit to Network Service Providers*: Ability of solar PV installations to help reduce peak demand on electricity networks and avoid the need for future costly investment in increasing the capacity of the network.
- *Cost to Network Service Providers*: Utilisation of electricity network infrastructure without the ability of network service providers to charge customers for this service.
- *Cost to Consumers*: Increase in per unit price of electricity, as network service providers attempt to recover relatively fixed costs against declining overall usage.
- *Cost to Consumers*: Related to the point above, the fairness of solar FIT scheme is questionable, as unit costs will increase as energy displaced by solar PV installations increases, thereby increasing the total bill for consumers without solar PV installations.
- *Cost to Consumers, Society and Industry*: The subsidies provided to consumers relating to solar PV installations disadvantages the broader energy industry and provides a barrier to entry regarding further innovation of low carbon technologies and energy sources. By subsidising consumers' solar PV installations, the solar FIT scheme is potentially hindering future development of alternative low carbon technologies. This is an inherent problem when policy directs (rather than facilitates) the manner by which a particular government objective is achieved.

More specifically, in relation to Question 3.3 above, an appropriate alternative to the solar FIT scheme currently in place would be a policy approach that adopts a technology-neutral principle. The Commission comments on this policy option below:

> *"In the context of solar exports, a technological neutrality principle would require that the regulated feed-in prices do not either advantage or disadvantage any particular suppliers based on the technologies used to generate energy."*[8]

AGN certainly advocates for this approach by the Commission, in order to minimise market distortions created by policy.

Barriers to Entry

4.1 What are the main barriers to pricing solar exports? How significant are these barriers?
4.2 How may broader market changes (e.g. metering) impact barriers?
4.3 Can these barriers be overcome in an effective and efficient way?
4.4 Are there other barriers to a well-functioning solar export market?
4.5 Are there examples where efficient investments in solar did not proceed because of technical, market or regulatory barriers?
4.6 Are there cost-effective ways to remove or address those barriers?

Further to the points above, AGN certainly encourages the Commission to consider the impact of its solar FIT scheme on alternative technologies and their potential for future low-cost carbon abatement in Queensland. In particular, AGN considers the solar FIT scheme acts as a barrier to entry for alternative technologies and energy sources.

For example, co-generation and tri-generation facilities that are particularly suitable for large office buildings and apartment blocks can utilise both the electricity and gas distribution networks (costly network infrastructure that consumers have and will continue to pay for through the network portion of their energy bills), in order to significantly reduce carbon emissions produced by these developments, as well as lowering customer energy bills following installation.

One example of the benefits of tri-generation is the Sustainable Sydney 2030 project currently underway by the City of Sydney:

> *"The City of Sydney will produce its own low-carbon energy for power, heating and cooling at Sydney Town Hall and its staff offices after Council approved a tender for a tri-generation plant in Town Hall House. The project will contribute to Sustainable Sydney 2030 by reducing the City's annual carbon emissions by 3 per cent and reducing energy bills for Town Hall and Town Hall House by an average of $320,000 per year over the life of the project."*[9]

Despite the significant benefits of tri-generation, these installations are subject to large up-front installation costs which are unattainable for many developers or consumers without government support, hence uptake of these facilities has not been significant in recent years. As such, AGN encourages the

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8 *Ibid.*, page 12.
9 City of Sydney, http://www.cityofsydney.nsw.gov.au/vision/towards-2030/sustainability/carbon-reduction/trigeneration.

Commission to think beyond the solar FIT scheme in terms of achieving lowest-cost carbon abatement and look to provide equal support to alternative technologies that can also achieve significant reductions in carbon emissions and potentially consumers' energy bills.

Summary of Recommendations

To summarise, AGN considers that natural gas has an important role to play in Queensland's low-carbon future and recommends that the Queensland government:

- does not 'pick winners' and advocates for technology-neutral carbon abatement policy; and
- considers broadening its solar FIT scheme to incorporate alternative low-carbon, low-cost technologies and energy sources, such as natural gas.