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Essential Services Commission of Victoria
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“Inquiry into the True Value of Distributed Generation”

Australian Gas Networks Limited 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 South Australia, Victoria, Queensland, New South Wales and the Northern Territory.

AGN welcomes the opportunity to make a submission to the Essential Services Commission of Victoria (ESCV) regarding the *“Inquiry into the true value of distributed generation”* (the paper). AGN continues to be supportive of distributed generation and acknowledges the value that these generation facilities can provide to energy networks.

AGN notes that historically, there has been significant consideration of reducing the barriers to entry hindering the viability of distributed generators, however there still remains opportunities to further reduce these barriers. As such, AGN is encouraged by the ESCV’s continued investigation into this issue.

AGN also considers that there has previously been considerable focus placed on renewable energies and believes there is still an important role for low carbon fuel sources (such as natural gas) to play in Australia’s transition to a low carbon economy. AGN encourages the ESCV to advocate for technology neutral policy that does not attempt to ‘pick winners’ in this transition and that any future policy changes consider both existing and new fuel sources.

AGN has provided responses to a number of the ESCV’s consultation questions, provided as Attachment A to this submission. Additionally, AGN notes its recently submitted response to the Australian Energy Market Commission in relation the proposed Local Generation Network Credit Rule Change to the National Electricity Rules.

Please contact either Ashley Muldrew or myself if you would like to discuss the matters raised in this submission further.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Craig de Laine".

Craig de Laine
General Manager – Regulation

Attachment A: AGN's Response to Consultation Questions

Commission's Approach

1. Do you agree with how the Commission is proposing to define true value? If not, why not? Are there other definitions the Commission could use?
2. Do you agree with the Commission's view that this Inquiry is focussed on identifying the public benefit of distributed generation? If not, why not?
3. Do you agree with how the Commission is proposing to define public benefit as it relates to distributed generation?
4. Is the Commission's understanding of how the costs, to network businesses and consumers, of connecting distributed generation are calculated and recovered correct? If not, why not?
5. Do you agree with the Commission's proposed approach to the inquiry? If not, why not, and what alternative approach would you propose?

AGN is supportive of the ESCV's definition of true value, as stated below:

*"It is the Commission's view that the true value of distributed generation is reflected by a return to investors in distributed generation that captures, as accurately as possible, the total benefits produced by that investment. If this were not the case, for example, if the return on investment was lower than the benefits produced, then it is highly likely that from a system-wide perspective there would be insufficient investment in distributed generation. Conversely, if the return to investors was greater than its 'true value' then unwarranted investment in distributed generation is likely to follow – with potentially costly consequences."*¹

Importantly, the ESCV also distinguishes between the 'network' and 'energy' value of distributed generation which it describes as follows:

- 'Energy' value: represents the value to the energy market, which is to say, the value to other consumers of having electricity produced by a distributed generator²; and
- 'Network' value: represents the value to the distribution (and transmission) businesses of having electricity produced closer to the point of consumption³.

AGN considers the definition as detailed by the ESCV, and the distinction between the value generated from an 'energy' and 'network' perspective to be clear and reasonable.

In terms of the ESCV's definition of the public benefit attributable to distributed generation, AGN agrees with the ESCV's categorisation of these as economic, environmental or social benefits, and acknowledges the difficulty in identification and quantification of social benefits.

AGN's consideration of the benefits discussed in the paper are detailed in the following sections.

¹ ESCV, "Inquiry into the true value of distributed generation", December 2015, pg. 3.

² Ibid., pg. 2.

³ Ibid.



What Values can be Attributed to Distributed Generation

- 6. Are there other public benefits that the electricity generated by a distributed generator provides? How can these identified benefits be quantified?**
- 7. Are there any environmental or other public benefits that a distributed generator provides to the distribution network? How can these identified benefits be quantified?**

Identification of Benefits

AGN considers the key economic benefits of distributed generation are:

- Reduced localised capacity constraints on electricity distribution networks;
- Reduced losses experienced on the network due to the location of embedded generators on the network; and
- Lower electricity prices for consumers over the long-term through the increased supply of electricity to the grid and the reduction of augmentation investment required to meet increasing peak demand.

With regard to potential environmental benefits, emissions reduction is key and as such, AGN considers that these generators should be rewarded for this benefit. AGN notes however, that there is some discrepancy in the reward that generators of different fuel types are eligible for.

As an example, as discussed in the paper, *renewable* energy generators in particular may provide clean energy to a particular site, the electricity grid (or perhaps both), and be rewarded under the Federal Government's Renewable Energy Target (RET) scheme. Additionally, renewable generators can be rewarded either through a local generation credit payment or a small-scale technology certificate (STC).

However, as also highlighted in the paper, *low emission* distributed generators are not subject to the same incentives and are currently unrewarded for their contribution to emissions reduction:

*"... some other forms of distributed generation, such as that powered by natural gas, are not eligible for the RET scheme and are therefore not rewarded for any environmental benefit they provide."*⁴

To remedy this fuel source bias, AGN advocates for the ESCV's position to consider placing further emphasis on low carbon fuel sources rather than purely focusing on renewable sources. For example, the ESCV could advocate for the calculation and use of carbon intensity values of each distributed generator. Carbon intensity values could be calculated and then compared to the average carbon intensity of the National Electricity Market (NEM), thereby rewarding any distributed generator (regardless of fuel source), for the carbon reduction it enables in the NEM.⁵

An approach such as this requires an estimate of the price of carbon and although Australia does not currently have a carbon trading scheme (and therefore, there is no set carbon price), AGN recommends that any of the following methodologies could be used to determine a proxy value of carbon:

- The implicit carbon value in an STC or local generation credit;
- Auction values achieved via Australia's Emission Reduction Fund; and
- 'Green power' values for a carbon proxy.

⁴ ESCV, "Inquiry into the true value of distributed generation", December 2015, pg. 48.

⁵ Ibid.



AGN considers that a formal evaluation of these methodologies would enable the quantification of benefits provided not only by distributed generators powered by renewable fuel sources, but also low emission fuel sources. Such evaluation of low emission distributed generators would enable these facilities to be financially rewarded for the environmental benefits achieved and help to lower the barriers to entry currently faced.

In terms of potential social benefits of distributed generation, consistent with the ESCV, AGN is currently unable to identify quantifiable social benefits that could be attributed to distributed generation.

Quantification of Benefits

AGN acknowledges that it can be difficult to appropriately quantify the benefits achieved by distributed generators. As general principles, AGN considers that the following should be applied:

- Benefits should be quantified on a time of generation or time of use basis;
- Benefits should be quantified in a way that is reflective of the voltage characteristics of the distributed generator's connection point to the National Electricity Market; and
- Benefits should be quantified consistent with locational pricing signals.

Definition of Distributed Generation

- 8. Do you agree with how the Commission is proposing to define distributed generation? If not, why not?**
- 9. Are there other definitions of distributed generation the Commission could consider?**

AGN is encouraged by the ESCV's definition of distributed generation, which includes distributed generation facilities of any fuel type.⁶ In particular, the ESCV makes the point that, "*Distributed generation can be of many fuel types, with wind, solar, biomass and natural gas the most common.*"⁷ AGN is encouraged by the Commission's technology-neutral approach to this inquiry and, particularly as distributed natural gas delivers energy which has a lower carbon intensity than mains electricity, considers that there is an important role for distributed natural gas to play in Australia's low carbon future.

AGN believes that this balanced approach by the ESCV ensures that any ensuing policy decisions will fairly consider the benefits of both new and existing fuel sources. As a result, policy will not be unduly biased toward renewable energies, and consider not only the achievement of carbon reduction targets, but also the least cost abatement path to achieving these targets, which AGN considers will utilise existing low carbon fuel sources such as distributed natural gas.

⁶ ESCV, "*Inquiry into the true value of distributed generation*", December 2015, pg. 12.

⁷ *Ibid.*, pg. 12.

