Submission No 34

COGENERATION AND TRIGENERATION IN NEW SOUTH WALES

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The Chair
Public Accounts Committee
Parliament House
Macquarie Street
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Inquiry into cogeneration and trigeneration in New South Wales

Thank you for the opportunity for the Energy Networks Association (ENA) to provide a submission to the Public Accounts Committee's Inquiry into cogeneration and trigeneration in New South Wales (NSW).

By way of background, the ENA is the peak national body representing gas and electricity transmission and distribution businesses throughout Australia. With more than $75 billion in assets and 13 million customer connections throughout the country, Australia's energy networks provide the final step in the safe and reliable delivery of gas and electricity to households, businesses and industries.

ENA recognises the significant role that all forms of embedded generation (including cogeneration /trigeneration) will play in the future of Australia's energy mix and the need to manage the network to facilitate its integration. ENA also recognises the potential opportunity that cogeneration/trigeneration provides for an increased uptake of natural gas as an energy supply fuel to support a lower carbon economy. However, it should be noted that the opportunity will be limited if constraints to upstream gas supply are not addressed. This issue was covered in detail in ENA's submission to the '*Inquiry into the Downstream Gas Supply and Availability in NSW* submitted on 21 June 2013.

ENA recommends that this Inquiry also take into account the current Australian Energy Market Commission (AEMC) rule change process on *Connecting Embedded Generators*. The AEMC issued its draft determination on this Rule change proposal on 27 June 2013, stating its intention to create a more transparent and efficient process for connecting embedded generators to the distribution network. Pending the outcomes of the AEMC's Final Determination, this Rule change will likely impact positively on several of the issues raised in this Inquiry's Terms of Reference.

The Association submits the following response to the Inquiry's Terms of Reference and would welcome the opportunity to provide the Committee with any further assistance regarding this submission.

Yours sincerely,

[redacted]

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ENA Submission – Inquiry into cogeneration and trigeneration in NSW

ENA's response addresses the following terms of reference.

(i) Whether the current regulatory framework can adequately support the utilisation of cogeneration/trigeneration precinct developments.

ENA considers the currently regulatory framework to generally support the utilisation and connection of embedded generation (including cogeneration/trigeneration). It is also important to note several recent policy initiatives and reforms that assist in the utilisation of embedded generation. These reforms include the establishment of the National Energy Customer Framework and the National Framework for Distribution Planning and Expansion, as well as the reforms being considered as part of the outcomes from the AEMC's Power of Choice Review.

That being said, there have been areas of the regulatory framework identified as requiring improvement, particularly in relation to the connection process for embedded generation. The network industry has sought to facilitate the entry of embedded generation by clarifying connection processes and contributing to the Rule change process that is under consideration by the AEMC. The intention of the Rule change is to create a streamlined connection process for embedded generators, primarily achieved through improved information and consultation provisions.

ENA and its members have been extensively involved in the AEMC's consultation process and we are generally supportive of the AEMC's Draft Determination and Draft Rule.

- While supporting clearer processes, the ENA supported the AEMC's decision not to provide embedded generators with the automatic right to export electricity into the distribution network. This decision recognises the fact that the automatic right to export could compromise the safety and reliability of the network for customers and the general public.

- ENA endorsed the AEMC's decision not to exempt embedded generators from contributing to shared network augmentation costs. This decision recognises that the costs of network augmentation resulting from an embedded generation connection should not be borne solely by the network customer base through increased Distribution Use of System (DUoS) charges.

- ENA supported the introduction of a two-stage Connection Enquiry process. ENA considers the preliminary enquiry stage to be a key change that will address many of the issues that arise when applicants are attempting to connect embedded generation to the electricity network. This new process will ensure better communication and understanding of the applicant's connection service requirements and the DNSP connection services provisions. ENA believes this step, in conjunction with improved information sharing, will contribute to alleviating many of the concerns that resulted in the original rule change proposal.

Given that the outcomes of this AEMC process will have implications for the regulatory framework governing the connection of cogeneration/trigeneration systems, ENA considers it prudent to allow for these reforms to be implemented and the impacts realised, prior to considering any further changes to the regulatory framework.

(ii) The operation of cogeneration/trigeneration technology in other jurisdictions and the applicability of the technology to New South Wales.

ENA understands that there are various forms of cogeneration/trigeneration installations operating in most jurisdictions across Australia, primarily at sites with large heating and/or cooling loads such as hospitals, hotels, industrial facilities and multi-dwelling residential buildings.

The applicability of the technology to New South Wales (and the viability of potential projects) is largely dependant on site specific issues. Any new cogeneration/trigeneration project will need to consider the network requirements at the point of connection, as well as the operational, installation and planning requirements and the impact of any energy efficiency schemes. Only after considering these factors is it possible to determine whether cogeneration/trigeneration is an appropriate and applicable technology for a specific site.

(iii) The economic viability of cogeneration/trigeneration technology in New South Wales including the impact of future gas prices on the running costs of cogeneration/trigeneration systems.

The economic viability of cogeneration/trigeneration installations can vary significantly and is largely dependant on the installation site's energy requirements, as well as the input fuel used.

The most commonly used input fuel for cogeneration/trigeneration is natural gas due to its availability, cost and relatively low greenhouse intensity. However, given the relatively high reliance on natural gas as the fuel of choice for most cogeneration/trigeneration units, any increase in price is likely to significantly impact the viability of future and/or existing installations.

Consequently, the economic viability of cogeneration/trigeneration technology in NSW is likely to be heavily influenced by the availability, supply and cost of natural gas. As stated in the ENA submission to the '*Inquiry into the Downstream Gas Supply and Availability in NSW*', ENA supports a market based framework for the expansion of cost-competitive sources of natural gas in NSW. ENA considers it is important that unnecessary regulatory constraints on the development of wholesale gas supplies are removed, without compromising the evidence-based environment regulation which is important to community confidence. We consider that there is potential for NSW gas supply requirements to be efficiently met from the development of domestic gas sources and/or additional interstate gas transmission capacity.

If unnecessary regulatory constraints for wholesale gas supplies can be removed, then the economic feasibility for increased uptake of cogeneration/trigeneration is likely to be improved.

(iv) Any financial, public safety and/or other risks to prospective cogeneration/trigeneration customers.

As with any embedded generation connection to the network, the Distribution Network Service Providers (DNSPs) have an obligation to ensure that the connection does not impede its ability to provide a safe a reliable electricity supply to all customers on its network. For these reasons, it is important that connection of embedded generation to networks is not (automatic) but subject to adherence to technical requirements which protect safety, reliability and quality of power supply.

As a result, all DNSPs have developed internal standards that outline the technical requirements and processes that are required for embedded generation to be connected safely to the network, without adversely affecting the supply of electricity to other customers or creating public safety risks.

Customers considering connecting cogeneration/trigeneration units to the network will need to consider the technical requirements and processes provided by the DNSP. As mentioned previously, the current AEMC Rule change process for '*Connecting Embedded Generators'* will provide both customers and DNSPs with a clearer and more efficient process to safely connect embedded generation, which will be particularly useful for mid-scale commercial generation units. This will result in the customer (connection applicant) having a clear understanding at an early stage of any financial implications arising (i.e. shared network augmentation) from the connection of embedded generation plant.

(v) Any supply security and reliability issues associated with cogeneration/trigeneration, especially for residential customers of these systems.

Almost all cogeneration/trigeneration connections (with the exception of small micro generation units) require DNSPs to investigate the potential impacts on the reliability performance and safety of the network as a result of the connection. This investigation process is essential, primarily due to the distribution network not being traditionally designed to manage the two-way flow of electricity that results from embedded generation. This two-way flow of energy creates added complexity to managing the network and can adversely affect the security of supply and reliability if not addressed appropriately.

As mentioned previously, the current AEMC Rule change process for '*Connecting Embedded Generation'* is taking steps to create a more structured approach to this investigative process. It provides the connection applicant and DNSP with more certainty around the likely timeframes involved, as well as the technical requirements that need to be addressed to facilitate the connection and ensure a safe and reliable supply of energy to all customers.

(vi) The ability of existing regulatory arrangements at the New South Wales and national level to address issues which may be identified.

Please refer to the response to i).

(vii) Any other relevant matters.

N/A.