

08 March 2018

Dr Kerry Schott AO
Independent Chair
Energy Security Board
c/o COAG Energy Council Secretariat
Department of the Environment and Energy
GPO Box 787
CANBERRA ACT 2601

Via email: info@asb.org.au

Dear Dr Schott

Energy Networks Australia response to National Energy Guarantee - Draft Design Consultation Paper

Energy Networks Australia welcomes the opportunity to provide a submission responding to the Energy Security Board's (ESB) 'Draft Design Consultation Paper' for the National Energy Guarantee (the Guarantee), released on 15 February 2018.

Energy Networks Australia is the national industry body representing businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia.

Our key points are:

- » Energy Networks Australia supports the integration of energy and climate policy as a way to deliver on Australia's emission reduction goals while maintaining a secure, reliable supply of electricity.
- » Energy Networks Australia supports the Guarantee framework being incorporated into the energy rules to allow the mechanism to deliver the policy certainty that is so badly needed.
- » The ESB has previously outlined concerns regarding market power and market concentration in certain parts of the National Electricity Market (NEM). Energy Networks Australia maintains that while effective competition in both retailing and generation will deliver innovation and efficiency, ineffective competition is bound to lead to poor outcomes for consumers.
- » Energy Networks Australia believes that the Guarantee and competition issues cannot be dealt with separately as they are inherently intertwined.
- » The consultation paper notes the ESB's desire for the Guarantee to "not unintentionally further entrench market power and create barriers to entry", a position Energy Networks Australia strongly endorses.

- » Energy Networks Australia supports measures that can increase competition and it is important that the Guarantee facilitates rather than precludes options such as new network investment where it can deliver cheaper electricity for consumers.
- » It is also important that the Guarantee can facilitate a wide range of options to reduce emissions and increase reliability. The orchestration of Distributed Energy Resources (DER) in distribution has a role to play and demand management should be able to provide a range of services under the Guarantee such as meeting the reliability requirement or firming generation to satisfy dispatchability.
- » The reliability obligation within the Guarantee should be focused on providing an investment signal that will deliver a market-based response from generators, networks and demand response capabilities. It should not be utilised to address system security concerns in real time operations.
- » As the consultation paper notes, various initiatives such as the Guarantee, AEMO's Integrated System Plan, the AEMC's Reliability Frameworks Review, consideration of renewable energy zones and other initiatives must be co-ordinated and aligned.
- » While the ability to deal with State-based renewable targets and emissions reduction schemes is a pragmatic outcome it should be noted that different mechanisms create distortions that can undermine delivering the lowest cost outcomes for customers.
- » The role of gas in the transition to a reliable, low emissions energy sector must be considered.

The following pages outline some of the points above in more detail.

Please do not hesitate to contact Dr Dennis Van Puyvelde – Head of Gas on 02 6272 1548 or dvanpuyvelde@energynetworks.com.au if you would like further information.

Yours sincerely,



Andrew Dillon
Chief Executive Officer

National Energy Guarantee - Draft Design Consultation Paper – further comments

The draft Guarantee design appears heavily focussed on the retailer and/or generator sectors of the electricity industry. Our submission provides information regarding the roles of energy networks in relation to the emissions requirement and the reliability requirements of the Guarantee. In doing so, we hope it will help provide a more holistic view of the problem the Guarantee is intending to solve.

Energy Networks Australia and its members recognise the importance of system reliability, system security and affordability for all businesses, households and consumers.

1. Australia's response to climate change should be integrated with energy policy and measures should be built in to ensure implementation is 'followed through'

The Guarantee is a potential blueprint to drive emissions reductions and maintain energy reliability in the electricity sector. Energy Networks Australia supports an integrated national climate and energy policy approach. This should be coordinated across different parts of the economy and address the entire energy sector.

Significant risks to an efficient and secure transition to carbon neutrality are, and continue to be, inconsistent jurisdictional policy frameworks in a national market, as well as a lack of regulatory cohesion and certainty.

The interplay between regional and national emissions targets must be considered carefully to avoid the incentivisation of investment in locations that might not be lowest consumer cost, be against the national interest and a whole of system approach.

2. As part of the design process, the ESB will need to settle on whether the Guarantee is trying to address reliability and emissions only or also deal with power system security

In particular, the consultation paper has not commenced any consideration as to how the ESB may define 'dispatchability' for the purposes of any reliability gap that must be addressed by the market. In our recent February 2018 [submission](#) to the Australian Energy Market Commission's (AEMC) Reliability Frameworks Review Interim Report we raised similar concerns. The AEMC's recent [Summary of stakeholder submissions](#) of 27 February 2018 states:

"Stakeholders agree with us that it is challenging to define dispatchability and flexibility in relation to generation and demand response. However, they also recognise that clear definitions of these concepts are needed as a first step in determining whether the existing market adequately rewards them. Many stakeholders consider that further work is needed to understand if and how dispatchability and flexibility are valued in the current framework – including the interaction with system security".

The ESB will also need to give due consideration and clarify as to whether the Guarantee is optimally focused on reliability considerations (a planning arrangement)

or whether it has a more operational/'real-time' perspective (dealing with power system security matters). Energy Networks Australia considers the reliability obligation within the Guarantee should not be utilised to address power system security matters associated with real time operations. Consistent with this, the consultation paper notes that the Guarantee is not intended to address system strength, inertia, ramping or flexibility, which are also required for a secure system.

It will also be important that the reliability concern the Guarantee is looking to address is clearly outlined. As recently as late 2017, the Reliability Panel reported no reliability concern. If the concern is that too much renewable generation is being built without consideration for system concerns (i.e. not the right mix of generation), then the Guarantee should serve as a way of signalling the need for investment in particular areas, but only be triggered when the market does not respond.

3. Explicit recognition of the interplay with other current regulatory processes and concurrent NEM-related reviews

Energy Networks Australia suggests that the ESB clearly outlines how the Guarantee is, and will interact, with all the on-going National Electricity Market (NEM) Reviews, and current regulatory processes in a coherent and non-contradictory way. For example,

- » the out-workings of the Australian Energy Market Operator's (AEMO) Integrated System Plan consultation;
- » the AEMC's Reliability Frameworks Review and its Frequency Control Frameworks Review;
- » Other related work stemming from the Independent Review into the Future Security of the National Electricity Market (Finkel) Final Report (June 2017) recommendations the ESB has carriage of, in either implementing or considering (e.g. Strategic Reserves and Day Ahead Markets); and
- » That the reliability component of the Guarantee should be able to coexist with existing jurisdictional reliability standards.

There may also be benefit in combining or streamlining some of these activities to ensure consistent outcomes and reduce the volume of material participants are being asked to respond to.

4. Competitive Markets

Energy Networks Australia is very cognisant of the issues of market power and market concentration in certain parts of the NEM. The design of the Guarantee should not lead to outcomes that increase market power in any jurisdiction's retail and generation sectors. Effective competition in both retailing and generation is essential to ensure that customers are delivered positive outcomes in terms of price and service standards.

We support options that will mitigate any further diminution of competition and for the NEM regulatory institutions to not preclude network-instigated alternatives that seek to address such concerns.

Among other options, interconnection¹, investments involving the orchestration of Distributed Energy Resources (DER) in distribution, and other demand management can play an enabling role in enhancing wholesale competition, firming up supply and meeting the reliability requirements of the Guarantee once defined.

The role of DER and Demand Management (DM) in meeting Guarantee commitments and thus the impacts on distribution networks must also be carefully considered. A better understanding of how the various forms of DER entering into, and interacting with distribution networks are being accounted, and included in assessing system reliability requirements appears essential. The capability and contractual obligations on DER and DM must also be visible to Network Service Providers to allow proper planning around maintenance and network investment decisions.

We want to avoid a Guarantee that results in the slowing of the uptake of Electric Vehicles, or pushes prices higher for customers because of increased network costs relating to DER.

Energy Networks Australia is undertaking significant work in the DER and interconnection space and our members are willing to assist the ESB in any further examination of these issues.

5. Technology neutrality and flexibility, rather than prescription will deliver better customer outcomes

Adopting a technology neutral approach to the emissions requirement will provide the lowest impact to customers. Analysis by Jacobs (2016)² found that a technology neutral framework could achieve the 2030 abatement target at the lowest cost compared to other policy settings resulting in an average saving of \$216 per annum over the 2020 to 2030 decade.

Generators should maintain the flexibility of their generation sources as long as they can achieve the emissions requirements and reliability requirement.

Energy Networks Australia welcomes the technology neutral approach in the draft design. To ensure customer benefits, the Guarantee's design should not include any

¹ An increasing proportion of intermittent generation will be made possible by greater inter-regional transmission capacity. This capacity will allow for: better management of intermittent generation profiles using geographic diversity, lower energy prices for consumers, and greater energy security and emissions reduction benefits from better utilisation of renewable energy resources. The transmission network will also increasingly provide ancillary services to stabilise the power system. Such interconnection should be economically efficient with each project assessed on its merits against alternative solutions. However, the cost of these services is typically only a fraction of the overall cost of investment in generation and interconnection is recognised internationally as a key solution to manage the integration of variable renewable energy efficiently and securely.

² Jacobs (2016), *Australia's Climate Policy Options – Modelling of Alternate Policy Scenarios (for Energy Networks Australia)*, available from www.energynetworks.com.au

technology specific targets. The solutions could involve: gas³, electricity transmission, network options, diverse renewables (technological and geographical); pumped hydro storage, co- and tri-generation, batteries, power to gas hydrogen storage, concentrated solar thermal generation or gas-fired generation supported by carbon capture and storage (CCS) technology, and DM.

6. Incentives play an important part in the energy market transformation

The Electricity Networks Transformation Roadmap⁴ (the Roadmap) suggests a ‘co-optimised’ energy system could reduce average network costs by 30% below 2016 levels by 2050 and contribute to total system savings of over \$100 billion by 2050. However, this is reliant on:

- » frameworks where customers or aggregators are given efficient incentives to provide flexible capacity services through Distributed Energy Resources ‘in the right place, at the right time’;
- » networks effectively providing cost-reflective network tariffs which are important for efficiency and fairness; and
- » regulatory arrangements, which are appropriately flexible to allow network innovation and the development of shared experience.

The efficiency created by a co-optimised system has the potential to offset the higher cost energy supply mix, which is required to achieve energy sector abatement objectives.

The detailed design of the Guarantee should consider how incentives can be used to provide the correct market signals for deploying technologies and/or processes that can achieve the emissions and reliability requirements.

³ Energy Networks Australia encourages the Government to adopt a holistic approach, which recognises the co-dependent relationship between electricity and gas systems in Australia. Furthermore, Energy Networks Australia’s [Gas Vision 2050](#) provides a conceptual framework for decarbonising gas used directly by households, businesses and industry. As a flexible generation technology, gas fired power stations can provide a critical balancing service, enabling higher penetration of variable renewable energy. This requires market participants to have sufficient commercial confidence to underwrite plant availability and gas contracting. In addition, gas also plays a recognised role in mitigating electricity peak demand events through the energy consumed directly. Gas is a low emission fuel. We recommend that the longer-term future of gas and gas infrastructure be considered as part of the reliability requirement. There is increasing Australian and international recognition of opportunities to further reduce the relatively low carbon footprint of gas with innovation in, for instance, the use of biomethane and hydrogen applications.

⁴ Energy Networks Australia (2017), *Electricity Networks transformation Roadmap*, available from www.energynetworks.com.au