

9 June 2021

Dr Kerry Schott AO
Independent Chair
Energy Security Board

Lodged by email: info@esb.org.au

Dear Dr Schott,

Jemena Limited
ABN 95 052 167 405

Level 16, 567 Collins Street
Melbourne, VIC 3000
PO Box 16182
Melbourne, VIC 3000
T +61 3 9173 7000
F +61 3 9173 7516
www.jemena.com.au

POST-2025 MARKET DESIGN OPTIONS – A PAPER FOR CONSULTATION

Jemena is an energy infrastructure development and network management business that seeks to meet our customers' ever-changing energy needs. These changes are not unique to Jemena. As reflected in the Energy Security Board's (ESB's) option paper, both the demand and supply sides of the market are changing, and if these are not managed effectively, the security of the energy market could be compromised.

For the most part, the Post-2025 market review is driven by the impacts of transitioning to renewable energy generation; this change has come about from growing concerns around climate change. Climate change is a global phenomenon, and we all have a part to play in reducing greenhouse gas emissions. At Jemena, we take this challenge seriously, which is why we have announced our own ambition to be carbon neutral by 2050.

Jemena supports the initiatives highlighted in the ESB's options paper, which focus on reforms to deliver market-based price signals to encourage efficient investment and operation. We also support the ESB's principle based approach to developing a stable framework to give investors confidence, which ultimately delivers lower prices to customers in the long term.

A role for gas and gas infrastructure in the transition and in a net-zero future

We see gas as a fuel in transition, not just a transition fuel. The journey to net-zero carbon emissions by 2050 will be challenging, and managing the change in a cost-effective way will require innovative thinking. We firmly believe that gas and gas infrastructure can provide a significant and cost-effective source of security for the electricity network during the transition to net-zero and continue to do so once we reach that destination.

Recent studies by the Australian Pipelines and Gas Association¹ and the independent Grattan Institute² found that gas should play a role in Australia's least-cost net-zero electricity fleet by effectively acting as long-duration storage during renewable droughts.

Beyond gas-fired generation, we also believe that a modern, flexible zero-carbon gas distribution grid will be a part of Australia's lowest cost net-zero energy future. This belief is based on the analysis presented in the gas industry's flagship report Gas Vision 2050,³ which found that decarbonising gas infrastructure could be achieved at half the cost of electrification. Our recent call for consideration of a Renewable Gas Target aimed to kick off the development of a thriving

¹ <https://www.apga.org.au/Node/42900>

² <https://grattan.edu.au/report/go-for-net-zero/>

³ <https://www.energynetworks.com.au/resources/reports/2020-reports-and-publications/gas-vision-2050-delivering-a-clean-energy-future/>

renewable gas sector to unlock this pathway to net-zero while developing circular economies and laying the groundwork for the zero-carbon export industries in the future.

We are pleased to see the initiatives outlined in the ESB's options paper value the market services delivered by technologies independent of the fuel type and ultimately allowing the market to find the most efficient solutions, including allowing gas and gas infrastructure to compete to provide a safe and secure energy market.

Integrating Distributed Energy Resources

The forecast for Distributed Energy Resource (DER) growth is staggering, with a forty per cent increase expected to come online over the coming decade. Unmanaged, these resources could have a destabilising effect on the security of electricity distribution networks and, more broadly, the National Electricity Market (NEM).

On the international stage, the Distribution Network Service Providers (DNSPs) in the NEM are at the forefront of this development. With few benchmarks to compare, Australia's energy market participants—and customers—are at the cutting edge of finding innovative designs to address these *fundamental* issues.

While a complete set of components in the ESB's maturity plan is still in development, staging critical reforms early—such as managing the minimum demand—is a timely step to mitigate against adverse system security impacts.

With innovative ideas and impending timelines, the industry needs to respond quickly; however, it must also be efficient in its approach and carefully manage unanticipated consequences. The two-sided market workstream of the Post-2025 market review has taken on this challenge, integrating in-flight reforms—namely the DER access and pricing integration rule change—and prioritises other initiatives through a staged maturity plan. We strongly support this approach of the ESB's options paper.

Many participants in the NEM and other stakeholders recognise the importance of integrating DER into the market and have come together to develop solutions to manage the challenges, including those challenges arising through the minimum demand phenomenon. Jemena is working with other DNSPs through Energy Networks Australia—known as the Distribution System Operator (DSO) Vision—to co-develop a principled based approach to managing the challenges stemming from greater DER penetration. We are highly involved in industry development and well placed to contributing towards practical reforms.

The work program for DER integration has had several forms over the past few years, including the well known ENTR and OpEN Networks programs. The industry has also seen many trial projects sponsored and managed through the Australian Renewable Energy Agency to incubate new ideas, including Jemena's own electric vehicle trial.⁴ These trials demonstrate that stakeholders are aware of the impending challenges and desire to identify enduring solutions when DER becomes more mainstream. Jemena supports the trial platforms to build knowledge and capabilities. We consider this an essential approach to managing risk, especially with the uniqueness of the NEM and frontier position the Australian energy market finds itself in relative to other energy markets worldwide.

In the longer term, the challenge amongst stakeholders is identifying an efficient and workable solution. Designs considered amongst market bodies and market participants to date can be categorised into two general groups:

- (i) Those with a deep market reform with centralised control; *and*

⁴ <https://arena.gov.au/news/electricity-networks-gear-up-to-manage-electric-vehicle-demands-on-the-grid/>

- (ii) those with lesser market re-design and operate on a decentralised model with DNSPs retaining control of the distribution network.

As outlined in our *future grid* strategy,⁵ we have developed a range of initiatives that optimise the network to integrate more DER. This optimisation identified the *decentralised* platform as being the most efficient means to bring DER online. Fundamentally, we believe this approach:

- (i) addresses the immediate need regarding network management in light of growing DER penetration;
- (ii) can be delivered in a timely basis with minimal market disruption; *and*
- (iii) realises the latent capacity in the distribution network for all customers' benefit—effectively coming at minimal costs

The alternative *centralised* model would be disruptive and costly and could over-engineer the solutions. It is Jemena's view that this alternative model should only be explored once the benefits from the decentralised model have been exhausted first.

We note that the ESB's consultation paper considers changes to market models, and these have similarities to the *centralised* and *decentralised* approaches noted above. In general, the models seek to extract values from a broad range of services such as aggregation, voltage management, etc. Each model—be it Jemena's preferred future grid strategy, the decentralised model or the ESB's market models—takes a different approach, however, all seek to realise greater benefits for customers.

We have observed from prior experience that the costs can be greater than modelled in the consultation phases when it comes to implementing change. As an industry, we should learn from these experiences and seek solutions that stage reforms to manage risks efficiently. In this present case, the ESB's *schedule lite* approach could be the first stage towards a longer-term full market solution to ensure the economics of the reform can be released, rather than committing to expensive market-based solutions as the first step. Even with this preferred approach, we consider further modelling and trials are needed to better understand the potential benefits of these reforms to maximise the economic benefits for customers.

Electricity transmission

The establishment of Renewable Energy Zones and other reforms in electricity transmission to bring new generation sources online is a significant step in addressing the challenges in the changing electricity market. We are generally supportive of these changes, recognising the price signals on constraint management, locational pricing, and system security are economically efficient means of achieving efficient outcomes. However, we are conscious of the market power incumbent electricity transmission businesses have and that this can create barriers to entry in the market. As a part of the ESB's options analysis, we consider that a lot of good work has been done to introduce efficient price signals; however, a deeper investigation into the operation of the electricity transmission market could identify further changes, bringing more competition into the market, which is ultimately better for customers in the long run.

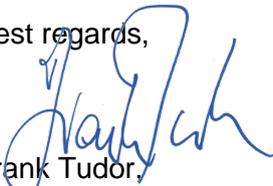
Energy Networks Australia has developed a comprehensive response to ESB's options paper. We endorse these positions and will continue to work through the ENA on future developments.

⁵ https://www.aer.gov.au/system/files/Jemena%20-%20Supporting%20materials%20-%20Chapter%205%20-%20Capital%20expenditure_1.zip

As a Post-2025 review advisory committee member, I am especially pleased to see a broad range of stakeholders come together across a comprehensive and complex set of topics and find innovative solutions to addressing the energy challenge. It gives stakeholders and observers confidence that the best minds have come together to work on the best solutions to address the challenges ahead of us.

Should the ESB have any questions concerning this submission, then please contact Matthew Serpell at matthew.serpell@jemen.com.au.

Best regards,



Frank Tudor,
Managing Director.