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**Targeted, incremental reforms is the best way forward for the National Electricity Market**

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Response to the Consultation Paper: “Post 2025 Market Design” released by the Energy Security Board in September 2020.

There are no restrictions on publication of this submission or requirements for anonymity. The submission contains no personal information of third-party individuals.

## 1 Summary

The Energy Security Board (ESB) has published a Consultation Paper setting out a comprehensive work program to ensure the National Electricity Market (NEM) delivers secure and reliable power at least cost to consumers and accommodates the changes underway and expected in the future.

It is valuable to have a full suite of market design initiatives in a single agenda. This enables priorities to be set and interdependencies to be managed. It is more important to have a focused work program that prioritises the most significant and most urgent reforms. This approach is envisaged by the ESB and should be adopted by the National Cabinet Energy Reform Committee.

The benefits market reforms that emerge from the post 2025 market reform project will be negated if jurisdictional governments, Commonwealth, state, or territory, pursue unilateral actions that intervene in the markets in the way of the last few years. Policy uncertainty and government interventions are the greatest risk to efficient investment and achieving the desired objective of the NEM.

This submission provides our response to the issues and draft positions in the Consultation Paper. We have made specific recommendations on three of the market design initiatives:

- To deliver resource adequacy, the paper has abandoned the notion of a centralised capacity auction, with a central agency both determining reliability requirements and procuring capacity. But in a ‘decentralised’ approach, there remains an important choice between a central agency setting future capacity requirements and requiring market participants to procure this capacity, or market participants determining what resources to procure to avoid penalties for contributing to poor reliability. We recommend the latter approach, on the grounds that it better protects consumers from mis-specified reliability requirements.
- The exit of ageing coal-fired power plants is a concern for governments and some industry participants. We recommend that the current notice of closure rules be strengthened with a financial obligation on generators to comply with their own nominated closure dates.
- Development of the national transmission grid is too slow, and the way its costs are allocated to consumers is no longer fit for purpose. Prioritising solution to these problems should largely address concerns about how to ensure new generation is located where it adds most value achieves an adequate return on investment.

## 2 Introduction

This submission is made by Tony Wood and Guy Dundas of the Grattan Institute. It responds to the Consultation Paper released by the Energy Security Board (ESB) in September 2020. This paper sets out potential solutions to identified problems and opportunities. The desired outcome is a National Electricity Market that delivers secure and reliable power at least cost to consumers and accommodates the changes underway and expected in the future.

Grattan Institute is an independent think-tank focused on Australian domestic public policy. It aims to improve policy outcomes by engaging with both decision-makers and the community.

The Consultation Paper outlines and seeks submissions on seven Market Design Initiatives (MDIs). In our view these are not of equal importance or urgency and are not all interconnected. Work in the right direction has already commenced on several of them, while major doubts exist on others. This submission reflects these differences and our own level of knowledge across the MDIs.

The energy sector is a complex and changing area of government policy. A valuable aspect of the recent work of the ESB and its working groups has been to understand and respond to this environment. In providing advice to the National Cabinet Energy Reform Committee, the ESB's recommendations should include a clear agenda for implementation.

### 3 Issues arising from the Consultation Paper

The paper seeks responses to solutions covering seven MDIs.

#### 3.1 Resource adequacy mechanism

Existing resource adequacy mechanisms are theoretically enough to drive investment in the quantity and mix of resources required through the transition.

In our 2018 working paper, *Designing a more reliable electricity market*, we observed recognised that<sup>1</sup> The need for a reliability mechanism arises from concern that scarcity pricing in an energy-only market may not deliver adequate investment to meet future demand.

But we have also noted that reliability concerns have been politicised, and therefore overstated.<sup>2</sup> And that policy uncertainty and government interventions, not market design, are the greatest risk to efficient investment and achieving the desired objective of the NEM, including reliability.<sup>3</sup>

In this context, it is not clear that a new and distinct reliability mechanism is required. And such a mechanism would not replace the need to deliver essential system services (discussed in Section 3.3), which cause far more power outages than problems with resource adequacy. Our view is that any such mechanism

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<sup>1</sup> <https://grattan.edu.au/wp-content/uploads/2018/02/896-Reliability-Obligation-1.pdf>

should be as ‘light-touch’ as possible, and we commend the ESB for ruling out the relatively heavy-handed approach of a centralised capacity market, like that in the UK.

The Retailer Reliability Obligation (RRO) was designed to address concerns about resource adequacy. It has yet to be triggered and doubts exist as to whether it will be an effective solution. Given that the ESB has ruled out a centralised capacity auction, the key choice in the Consultation Paper is between an enhanced RRO and a more decentralised capacity mechanism or market. In our view, this positioning does not capture the full range of policy options available.

The Consultation Paper, and future ESB discussions, would benefit by distinguishing between quite distinct policies that are currently grouped under the umbrella term ‘decentralised capacity market’.

The consultation paper (second table on p.41) says that such a mechanism may have the obligation “administratively determined or based on market forces”.

In our view, those two approaches are quite different, and grouping them makes it harder for the review to elicit views on the pros and cons of each. Many aspects of policy design are quite different depending on how the reliability outcome is determined.

We summarise these distinct approaches under the ESB’s own headings in the following table:

<sup>2</sup> <https://grattan.edu.au/report/keep-calm-and-carry-on/>

<sup>3</sup> <https://grattan.edu.au/report/power-play/>

	<b>Administratively determined decentralised capacity market</b>	<b>Market determined decentralised capacity market</b>
Alternative title	Ex-ante (decentralised) capacity market	Ex-post capacity market
Product description	Tradeable capacity units as defined by the rules. Financial contracts not linked to physical supply could be excluded or included.	Tradeable capacity units as defined by the rules. For integrity, units must be linked to physical supply.
Obligation	Administratively determined ex-ante capacity requirement, translated to the level of individual market customers	Determined ex-post based on actual market outcomes (i.e. unserved energy and RERT events). If a market customer has fewer capacity units than their demand during a shortfall event, they would face a penalty for this shortfall.
Procurement approach	Rules determine what products can and cannot be used to meet the ex-ante capacity requirement	Market customers determine what supply contracts to procure, and what assets to build/own, based on financial risks arising under the enforcement regime.
Enforcement	Rules determine the penalties applying if market customers do not hold sufficient complying products ex-ante.	Market customers held responsible for, and pay for the cost to consumers of, shortfalls and RERT events after the event (ex-post), in accordance with the obligation described above. Rules determine how these costs are apportioned to market customers. If no shortfall or RERT events occur, no penalties accrue.
Pricing	Separate price for defined capacity products	Separate price for defined capacity products. Different sub-markets may emerge, depending on whether the buyer or the seller bear the risk of non-delivery.

<p>Underlying premise</p>	<p>An ex-ante requirement is needed to drive investment and will give policy-makers confidence that the market has sufficient coverage ahead of time.</p>	<p>That imposing penalties on ex-post outcomes will lead to market participants owning or contracting with more generation to manage their financial risks. This is consistent with the original premise of the NEM, that an energy-only market with a high market price cap will create sufficient financial incentives to support reliability.</p>
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Our initial position is that the ex-post model is superior to the ex-ante model. The primary reason is that market customers (e.g. retailers) bear the consequences of procuring too many or too few reliability units under the ex-ante model. If they over-procure, they may not be able to recover these costs from their customers (in a competitive market). And if they under-procure, they will bear the cost of RERT or shortfall events that may arise.

By contrast, under an ex-ante model, consumers bear the consequences of any misspecification of the desired level of reliability. If the system operator procures too few reliability units to maintain reliability (either by under-estimating demand, or by over-estimating the reliability of different classes of generators), consumers face worse reliability. Or if the rules over-specify (either through over-estimating demand or under-estimating the reliability of different classes of generators) consumers will face higher power bills.

In our view, an ex-post capacity market should pass back to 'short' market customers not only a share of RERT costs (as occurs under the RRO), but also a monetised cost of unserved energy. Broadly this would be calculated as the estimated amount

of energy not served, multiplied by each customer's estimated value of lost load (grouped by customer class). This money should be paid to the customers that were curtailed, as compensation for the curtailment.

This model has some similarities to the French capacity mechanism. The main difference is that the French system assesses compliance based on availability in peak periods for every year, whether there is a shortfall or not. In our proposed model, compliance would only be assessed if there is a shortfall or a RERT event.

In summary, we support a market-determined capacity market utilising commercial market drivers. But there are risks. The next steps must involve comprehensive stakeholder consultation on design details to avoid unintended consequences and address identified risks.

Implied above is support for the RERT, if only to provide a safety valve that can provide comfort to ministers at relatively low cost. We would emphasise that we are unconvinced of the need for the recently introduced Interim Reliability Measure.

### 3.2 Ageing thermal generation strategy

Australia’s coal fleet is ageing and will progressively be retired over coming decades. But the timing of individual plant closures is highly uncertain, and the large size of many coal power stations makes it hard for the market to manage sudden retirements. The abrupt closures of the Northern and Hazelwood power stations in 2016 and 2017 respectively have heightened political concerns that future closures will increase price and reduce reliability.

The introduction of a three-year notice of closure rule was a positive step but is unlikely to be effective with the modest penalties for non-compliance. In our 2019 report, *Power Play: how governments can better direct Australia’s electricity market*<sup>4</sup>, we concluded that a transparent and rules-based approach is needed to promote orderly retirement.

As referenced in the Consultation paper, we recommend requiring generators to place funds into escrow to ensure they comply with nominated closure dates. If the generator closes within the nominated window it would have these funds returned, but not if it failed to comply. This financial incentive would be much stronger than compliance incentives under the existing three-year notice rule. In the report, we set out the proposal and why it should be supported.

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<sup>4</sup> <https://grattan.edu.au/wp-content/uploads/2019/10/922-Power-play.pdf>

### 3.3 Essential system services

The different technical characteristics of the changing generation mix became clearer over the last five years, triggering a belated response for the market agencies to identify and, where necessary, introduce changes to rules and management processes. Relevant reforms have already been delivered through the AEMC’s rule change process, and a range of relevant further changes and proposals are being considered through that same process – for example, the AEMC’s review of system strength frameworks, and a range of rule changes on operating reserves and other system services.

It is unclear whether the ESB’s work will over-ride past rule changes or those currently under consideration, or take these as given, or amend them incrementally. We think this creates significant uncertainty and scope for ‘forum-shopping’ if stakeholders do not like the AEMC’s conclusions.

We also think the interaction between essential system services and scheduling and ahead mechanisms is over-stated. As the ESB notes, system strength is not well suited to dynamic spot market delivery, and so it must be procured ahead of time. This in turn means that these services do not need to be scheduled through an ‘ahead’ market that is integrated with the broader market design. As some providers of system strength can also provide inertia, this also weakens the case for integrated ‘ahead’ scheduling of inertia services (though the case for an inertia market is stronger).

Given this, we argue that it is very difficult to consider the ESB's discussions of essential system security services until the AEMC's current relevant work has concluded.

### **3.4 Scheduling and ahead mechanisms**

The Consultation Paper indicates that the ESB supports a need for AEMO to be able to activate certain market services ahead of time. We are unconvinced that this is a priority issue. The benefits may be overstated, but on balance we support the ESB's preferred Unit Commitment for Security mechanism as at least doing no harm.

### **3.5 Two-sided markets**

The Consultation Paper observes that the “responsiveness of the demand side, and the ability of consumers to access value associated with demand response, is growing and will continue to grow.” We strongly support this development and the growing diversity of suppliers, including aggregators, who can capture and deliver the value to consumers. We support the completed AEMC wholesale demand response rule change, which allows third party aggregators and market participants to provide demand response services as part of the market design.

Given the AEMC's completed rule change, we do not think the paper has clearly articulated a case for further policy action. The role of the ESB should be to identify barriers to further demand side response and options to address these – and we do not think the paper has clearly done this.

The benefits of demand side response at both the wholesale and network levels are well understood. But the major remaining policy barrier – a lack of cost-reflective (time-varying) price signals for small retail consumers – cannot be feasibly be addressed through this review. Other major barriers are complexity, cost and consumer apathy – and these barriers cannot be addressed through policy.

Given these points, and the recency of the AEMC's wholesale demand response rule, we think the review's discussion of 'two-sided' markets fails to articulate a case for further policy action at this time. It may be that there is value in, for example, clarifying registration categories – but this can occur through routine rule change processes and does not need to be addressed through the ESB's review.

### **3.6 Valuing demand flexibility and integrating DER**

The integration of distributed energy resources covers a multitude of technical, financial, and social issues. Many of the issues and proposals could proceed independently, while there are also areas of coordination to be addressed. The Consultation Paper seems to include a comprehensive approach. We have not studied this MDI in detail and have no additional responses or suggestions.

### 3.7 Transmission access and the coordination of generation and transmission

We fully endorse<sup>5</sup> the Consultation Paper’s position that the transmission grid and access frameworks are not built for the future mix of generation and storage. But we do not think the proposals for location marginal pricing and financial transmission rights address the real issues in transmission. Further, their introduction seems to introduce an unjustified level of complexity. In our view, investors in generation assets already have strong signals – primarily through marginal loss factors and the risk of curtailment – to efficiently locate their projects, and the very complicated proposals put forward appear to create more uncertainty rather than less.

In our view, the key problems in transmission is not grid access (i.e. curtailment). We identify three more pressing problems. Firstly, the connection process – primarily that the ‘do no harm’ requirements around system strength create extreme uncertainty on the timing and cost of new connections. Secondly, the regulatory process for approving new transmission links is simply too slow. And thirdly, cost allocation is becoming increasingly difficult in an increasingly integrated NEM.

The first issue must be addressed through the processes relating to essential system services. As discussed above, this is rightly the subject of the AEMC’s system strength frameworks review

and relevant rule change requests and is not discussed further here.

The planning of new transmission links has been greatly improved through the Integrated System Plan. It provides a set of scenarios for the evolution of the transmission system aligned. It identifies transmission augmentation and new investments that are almost certainly economically efficient and should be accelerated. The work of the ESB and some governments has accelerated their development. However, this progress is a short-term solution, and, in frustration, some state governments are taking unilateral action on transmission investment and establishing renewable energy zones.

Integrating the economic assessments of the ISP for early projects with a revamped RiT-T test – as proposed by the ESB itself – should speed up the process for approving new transmission. Further steps can be achieved by either governments underwriting planning expenditures prior to the completion of the RiT-T, or a change to the rules to allow TNSPs to incur these costs for ISP priority projects and recover them from consumers (even if the project ultimately does not pass the RiT-T). While there will some risk of early expenditure that cannot be recovered if a project ultimately fails to proceed or fails to attract generation and storage investment, that risk is likely to be relatively small against the consequences of delay.

In terms of cost allocation, the increasingly integrated and shared benefit nature of the backbone of the NEM’s transmission grid has

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<sup>5</sup> <https://tagg.com.au/explainer-what-is-the-electricity-transmission-system-and-why-does-it-need-fixing/>

moved beyond the current cost allocation model with state-based transmission companies. This holds regardless of private or government ownership. We have not undertaken a comprehensive assessment of alternative solutions. However, it may be that a more radical solution, such as ownership of the shared system by a national transmission company should be considered. The case for public ownership and the separation of the planning and investment decisions from the owner are amongst the issues that would need to be addressed.

### **3.8 Interdependencies and evaluation**

There are undoubtedly interdependencies between the MDI's. It is valuable to have the full suite of initiatives laid out so the impact of

individual initiatives on the existing NEM and other initiatives can be assessed. However, the risk of an overly complex agenda and work program becoming bogged down and embroiled in endless debate seems greater than the risks that might arise from prioritising incremental reforms. It is also an argument that great uncertainty suggests less reason for fundamental reforms even if the latter were being seriously considered.

In this context, we support the Consultation Paper's preference for a progressive approach for delivering initiatives (that) enables the market to respond to each set of measures before building further on these with additional reforms.