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Energy Security Board
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Submitted by email to info@esb.org.au

Capacity mechanism Project initiation paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Project initiation paper from the Energy Security Board (ESB) on the Capacity mechanism.

Snowy Hydro agrees that reform is needed to shore up resource adequacy as the NEM transitions to zero carbon sources of supply. However, it is regrettable that the ESB has elected to pursue a reform - a capacity mechanism - which is almost entirely devoid of stakeholder support. The ESB's acknowledgment of "stakeholder concerns" does not adequately reflect the strength of opposition that has already been conveyed to the ESB in previous consultations. The principal and only industry supporters of a capacity mechanism are those generators with legacy coal assets, which reveals much about the likely beneficiaries of the reform. It would be misleading to suggest that coal assets could somehow be quarantined from the capacity mechanism; it could only achieve its policy objectives by improving the economics of coal-fired power stations.

The ESB acknowledges that a policy alternative exists, one which complements the existing energy-only market; ie. adjusting market settings. However, this alternative is rejected, seemingly on the basis of the ESB's political insights; its perception of jurisdictions' lack of "willingness to accept reliability risk or the very high scarcity pricing necessary for investment". This is not a proper basis for rejecting the policy; the ESB should not be pursuing a sub-optimal reform simply because it believes that politicians would be unwilling to accept a better one. In any case, no real evidence is provided by the ESB to support its reasoning. The fact that jurisdictions have entered into 'safety-net' agreements with retiring thermal generators is irrelevant to the question of whether or not the ESB should assess the merits of adjusting market settings in order to improve investment incentives. The ESB favours a capacity mechanism on the basis it avoids high spot prices, but it is in fact likely to embed higher capacity costs compared to an energy-only market.

As Snowy Hydro has commented previously, the ESB ought to focus on increasing the sustainability of capacity revenues at lowest cost in order to increase investment in firm assets. The most effective means for doing so would be to increase the Market Price Cap and Cumulative Price Threshold. If the ESB is concerned that adjusting market settings would produce politically unacceptable levels of market volatility and scarcity pricing, it should take it upon itself to lead the debate. Scarcity pricing has an economic function in incentivising an efficient level of supply; it does not imply that consumers will pay more. The ESB should be prepared to say so.

The ESB may "agree there is continued need to demonstrate why new market arrangements are needed to support investment for a future net-zero emission NEM", but fails to meet the standard it has set itself. It has failed to make the case for a capacity mechanism given the existence of a cheaper, more efficient alternative. Snowy Hydro, like most of the industry, believes that a capacity mechanism would have serious, negative impacts on industry and consumers. It would entrench an ongoing, significantly increased level of market intervention and regulatory bureaucracy; this is confirmed by the Project Initiation Paper, which demonstrates that its existence would force market bodies to wade into the minutiae of supply and procurement decisions which are currently managed by the market itself.

While a capacity mechanism could be structured to improve resource adequacy, that is to say very little about its merits as a reform proposal. Capacity mechanisms operate as a regulatory requirement which forces consumers to subsidise a centrally-determined level of capacity and effectively guarantees, in advance, the investment decisions of generators. That is antithetical to

the success of the NEM over the past two decades, which has relied on decentralised risk management to produce efficient outcomes for consumers. A capacity mechanism would, to a significant extent, abandon this critical element of the NEM, imposing in its place a centralised, bureaucratic determination of the NEM's capacity requirements. That will reduce efficiency and increase costs for industry and consumers. That is confirmed by the experience of the capacity market which operates in Western Australia (the WEM) and international jurisdictions. The ESB, then, ought to acknowledge that whatever the likely outcomes of a capacity mechanism, it will almost certainly increase costs for consumers. Cost effectiveness should be at the heart of its assessment of a capacity mechanism, just as it is central to the National Energy Objective.

The recent 2021 Australian Competition and Consumer Commission (ACCC) electricity market report¹ highlighted that cheaper wholesale prices have reduced the cost of supplying electricity to households to the lowest it has been in eight years, and retailers have started to pass on (and under regulatory arrangements are required to pass on) the savings to consumers. This has all been achieved through the energy-only market and not a capacity market. The ESB will need to therefore demonstrate that this will provide the most cost effective outcome for consumers.

Should the ESB continue to pursue a capacity mechanism, Snowy Hydro makes the following observations on its design:

- **Centralised v Decentralised Structure:** A decentralised approach is preferred given that it would retain at least some role for participants in managing their own risk. This includes decentralised forecasting, which is more likely to produce more accurate results compared to the market operator attempting to forecast the individual capacity requirements of the entire market.
- **Certificate Trading:** trading of capacity certificates should allow maximum flexibility, permitting bilateral trading, which would help to preserve at least some of the benefits currently enjoyed under the over-the-counter contract structure.
- **Assessment Criteria:** the ESB's assessment criteria are contradictory. It cannot be both technologically neutral and compatible with emissions reductions targets; the latter could only be achieved by discriminating against carbon-intensive forms of generation. It is also incorrect to assess a capacity mechanism on the basis that it 'appropriately allocates risk' simply because the essence of such a mechanism is to transfer risk away from those best placed to manage it (investors) to customers. A more realistic and appropriate assessment criteria would be to 'minimise the risk of consumer-funded over-investment'.

On the other hand, the criteria must include an assessment of cost-effectiveness for consumers, measured against current capacity costs and estimated costs that would apply under an increase in market settings, as well as considering evidence from current capacity markets. The assessment should also include criteria which reflect Energy Ministers' design principle to "complement existing energy only market design and well-functioning markets for financial contracts". Financial contracts facilitate almost all long-term investment in the energy market and the preservation of a liquid, well-functioning contracts market must be a prominent assessment criteria.

- **Transmission Constraints:** a derating approach rather than a locational pricing approach should be adopted when incorporating transmission constraints. The NEM does not currently have any locational pricing, and any design should reflect the actual operation of the NEM, rather than the ESB's preference for access reform.

¹ <https://www.accc.gov.au/media-release/cost-of-supplying-electricity-to-households-at-an-eight-year-low>



Issues with Capacity Mechanisms and how Resources Adequacy can be solved by changes to Market Settings

Understanding why a capacity mechanism would be damaging for consumers requires a consideration of the current market structure and its investment incentives. The NEM is an energy-only market under which generators are dispatched at or near short run marginal cost. This produces low average prices. Volatility in supply and demand produce occasional price spikes, which are often criticised by uninformed commentators as profiteering, but in fact, are a necessary and intended part of the NEM. Customers do not pay these price spikes; they are managed by electricity providers, who use a sophisticated contracts market to smooth out fluctuations and are able to provide a low average cost of supply. This structure ensures customers pay less, not more.

Without price strikes, there would be no investment and system security would deteriorate. When that occurs, investment must be mandated by the system operator and costs recovered from consumers or taxpayers. The latter, in essence, is a capacity mechanism. Unfortunately, even with the best intentions, centrally-led market investment is never as efficient as participants risking their own money. That is the experience of every capacity market in the world. It simply costs more to provide capacity and capacity is usually over-procured.

The ESB correctly notes that *"the NEM relies on spot price volatility and financial contracting to drive new investment"*. As a first step the ESB should consider revising market settings as a means to encourage the timely entry of required generation and storage. It would recognise that market participants are best placed to manage their portfolio compositions and make their own decisions about entry and exit. If there is a shortfall in investment in firm resources then that is almost certainly a function of unnecessarily low market settings, which have caused 'missing money' and deterred investment.

It is the possibility of exposure to high prices, as much as the occurrence of them, which generates an efficient level of contracting demand from market customers and therefore an adequate level of capacity revenues for generators. The role of contract revenues means that the value of adjusting reliability settings in incentivising new investment cannot be determined simply by observing actual levels of market volatility. The fact that market conditions may have been relatively benign does not suggest that adjusting reliability settings is not an efficient way to improve reliability. Snowy Hydro believes that modest adjustments to the level of the MPC, to \$22,500/MWh, would be sufficient to materially improve resource adequacy in the NEM.

Beyond efficiency and cost advantages, adjusting market settings would have a number of other advantages. It would avoid a bureaucratic, ongoing regulatory infrastructure designed to allocate and enforce capacity requirements for every Market Customer. Consumers would be protected because, unlike a capacity mechanism, they would not guarantee capacity revenues of generators. Investment risk would remain with investors, not consumers. Above all it would maximise the benefits of competition. Adjusting market settings should not be treated by the ESB as an ancillary 'side issue' to this reform; it should be given at least equal prominence. Anything less would be a disservice to consumers.

NEM-wide capacity market working with design principles

The ESB notes that the *"capacity mechanism is intended to create a clear, technology neutral, long-term signal for investment in both existing and new dispatchable capacity (such as coal, gas, batteries and hydro) to ensure reliable supply is maintained as the share of renewables grows rapidly"* while also noting that *"a capacity mechanism – provides the opportunity for consistent market-based signals across all NEM jurisdictions to support efficient existing resources and drives new investment in technologies"*

At the same time, Energy Ministers have provided the principles to guide the development of a capacity mechanism, including:



- Enabling jurisdictions to opt out, via the National Electricity Law framework
- Enabling jurisdictions to opt in, through triggered thresholds for the mechanism.
- Jurisdictions determine, via their regulation, provided for in the National Electricity Law framework, which technologies are eligible for participation in a capacity mechanism in their region.

Considering these principles, the ESB should set out its views on the feasibility of a NEM-wide, consistent capacity mechanism which provides market signals across all jurisdictions, considering that jurisdictions have a unilateral right to opt out at any time, and how the ESB expect to include technologies such as coal, gas in certain states that may not be eligible for participation.

Throughout its resource adequacy design work, the ESB identified that the central benefit of getting this right was to provide much-needed certainty for market participants so they can make long-term investment decisions. A key component of the capacity mechanism is clearly national consistency, which is in the long term interests of consumers. If this can't be achieved then the capacity mechanism becomes a costly, ineffective burden for market participants.

Snowy Hydro agrees that a consistent approach across the NEM should be taken to energy policy with single consistent rules. This will create certainty, reduce complexity and provide confidence in investment. The ESB already has such a mechanism at hand, which are the market settings in the current, energy-only market.

Market mitigation

It is unclear why the ESB is contemplating additional market mitigation measures. The relevant principles provided by Energy Ministers to guide the development of a capacity mechanism do not indicate any concern regarding a lack of competition and the ESB has not presented any evidence for misuse of market power, only speculative hypothesising. Furthermore, Snowy Hydro believes that the development of such measures exceeds the ESB's remit, given it was not tasked with assessing or designing market mitigation proposals and they could not reasonably be regarded as ancillary to a capacity market.

The NEM already contains a number of regulatory requirements which address market power, and these have been strengthened in recent years, including rebidding requirements and the Commonwealth's 'big stick' legislation. The ESB must explain why existing market power mitigation measures would not be sufficient to address any concerns it may have. It is noteworthy that the AER 2021 State of the Energy Market² recently did not identify any concerning exercise of market power. Instead the report highlighted reductions in input costs which were reflected in lower average generator offers, and short term price spikes which were driven by extreme weather and high demand.

The Project initiation paper states that a capacity mechanism may justify 'recalibrating' market settings. That appears to suggest that the MPC should be slashed under a capacity mechanism. That would dramatically reduce market-based incentives for contracting in the NEM, presumably replaced by centrally-determined contract requirements. That would in turn impair market dynamism and likely disrupt all on-foot contracts. Snowy Hydro has signed many over-the-counter contracts for tenors of 15 to 20 years, which are often supported by sophisticated third party funding arrangements. Structural changes in the level of the MPC or other market settings would re-open these contracts, giving rise to widespread disputes and, for complex contracts, likely termination. The ESB must, therefore, examine the effect of a capacity mechanism on contracts, particularly long-term contracts, before its review.

Snowy Hydro cautions against the use of examples from international or non-NEM jurisdictions in seeking to justify market mitigation mechanisms, given the very different structures of those markets. The structure of the Western Australian Market in particular is very different from the

²https://www.aer.gov.au/system/files/State%20of%20the%20energy%20market%202021%20-%20Full%20report_1.pdf

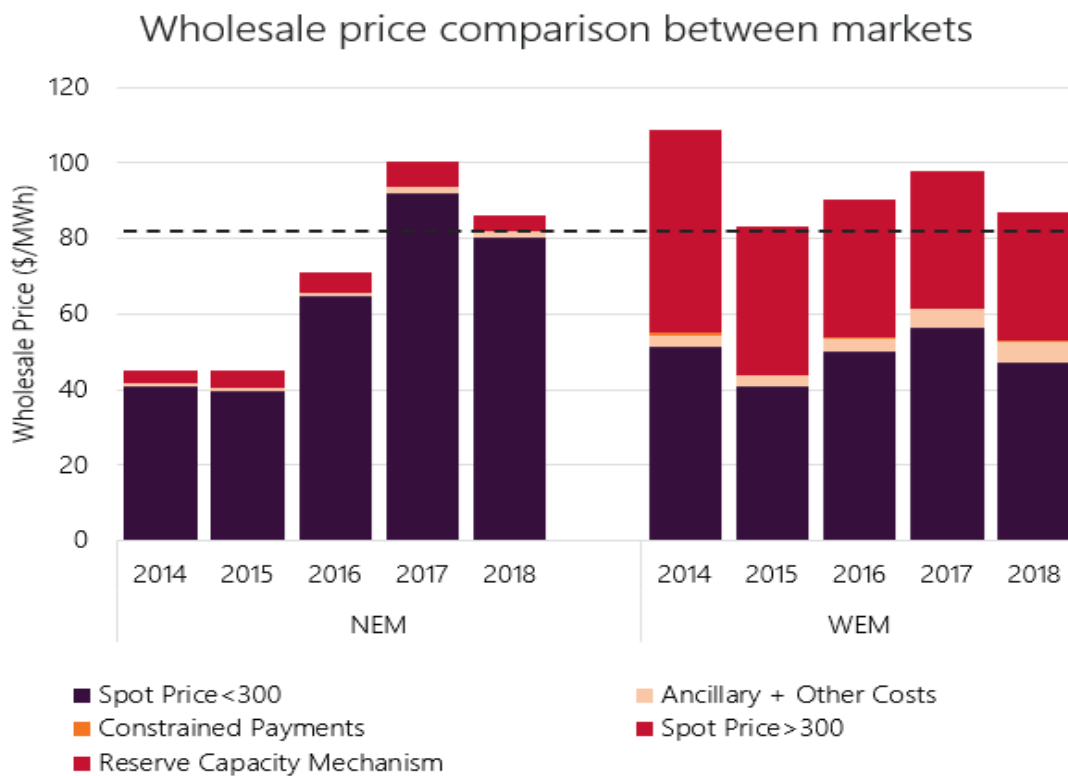
NEM, with a continued dominance of a few large gas generators and no interconnection from other States. Across the NEM, market concentration is falling and this is likely to continue with the growth of renewables and the closure of coal fired power plants.

In summary, the imposition of further market mitigation measures is likely to impose additional costs and restrictions on generators without any corresponding benefits. Such measures are ultimately likely to prove costly for energy users, as generators seek to recover the additional compliance and administration costs.

Comparison to international examples

The ESB's focus on capacity mechanisms in other jurisdictions is welcome. However the ESB should not only consider the design aspects of these examples but also their performance. It is also unclear why, in assessing international examples, the ESB has not considered the Western Australian market (WEM) as that market most closely reflects the characteristics and capabilities of the existing assets in the NEM.

The evidence from the WEM and indeed international capacity markets is clear; they increase capacity costs for consumers. A recent research paper found that the cost of the WEM reserve capacity mechanism can make up 40 per cent of total costs, making the wholesale price higher than the NEM's energy only market³, as seen below:



The ESB needs to address the following issues with the WEM:

- The chronic oversupply in the WEM which has resulted in capacity price not being highly responsive to the level of excess capacity and therefore not providing a strong incentive for plant retirements to correct imbalance

³ Farhad Billimoria, 2021

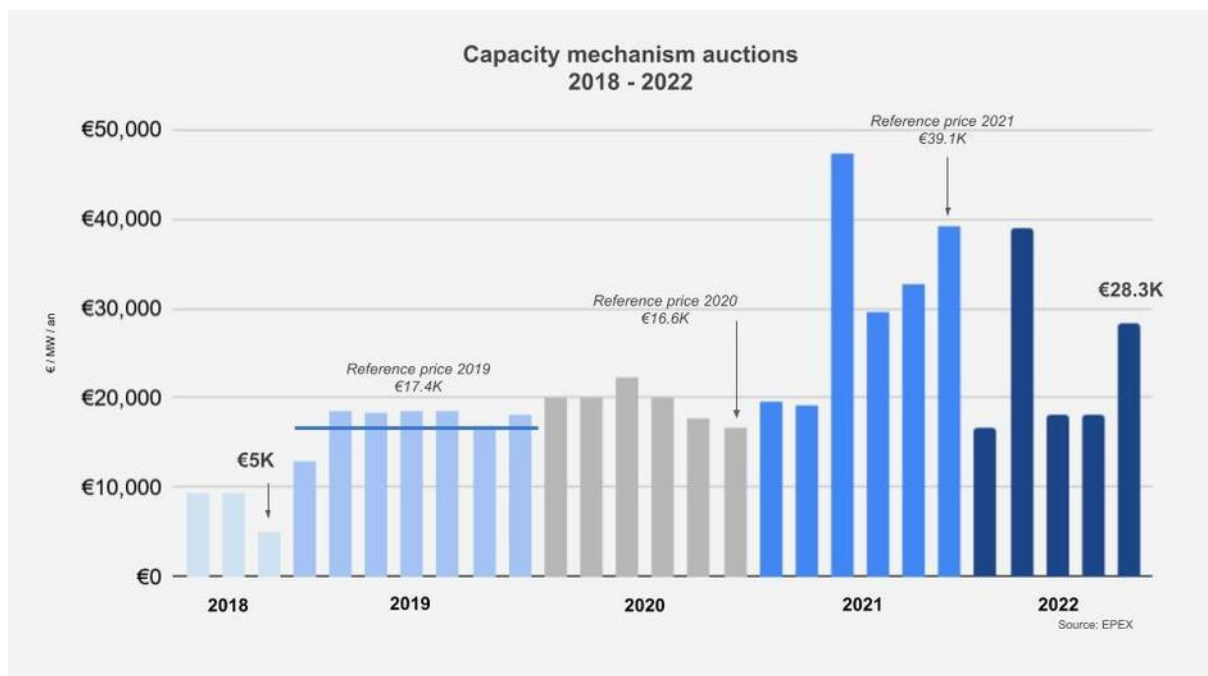
<https://www.linkedin.com/pulse/resource-adequacy-back-basics-farhad-billimoria/?trackingId=9nTrwShVT3SpZqg1espIGw%3D%3D>

- The WEM capacity formula has created significant price risks for investors in new capacity in the WEM which encourage proponents to enter bilateral contracts to secure new capacity

The ESB previously indicated that it was considering the French capacity mechanism, under which retailers/large users must have enough reliability certificates to cover their share of demand for up to 15 days each winter. A key issue with the French capacity market has been the lack of long-term signals for new investment which was highlighted by the European Commission, and as a result, the final design of the French Capacity mechanism was augmented to allocate seven-year contracts to support new projects. This demonstrates how capacity markets create continued intervention, far in excess of energy-only markets (eg. the NEM).

France launched its capacity market in 2016 in a bid to ensure the country had available capacity to meet winter demand and at the same time enable producers to recoup their fixed costs. However, the auctions have seen huge swings in prices over the past year.

Increase in the prices of the French Capacity Mechanism auction⁴



This upward trend reflects an anticipation of tension on the balance of the French electricity system for the winter of 2021/2022. The announced closure of coal-fired power plants this year may also play a role, as there will be no capacity available this winter.

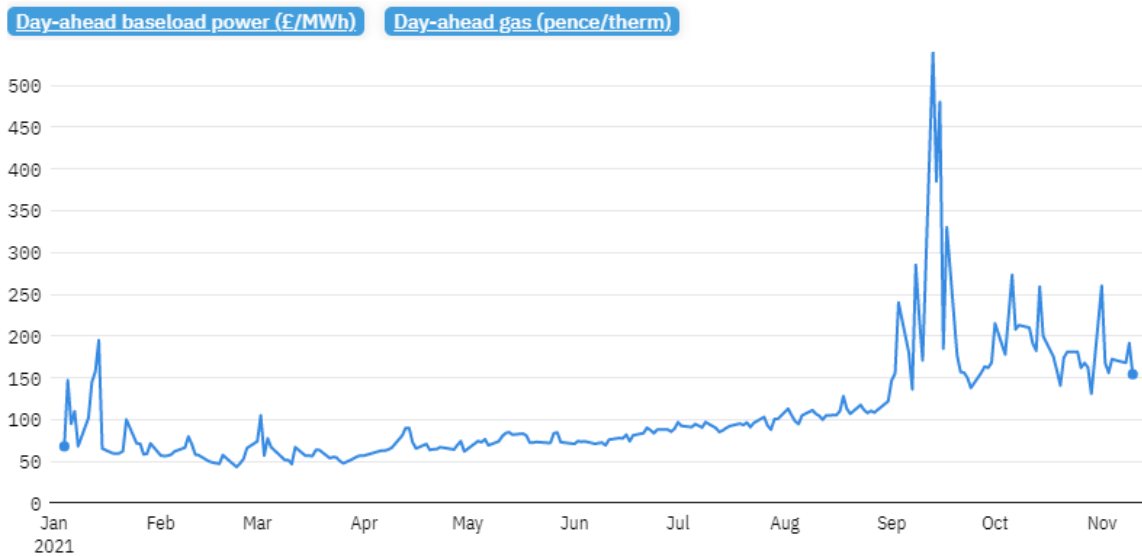
A capacity market was also introduced in the UK in 2014, for similar reasons to those now proposed by the ESB; to improve security of supply, safeguard against future blackouts and increase market stability from year to year. However, the experience of the market suggests it has proven poor value for money, with the most recent auction delivering a record 'T-1' clearing price.⁵ In the longer 'T-4' auction, only 4.25% of capacity was awarded to new build projects, suggesting it has not proven successful in stimulating new investment.

⁴ <https://www.flexcity.energy/it/increase-the-prices-of-the-french-capacity-mechanism-auction>

⁵ <https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Capacity%20Market%20Auction%20T1%20DY21-22%20Final%20Results.pdf>

It is also noteworthy that the UK capacity market has coexisted with record prices in the near-time balancing mechanism, which more than doubled year on year in 2021 and has prompted an investigation by the National Grid ESO.⁶ This suggests that the capacity market has not reduced volatility and the incidence of price spikes, a prime motivation for the ESB's capacity mechanism.

Rising gas and power prices in the UK⁷.



About the Snowy Hydro Group

Snowy Hydro Limited is a producer, supplier, trader and retailer of energy in the National Electricity Market (NEM) and a leading provider of risk management financial hedge contracts. We are an integrated energy company with more than 5,500 megawatts (MW) of generating capacity. We are one of Australia's largest renewable generators, the third largest generator by capacity and the fourth largest retailer in the NEM through our award-winning retail energy companies - Red Energy and Lumo Energy. Collectively, they retail gas and electricity in South Australia, Victoria, New South Wales, Queensland and the ACT to over 1 million customers.

Snowy Hydro appreciates the opportunity to respond to the Energy Security Board on the Capacity mechanism Project initiation paper.

⁶ <https://www.nationalgrideso.com/news/national-grid-eso-announces-review-balancing-market>

⁷ <https://www.power-technology.com/features/uk-energy-market-bankruptcies-utilities-gas-power-ofgem/>