



27 July 2022

Ms Anna Collyer
Chair
Energy Security Board
Lodged by email to: info@esb.com.au

Re: Submission to Capacity Mechanism – High Level Design Paper June 2022

Dear Ms Collyer:

Tilt Renewables welcomes the opportunity to make a submission to the Capacity Mechanism High-Level Design Paper as part of our continuing engagement with the Energy Security Board (“ESB”).

Tilt Renewables is committed to continue playing a lead role in accelerating Australia’s transition to clean energy. Tilt Renewables is the largest owner and operator of wind and solar generation in Australia, with 1.3 GW of renewable generation capacity across nine wind and solar farms operating, or in the final stages of commissioning, and another 396MW wind farm (Rye Park in NSW) under construction. In addition, Tilt Renewables has a development pipeline of over 3.5GW including the 1.5GW Liverpool Wind Farm development project in NSW’s CWO REZ.

An Executive Summary of our submission is provided below followed by a more detailed discussion of the issues as well as different alternatives.

Executive Summary

Overview

Tilt Renewables supports active consideration of policies and/or **capacity mechanism(s)** that quickly, efficiently and cost effectively enable new storage and generation capacity to enter the National Electricity Market (NEM). Tilt opposes a **capacity market** as we consider it would not be quick, efficient or cost effective.

The capacity market proposed in the Design Paper does not meet key principles,

- “...the aim of the capacity mechanism as comprising two limbs, informed by Ministers’ principles:*
- *Ensuring investment in an efficient mix of variable and firm capacity that meets reliability at the lowest cost by:*
 - *facilitating the timely entry of new generation, storage and flexible resources...”*
(Section 2.2, Design Paper)

For the reasons expanded on below in this submission, a new capacity market will not ensure investment in firm capacity at low cost, let alone the lowest cost. In addition, the capacity market will not enable timely entry of new generation and storage as it does not begin operating until mid-2025--- at the earliest.

NEM ‘Crisis’ June 2022

The Design Paper was released shortly after AEMO took control of the National Electricity Market (NEM). It is very important to recognise that the events of mid-late June would not have been prevented by a capacity market. The NEM experienced a critical **shortage of energy generation** brought about by extremely high fuel prices, fuel shortages, pipeline constraints and/or ‘baseload’ coal generators being out of service. There is currently **no shortage of energy capacity** in the NEM as documented in AEMO’s Electricity Statement of Opportunities. Capacity markets do not fix coal supply issues, gas pipeline constraints or coal generators’ unscheduled outages. If we had an operating



capacity market in June, the NEM would have found itself in exactly the same situation---the only difference being all electricity customers would also be paying a capacity market surcharge on their electricity bill.

Windfall capacity bonus payments to existing generators

The fundamental problem with a capacity market is that the majority of its payments will be made to existing generators. A few coal generators may stay in the market a year or two longer if the capacity payments are high enough which provides a negative investment signal for new capacity, subsidises carbon emissions in the middle of a climate crisis and provides no better clarity on coal plant closures.

Yet, this is not the worst problem. For all of the other generators, who had no intention of leaving the market, the capacity payments by consumers become unnecessary windfall bonus payments to generators to do exactly what they were going to do anyway---keep operating.

Green Energy Markets and the Institute for Energy Economics and Financial Analysis published a paper extrapolating the costs of the capacity market in WA to the NEM.¹ Their analysis estimated commercial and residential customers would pay up to \$6.9 Billion more for electricity each and every year as a result of a capacity market. Therefore, it is clear a capacity market is a very significant financial burden on electricity customers.

Summary

Minister Bowen recently stated,

“Now, I’ve made clear, and ministers have made clear, we want the capacity mechanism to primarily focus on new technology, storage being prime amongst it. That is what we will deliver.”²

We agree with the Minister that a capacity mechanism must be focussed on new technology and storage. Unfortunately, the capacity market designed by the ESB does not focus on delivering new technology or storage. Instead, it is focussed on forcing electricity customers to pay billions of dollars in windfall bonus payments to existing generators.

There are other alternatives – policies and capacity mechanisms that are focussed on quickly delivering efficient and cost effective new capacity and some of these are outlined later in this submission.

Detailed Comments

Tilt Renewables does not support a Capacity **Market** as it will inevitably be a slow, extremely expensive, and ineffective means to increase capacity in the NEM. Tilt does consider that policies, or a Capacity **Mechanism**, incentivising *new* capacity entering the market, are warranted and deserve immediate consideration.

Two Distinct Problems

A Capacity Market is a ‘one size fits all’ approach to solving two distinct problems, and as such, does not address either problem effectively.

The first problem is how to effectively manage the orderly retirement of coal fired generators in the NEM. It is clear that market participants, as well as electricity customers, would benefit from a transparent date when each coal fired generator is exiting the market. This information would then drive investment signals for new generation, and importantly, storage in the NEM. A variety of

¹ [Energy Security Board's capacity payment: Burden on households | IEEFA](#)

² [Press conference with Australian Energy Market Operator CEO and Managing Director Daniel Westerman | Ministers for the Department of Industry, Science and Resources.](#)



mechanisms have been proposed to achieve this (described below). Whichever method is chosen, it is obvious that implementing a targeted initiative to deal with these few coal generators is far preferable than implementing a new market-wide mechanism that impacts every generator in the NEM while adding around \$6 Billion to customers' electricity bills every year.

The second problem is how to incentivise new capacity to enter the NEM as soon as possible to maintain a reliable electricity supply as more Variable Renewable Energy (VRE) enters the NEM. The NEM cannot afford to wait until 2025, or much more likely 2026 and beyond, for a new Capacity Market to come into effect. The task is urgent as more capacity is needed to make up for the announced closure of the Liddell, Yallourn and Eraring power stations, as well as further accelerated coal plant retirements. It is clear that solving this problem requires a targeted approach focussing on accelerating new capacity build---not spending billions of dollars annually to pay generators, the vast majority of which are increasingly uneconomic and unreliable, to continue operating.

Arguments for including Existing Generators

The fundamental problem with a capacity market is the unnecessary payment of billions of dollars by customers to existing generators. The ESB dismisses the idea of a capacity mechanism focussed on new capacity for several reasons which are discussed below.

In Section 4.1 of the Design Paper, the ESB argues that it may be more cost effective to pay an existing generator to stay in the market than to support new capacity. While this could be true, the argument fails when one considers that very few, if any, gas or hydro generators, are likely to leave the market with, or without, a capacity payment. As discussed later, the issue of coal retirements is much better handled by a targeted and focussed approach. The ESB also argues that a new capacity mechanism disadvantages existing capacity providers.

While true, to some extent, the issue is not that significantly inequitable for the following reasons: existing utility scale batteries have all received Government support of one sort or another; the vast majority of existing hydro generation capacity is Government owned, so it has already been 'subsidised' by taxpayers; the existing coal and gas fired generators cause many 'externalities' including emitting huge amounts of particulate, and carbon, pollution for which they are not charged. Therefore, incentivising new clean capacity can easily be justified.

In Section 4.2, the ESB states capacity payments may fund refurbishments to enable a generator to remain in the market. While anything is possible, there is no guarantee generators would spend capacity payments in this fashion and/or they would be successful obtaining 'extra high' capacity payments for a particular year to fund such refurbishments if the tenders were as competitive as the ESB considers.

Section 4.3 argues that other market changes, like **potential** changes to the Market Price Cap (MPC), might be more problematic to implement if a capacity mechanism for only new capacity is in place. This argument assumes that material reductions in the MPC would be implemented, even though such a change is already strongly opposed by the Australian Energy Council (AEC), who have pre-emptively stated in a media release:

"The AEC's position is strongly against lowering the energy market price cap as it is contrary to the ESB and COAG's previous position on the energy market..."³

Even if the MPC was successfully and significantly reduced, it may cause some peaking plants to exit the market as their energy market revenue would be slashed--- a loss of capacity the ESB is trying to avoid.

³ [AEC Supports Work on Capacity Mechanism \(energycouncil.com.au\)](http://energycouncil.com.au)



Paying Existing Generators

There are two possible results of paying an existing generator to be available in a capacity market.

The first possibility is that, should the capacity payment be high enough, one or two older coal fired generators, as well as a few other generators, may decide to continue operating for another year or two than they would otherwise. This has resulted in the ESB's capacity market being labelled "Coal Keeper". Some might consider this could be worthwhile if it actually kept the lights on. Others would argue that such a result is a very poor outcome as it sends a negative market signal to investors otherwise prepared to build new capacity, subsidises more carbon pollution in the middle of a climate crisis and does nothing to improve the transparency of when coal generators will leave the market.

The second option, which would apply to the remaining, and vast majority of, generators, is far worse as customers pay existing generators, who have no intention to leave the market, a windfall bonus payment for absolutely nothing---to continue to do exactly what they were going to do anyway---continue to generate electricity.

For example, a peaking generator plant's business model is to standby, waiting to generate at short notice, to defend market cap contracts it has written and/or take advantage of high wholesale prices. There is no rationale for making bonus capacity payments to gas plants to execute their business plan.

While the ESB's points against a mechanism being limited to incentivising only new capacity are not totally without merit, they absolutely pale in comparison to electricity consumers being slugged billions of dollars every year to pay the great majority of generators to do exactly what they were going to do anyway.

Companies are often accused of 'talking their book' when they write submissions; in other words, they advocate for policies that financially benefit the company. It should be noted that, as described in the Design Paper, the ESB's capacity market would very likely result in annual capacity payments being made to all of Tilt Renewable's operating solar and wind farms---albeit significantly derated as they are VRE plant.

Capacity Market as an 'Insurance Policy'

A number of commentators have referred to the ESB's Capacity Market as an insurance policy to guarantee reliability of electricity supply. It is clear that for the capacity market to be effective, generators receiving capacity payments must generate when their capacity is called upon. The most obvious way to ensure this happens is to make the consequences of not doing so very significant, but this is not the case in the ESB's capacity market.

In the Design Paper, not generating when called upon to do so is called "underperforming", and the consequences of this are described below:

"A capacity provider may underperform in the capacity mechanism relative to its de-rated capacity if it is not bid-available during actual reliability system stress events. There are several implications of underperformance:

- *not receiving capacity payments*
- *lack of contribution incorporated into capacity de-rating for future delivery years."* (p. 54)

So, the ESB is proposing that generators not supplying the energy they are paid capacity payments to provide will lose some of their capacity payments for that year and will have their future capacity payments reduced by some extent---even if they contribute to a blackout resulting in large economic and social costs.



An equivalent home insurance policy would have the insurance company reimburse the homeowner for their premiums when their house burns down leaving the owner responsible for the costs and consequences of rebuilding. This is not an equitable position for electricity consumers with the Design Paper's capacity market not providing effective insurance for the impact from lack of service.

The Way Forward

As previously stated, there are two distinct and separate problems to solve. Therefore, it is likely that several policies are likely to provide the most efficient, expeditious and cost-effective resolution to these problems.

1) Orderly and Economic Exit of Coal Fired Generators

It is imperative for an orderly transition that the retirement date for coal fired generators is known as far in advance as practical. In this way, clear market signals will be created to incentivise more generation and storage. Should the market signals not be strong enough, Governments will have the time to implement other actions to further accelerate new entrants. Unfortunately, the ESB's capacity market does not help at all in this regard; in fact, it muddies the water by providing one year, year-by-year contracts, incentivising coal generators to stay in the market for one more year with no certainty as to what capacity payment will be obtainable the following year.

There have been a number of proposals on how to most effectively deal with the orderly exit of coal generators. Some of these are as follows:

- ANU professor Frank Jotzo proposed a system where coal plants bid the payment they require for closure and the payments for closure are made by the remaining coal power stations in proportion to their carbon dioxide emissions.⁴
- The Blueprint Institute suggests using the Safeguard Mechanism to ramp emissions down and have existing coal generators bid for the 'available' emissions with the winners guaranteeing supply for the contract period.⁵
- State Governments could negotiate directly with the 2-3 older coal generators in their State to arrive at a firm closure date and other conditions for a 'just transition'. While transparency would be preferable, the key issue is for the supply of electricity to be guaranteed, as much as possible, up to the agreed closure date.

Whichever mechanism(s) are chosen as the most appropriate, it is certain such a targeted and focused approach for these few coal generators will obtain quicker, more certain and much more cost effective results than implementing an entirely new market particularly as a capacity market does not even address an orderly exit of coal generators.

2) Accelerating New Capacity into the Market

AEMO's CEO, Daniel Westerman, speaking at a conference last week, made it very clear what was needed for a cost effective and reliable electricity market:

The Australian Energy Market Operator has again underlined its view that Australia's energy future lies in "firmed renewables" – wind and solar backed up by storage and new transmission – which it says is clearly the cheapest reliable power option "by a country mile."⁶

⁴ [Brown coal exit: a market mechanism for regulated closure of highly emissions intensive power stations | Centre for Climate and Energy Policy \(anu.edu.au\)](https://www.anu.edu.au/energy-policy/coal-exit)

⁵ [PhasingDownGracefully_FINAL.pdf \(blueprintinstitute.s3-ap-southeast-2.amazonaws.com\)](https://www.blueprintinstitute.com.au/wp-content/uploads/2021/03/PhasingDownGracefully_FINAL.pdf)

⁶ [AEMO says firmed wind and solar cheapest reliable energy option by "country mile" | RenewEconomy](https://www.reneweconomy.com.au/aemo-says-firmed-wind-and-solar-cheapest-reliable-energy-option-by-country-mile)



However, it is possible that new storage capacity may not be built fast enough to guarantee meeting future peak electricity demand periods. Energy storage has more revenue uncertainty, compared to generation, and recent cost increases due to supply chain issues further challenges the business case for storage. Long term storage, usually in the form of pumped hydro, provides important firming for VRE. However, new pumped hydro facilities take years to develop and years to build. Therefore, in the short to medium term, it is likely that new installed storage is going to be predominately utility scale Battery Energy Storage Systems (BESS).

Therefore, Tilt Renewables considers that State and Federal Government Energy Departments, along with the ESB, should actively progress consideration of policies, including capacity mechanism(s), to accelerate new storage into the NEM. Again, a number of different options have been proposed including the following.

- The Federal Government could direct the CEFC to prioritise the financing of utility scale batteries (which the CEFC is already doing on an occasional basis). Conventional project financing is often challenging for batteries, so the CEFC could assist new battery projects being built---providing a modest level of leveraging, perhaps around 50%, to minimize any risk. This option could be implemented nearly immediately.
- State Governments have conducted tendering processes for large BESS to provide network services and/or energy supply. State Governments could continue, or even accelerate, such competitive tendering processes for batteries when they consider there may be an upcoming lack of capacity. This sort of capacity mechanism would result in cost effective storage projects being installed about two years after the tendering process starts.
- A Renewable Energy Storage Target, using the proven structure of the LRET, has been proposed by the Victorian Energy Policy Centre⁷. A capacity mechanism based on this framework would also be effective in accelerating new storage into the NEM.

It is clear that any of the above policies or mechanisms would accelerate the update of new storage in the NEM far more quickly, efficiently and cost effectively than implementation of an entirely new Capacity Market for the reasons outlined earlier. In fact, most, if not all, of these policies would enable large new storage projects to be constructed and operating before a Capacity Market would even come into effect.

⁷ [92a2aa_3abddb7f37994760b86e0c921a692b5b.pdf \(vpec.org.au\)](https://www.vpec.org.au/92a2aa_3abddb7f37994760b86e0c921a692b5b.pdf)



Conclusion

Tilt Renewables has outlined the two distinct problems that need to be solved to increase security of electricity supply in the National Electricity Market---a view shared by a number of market participants. An orderly and economically rational exit for older coal generators needs to be addressed and several options have been presented, and there are others. New firming renewable capacity is the most effective and reliable path forward and several focussed, targeted approaches and mechanisms have been presented.

Tilt Renewables considers that further work on a capacity market is not warranted and instead work is undertaken on the quickest, most efficient and cost effective means to achieve an orderly exit of older coal generators and accelerating the introduction of new generation capacity.

Once again, thank you for the opportunity to comment on the Design Paper and we look forward to further discussions with the ESB. Please feel free to contact jonathan.upson@tiltrenewables.com should you have any questions or to discuss any aspect of this submission.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "Jon Upson", written in a cursive style.

Jonathan Upson

Head of Policy & Regulatory Affairs

Tilt Renewables